NM1-09

C-138

Date: 2001-2003

1625 N. French Dr., 1	Hobbs, NM \$8240
District II	
811 South First, Ane	sia. NM 88210
District III	
1000 Rio Brazos Ros	id. Aztec, NM 87410
District IV	-
2040 South Pachene	Same Ea NM 87505

tate o inerals ar exico atural Resour Energy Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

Submit Original Plus 1 Copy to Appropriate District Office

وعواببات مندانا المتعاد فسيسي		
DEOUDO		

REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt:	4. Generator CIP INC. #512d 5570 Formington NM 5. Originating-Site
2. Management Facility Destination Key ENERGY Disposal	o. Transporter Key
3. Address of Facility Operator CR 3500 # 345	S. Siate N M
7. Location of Material (Street Address or ULSTR)	-
 Circle One: All requests for approval to accept olifield exempt wastes will be accompanied of one certificate per 360. B. All requests for approval to accept nor-exempt wastes must be accompanied by a material is not-hazarcous and the Generator's certification of origin. No waste of approved All transporters must certify the wastes delivered are only those consigned for mans 	y a certification of waste from the Generator: necessary chemical analysis to PROVE the cassified nazardous by listing of testing will be
BRIEF DESCRIPTION DE MATERIALI Dash Weter from Separatas	and Tank's
	2001 2001 2001 2001 2001 2001 2001 2001
Estimated Volume <u>500 BBL</u> ey Known Volume it be entered by the by	perator at the end of the half.
SIGNATURE Asser Bankton TITLE:	047E: 6-27-01
TYPE OR PRINT NAME: JIMMY BANKSTON TEL	EPHONE NO. 305-334-6186
(This space for State Use)	
APPROVED BY: Denny Tomt TITLE: 00/00 APPROVED BY: C. TITLE: Dist	913T DATE: 6/28/01 DATE: 5/2/01

TITLE: Dist

RS N. French Dr obas, NM 88240 httist II - (505) 748-1283	New Mexico Ener Minerals and Natural Ro	o esources epartment	Form C-143 3/15/00
1 S. First. 1 S. First. 1 S. First. 1 C. S.	Oil Conservation I 2040 South Pacheco Santa Fe, New Mexico (505) 827-7131	Division Street - 87505	Submit to OCD Permitted Surface Waste Management Facility
G	ENERATOR CERTIFICATE	OF WASTE STATUS	
. Waste Generator Name and (IP Inc -	Address 2.F	^p ermit Number (if waste general permitte	led at an OCD of facility)
#51 Ra 5570	· •	GW-228	••
Farmington, NM8	7401	•	
 Description of Waste and Ge 	nerating Process: 4.	Location of Waste (Street add	ress &/or ULSTR):
Wash Water fi Separator and	UN 2001 BECEIVED OILCON DIV	CIPINC #51 CR 5570 Farmington N.M.	\$7401
5 Destination (Surface Waste	Vanagement Facility 6	ා Mransporter:	
1/54 ENERGY DI	posal Contractor	Key OUZEGU	1
7. Estimated Volume 500	yy/bbis	· · · · ·	
For NON-EXEMPT waste only,	the following documentation is attached	(check appropriate items):	
MSDS Information	RCR	A Hazardous Waste Analysis (V	Vith Chain of Custody).
Other (Description)			
Generator certifies that, accord Agency's July 1988 regulatory	ing to the Resource Conservation and R letermination, the above described was	ecovery Act (RCRA) and the Er te is: (check appropriate classifi	nvironmental Protection cation)
	T oilfield waste.	NON-EXEMPT oilfield waste th suant to 40 CFR Part 261. (Atta documentati	nat is non-hazardous ch appropriate ion)
In addition, Generator certifies waste does not contain Natura Subpart 1403.	that nothing has been added to this exe lly Occurring Radioactive Material (NOR	mpt or non-exempt non-hazardo M) regulated pursuant to 20 NM	ous waste and that this IAC 3.1
Generator Signature:	and Partilla	Date: <u>6</u>	27-2001
Print Name:Car/	Padilla		
Title Preside	n +		
1110			

JOB#	DATE	TYPE EQUIP.	UNIT S/N	LOCATION	OWNER
2387	3-8-00	4 MM DEHY	3779	ROSA #224	WFS
2388	3-8-00	4 MM DEHY	31924	RICHARDSON 1-1	WFS
2389	3-8-00	4 MM DEHY	243	S.U. 32-9 #1-5 MV	WFS
2390	3-8-00	4 MM DEHY	32028	CASE #1-35	WFS
2434	5-11-00	100 BBL TANK	NO S/N	JIC. 120C #21	ENERGEN
2462	6-15-00	100 BBL TANK	335	S.J. 29-7 #77E	VASTAR
2473	7-7-00	4 MM DEHY	359	S.U. 32-7 #60	WFS
2474	7-7-00	4 MM DEHY	388	S.U. 32-7 #16A	WFS
2475	7-7-00	4 MM DEHY	520	JIC 155 #29 MV	WFS
2476	7-7-00	4 MM DEHY	506	JIC. 155 #28MV	WFS
2477	7-7-00	4 MM DEHY	30413	JIC C #2E MV	WFS
2478	7-7-00	4 MM DEHY	36340	ЛС #3Е	WFS
2479	7-7-00	4 MM DEHY	234	ЛС #14	WFS
2480	7-7-00	4 MM DEHY	32258	APACHE #3E DK	WFS
2481	7-7-00	4 MM DEHY	36339	CHAMPLIN #4E	WFS
2482	7-7-00	4 MM DEHY	33080	JIC 155 #33	WFS
2483	7-7-00	4 MM DEHY	754	JIC 123C #30	WFS
2484	7-7-00	4 MM DEHY	3475	ROSA #200	WFS
2485	7-7-00	4 MM DEHY	3156	ROSA #213	WFS
2486	7-7-00	4 MM DEHY	3282	ROSA #211	WFS
2487	7-7-00	4 MM DEHY	3138	ROSA #201	WFS
2488	7-7-00	4 MM DEHY	970	ALLISON COM #60	WFS
2489	7-7-00	4 MM DEHY	30623	ALLISON #10A	WFS
2491	7-11-00	1 MM DEHY	8169	ROSA #274 WPX	WFS
2492	7-11-00	1 MM DEHY	8167	ROSA #237 WPX	WFS
2493	7-11-00	1 MM DEHY	6438	ROSA #226 WPX	WFS
2494	7-11-00	1 MM DEHY	5986	ROSA #227 WPX	WFS

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JOB#	DATE	TYPE EQUIP.	UNIT S/N	LOCATION	OWNER
2495	7-11-00	1 MM DEHY	8177	ROSA #239 WPX	WFS
2496	7-11-00	1 MM DEHY	5875	ROSA #202 WPX	WFS
2497	7-11-00	1 MM DEHY	5881	ROSA #214 WPX	WFS
2498	7-11-00	1 MM DEHY	5884	ROSA #230 WPX	WFS
2499	7-11-00	1 MM DEHY	5883	ROSA #215 WPX	WFS
2500	7-11-00	1 MM DEHY	8165	ROSA #332 WPX	WFS
2501	7-11-00	1 MM DEHY	6015	ROSA #233 WPX	WFS
2502	7-11-00	1 MM DEHY	8191	ROSA #236 WPX	WFS
2503	7-11-00	1 MM DEHY	5397	ROSA #242 WPX	WFS
2504	7-11-00	2 MM DEHY	4831	ROSA #336 WPX	WFS
2505	7-11-00	2 MM DEHY	6585	ROSA #238 WPX	WFS
2512	7-18-00	HLP SEP REPAIR	LP -7116 HP -7115	FED 28-8-34 #1	S&G INTERESTS
2514	7-25-00	REPAIR HLP	1280	BREECH #50	CAULKINS
2515	7-25-00	REPAIR HLP	1282	BREECH #307M	CAULKINS
2526	7-29-00	REPAIR HLP	1277	STATE 62M	CAULKINS
2527	7-29-00	REPAIR HLP	2112	BREECH #307	CAULKINS
2533	8-2-00	REPAIR HLP	36357	ЛС 150 #6	BURLINGTON
2545	8-17-00	REPAIR HLP	34067	JIC 150 #5	BURLINGTON
2569	9-6-00	REPAIR SEP.	30090	JIC 150 #9A	BURLINGTON
2570	9-6-00	REPAIR SEP.	21014	JIC 153 #23 MV	BURLINGTON
2571	9-6-00	REPAIR SEP.	21020	JIC 153 #23 DK	BURLINGTON
2573	9-11-00	REPAIR SEP.	32706	S.J 27-4 #57	BURLINGTON
2574	9-11-00	REPAIR SEP.	32791	ЛС 103 #64	BURLINGTON
2575	9-11-00	REPAIR SEP.	32716	ЛС 103 #7	BURLINGTON
2588	9-15-00	REPAIR TANK	8549	ЛС G9A	BURLINGTON

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JOB#	DATE	TYPE EQUIP.	UNIT S/N	LOCATION	OWNER
2341	1-27-00	REPAIR SEP.	7028	JIC 126 #1	ENERGEN
2346	2-4-00	REPAIR SEP.	10743	S.J. 28-4 #26	BURLINGTON
2360	2-17-00	REPAIR HLP	1276	BREECH #224	CAULKINS
2381	3-6-00	4 MM DEHY	218	UTE 34-10 #1 PC	WFS
2382	3-6-00	4 MM DEHY	238	UTE 34-10 #1 MV	WFS
2383	3-6-00	4 MM DEHY	595	CO 32-7 #10 MV	WFS
2384	3-6-00	4 MM DEHY	542	S.U. #9	WFS
2385	3-6-00	4 MM DEHY	30632/19388	ALLISON #55 MV	WFS
2386	3-6-00	4 MM DEHY	33436	UTE C-2	WFS
2417	4-13-00	REPAIR SEP.	22466	SJ 33-8 #22	WFS
2418	4-13-00	REPAIR HLP	16349	KOCH STATE COM 1A	BURLINGTON
2443	5-26-00	REPAIR HLP		SANCHEZ 4R	CAULKINS
2589	9-15-00	REPAIR TANK	J0760	HUERFANO 166 DK	BURLINGTON
2592	9-15-00	100 BBL TANK	684	S.J 28-6 #51	VASTAR
2593	9-15-00	100 BBL TANK	492	TURNER HUGHES #15	VASTAR
2594	9-15-00	100 BBL TANK	1444	S.J. 29-7 #75	VASTAR
2595	9-15-00	100 BBL TANK	448	S.J. 29-7 #31E	VASTAR
2596	9-15-00	100 BBL TANK	1454	TURNER HUGHES #15	VASTAR
2597	9-15-00	100 BBL TANK	2597	DAY B-5	VASTAR
2598	9-15-00	100 BBL TANK	298	S.J. 28-5 #15A	VASTAR
2599	9-15-00	100 BBL TANK	1231	NM 04209	VASTAR
2600	9-15-00	100 BBL TANK	1740	S.J. 28-6 #35	VASTAR
2601	9-15-00	100 BBL TANK	321	LINDSEY #2A	VASTAR
2621	10-8-00	4 MM DEHY	4887	ALLISON #65	WFS
2622	10-8-00	4 MM DEHY	4185	TIGER #9	WFS

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JOB#	DATE	TYPE EQUIP.	UNIT S/N	LOCATION	OWNER
2623	10-8-00	4 MM DEHY	3151	ROSA #222	WFS
2624	10-8-00	4 MM DEHY	3290	ROSA #260	WFS
2625	10-8-00	4 MM DEHY	3463	ROSA #257	WFS
2628	10-17-00	210 BBL TANK	42-16540	FED 35 #1	TEXACO
2629	10-17-00	4 MM DEHY	4360	TIGER #6	WFS
2631	10-18-00	300 BBL TANK	15907	GI 3059-15-1	TEXACO
2632	10-18-00	300 BBL TANK	E16001	TANK #3062	TEXACO
2636	10-27-00	4 MM DEHY	4361	TIGER #5	WFS
2644	10-30-00	REPAIR SEP.	8682	S.J. 27-4 #98	BURLINGTON
2650	11-10-00	REPAIR 210 TANK	13823	GRENIER #14	BURLINGTON
2651	11-14-00	REPAIR 210 TANK	5973	CRANDALL #2B	BURLINGTON
2655	11-14-00	REPAIR HLP	36160	HUERFANO 135E	BURLINGTON
2656	11-14-00	REPAIR HLP	32839	BREECH #204M	CAULKINS
2657	11-14-00	REPAIR HLP	221026	S.J. 27-4 #33	BURLINGTON
2658	11-14-00	REPAIR HLP	3960-1	S.J.27-4 #133	BURLINGTON
2691	12-14-00	REPAIR 300 BBL TANK	188	JONES #1A	BURLINGTON
2699	12-21-00	4 MM DEHY	4819	ALLISON #1R	WFS
2709	12-29-00	1 MM DEHY	5054	ALLISON #9R	WFS
2720	1-5-01	REPAIR HLP	16125	BREECH 625E	CAULKINS
2722	1-11-01	6 MM DEHY	145	BURNT MESA #3	WFS
2723	1-11-01	4 MM DEHY	476	ALLISON #12 MV	WFS
2724	1-11-01	4 MM DEHY	2705	ROSA #15	WFS
2725	1-11-01	4 MM DEHY	152	BURNT MESA #2A MV	WFS
2726	1-11-01	4 MM DEHY	882	EPNG B #1A	WFS

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JOB#	DATE	TYPE EQUIP.	UNIT S/N	LOCATION	OWNER
2727	1-11-01	4 MM DEHY	30499	ALLISON #59 MV	WFS
2728	1-11-01	4 MM DEHY	31156	NWCH 32-10 #2	WFS
2729	1-11-01	4 MM DEHY	30503	COX CANYON #25	WFS
2730	1-11-01	1 MM DEHY	399 8	ALLISON #9R	WFS
2741	1-23-01	4 MM DEHY	7354	EPNG #1A	WFS
2742	1-23-01	4 MM DEHY	2742	ALLISON #57	WFS
2743	1-23-01	4 MM DEHY	31819	ALLISON #23	WFS
2750	2-5-01	REPAIR 210 TANK	102	EAST #2A	BURLINGTON
2755	2-14-01	REPAIR 300 TANK	34381	HALE #2R MV	BURLINGTON
2765	2-28-01	4 MM DEHY	4863	ALLISON #16R	WFS
2766	2-28-01	4 MM DEHY	5085	ALLISON #8A	WFS
2771	2-28-01	4 MM DEHY	6120	MARCUS CDP	WFS
2776	3-7-01	REPAIR 210 TANK	62-3811- 12	GRENIER #12	BURLINGTON
2786	3-13-01	REPAIR 500 TANK	24021	UTE MTN UTE #42	BURLINGTON
2787	3-15-01	4 MM DEHY	5403	ALLISON #34M	WFS
2788	3-15-01	4 MM DEHY	7232	S.J. 32-7 #39A	WFS
2789	3-19-01	REPAIR 300 TANK	22922	PINON MESA C2E	BURLINGTON
2790	3-19-01	4 MM DEHY	2681	IGN 33-7 #24	WFS
2799	3-23-01	REPAIR 210 TANK	2011	DALSANT #1	BURLINGTON
2800	3-27-01	2 MM DEHY	513 -	S.U. 32-9 #15-4 PC	WFS
2807	4-6-01	4 MM DEHY	1674	S.J. 27-5 #126	WFS
2808	4-6-01	4 MM DEHY	1683	S.J. 27-5 #165	WFS
2809	4-6-01	4 MM DEHY	1561	S.J. 27-5 #118	WFS
2810	4-6-01	4 MM DEHY	1613	S.J. 27-5 #130E	WFS
2811	4-6-01	4 MM DEHY	1584	S.J. 27-5 #117	WFS

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JOB#	DATE	TYPE EQUIP.	UNIT S/N	LOCATION	OWNER
2815	4-10-01	REPAIR 300 BBL TANK	3536-25	UTE #14	BURLINGTON
2816	4-10-01	REPAIR 400 BBL TANK	T0356	LA PLATA #33	TEXAKOMA
2824	4-12-01	REPAIR 400 BBL TANK	20653	McCORD 9E	BURLINGTON
2838	4-18-01	REPAIR 300 BBL TANK	11951	McCORD 14E	BURLINGTON
2843	4-26-01	4 MM DEHY	4244	NEWMAN A7	WFS
2844	4-26-01	4 MM DEHY	3709	KUTZ CANYON OIL&GAS #1	WFS
2845	4-26-01	REPAIR 300 BBL TANK	5897	LEA FEDERAL #1	BURLINGTON
2846	4-26-01	REPAIR 210 BBL TANK	SSS2065-2	CRANDALL 2A	BMG
2902	6-7-01	HLP SEP REPAIR	22301	HUERFANO 170E	BURLINGTON
2905	6-11-01	HLP SEP REPAIR	30167	S.J. 29-7 #124	TESTCO
2907	6-12-01	REPAIR 300 BBL TANK		GRENIER #1	KOCH EXPLORATION
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1025 N. French Dr., Hobbs, NM 88240	Energy	5	June	Form C-138
District II	Oil	Conservation Divisio	n	
1000 Rio Brazos Road, Aztec, NM 87410	Ša	inta Fe, NM 87505		Plus I Copy
2040 South Pacheco, Santa Fe, NM 87505				District Office
REQUEST FOR	APPROV	AL TO ACCEP	T SOL	ID WASTE
1. RCRA Exempt: 🗌 Non-Exempt: 🔀	· · · ·	ETE IT 18 19 20 21 2	4. (CCASTAL CHEMICAL
Verbal Approval Received: Yes	No	JUN 2001	1175-76	Driginating Site YAR D
2. Management Facility Destination KEY	Dispos	DIST. 3	2726. 1	ransporter Key
3. Address of Facility Operator #345 C	23500	Aztec NM Sterre	8. 5	^{state} NM
7. Location of Material (Street Address or UL	STRI #10 1	2D 5911 NGTON, NM 87	401	.
9. <u>Circle One</u> :				
A. All requests for approval to accept oilfie one certificate per job. All requests for approval to accept non-e material is not-hazardous and the Genera approved All transporters must certify the wastes deli	ić exempt was xempt wastes itor s certificat vered are only	tes will be accompanied must be accompanied by ion of origin. No waste those consigned for tra	by a certif y necessary classified nsport.	fication of waste from the Generator: chemical analysis to PROVE the hazardous by listing or testing will be
BRIEF DESCRIPTION OF MATERIAL:	<u> </u>	· · ·		
City water MIXED we hast filed 12-1	5-2000	ouged treat		-138 DOPIONAL
Please Refer to M -Dated 1-16-01	5DS IN			
Estimated Volume 160661s cy	Knowr, Volun	ne (to be entered by the	operator at	the end of the haul
SIGNATURE Management Facility Authorn	Zed Agent	TITLE: MCC		DATE: 6-12-01
TYPE OR PRINT NAME: MICHAEL 7	ALOVICI		LEPHONI	NO. 505-334-6186
(This space for State Use) APPROVED BY: Deny APPROVED BY: Mantun 9 22	kent	TITLE: <u>Geol</u> TITLE: <u>Environ</u>		57 DATE: 6/12/0/ 6005+ DATE: 6-15-01

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11 South First, Artesia, NM 88210 <u>Histrict III</u> 000 Rio Brazos Road, Aztec, NM 87410 <u>District IV</u> 040 South Pacheco, Santa Fe, NM 87505	Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505	Revised March 17, 1999 Submit Original Plus 1 Copy to Appropriate District Office
REQUEST FC	OR APPROVAL TO ACCEPT SC	DLID WASTE
RCRA Exempt: Non-Exempt:	4	COASTALCHEMICAL
Verbal Approval Received: Yes	<u> </u>	Originating Site
. Management Facility Destination Kz	EY DISPOSAL 6	Transporter
Address of Facility Operator #345	C.2.3500 Aztec NM · 8	State NM
Location of Material (Street Address o	TULSTRI #10 RD 5911 FORMINGTON, NM E7401	
Circie One:		
one certificate per jor. All requests for approval to accept n material is not-hazardous and the G approved	ion-exempt wastes must be accompanied by neces enerator s certification of origin. No waste classif	sāry chemical analysis to PROVE the led hazardous by listing of testing will be
All transporters must certify the waste	s delivered are only those consigned for transport.	
City which MIXED Wast Filed MIXED Please Refer to -Dated 1-16-0	MGDS INFOLMATION WITH UNITED INFOLMATION WITH UN 2001 NGDS INFOLMATION WITH UN 2001 NGDS INFOLMATION UN 2001 NGDS INFOLMATION UN 2001 NGDS INFOLMATION UN 2001 NGDS INFOLMATION UN 2001	CREMICALS
cn i DTI	0.7.	
SIGNATURE Waste Management Facility A	Authorized Agent	De. z. <u>(pr. 1260</u>)
TYPE OR PRINT NAME: MICHAE	LTHLOUICON TELEPH	ONENO. <u>505-334-6/86</u>
(This space for State Use)		
APPROVED BY: Leeme	Rent TITLE GERIAC	15T DATE: (112/0
ALINUTED DI. N. T.	7	

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
COASTAL CHEMICAL CO., INC. #10 RD 5911 FARMINGTON, NM 87401	KEY ENERGY SERVICES 345 RD 3500 AZTEC, NM 87401
3. Originating Site (name):	Location of the Waste (Street address &/or ULSTR):
Attach list of originating sites as appropriate	COASTAL CHEMICAL CO., INC. #10 RD 5911 FARMINGTON, NM 87401
4. Source and Description of Waste RINSE WATER FROM PUMP, HOSES CHEMICALS. ALL CHEMICALS RIN CHEMICALS MAY INCLUDE: ALKAN ANTIFREEZE.	AND TANKS USED TO DELIVER VIRGIN SED OUT ARE VIRGIN?UNUSED CHEMICALS. OLAMINE, GLYCOL (TEG & EG)
I,MIKE_EBERHARD	representative for:
according to the Resource Conservation and Recover 1988, regulatory determination, the above described EXEMPT oilfield waste	ery Act (RCRA) and Environmental Protection Agency's July waste is: (Check appropriate classification) MPT oilfield waste which is non-hazardous by characteristic or by product identification
For NON-EXEMPT waste only the following docu <u>XX</u> MSDS Information <u>RCRA Hazardous Waste Analysis</u> <u>Chain of Custody</u> Name (Original Signature): <u>My Malaka</u>	Imentation is attached (check appropriate items): Other (description):
Title: <u>FACILITY MANAGER</u> Dete: <u></u>	

1625 N: French Dr., Hobbs, NM 88240	Energy u	s and	atura	irces	Form C-138 Revised March 17, 1999
611 South First, Artesia, NM 88210	Oil C 20	onservatio 40 South	n Division Pacheco		Submit Original
* 1000 Rio Brazos Road, Aztec, NM 87410 District IV	Sa	nta Fe, Ni	A 87505		Plus 1 Copy
2040 South Pacheco, Santa Fe, NM 87505		5	TT 18 19 20 27	·	District Office
REQUEST FOR	APPROV	ALTO	ACCEPT	SOLDW	ASTE
		12.1	RECEIVE	4. Generato	Б (¹)
1. RCRA Exempt: Non-Exempt:	2]		AL CON. DA		BURLINGTON
Verbal Approval Received: Yes] ^{No} 🗶		UIST. 8	5. Originati	ng Site VALVERDE Avm/F
2. Management Facility Destination KEYE	cheeky I	2,50050	C. t. E. C.	6. Transpor	ter Key
3. Address of Facility Operator #345 Co	23500 A	ztec N	n ·	8. State	IM
7 Location of Material (Street Address or Lil	UNITS (ESECI	TZ9N		
	(STR) RANG	ellw			
9. <u>Circle One</u> :					
A. All requests for approval to accept oilfie one certificate per job. B. All requests for approval to accept non-e material is not-hazardous and the Gener approved	ld exempt waste exempt wastes n ator's certification	es will be ac nust be acco on of origin.	companied by mpanied by n No waste cla	a certification of ecessary chemic ssified hazardo	of waste from the Generator; al analysis to PROVE the us by listing or testing will be
All transporters must certify the wastes del	ivered are only	those consig	ned for transr	ort.	
PRIEF DESCRIPTION OF MATERIAL	·····		·		···
Howe to Amine WEAT	- Exclum	6-ee_	, P12 3	4-0 FJ	This wask Stram
Is Testing still		16 27 Jan			Must Be re-tested Ber Next Submitter .
Validi		St. Her			It will there been 2; July 26, 2001 MyK
Estimated Volume 350 bbls cy	Known Volume	e (to be ente	red by the ope	ator at the end	It will Have Been 2; John 26, 2001 My K of the hauli cy
Estimated Volume 350 bbls cy SIGNATURE Mula Dan Waste Management Facility Author	Known Volume	e (to be ente	red by the ope	rator at the end	T + will Henre Been 2; $Johy 26, 2001$ $M K$ of the hauli cy $DATE! 6 - 6 - 01$
Estimated Volume 350 bols cy SIGNATURE Management Facility Author TYPE OR PRINT NAME: MICHAEC	Known Volume Lized Agent THCOVIC	e (to be ente TITLE:	red by the ope	PHONE NO	T + will Henre Been 2 John 26, 2001 MyK of the haulicyDATE! $e - e - e i505 - 334 - 6/86$
Estimated Volume 350 bbls cy SIGNATURE Management Facility Author TYPE OR PRINT NAME: MICHAEC (This space for State Use)	Known Volume	e (to be ente TITLE:	red by the ope	PHONE NO.	T + will Henre Been 2 John 26, 2001 MyK of the haulicyDATE! $e - e - e i505 - 3'34 - 6/86$
Estimated Volume <u>350 bbls</u> cy SIGNATURE <u>Mull Char</u> Waste Management Facility Author TYPE OR PRINT NAME: <u>MICHAR</u> (This space for State Use)	Known Volume	e (to be ente TITLE:	red by the ope	PHONE NO.	I + will Henre Been 2 John 26, 2001 MyK of the haulicvDATE: $e - e - e i505 - 334 - 6/86$
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District.II	Energy Minerals and Natural Resource	Form C-138 Revised March 17, 1999
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Vistrict IV 040 South Pacheco, Santa Fe, NM 87505	·	to Appropriate District Office
REQUEST FO	OR APPROVAL TO ACCEPT SOLID V	VASTE
. RCRA Exempt: Non-Exempt:	4. Genera	Burlington
Verbal Approval Received: Yes	No K 5. Origina	ating Size VALVEEDE ANNT
2. Management Facility Destination KE	ythereby Disposed 6. Transp	orter Key
3. Address of Facility Operator # 345	CR 3500 Aztec NM 8. State.	NM
7. Location of Material (Street Address o	rULSTR) Range II W	
9. <u>Circle One</u> :	,	
All requests for approval to accept on one certificate per job. B. All requests for approval to accept r material is not-hazardous and the G approved	non-exempt wastes must be accompanied by necessary chen enerator's certification of origin. No waste classified hazard	nical analysis to PROVE the lous by listing or testing will be
All transporters must certify the waste	s delivered are only those consigned for transport.	
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RY E JOHNSON	(308) 334-6178 Fi
COVERNOR	JENNIFER A. CABINET SI
CERTIFI	CATE OF WASTE STATUS
	to may
. Generator Name and Address:	2. Destination Name:
Burlington Resources 3401 East 20th 6f	Key Energy Scrutces 5651 US Highway 64
Farmington, NM 87401	
. Originating Site (name):	Location of the Waste (Street address &/or ULSTR)
Val Verde Plant	11 1. CE Sachion: 11 Township: 29A Range:
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Name (Original Signature):	Mant
Title: Sr. Environmental	Rep.
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SAN JUAN DIVISION

June 6, 2001

Key-Energy Services Inc. Attn: Mike Talovich P.O. Box 900 5651 US Highway 64 Farmington, NM 87499

RE: Request for approval to dispose of Burlington Resources Oil & Gas Company's Val Verde Plant non exempt nonhazardous spent plate and frame cleaning solution.

Mr. Talovich:

Burlington Resources is requesting approval to dispose approximately 350 bbl. of the spent plate and frame cleaning solution at Key Energy Services, Farmington, NM disposal facility.

Attached are copies of the chemical profile analysis of the spent cleaning solution proposed for disposal. Included are: 1) metals analysis, 7/30/99; 2) sampling procedures and analysis for metals, characteristics, semi volatile, and volatile parameters, 3/4/97; and 3) Flash Point analysis, 3/14/00. The process generating this waste and the products used in the process have not changed. In addition attached are MSDS's for the products used in the process.

The cleaning solution is considered to be non-exempt nonhazardous waste based on the data provided, generator knowledge of the process, and products used.

If you have additional questions concerning this request please contact me at (505) 326-9537.

Sincerely,

Gregg Winty

Gregg Wurtz Environmental Representative

cc: Correspondence Val Verde Plant waste file

Attachment: Waste profile

s:/2-Envir//VVP2000/waste/plate and frame waste.doc

3401 East 30th St., 87402, P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700. Fax 505-326-9833



intervive Intain Laboratories, Inc.

2506 West Main Street, Farmington, NM 87401

BURLINGTON RESOURCES

Case Narrative

On June 26, 1999, two samples were submitted to Inter-Mountain Laboratories -Farmington for rush analysis. Analysis for TCLP Metals were performed on the samples as per the accompanying Chain of Custody document.

Extractions were performed on the samples by "<u>Toxicity Characteristic Leaching</u> <u>Procedure</u>", Method 1311, SW-846, Rev. 0, July 1992.

Digestion of the extracted samples were performed by "<u>Acid Digestion of</u> <u>Aqueous Samples and Extracts for Total Metais</u>", Method 3010, SW-846, Rev. 1,-July 1992.

Trace metal analysis were performed on the samples by"<u>Test Methods for</u> <u>Evaluating Solid Waste: Physical/Chemical Methods</u>", SW-846, United States Environmental Protection Agency, November, 1986.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies.

Quality control reports appear at the end of the analytical package and may be identified by title. If there are any questions regarding the information presented in this package, please feel-free to call at your convenience.

Lillian

Shaken Williams Organic Analyst

Intern _____tain Laboratories, Inc.

Frone (505) 325-4737 Fax (505) 325-4181

Client:	Burlington Resources	
Project:	TCLP's	
Sample ID:	V V P Plate Cleaning Waste #1	
Lab ID:	0399W03764	
Matrix:	Liquid	
Condition	Cool/Intact	

--- 2506 West Main Street, Farmington, NM 8740

Date Reported:	08/02/99
Date Sampled:	07/26/99
Date Received:	07/26/99

Date Analyzed: 07/30/99

-	Analytical		• ·	
Parameter +	Result	PQL	MCL	Units
TCLP METALS - EPA METHOD 1311			<u></u>	
rsenic	<0.25	0.25	5.0	mg/L
Barium	<0.5	0.5	-100.0	mg/L
Cadmium	<0.2	0.2	1.0	mg/L
Chromium	<0.5	0.5	5.0	mg/L
ead	<0.5	0.5	5.0	mg/L
ferc ury	<0.001	0.001	0.2	mg/L
Selenium	<0.25	0.25	1.0	mg/L
Silver	~~ <0.5	0.5	5.0	mg/L

Reference: SW-846 - "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", United States Environmental Protection Agency, November, 1986.

Reviewed By IA

Sharon Willams, Organic Lab Supervisor

-- Inter-Nic Atain Laboratories, Inc.

2536 West Main Street, Formington, NM 87401

Phone (805) 325-4737 Feb (805) 325-4182

Client:	Burlington Resources		. –
Project:	TCLP's		Date Reported: 08/02/99
Sampie ID:	V V P Plate Cleaning Waste #2		Date Sampled: 07/26/99
Lab ID:	0399W03765		Date Received: 07/26/99
Matrix:	Liquid		
Condition:	Cool/Intact	· · · · · · · · · · · · · · · · · · ·	Date Analyzed: 07/30/99

Parameter	.∞ Analytica l Result	PQL	MCL	Units
TCLP METALS - EPA METHOD 1311				
Arsenic	<0.25	0.25	5.0	mg/L
Barium	· 1	0.5	100.0	mg/L
Sadmium	<0.2	- 0. 2	1.0	mg/L
Shromium	<0.5	0.5	5.0	mg/L
_ead	<0.5	0.5	5.0	mg/L
Mercury	<0.001	0.001	0.2	mg/L
Selenium	<0.25	0.25	1.0	mg/L
Silver	<Õ.5	0.5	5.0	mg/L

Reference: SW-846 - "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", United States Environmental Protection Agency, November, 1986.

Reviewea By:

Sharon Willams, Organic Lab Supervisor

Phone (505) 32:-4737 - Fc> (605- 325-4181

Inter-Musin Laboratories, Inc.

2506 West Main Street, Farminaton, NM 87401

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QUALITY CONTROL / QUALITY ASSURANCE



Phone (505) 326-4737 Fax (505) 325-4182

-- Inter-Mc Intain Laboratories, Inc.

2506 West Main Street, Farmington, NM 67401

Quality Control / Quality Assurance

Spike Analysis / Blank Analysis

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

Client:	Burlington Resources		Date Reported:	07/30/99
Project:	TCLP's	- the service	Date Analyzed:	07/30/99
Sample Matrix:	Extract ~		Date Received:	07/26/99

	Spike Result	Sampie Result	Spike Added	Percent
Parameter	(mg/L)	(mg/L)	(mg/L)	Recovery
Arsenic	0.46	<0.005	0.50	92%
Barium	0.82	0.24	0.50	116%
Cadmium	0.39	<0.004 ົ	0.50	78%*
Chromium	0.39	<0.01	0.50	78%*
Lead	0.85	<0.05	1.00	85%
Mercury	0.005	<0.001	0.005	104%
Selenium	0.88	<0.005	1.00	88%
Silver	0.39	<0.01	0.50	78%*

Method Blank Analysis

Parameter	Result	Limit	Units
Arsenic	ND	0.25	mg/L
Barium	ND	0.5	mg/L
Cadmium	ND	0.2	mg/L
Chromium	ND	0.5	mg/L
Lead	ND	0.5	mg/L
Mercury	ND	0.001	mg/L
Selenium	ND	0.25	mg/L
Silver	ND	0.5	mg/L

References:

Method 1311: Toxicity Characteristic Leaching Procedure, SW-846, Rev. 0, July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total Metals. SW-846, Rev. 1, July 1992.

Comments:

* Spike recovery failed to meet established QC limits due to matrix interferences.

Reported by

Reviewed by M



Inter-Musitain Laboratories, Inc.

2506 West Main Street, Formington, NM 87401

Quality Control / Quality Assurance

Known Analysis

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

Client: Project: Sample Matrix: Burlington Resources TCLP's Extract

 Date Reported:
 08/02/99

 Date Analyzed:
 07/30/99

 Date Received:
 07/26/99

	Caund			· ·
Parameter	Result	Result	Percent Recovery	Units
Arsenic	2.02	2.00	101%	ma/L
Barium	1.88	2.00	94%	ma/L
Cadmium	1.93	2.00	98%	ma/L
Chromium	1.96	2.00	98%	ma/L
Lead	1.94	2.00	97%	ma/i
Mercury	0.004	0.004	108%	mg/L
Selenium	2.05	2.00	103%	ma/i
Silver	0.51	0.50	102%	mg/L

Known Analysis

References:

Method 1311: Toxicity Characteristic Leaching Procedure, SW-846, Rev. 0. July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846. Rev. 1, July 1992.

Comments:

Reported by

Reviewed by

Inter- Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

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- Contract Environmental Services. Inc. Post Office Box 3376 Farmington, New Mexico 87499 Phone (505) 325-1198

March 4, 1997

Burlington Resources Mr. Craig Bock 3535 E. 30th Street Farmington, New Mexico 37401

RE: Written Procedure For Sampling Steel Tank. Spent Scale Cleaning Solution, Val Verde Plant, Bloomfield. New Mexico

Dear Mr. Bock.

Contract Environmental Services. Inc. (CES) is pleased to present this-sampling procedure for the above described site to Burilington Resources (BR). Sampling will be broken down into two (2) parts. Part one (1) will be sampling the liquid and part two (2) will be sampling the bottom sludge (if any).

Part 1 - Top to bottom liquid samples will be obtained using a 3.4" PVC sample tube. The PVC will be lowered into the fluid until the bottom is encountered." A rubber stopper will be inserted into the exposed end just above the liquid level. The PVC sampler will be extracted and the contents placed in a stainless steel canister for mixing. A total of three (3) liquid samples will be taken for compositing.

Part 2 - The bottom siudge (if any) will be sampled using a PVC sample tube with an eight (8) ounce glass sample jar secured with zip ties at one end. If sludge is encountered, a sample will be gathered from the center and each side. The three (3) sludge samples will be added to the same stainless steel canister to be composited with the liquid previously obtained.

The liquid and solids will be thoroughly mixed and samples for laboratory analysis will be gathered from the stainless steel container.

Samples will be adequately preserved as directed by the lab and carefully packaged for shipping to Assaigai Laboratory of Albuquerque for analyses. Chain-of-custody records will accompany the sample from the time they are gathered until the analyses are completed at the laboratory. The lab has been informed of our request for "Rush" analyses and have scheduled the work prior to receiving the samples. They have committed to a five (5) working day turn-around-time. Assaigai will receive the samples on Thursday morning by 10:00 am to begin the analyses. We should expect results on or before Thursday, March 13th, 1997.

All sampling equipment will be wiped down on site and either decontaminated or properly disposed of.

Contract Environmental Services. Inc. appreciates this opportunity to submit this sampling procedure to Burlington Resources and looks forward to serving your firm on this and other projects in the near future.

Sincereiv

Shawn A. Adams Contract Environmental Services, Inc.

ValVerde Plant Plate Exchange, Wash U

ASSAIG ANALYTICAL LABORATORIES, INC. 7300 Jefferson, N.S. + A-buqueraue, New Mexico 87109 + (505) 345-8964 + FAX (505) 345-7259 3332 Weagewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820 Report Generated: CERTIFICATE OF ANALYSIS March 12, 1997 14:42 **RESULTS BY SAMPLE** SENT CONTRACT ENVIRONMENTAL SERV WORKORDER # 9703041 : MOI-VAL VERDE WORK ID TO: PO BOX 3376 CLIENT CODE : CONT01 FARMINGTON, NM 87499 DATE RECEIVED : 03/06/97 ATTN': SHAWN ADAMS Page:1 Collected: 03/05/97 12:00:00 Lab ID: 9703041-01A Matrix: LIQUID Sample ID: VALV-100 DF RESULT UNITS LIMIT DATE BATCH ID TEST / METHOD ANAL FLASH POINT/SW846 1010 03/10/97 >60 Deg Centigrade 20 ± 0 WFLASH204 Flash Point REACTIVITY/SW846 7-3 mg/Kg of Waste NON-REACT 500 1.0 03/11/97 W97114 Sulfide mg/Kg of Waste 250 NON-REACT 1.0 03/11/97 W97114 Cvanide Lab ID: 9703041-01B Collected: 03/05/97 12:00:00 Matrix: LIQUID Sample ID: VALV-101 UNITS TEST / METHOD RESULT LIMIT DF DATE BATCH ID ANAL CORROS(NACE)/SW846 1110 ND Corrosivity (NACE) mm/yr 6.0 1.0 03/07/97 WNACE035 Collected: 03/05/97 12:00:00 Lab ID: 9703041-01C Matrix: LIOUID Sample ID: VALV-102/103 TEST / METHOD RESULT UNITS LIMIT D F DATE BATCH ID ANAL + TCLP SV/METHOD 1311/8270B ND 0.0010 290 03/08/97 TSVOA186 1.4-Dichlorobenzene mg/L 2-Methylpnenol / O-Cresol ND 0.0010 290 03/08/97 TSVOA186 mg/L 290 3/4-Methviphenol / M/P-Cresol ND mg/L 0.0010 03/08/97 TSVOA186 290 TSVOA186 Hexachloroethane ND mg/L 0.0010 03/08/97 290 ND mg/L 0.0010 03/08/97 TSVOA186 Nitrobenzene ND me/L 0.0010 290 03/08/97 TSVOA186 Hexachiorobutadiene mg/L 290 ND 0.010 TSVOA186 03/08/97 2.4.6-Trichlorophenol <u>.</u> 290 ND 2.4.5-Trichlorophenol mg/L 0.010 03/08/97 TSVOA186 2.4-Dinitrotoluene ND mg/L 0.010 290 03/08/97 TSVOA186 290 190 TSVOA186 mg/L 0.0010 03/08/97 ND Hexachlorobenzene Pentachioronhenol ND mg/L 0.020 03/08/97 TSVOA186 ND ing/L 0.010 290 03/08/97 TSVOA186 Pyridine TCLP SVOA XT/1311/3520 33.07/97 Ň/A

Member: American Council of

Independent Laboratories, Inc.

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Page:2

Lab ID: 9703041-01D Sample ID: VALV-104

<u> - - - -</u>

Collected: 03/05/97 12:00:00 Matrix: LIQUID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
рН/ЕРА (30 pH	8.7	pH Units	0.10	1.0	03/ 07 /97	WPH479

Lab ID: 9703041-01E Sample ID: VALV-105 **Collected:** 03/05/97 12:00:00 **Matrix:** LIQUID.

TEST / METHOD	RESULT	UNITS	LIMIT	D_ F	DATE ANAL	BATCH_ID	
% SOLIDS(TCLP XT)EPA 160.3	1.00 03/0 9 /9 7	% (Percent) N/A					
TCLP ENTRACTION/TCLP 1311 TCLP METALS/1311/SW8466010	03/06/97	N/A					
Arsenic, As	ND	mg/L	0.40	1.0	03/10/97	M97180,97178	
Barium, Ba	ND	mg/L	0.50	1.0	03/10/97	0197180.97178	
Cadmum, Ca	ND	mg/L	0.0050	1.0	03/10/97	M97180.97178	
Chromum, Cr	ND	ing/L	0.020	1.0	03/10/97	M97180,97178	
Lead, Pb	ND	mg/L	0.050	1.0	03/10/97	M97180,97178	
Mercury, Hg	ND	mg/L	0.0020	1.0	03/11/97	M97180,97178	
Selenium. Se	ND	mg/L	0.050	1.0	0 3/10 /97	M97180,97178	
Silver, Ag	ND	mg/L	0.040	1.0	03/10/97	M97180.97178	
TCLP(CVĀA)Hg XT/SW846 7471	03/10/97	Ň/A					

Lab ID: 9703041-01F Sample ID: VALV-106/107 A/B

Collected: 03/05/97 12:00:00 **Matrix:** LIQUID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID	
TCLP ZHE / TCLP 1311 ZHE/VOA/METHOD 1311/8240B	03/06/97	N/A					
Vinyl Chlorue	ND	ing/L	0.0050	5.0	03/07/97	TVOA278	
1.1-Dichloroethene	ND	ing/L	0.0010	5.0	03/07/97	TVOA278	•
Chlorotorin	ND	mg/L	0.0010	5.0	03/ 07 /97	TVOA278	
1.2-Dichloroetnane	ND	mg/L	0.0010	5.0	03/07/97	TVOA278	
2-Butanone (MEK)	ND	mg/L	0.0050	5.0	03/ 07 /97	EVOA278	
Carbon Tetrachloride	ND	mg/L	0.0010	5.0	03/ 07 /97	TVOA278	
Trichloroethene	ND	mg/L	0.0010	5.0	03/07/97	TVOA278	
Benzene	ND	mg/L	0.0010	5.0	0 3/07 /97	TVOA278	-
Tetrachloroethene	ND	mg/L	0.0010	5.0	03/ 07/9 7	TVOA278	
Chloropenzene	ND	mg/L	0.0010	5.0	03/ 07 /97	TVOA278	

Fred L. Shore, Fh.D. VP of Laboratory Operations

WORKORDER COMMENTS

DATE : 03/12/97 WORKORDER:

DEFINITIONS/DATA QUALIFIERS
The following are definitions, abbreviations, and data qualifiers which may have been utilized in your report:
<pre>ND = Analyte "not detected" in analysis at the sample specific detection limit. D_F = Sample "dilution factor" NT = Analyte "not tested" per client request. B = Analyte was also detected in laboratory method QC blank. E = Analyte concentration (result) is an estimated value or exceeds analysis calibration range. LIMIT = The minimum amount of the analyte that AAL can detect utilizing the specified analysis.</pre>
Please Note: Multiply the "Limit" value (AAL's Detection Limit) by Dilution Factor (D_F) to obtain the sample specific Detection Limit.
*** Analytical results reported pertain only to the samples provided *** *** for analysis and may not represent actual field conditions. ***

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REPORT COMMENTS

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Phone (505) 326-4737 Fax (505) 325-4182

- Inter-hauntain Laboratories, Inc.

2506 West Main Street, Farmington, NM 87401

March 15, 2000

Gregg Wurtz Burlington Resources 3535 E. 30th St. Farmington, NM 87402

Dear Gregg:

Enclosed please find the report for the sample received by our laboratory for analysis on March 14, 2000.

If you have any questions about the result of the analysis, please don't hesitate to call me at your convenience.

Thank you for choosing IML for your analytical needs!

Sincerely maron Williams

Organics Lab Supervisor

Enclosure

xc: File



Phone (505) 326-4737 Fax (505) 325-4182

Inter-mountain Laboratories, Inc.

2506 West Main Street, Farmington, NM 87401

BURLINGTON RESOURCES

Case Narrative

On March 14, 2000, one sample was submitted to Inter-Mountain Laboratories -Farmington for analysis. The sample was received intact. Analysis for Ignitability (Flash Point), was performed on the sample as per the accompanying Chain of Custody # 63353.

Flash Point was performed on the sample by "<u>Standard Test Methods for Flash Point By</u> <u>Pensky-Martens Closed Tester</u>". Annual Book of ASTM Standards, D93-80.

It is the policy of this laboratory to employ, whenever possible, preparatory and anlytical methods which have been approved by regulatory agencies.

Quality control reports appear at the end of the analytical package and may be identified by title. If there are any questions regarding the information presented in this package, please feel free to call at your convenience.

Sincere

Sharon Williams Organics Lab Supervisor

Intermountain Laboratories, Inc.

Phone (505) 326-4737 Fax (505) 325-4182

2506 West Main Street, Farmington, NM 87401

Flash Point

Client: Project: Sample ID: Laboratory ID: Sample Matrix: Condition: Burlington Resources Val Verde Plant VVP Plate/Frame Wash 0300W01112 Liquid Intact

Date Reported:	03/15/00
Date Sampled:	03/14/00
Date Received:	03/14/00
Date Analyzed:	03/14/00

Analyte	Result	Units
Flash Point	>140	٩۴

References:

Annual Book of ASTM Standards. Method D93-80.

Reported by

Reviewed by



Phone (505) 326-4737 Fax (505) 325-4182

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2506 West Main Street, Farmington, NM 87401

QUALITY CONTROL / QUALITY ASSURANCE

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Inter-mountain Laboratories, Inc.

Phone (505) 326-4737 Fax (505) 325-4182

2506 West Main Street, Farmington, NM 87401

Quality Control / Quality Assurance

Known Analysis FLASH POINT

Client:Burlington ResourcesDate Reported:03/15/00Project:Val Verde PlantDate Analyzed:03/14/00Sample Matrix:LiquidDate Received:03/14/00

Parameter	Found Result	Known Result	
p-Xylene	76°F	77°F	

Reference:

Annual Book of ASTM Standards, Method D93-80.

Comments:

Reported by

Reviewed by _____



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CHAIN OF CUSTODY RECORD

Client/Project Name Burling turd Resources Val Verde Plant ANALYSES / PARAMETERS															
Sampler: (Signature)		d Plus	, t	Chain of Cu	ustody Tape	No.		/ 2	Doint	7	7	7	Ren	narks	
Sample No./ Identification	L [#] Date	Time	Lab	Number		Matrix		No. cf Containe	Flash						
VVP Plate/Frame Wash	Tintes	10:00	03000	NILL	Liguio	l		1	X				Repor	t res	ulls
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Inter-Mountain Laboratories. Inc.															
555 Absaraka1633 Terra Avenue1701 PSheridan, Wyoming 82801Sheridan, Wyoming 82801GilletteTelephone (307) 674-7506Telephone (307) 672-8945Telephone				Phillips Circle e, Wyoming & one (307) 68	St Image: Constraint of the state of the st				0 77845 6-8945	633 53					

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Material Safety Data Sheet

RESINEX

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Mat	erial Identific	cation and Use		
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MANUFACTURER'S NAME MANUFACTURER'S ADDRESS EMERGENCY PHONE NUMBER SUPPLIER IDENTIFIER SUPPLIER'S ADDRESS	Sierra (BOX 1497 2000 His	Chemicals L.C. 2 ghway 88, Globe,	Arizona 855	- 01
SUPPLIER EMERGENCY PHONE N	UMBER. 520 425	-0224		•
FRODUCT IDENTIFIER	RESINEX	. 197		
PRODUCT USE	ALKALIN	ECLEANER		-
======================================	rdous Ingredie	examples and the second s	wedateteese	ᆖᆖᄢᇊᆧᅖᆍᅖᇸᇘ

Chemical Identity	Concentration	CAS#/NA#/UN#	LD(50)	LC (50)
Sodius hydroxide	10-30	1310-73-2	500mg/Kg (rat oral)	Not available
Moncisopropanolamine	1-5	7 8- 96- 6	2098ag\kg (rat oral)	Not available
Sodium laureth sulfate	1-5	9004-82-4	1200±g/Kg (rat oral)	N ot available
	Physical Data	For Product	1¥0788328238 20262482232	
PHYSICAL STATE.	Liquid Light a odour Not ava	amber to colourle Milable	ess liquid wi	th a mild
VAPOUR PRESSURE VAPOUR DENSITY (air=1) EVAPORATION RATE BOILING POINT FREEZING POINT	1.21 Not ava Not ava Not ava Not ava Not ava 13.5(cc	nilable nilable nilable nilable ncentrate)		i.
DENSITY (g/m1) COEFFICIENT OF WATER/DIL DISTRIBUTION	13(17 6 1.21 Not ava	ailable		-

Pane -i-
Material Safety Data Sheet

RESINEX

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- ±_	CARCINOGENICITY, REPRODUCTIVE EFFECTS. TERATOGENICITY, MUTAGENICITY TOXICOLOGICALLY SYNERGISTIC FRODUCTS.	None of the ingredients are listed as such None of the ingredients are listed as such. Not available
		ventive Measures
	PERSONAL PROTECTIVE EQUIPMENT SPECIFIC ENGINEERING CONTROLS LEAK AND SPILL PROCEDURES WASTE DISPOSAL HANDLING PROCEDURES AND EQUIPMENT STORAGE REQUIREMENTS SPECIAL SHIPPING INFORMATION	Use chemical goggles and wear rubber gloves when handling this product to prevent eye and skin contact. Should not be required Pick up with absorbent material. Dispose of contaminated absorbent in accordance with all local environmental regulations. Dispose of waste material in accordance with all local environmental regulations Use recommended protective equipment when handling this material.Contaminated clothing must be laundered before wearing Keep container closed and keep from freezing NA1760 Class 8 Packing Group II Compounds, cleaning liquid (Sodium hydroxide)
	Fi	rst Aid Measures
	SPECIFIC FIRST AID PROCEDURES	In case of skin contact, flush promptly with abundant water. In case of ingestion, do not induce vomiting.Call a physician. Flush eyes with abundant water and consult a physician
	Preparation Date	of Material Safety Data Sheet
	FREPARED BY	Mark Chaisson Chemist 403-998-3771 July 17, 1995

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Material Safety Data Sheet

REACT 102

PRODUCT IDENTIFICATION

SUPPLIER'S ADDRESS: ______Box 1492, 2000 Highway 88, Globe, AR 85501 SUPPLIER'S EMERGENCY PHONE NUMBER: ______ (520) 425-0224

HAZARDOUS INGREDIENT	PERCENT 60 • 100	CAS NUMBER 7664-38-2	LD مع الحمد ال الحمد الحمد الح الحمد الحمد الح	LC _{so} Not available
Nonoxynoi	1-5	9016-45-9	2600 mg/Kg (Rat Oral)	Not available
Dipropylenegiycoi methyl ether	1-3	34590-94-8	5430 mg/Kg (Rat Oral)	Not available
Alkyl dimethylbenzylammonium chionde	1-5	68424-85-1	4000 mg/Kg (Rat Oral)	Not available
		PHYSICAL DATA		

<u>_</u>	IDVER AND AFFEARANCE:	Committee to pare you've aquit white a mill bubur.
C	0000 TTO PTO 1010:	Not available
8	BORING TOINT	Not available
٧	APOUR PRESSURE:	Not available
v	APOUR DENSITY (AIR=1):	Not available
5	PECIFIC GRAVITY:	1.5
E	VAPORATION RATE:	Notavailable
F	REEZING POINT	Not available
p)H:	1-2 depending on dilution.
Ċ	COEFFICIENT OF OIL/WATER DISTRIBUTION:	Not available

FIRE AND EXPLOSION HAZARD

· · · · · · · · · · · · · · · · · · ·	
CONDITIONS OF FLAMMABILITY:	_ Not applicable
FLASHPOINT:	Not applicable
MEANS OF EXTINCTION:	Not applicable
HAZARDOUS COMBUSTION PRODUCTS:	Not applicable
EXPLOSION HAZARDS	- Not applicable
UPPER FLAMMABLE LIMIT:	Not applicable
LOWER FLAMMABLE LIMIT	- Not applicable
AUTO-IGNITION TEMPERATURE:	- Not applicable
SENSITIVITY TO STATIC DISCHARGE:	- Not applicable

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Material Safety Data Sheet

REACT 102

REACTIVITY DATA

STABILITY:	Stable under normal conditions of storage and use.
CONDITIONS OF REACTIVITY:	Contact with aluminum or zine will generate hydrogen.
INCOMPATIBLE MATERIALS:	Avoid contact with strong alkalis and strong oxidizing
EAZARDOUS DECOMPOSITION PRODUCTS:	agents. Oxides of carbon, and phosphorous on thermal decomposition.

TOXICOLOGICAL PROPERTIES

ROUTES OF ENTRY	
SKIN CONTACT:	Skin Irritation and chemical burns on prolonged skin contact.
SKIN ABSORPTION:	Certain components may be absorbed throught the skin. contributing to overall exposure.
EYE: Martin Barren and an and a second and and a second and a second and a second second second and a second second and a second se	Severe irritation and chemical burns can occur.
INHALATION:	Mists generated from the product may be irritating to the pose, threat, and respiratory tract.
INGESTION:	May cause correction of the mouth, threat, and G.I. trace.
ACUTE OVER EXPOSURE	Severe burns to skin and eyes. Inhalation of mist or vapour may cause irritation of the respiratory tract.
CHRONIC OVER EXPOSURE:	Demositius may occur with repeated exposure.
EXPOSURE LIMITS:	Phosphoric scid: ACGIH TWA = 1 mg/m3
	Dipropylene glycal methyl ether: ACGIH TWA = 100 ppm (skin)
IRRITANCY:	Severe irritant to the eyes, skin, and mucous membranes.
SENSITIZATION:	Not available
CARCINOGENICITY AND REPRODUCTIVE SFFECTS:	None of the ingredicuts are listed as such.
TERATOGENICITY AND MUTAGENICITY	None of the ingredients are listed as such.
TOXICOLOGICALLY SYNERGISTIC PRODUCTS:	Not available

PREVENTATIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT:	Use chemical goggles and wear rubber gloves when handling this product to prevent eve and skin contact.
BNGINEERING CONTROLS	Should not be required.
LEAK AND SPILL PROCEDURES:	Pick up small spills with absorbent material and seutralize residue with baking soda, and flush with water. Dispose of contaminated absorbent in accordance with all local environmental regulations.
WASTE DISPOSAL	Dispese of waste material in accordance with all local environmental regulations.
HANDLING PROCEDURES AND EQUIPMENT	Use recommended protective equipment when handling this mannal. Contaminated clothing must be laundered before wearing.
STORAGE REOUTREMENTS:	Keep container closed and keep from freezing
SPECIAL SHIPPING INFORMATION:	PIN UN 1805



ببتاسقها

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Material Safety Data Sheet

REACT 102

Phosphoric acid solution Class 8(9.2) Packing Group III

FIRST AID MEASURES

In case of ingestion, do not induce vomiting. Call a physician. On eye contact flush with abundant water and consult a physician.

PREPARATION INFORMATION

DISCLAIMER

The information contained herein has been obtained from sources believed to be reliable. Sierra Chemicals L.C. provides an warranties express or implied and assumes no responsibility for the accuracy or completeness of the data provided.

[210234] (425) 8 .00 <u>4.0</u> 2/16/00 SULFU	89-4100 RIC ACID	03/08/00 TO 100%	08:44 2	of 9	, v	
PRODUCT NAME:	SULFURIC	ACID, 77 TO 1009	k l		saj.	
MSDS #:	DQ4950CR		-			
EFFECTIVE DATE:	8/11/99					
SUPERSEEDES :	7/10/98					
ISSUED BY:	004690				·· –.	an the state
01 CHEMICAL PRODUC MATERIAL IDENTIF	T/COMPANY ICATION	IDENTIFICATION				*
CAS NUMBER FORMULA MOLECULAR WEI CAS NAME GRADE	GHT	: 7664-93-9 : H2SO4 : 98.08 : SULFURIC ACII : <u>7</u> 7 TO 100%	D		×	- NF
TRADENAMES AND S DIHYDROGEN SU OIL OF VITRIC SULPHURIC ACI VITRIOL BROWN	YNONYMS ULFATE D D O I OIL					
02 COMPOSITION/INF COMPONENTS	ORMATICN	ON INGREDIENTS				
MATERIAL SULFURIC ACID		بير 	CAS NÙMBER 7664-93-9	8		
60 DEG TECHNIC 66 DEG TECHNIC 1.835 ELECTROI 98% TECHNICAL 99% TECHNICAL 100% TECHNICAL	CAL CAL LYTE			77.7 93.2 93.2 98 99 100		
WATER			7732-18-5	0-22	5. 1	
03 HAZARDS IDENTIA POTENTIAL HEALTH	FICATION H EFFECTS					

INHALATION

EXPOSURE TO MISTS MAY CAUSE: IRRITATION OF THE NOSE AND THROAT WITH SNEEZING, SORE THROAT OR RUNNY NOSE. NON-SPECIFIC EFFECTS SUCH AS HEADACHE, NAUSEA AND WEAKNESS. GROSS OVEREXPOSURE MAY CAUSE: IRRITATION OF NOSE, THROAT, AND LUNGS WITH COUGH, DIFFICULTY BREATHING OR SHORTNESS OF BREATH. PULMONARY EDEMA (BODY FLUID IN THE LUNGS) WITH COUGH, WHEEZING, ABNORMAL LUNG SOUNDS, POSSIBLY PROGRESSING TO SEVERE SHORTNESS OF BREATH AND BLUISH DISCOLORATION OF THE SKIN; SYMPTOMS MAY BE DELAYED. REPEATED AND/OR PROLONGED EXPOSURE TO MISTS MAY CAUSE: CORROSION OF TEETH.

SKIN CONTACT

CONTACT WITH LIQUID MAY CAUSE: SKIN CORROSION, BURNS OR ULCERS. CONTACT WITH A 1 % SOLUTION MAY CAUSE-- SLIGHT IRRITATION WITH ITCHING, REDNESS OR SWELLING. REPEATED AND/OR PROLONGED EXPOSURE TO MISTS MAY CAUSE: IRRITATION WITH ITCHING, BURNING, REDNESS, SWELLING OR RASH.
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CONTACT WITH LIOUID MAY CAUSE: EYE CORROSION OR ULCERATION -BLINDNESS MAY RESULT. REPEATED AND/OR PROLONGED EXPOSURE TO MISTS MAY CAUSE: EYE IRRITATION WITH TEARING, PAIN OR BLURRED VISION.

INGESTION

IMMEDIATE EFFECTS OF OVEREXPOSURE MAY INCLUDE: BURNS OF THE MOUTH, THROAT, ESOPHAGUS AND STOMACH, WITH SEVERE PAIN, BLEEDING, VOMITING, DIARRHEA AND COLLAPSE OF BLOOD PRESSURE - DAMAGE MAY APPEAR DAYS AFTER EXPOSURE.

ADDITIONAL HEALTH EFFECTS

THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) CLASSIFIED "STRONG INORGANIC ACID MISTS CONTAINING SULFURIC ACID" AS A CATEGORY 1 CARCINOGEN, A SUBSTANCE THAT IS "CARCINOGENIC TO HUMANS". THIS CLASSIFICATION IS FOR STRONG INORGANIC ACID MISTS ONLY AND DOES NOT APPLY TO SULFURIC ACID OR SULFURIC ACID SOLUTIONS. THE BASIS FOR THE IARC CLASSIFICATION RESTS ON SEVERAL EPIDEMIOLOGY STUDIES WHICH HAVE SEVERAL DEFICIENCIES. THESE STUDIES DID NOT ACCOUNT FOR EXPOSURE TO OTHER SUBSTANCES, SOME KNOWN TO BE ANIMAL OR POTENTIAL HUMAN CARCINOGENS, SOCIAL INFLUENCES (SMOKING, ETC.) AND INCLUDED SMALL NUMBERS OF SUBJECTS. BASED ON THE OVERALL WEIGHT OF EVIDENCE FROM ALL HUMAN AND CHRONIC ANIMAL STUDIES, NO DEFINITIVE CAUSAL RELATIONSHIP BETWEEN SULFURIC ACID MIST EXPOSURE AND RESPIRATORY TRACT TUMORS HAS BEEN SHOWN.

INCREASED SUSCEPTIBILITY TO THE EFFECTS OF THIS MATERIAL MAY BE OBSERVED IN PERSONS WITH PRE-EXISTING DISEASE OF THE: LUNGS.

CARCINOGENICITY INFORMATION

NONE OF THE COMPONENTS PRESENT IN THIS MATERIAL AT CONCENTRATIONS EQUAL TO OR GREATER THAN 0.1% ARE LISTED BY IARC, NTP, OSHA OR ACGIH AS A CARCINOGEN.

04 FIRST AID MEASURES FIRST AID

INHALATION

IF INHALED, IMMEDIATELY REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. PLEASE NOTE: SYMPTOMS MAY BE DELAYED; PROMPT MEDICAL ATTENTION MAY BE REQUIRED. CALL A PHYSICIAN.

SKIN CONTACT

IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN. WASH CONTAMINATED CLOTHING BEFORE REUSE.

WHILE THE PATIENT IS BEING TRANSPORTED TO A MEDICAL FACILITY, CONTINUE THE APPLICATION OF COLD, WET COMPRESSES. IF MEDICAL TREATMENT MUST BE DELAYED, REPEAT THE FLUSHING WITH COLD WATER OR SOAK THE AFFECTED AREA WITH COLD WATER TO HELP REMOVE THE LAST TRACES OF SULFURIC ACID. CREAMS OR OINTMENTS SHOULD NOT BE APPLIED BEFORE OR DURING THE WASHING PHASE OF TREATMENT.

EYE CONTACT

ii N

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN.

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Jam InchistiON

IF SWALLOWED, DO NOT INDUCE VOMITING. GIVE LARGE QUANTITY OF WATER. CALL A PHYSICIAN IMMEDIATELY. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

NOTES TO PHYSICIANS

CONTINUED WASHING OF THE AFFECTED AREA WITH COLD OR ICED WATER WILL BE HELPFUL IN REMOVING THE LAST TRACES OF SULFURIC ACID. CREAMS OR OINTMENTS SHOULD NOT BE APPLIED BEFORE OR DURING THE WASHING PHASE OF THE TREATMENT.

05 FIRE FIGHTING MEASURES FLAMMABLE - PROPERTIES

WILL NOT BURN.

FIRE AND EXPLOSION HAZARDS:

REACTS WITH MOST METALS, ESPECIALLY WHEN DILUTE, TO GIVE FLAMMABLE, POTENTIALLY EXPLOSIVE HYDROGEN GAS. FOLLOW APPROPRIATE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES.

EXTINGUISHING MEDIA

į

USE MEDIA APPROPRIATE FOR SURROUNDING MATERIAL.

USE WATER SPRAY TO COOL CONTAINERS EXPOSED TO FIRE; DO NOT GET WATER INSIDE CONTAINERS.

FIRE FIGHTING INSTRUCTIONS

EVACUATE PERSONNEL TO A SAFE AREA. KEEP PERSONNEL REMOVED AND UPWIND OF FIRE. GENERATES HEAT UPON ADDITION OF WATER, WITH POSSIBLE SPATTERING. WEAR FULL PROTECTIVE CLOTHING. RUNOFF FROM FIRE CONTROL MAY CAUSE POLLUTION. NEUTRALIZE RUN-OFF WITH LIME, SODA ASH, ETC., TO PREVENT CORROSION OF METALS AND FORMATION OF HYDROGEN GAS. WEAR SELF-CONTAINED BREATHING APPARATUS IF FUMES OR MISTS ARE PRESENT.

06 ACCIDENTAL RELEASE MEASURES SAFEGUARDS (PERSONNEL)

NOTE: REVIEW FIRE FIGHTING MEASURES AND HANDLING (PERSONNEL) SECTIONS BEFORE PROCEEDING WITH CLEAN-UP. USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT DURING CLEAN-UP.

ACCIDENTAL RELEASE MEASURES

STOP FLOW IF POSSIBLE. REVIEW "FIRE AND EXPLOSION HAZARDS" AND "SAFETY PRECAUTIONS" BEFORE PROCEEDING WITH CLEAN UP. USE APPROPRIATE PROTECTIVE EQUIPMENT DURING CLEAN UP. SOAK UP SMALL SPILLS WITH DRY SAND, CLAY OR DIATOMACEOUS EARTH. DIKE LARGE SPILLS, AND CAUTIOUSLY DILUTE AND NEUTRALIZE WITH LIME OR SODA ASH, AND TRANSFER TO WASTE WATER TREATMENT SYSTEM. PREVENT LIQUID FROM ENTERING SEWERS, WATERWAYS, OR LOW AREAS.

IF THIS PRODUCT IS SPILLED AND NOT RECOVERED, OR IS RECOVERED AS A WASTE FOR TREATMENT OR DISPOSAL, THE REPORTABLE QUANTITY IS 1,000 LBS. (BASED ON THE SULFURIC ACID CONTENT OF THE SOLUTION SPILLED). COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS ON REPORTING RELEASES.

[210234] (425) 889-4100 VENDORS EMERGENCY EX. RE LIMITS (EEL) ARE ESTABLE LD TO FACILITATE SITE OR PLANT EMERGENCY EVACUATION AND SPECIFY AIRBORNE CONCENTRATIONS OF BRIEF DURATIONS WHICH SHOULD NOT RESULT IN PERMANENT ADVERSE HEALTH EFFECTS OR INTERFERE WITH ESCOPE EEL'S ARE EXPRESSED AS AIRBORNE CONCENTRATION MULTIPLIED BY TIME (CXT) FOR UP TO A MAXIMUM OF 60 MINUTES AND AS A CEILING AIRBORNE CONCENTRATION. THESE LIMITS ARE USED IN CONJUNCTION WITH ENGINEERING CONTROLS/MONITORING AND AS AN AID IN PLANNING FOR EPISODIC RELEASES AND SPILLS.

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THE VENDORS EMERGENCY EXPOSURE LIMIT (EEL) FOR SULFURIC ACID IS 10 MG/M3 FOR 15 TO 60 MINUTES AND 20 MG/M3 FOR UP TO 15 MINUTES WITH A NOT-TO-EXCEED. CEILING OF 20 MG/M3.

07 HANDLING AND STORAGE HANDLING (PERSONNEL)

> DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING. AVOID BREATHING VAPORS OR MIST. WASH THOROUGHLY AFTER HANDLING.

KEEP CONTAINERS CLOSED. DO NOT ADD WATER TO CONTENTS WHILE -IN CONTAINER BECAUSE OF VIOLENT REACTION.

STORAGE

KEEP OUT OF SUN AND AWAY FROM HEAT, SPARKS, AND FLAME. KEEP CONTAINER TIGHTLY CLOSED AND (DRUM) CLOSURE UP TO PREVENT LEAKAGE. LOOSEN CLOSURE CAREFULLY. RELIEVE INTERNAL PRICCURE WHEN RECEIVED AND AT LEAST WEEKLY THEREAFTER. DO NOT USE PRESSURE TO EMPTY. BE SURE CLOSURE IS SECURELY - FASTENED BEFORE MOVING CONTAINER. DO NOT WASH OUT CONTAINER OR USE IT FOR OTHER PURPOSES; REPLACE CLOSURE AFTER EACH WITHDRAWAL AND RETURN IT WITH EMPTY CONTAINER.

08 EXPOSURE CONTROLS/PERSONAL PROTECTION ENGINEERING CONTROLS

GOOD GENERAL VENTILATION SHOULD BE PROVIDED TO KEEP VAPOR AND MIST CONCENTRATIONS BELOW THE EXPOSURE LIMITS.

PERSONAL PROTECTIVE EQUIPMENT

HAVE AVAILABLE AND WEAR AS APPROPRIATE FOR EXPOSURE CONDITIONS WHEN HANDLING CONTAINERS OR OPERATING EQUIPMENT CONTAINING SULFURIC ACID: CHEMICAL SPLASH GOGGLES; FULL-LENGTH FACE SHIELD/CHEMICAL SPLASH GOGGLES COMBINATION; ACID-PROOF GAUNTLET GLOVES, APRON, AND BOOTS; LONG SLEEVE WOOL, ACRYLIC, OR POLYESTER CLOTHING; ACID PROOF SUIT AND HOOD; AND APPROPRIATE NIOSH RESPIRATORY PROTECTION. IN CASE OF EMERGENCY OR WHERE THERE IS A STRONG POSSIBILITY OF CONSIDERABLE EXPOSURE, WEAR A COMPLETE ACID SUIT WITH HOOD, BOOTS, AND GLOVES. IF ACID VAPOR OR MIST ARE PRESENT AND EXPOSURE LIMITS MAY BE EXCEEDED, WEAR APPROPRIATE NIOSH RESPIRATORY PROTECTION.

EXPOSURE GUIDELINES

EXPOSURE	LIMITS				
SULFUR	IC ACID, 7	נ 71	ro 1	00%	
PEL	(OSHA)			:	1 MG/M3, 8 HR. TWA
TLV	(ACGIH)			:	1 MG/M3, 8 HR. TWA, A2
					STEL 3 MG/M3, A2
					A2 (SULFURIC ACID CONTAINED IN STRONG
					INORGANIC ACID MISTS)
AEL	(VENDORS)			:	1 MG/M3, 8 & 12 HR. TWA
	-				3 MG/M3, 15 MINUTE TWA

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AEL IS VENDORS ACCEPTABLE EXPOSURE LIMIT WHERE GO. RNMENTALLY IMPOSED OCCUPATIONAL EXPOSURE LIMITS WHICH ARE LOWER THAN THE AEL ARE IN EFFECT, SUCH LIMITS SHALL TAKE PRECEDENCE.

09 PHYSICAL AND CHEMICAL PROPERTIES PHYSICAL DATA

BOILING POINT	: 193-327 C (379-621 F) @ 760 MM EG
VAFUL PRESSURE	: <0.3 MM HG @ 25 C (77 F)
- u, vr.¢	<0.6 MM HG @ 38 C (100 F)
VAPOR DENSITY	: 3.4
MELTING POINT	: -35 TO 11 C (-31 TO 52 F)
EVAPORATION RATE	: <1 (BUTYL ACETATE=1.0)
SOLUBILITY IN WATER	: 100 WT%
PH	: <1
ODOR	: ODORLESS.
FORM	: OILY; CLEAR TO TURBID LIQUID
COLOR	: COLORLESS TO LIGHT GRAY
• 197	

GRADE	BOILING DEG C	PT. D EG F	MELTIN DEG C	NG PT. D EG F	SPECIFIC GRAVITY
60 DEG TECHNICAL	193	380	-12	10	1.706
66 DEG TECHNICAL	279	535	-35	-31	1.835
1.835 ELECTROLYTE	279	535	-35	-31	1.835
98% TECHNICAL	327	621	-2	29	1.844
99% TECHNICAL	310	590	4	40	1.842
100% TECHNICAL	274	526	11	51	1.839

10 STABILITY AND REACTIVITY CHEMICAL STABILITY

STABLE, BUT REACTS VIOLENTLY WITH WATER AND ORGANIC MATERIALS WITH EVOLUTION OF HEAT.

INCOMPATIBILITY WITH OTHER MATERIALS

VIGOROUS REACTIONS WITH WATER; ALKALINE SOLUTIONS; METALS, METAL POWDER; CARBIDES; CHLORATES; FUMINATES; NITRATES; PICRATES; STRONG OXIDIZING, REDUCING, OR COMBUSTIBLE ORGANIC MATERIALS. HAZARDOUS GASES ARE EVOLVED ON CONTACT WITH CHEMICALS SUCH AS CYANIDES, SULFIDES, AND CARBIDES.

DECOMPOSITION

RELEASES SULFUR DIOXIDE AT EXTREMELY HIGH TEMPERATURES.

POLYMERIZATION

POLYMERIZATION WILL NOT OCCUR.

11 TOXICOLOGICAL INFORMATION ANIMAL DATA

EYE:

ANIMAL TESTING INDICATES THIS MATERIAL IS CORROSIVE TO THE EYE, WHEN TESTED UNDILUTED. ANIMAL TESTING INDICATES THIS MATERIAL IS

L2102341 (425) 889-4100 03/08/00 08:44 7 of 9 A MODERATE EYE IRRITI WHEN TESTED AS 10 % SOLUTI

SKIN:

THE CONCENTRATED COMPOUND IS CORROSIVE. ANIMAL TESTING INDICATES THIS MATERIAL IS A SLIGHT SKIN IRRITANT, WHEN TESTED AS 10 % SOLUTION.

INGESTION:

------LD50, RAT: 2,140 MG/KG.

INHALATION:

8 HOUR, LC50, GUINEA PIGS: 30 MG/M3. SINGLE AND REPEATED EXPOSURE CAUSED: IRRITATION OF THE RESPIRATORY TRACT. CORROSION OF THE RESPIRATORY TRACT. LUNG DAMAGE. LABORED BREATHING. ALTERED RESPIRATORY RATE. PULMONARY EDEMA. REPEATED EXPOSURE CAUSED: ALTERED RED BLOOD CELL COUNT.

CARCINOGENIC, DEVELOPMENTAL, REPRODUCTIVE, MUTAGENIC EFFECTS:

NO ADEQUATE ANIMAL DATA ARE AVAILABLE TO DEFINE THE CARCINOGENIC POTENTIAL OF THIS MATERIAL. LIMITED STUDIES DO NOT SUGGEST EFFECTS. IN ANIMAL TESTING THIS MATERIAL HAS NOT CAUSED DEVELOPMENTAL TOXICITY. NO ANIMAL DATA ARE AVAILABLE TO DEFINE THE FOLLOWING EFFECTS OF THIS MATERIAL: REPRODUCTIVE TOXICITY. THIS MATERIAL HAS NOT PRODUCED GENETIC DAMAGE IN BACTERIAL CULTURES. IT HAS NOT BEEN TESTED FOR GENETIC TOXICITY IN MAMMALIAN CELL CULTURES OR IN ANIMALS.

12 ECOLOGICAL INFORMATION ECOTOXICOLOGICAL INFORMATION

> AOUATIC TOXICITY: SLIGHTLY TO MODERATELY TOXIC. 96 HOUR LC50 - BLUEGILL SUNFISH: 10.5 PPM. 48 FOUR TLM - FLOUNDER: 100-300 PPM

13 DISPOSAL CONSIDERATIONS WASTE DISPOSAL

4

CLEANED-UP MATERIAL MAY BE AN RCRA HAZARDOUS WASTE ON DISPOSAL DUE TO THE CORROSIVITY CHARACTERISTIC. DO NOT FLUSH TO SURFACE WATER OR SANITARY SEWER SYSTEM. COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS. IF APPROVED, NEUTRALIZE AND TRANSFER TO WASTE TREATMENT SYSTEM.

14 TRANSPORTATION INFORMATION SHIPPING INFORMATION

> DOT/IMO PROPER SHIPPING NAME : SULFURIC ACID : 8 HAZARD CLASS : 1830 : CORROSIVE : II UN NO. DOT/IMO LABEL PACKING GROUP REPORTABLE QUANTITY : 1000 LB (454 KG) SHIPPING CONTAINERS

TANK CARS. TANK TRUCKS. BARGE .

[210234] (425) 889-4100 03/08/00 08:44 8 cf 9
SHIPPING INFORMATION - ()A
TDG
PROPER SHIPPING NAME SULPHURIC ACID
TDG CLASS CLASS 8 (9.2)
TDG PACKING GROUP II
15 REGULATORY INFORMATION
U.S. FEDERAL REGULATIONS

TSCA INVENTORY STATUS : REPORTED/INCLUDED.

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

ACUTE : YES CHRONIC : YES FIRE : NO REACTIVITY : YES PRESSURE : NO

HAZARDOUS CHEMICAL LISTS

SARA EXTREMELY HAZARDOUS SUBSTANCE: YES CERCLA HAZARDOUS SUBSTANCE : YES SARA TOXIC CHEMICAL : NO

16 OTHER INFORMATION NFPA, NPCA-HMIS

NFPA RATING			
HEALTH		:	3
FLAMMABILITY	:	0	
REACTIVITY	•	:	2

WATER REACTIVE.

NPCA-HMIS RATING	
HEALTH	: 3
FLAMMABILITY	: 0
REACTIVITY	: 2

PERSONAL PROTECTION RATING TO BE SUPPLIED BY USER DEPENDING ON USE CONDITIONS.

ADDITIONAL INFORMATION

BECAUSE OF ITS CORROSIVE CHARACTERISTICS AND INHERENT HAZARDS, SULFURIC ACID SHOULD NOT BE USED IN SEWER OR DRAIN CLEANERS OR ANY SIMILAR APPLICATION; REGARDLESS OF WHETHER THEY ARE FORMULATED FOR RESIDENTIAL, COMMERCIAL OR INDUSTRIAL USE. VENDOR WILL NOT KNOWINGLY SELL SULFURIC ACID TO INDIVIDUALS OR COMPANIES WHO REPACKAGE THE PRODUCT FOR SALE AS SEWER OR DRAIN CLEANERS, OR ANY OTHER SIMILAR USE.

----- NOTICE ------

** VAN WATERS & ROGERS INC. ("VW&R") EXPRESSLY DISCLAIMS ALL EXPRESS OR

IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE,

WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED HEREIN, AND SHALL UNDER

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NO CIRCUMSTANCES BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. **

ALL INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMATION IS BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO ITS ACCURACY OR SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&RS CONTROL AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA UNDER THEIR OWN OPERATING CONDITIONS TO DETERMINE WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY ASSUME ALL RISKS OF THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM THE PUBLICATION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN. THIS INFORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HEREIN, AND DOES NOT RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER PROCESS.

* * * END OF MSDS * * *

<u>Di</u> 16	trict I 25 N. French Dr., Hobbs, NM 88240
, Di	trict. B South First, Artesia, NM 88210
<u>Di</u>	trict III
10	U KIO BRAZOS KOAO, AZIEC, NM 8/410

District IV 2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resour

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505 Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT S	OLID WASTE
1. RCRA Exempt: Non-Exempt: X	4. Generator BUINGTON
Verbal Approval Received: Yes No X REALING	5. Originating Site Seelist
2. Management Facility Destination KEY DISPOSALE OIL CONVED	6. Transporter Ley
3. Address of Facility Operator #345 CR 3500 AZKEGNM	8. State N.M
7. Location of Material (Street Address or ULSTR)	
9. <u>Circle One</u> :	
 A. All requests for approval to accept oilfield exempt wastes will be accompanied by a cone certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by nece material is not-hazardous and the Generator's certification of origin. No waste classi approved 	certification of waste from the Generator; ssary chemical analysis to PROVE the fied hazardous by listing or testing will be
All transporters must certify the wastes delivered are only those consigned for transport	
BRIEF DESCRIPTION OF MATERIAL:	
OIL HANK WHER FROM COMPRESSOR STATIONS	STORED
At McGrath SWD Refer:	C-138 APPROVAL DAted 1-11-07
Is testing still valid. JUN 2001 FIECEIVED ONLOON DIN DINT	Auxlytical 6000 till 12-7-2001 BIGNED M. Kieling this is that haste strong mid
Estimated Volume 21000 bb/s cy Rhown Volume (to be entered by the operation $Mon \text{ bb/s}$ cy 227777	or at the end of the hau!cy
SIGNATURE Mula Pacing Authorized Agent TITLE: Management Facility Authorized Agent	en DATE! 6-6-07
TYPE OR PRINT NAME: MICHAEL THOULON TELEPH	IONE NO. <u>905-334-6186</u>
(This space for State Use)	
APPROVED BY: Demy tant TITLE: COOL (0515	T DATE: 6/7/01
APPROVED BY: 2 Montyn 9 25 TITLE: En vironmenter	<u>600/057</u> DATE: 6-5-0]

District I 1625 N. French Dr., Hobbs, NM 88240 District II • \$11. South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Package South For NM 87505

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State of New Mexico Energy Minerals and Natural Resourc

> Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

2040 South Pacheco, Santa Fe, NM 87505	District Office
REQUEST FOR APPROVAL TO ACCEP	T SOLID WASTE
1. RCRA Exempt: Non-Exempt: X	4. Generator Bullington
Verbal Approval Received: Yes-	5. Originating Site Seelist
2. Management Facility Destination 4EY DISP057C	6. Transporter LEY
3. Address of Facility Operator #345 (23500 Aztec NM	8. State N.M
7. Location of Material (Street Address or ULSTR)	
a Cirola Ana	
one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by material is not-hazardous and the Generator's certification of origin. No waste approved	y necessary chemical analysis to PROVE the classified hazardous by listing or testing will be
All transporters must certify the wastes delivered are only those consigned for tra	nsport.
BRIEF DESCRIPTION OF MATERIAL:	
MIL THUR WATER From COMPRESSOR Station	05 STORED
At Mc Grath S WO Re: JUN 2001 RECEIVED OIL COM. ET DET. 8 SIGNATURE MICHAEL THEORICH TYPE OR PRINT NAME: MICHAEL THEORICH MC GRATH S WO NG GRATH S	Fer: C-138 Approval DATE: C-138 Approval DATE: C-138 Approval DATE: C-138 Approval Awalytical GOOD Hill 12-71-2001 SIGNED M. Kielinza His is Hunt Untste Stream M.D. operator at the end of the hau! DATE: C-C-07 ELEPHONE NO. <u>505-334-6186</u>
(This space for State Use)	
APPROVED BY: Deny Teny TITLE: 6-01	0-915/ DATE: 6/7/0/
APPROVED BY: TITLE:	DATE:

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& A NATUKAL RESOURCES DEPART	MENT AZTEC, NEW MI (308) 334-4179 F
COVERNOR	JENNIFER A. S CABINET SE
CERTIFICATE OF W	ASTE STATUS
1. Generator Name and Address: 2. De Public Law Reconcerce	stination Name:
3401 East 30th Street 5	651 U.S. High way 64
Farmington, NM 87401 Fa	rening but MM 87401
3. Originating Site (name); Locati	on of the Waste (Street address &/or ULSTR):
Unit: SE Secti	ON: 11 TOWNShip: 29N Rung
COMPRESSER SILLES SEEList	
Attecn list of originating sites as sportages	
4. Source and Description of Waste	
Oil tank water from used oil:	Tanks at MGrath SWL
Water from oil tanks at compress	on station
· /	
1. Jregy Wurt	representative for:
Buy line ton Resources	do hereby cartify
according to the Resource Conservation and Recovery Act	(RCRA) and Environmental Protection Agency
1966, regulatory determination, the above described waste	2. Index abhabilda eiszanegidili
	Held waste which is non-herardous by charact
EXEMPT cilfield waste X NON-EXEMPT cil	duct identification
EXEMPT cilifield waste X NON-EXEMPT cili analysis or by pro	duct identification
EXEMPT oilfield waste X NON-EXEMPT oil analysis or by pro- and that nothing has been added to the exempt or non-exem	duct identification
EXEMPT oilfield waste X NON-EXEMPT oilfield waste X NON-EXEMPT oilfield waste X NON-EXEMPT oilfianalysis or by pro and that nothing has been added to the exempt or non-exem For NON-EXEMPT waste the following documentation is	attached (check appropriate items):
EXEMPT oilfield waste X NON-EXEMPT oilfield waste X NON-EXEMPT oilfield waste X analysis or by pro and that nothing has been added to the exempt or non-exem For NON-EXEMPT waste the following documentation is X MSDS Information	attached (check appropriate items): Other (description):
EXEMPT oilfield waste X NON-EXEMPT oilfield waste X NON-EXEMPT oilfield waste and that nothing has been added to the exempt or non-exem For NON-EXEMPT waste the following documentation is MSDS Information RCRA Hazardous Waste Analysis Chain of Custody	attached (check appropriate items): Other (description):
EXEMPT oilfield waste X NON-EXEMPT oilfield waste X NON-EXEMPT oilfield waste analysis or by pro- and that nothing has been added to the exempt or non-exemption and that nothing has been added to the exempt or non-exemption and that nothing has been added to the exempt or non-exemption and that nothing has been added to the exempt or non-exemption analysis of by pro- For NON-EXEMPT waste the following documentation is MSDS Information RCRA Hazardous Waste Analysis Chain of Custody	attached (check appropriate items): Other (description):
EXEMPT oilfield waste X NON-EXEMPT oilfield waste X NON-EXEMPT oilfield waste and that nothing has been added to the exempt or non-exem and that nothing has been added to the exempt or non-exem For NON-EXEMPT waste the following documentation is MSDS Information RCRA Hazardous Waste Analysis Chain of Custody This waste is in compliance with Regulated Levels of Natura	attached (check appropriate items): Other (description): Iiy Occurring Radioactive Material (NORM) s

Title: <u>Sr. Environ mutul Rep.</u> Date: <u>6/6/</u> Zd WEIT: 21 EBJE IS THEW

: 'ON XUI

: 402



SAN JUAN DIVISICN

December 27, 2000

Oil Conservation Division Attn: Martyne Keiling 2040 South Pacheco Street Santa Fe, New Mexico 87505

Re: Characterization of Drained Water from Used Oil Tank

Dear Ms. Keeling:

Attached is a Certificate of Waste Status form and a wastewater analysis for water generated from draining the used oil tank at the compressor stations. The main purpose for analyzing these waste streams was to comply with 40 CFR 262.11 waste determination requirements contained in the Resource Conservation and Recovery Act (RCRA). Upon evaluating the analysis for this waste stream it appears a the water does <u>not</u> exhibit the characteristics of a hazardous waste.

Due to the fact that this waste stream has been analyzed in two consecutive years and each time showing the waste is non-hazardous. Burlington Resources requests that the non-hazardous determination be accepted for a period of two years from the date of sample collection and analysis. If processes or products change that may impact this waste stream, a new analysis will be completed.

Should you have any questions concerning the content or need additional information, please feel free to contact me at 326-9537. Thank you for your time and consideration.

Sincerely.

Tragg Win

Gregg Wurtz Environmental Representative

Enc.	Certificate of Waste Status
	Sample Project CC-59463

CC:

Bruce Gantner Greg Kardos Ken Johnson Correspondence Compressor Files Mike Talovichl

3401 East 30th St., 87402, P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700, Fax 505-326-9833

Burlington Resources Oil & Gas Company Compressor Stations

		QTR	SEC	TWP	RNG
1.	Frances Mesa	SW	27	30N	7W
2.	Cedar Hill	SW:	29	32N	10W
3.	Gobernador ·	NW	31	30N	- W -
4.	Manzanares	SE	1	29N	8W.
5.	Pump Canvon	NE	24	30N	9W.
б.	Hart Canvon	SE -	20	3IN	10W
	Buena Vista	NE	13	30N	9W
8.	Sandstone	SE	32	31N	8W
. 9.	Quinn	SW	16	31N	8W
10.	Arch Rock	SW.	14	31N	10W
11.	Pump Mesa	SW.	14	31N	8W.
12.	Middle Mesa	SW.	10	31N	-W
13.	Simms Mesa	NE	22	30N	- <i>M</i> .
14.	Rudy	SE	35	29N	11W
15.	Zachry	SW	34	29N	10W
16.	Albright	NW	22	29N	10W
17.	Raπlesnake	SW	10	31N	$\mathcal{I}M$
18.	Cox	- SW	20	32N	10W
19.	Lateral 311	NE	17	29N	10W
20.	Lateral 355	SE	25	30N	HW -
21.	Ute	SW	14	32N	11W
<u></u> .	State	NW.	16	28N	9W.

íe.

hone (505) 326-4737 Fax (505) 325-4182

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Nountain Laboratories, Inc

Int

2506 West Main Street, Farmington, NM 874

Ed Hasely Burlington Resources P.O. Box 4289 Farmington, NM 87499-4289

Dec. 13, 1999

Mr. Hasely:

Please find enclosed the reports for the samples submitted to our laboratory for analysis on November 23, 1999. I apologize for the delay in receiving your results.

If you should have any questions regarding the results of these analyses, please do not hestitate to call me at your convenience.

Sincer II MIN Sharon Williams

Organics Lab Supervisor

Enclosures

xc: file

one (505) 326-4737 Fax (505) 325-4182

Inter-M

2506 West: Main Street, Farmington, NM 87401

BURLINGTON RESOURCES

Case Narrative

On November 23, 1999, samples were submitted to Inter-Mountain Laboratories for analysis. The samples were analyzed for the parameters listed on the accompanying chain of custody document.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the analyses of the samples reported herein are found in Test Methods For Evaluation of Solid Waste, SW-8-6, USEPA, and Methods For Chemical Analysis of Water and Wastes, EPA-600/4-79-020, USEPA, 1994.

Quality control reports appear at the end of the analytical package and may be identified by title. If there are any questions regarding the information presented in this package, please fee: free to call me at your conveneince.

Since arop Williams

Organic Analyst/Farmington

Inte Mountain Laboratories, Inc.

(505) 326-4737 For	x (505) 325-4182	2506 West Main Street, Farmington, NM 87401
Client:	Burlington Resources	
Project:	Compressor Stations	Date Reported: 12/13/99
Sample ID:	Water From Used Oil Tank	Date Sampled: 11/23/99
Lab ID:	0399W05762	Date Received: 11/23/99
Matrix:	Liquid	
Condition;	Cool/Intact	Date Analyzed: 12/03/99
		the second se

4	* Analytical			
Parameter	Result	- PQL	MCL	Units
TCLP Metals - EPA Method 1311				
Arsenic.	<0.1	0.1	5.0	mg/L
Barium	. <0.5	0.5	100	mg/L
Cadmium	∽ <0.01	0.01	1.0	fng/L
Chromium	0.05	0.02	5.0	mg/L
Lead	<0.1	0.1	5.0	mg/L
Mercury	<0.001	0.001	0.2	mg/L
Selenium	0.23	0.1	1.0	mg/L
Silver	<0.05	0.05	~ <u>5</u> .0	- mg/L

Reference: SW-846 - "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", United States Environmental Protection Agency, Final Update 1, July 1992.

Reviewed By: William Lipps

-cne (505) 326-4737 Fax (505) 325-4182

Inter-Mountain Laboratories, Inc.

Flash Point

2506 West Main Street, Farmington, NM 37401

Project: Sample ID: Laboratory ID: Sample Matrix: Condition:	Burlington Resources Compressor Stations Water From Used Oil Tank 0399W05762 Liquid Intact	 Date Reported: Date Sampled: Date Received: Date Analyzed:	12/13/99 11/23/99 11/23/99 12/07/99

....

	ABSUIT.	Units
Flash Point	>140	۶F
		-

References:

Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical / Chemical Methods" United States Environmental Protection Agency 3rd Edition, Final Update II. September, 1994.

Annual Book of ASTM Standards, Method D56.

Reported by

Reviewed by

Inter-A ntain Laboratories, Inc.

Phone (50%) 326-4737 Fax (505) 325-4182 TOXICITY CHARACTERISTIC LEACHING PROCEDURE EPA METHOD 8260B -VOLATILE ORGANIC COMPOUNDS BY GC/MS

Client	Burlington Resources		Date Reported:	12/08/99
Project ID	Compressor Stations	· -	Date Sampled:	11/23/99
Sample ID	Water from used oil tanks		Date Received:	11/24/99
Laboratory ID:	0399W057 62		Date Extracted:	NA
Sample Matrix:	Water		Date Analyzed:	12/01/99

Parameter	•	Analytical Result	Detection Limit	Regulatory Level	Units
Banzana		ND	0.05	0.5	mq/l
Carbon Tetrachloride	-	ND	0.05	0.5	mg/L
Chlorobenzene		ND	0.05	100	ma/L
Chloroform		ND	0.05	6.0	mg/L
1,2-Dichlorcethane		ND	0.05	0.5	mg/L
1,1-Dichloroethylene		ND	0.05	0.7 -	mg/L
Methyl Ethyl Ketone (2-Butanone)		ND	1.25	200	mg/L
Tetrachloroethyiene		ND	0.05	0.7	mg/L
Trichlorcethylene		ND	0.05	0.5	mg/L
Vinyl Chioride		ND	0.05	0.2	mg/L
		**	•		

ND - Compound not detected at stated Detection Limit.

Surrogate Recovery	%	Limits
Dibromofluoromethane	97	86 - 118
Dichloroethane-d4	91	30 - 120
Toluene-d8	90	88 - 110
4-Bromchuorobenzene	92	33 - 116

Reference: Test Methods for Evaluating Water, Wastewater and Solid Waste, SW-846,U.S.E.P.A., Volume B. Revision 2. December 1996.

Analyst M lug &

Revieweg

Sone (505) 326-4737 Fax (505) 325-4182

Inter-Mountain Laboratories, Inc

2506 West Main Street, Farmington, NM 874

QUALITY CONTROL / QUALITY ASSURANCE

Inter-Mountain Laboratories, Inc.

re (505) 326-4737	Fex (505) 325-4182
-------------------	--------------------

2506 West Main Street, Farmington, NM 87401 **Quality Control / Quality Assurance**

Spike Analysis / Blank Analysis

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

Clienti	Burlington Resources	e	Date Reported:	12/13/99
Project:	Compressor Stations	•	Date Analyzed:	12/03/99
Sample Matrix:	Liquid	•	Date Received:	11/23/99
			-	

Spike Analysis					
Parameter	Spîke Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery	
Arsenic	0.97	<0.1	1.00	97%	
Cadmium Chromium	0.79 0.88	<0.01 <0.01	1.00	90%* 79%* 88%	
Lead Mercury	0.68 0.005	<0.1 <0.001	1.00 0.005	68%* 102%	
Selenium Silver	1.20 0.74	<0.1 <0.05	1.00 1.00	120%* 74%*	

Method Blank Analysis

		Detection	
Parameter	Result	Limit	Units
Arsenic	ND	0.1	mg/L
Barium	ND	0.5	mg/L
Cadmium	ND	0.01	mg/L
Chromium	ND	0.02	mg/L
Lead	ND	0.1	mg/L
Mercury	ND	0.001	mg/L
Selenium	ND	0.1	mg/L
Silver	ND	0.05	ma/l

References:

Method 1311: Toxicity Characteristic Leaching Procedure, SW-846, Rev. 0. July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, Rev. 1, July 1992.

Comments:

*Spike recovery failed to meet established QC limits due to matrix interferences. Reported by

Reviewed by



ione (505) 326-4737 Fax (505) 325-4182

Quality Control / Quality Assurance

Known Analysis

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

Client: Project: Sample Matrix: Burlington Resources

 Date Reported:
 12/13/99

 Date Analyzed:
 12/03/99

 Date Received:
 11/23/99

Known Analysis					
Parameter	Found Result	Known Result	Percent Recovery	Units	
Arsenic	1.01	1.00	101%	mg/L	
Barium	0.51	0.50	102%	mg/L	
Cadmium	1.03	1.00	92%	^mg/L	
Chromium	1.06	1.00	106%	mg/L	
Lead	1.04	1.00	104%	mg/L	
Mercury	0.004	0.004	100%	mg/L	
Selenium	0.53	0.50	106%	mg/L	
Silver	1.05	1.00	105%	mg/L	

References:

Method 1311: Toxicity Characteristic Leaching Procedure, SW-846, Rev. 0, July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, Rev. 1, July 1992.

Comments:

Reported by

Reviewed by

inl

Inter-Mountain Laboratories, Inc.

2506 West Main Street, Farmington, NM 87401

5) 326-4737 Fax .505) 325-4192 EPA METHOD 8260B

VOLATILE ORGANIC COMPOUNDS BY GC/MS

Method Blank Analysis

Sample ID	Method Blank	Date Reported:	- 12/08/99
Laboratory ID.	V3MB9 <u>9=3</u> 35	Date Extracted:	NA
Sample Matrix	Water	Date Analyzed:	12/01/99

, "	Analytical	Detection	Regulatory	, Unite
	Result		Level	Units
Benzene -	ND	0.01	0.5	mg:L
Carbon Tetrachloride	ND	0.01	0.5	mg, L
Chlorobenzene	ND	0.01	100	mg:L
Chleroform	ND	0.01	6.0	mg/L
1.2-Dichloroetnane	ND	0.01	0.5	mg/L
1,1-Dichloroetnylene	ND	0.01	0.7	mg/L
Methyl Ethyl Ketone (2-Butanone)	ND	0.25	200	mg/L
Tetrachloroethylene	ND	0.01	0.7	mg/L
Trichloroethylene	ND	0.01	0.5	mg.L
Vinyi Chloride	ND	0.01	0.2	mg:L

ND - Compound not detected at stated Detection Limit.

Surrogate Recovery	0/0	Limits
	04	
Dipromotiuorometrane	94	81 08
Dichlcroethane-d4	93	80 - 120
Toiuene-d8	89	88 - 110
4-Bromofluoropenzene	92	86 - 116

Peference Tast Methods for Evaluating Water, Wastewater and Solid Waste, SW-846.U.S.E.P.A., Volume IB, Revision 2, December 1996.

Inter-Mc .ain Laboratories, Inc.

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

VOLATILE ORGANIC COMPOUNDS BY GC/MS

Blank Spike/Dupilcate Analysis

Sample D Blank Solke Dublicate _Laboratory ID BSD99-336 "Sample Matrix" <u>Water</u>	Date Reported Date Extracted Date Analyzed		12/08/99 NA 12/02/99
--	--	--	----------------------------

Parameter -	Analytical Result mg/L	Spike , Added mg/L	Spike Results mg/L	Spike Recovery %	Duplicate Results mg/L	Duplicate Recovery ⅔	Relative Dífference %RSD
Benzene	ND	0.050	0.050	99	0.053	106	
Carbon Tetrachicride	ND -	0.050	0.054	109	0.057	113	4
Chloroberzene	ND	0.050	0.050	99	0.053	106	7
Chloroform	ND	0.050	0.056	112	0.060	121	7
1.2-Dichicroethane	ND	0.050	0.049	98	0.057	113	, 1
1,1-Dichicroethylene	ND	0.050	0.046	91	0.047	34	۲. ۲
Methyl Ethyl Ketone (2-Butanone)	ND	0.100	0.102	102	0.115	115	. 12
Tetrachloroethylene	ND	0.050	0.055	110	0.058	115	. <u>.</u>
Trichloroethviene	ND	0.050	0.052	163	0.055	111	
Vinyl Chloride	ND	0.050	0.052	105	0.052	104	.)

ND - Compound not petected at stated Detection Limit.

	Spike	Duplicate	
Surrogate Recoveries	۵/ ۵/	%	Limits
Dibromofluoromethane	96	102	86 - 118
Dichloroetnane-d4	90	101	80-120
Toluene-c8	92	92	66 - 110
4-Bromofluorobenzene	95	94	86 - 116

Reference: Test Methops for Evaluating Water, Wastewater and Solid Waste, SW-846,U.S.E.P.A., Volume (B, Revision 2, December 1996).

Int. Mountain Laboratories, Inc.

Phane (505) 326-4737 Fax (505) 325-4132 TOXICITY CHARACTERISTIC LEACHING PROCEDURE EPA METHOD 8260B

VOLATILE ORGANIC COMPOUNDS BY GC/MS

Matrix Spike Analysis

Sample ID Laboratory ID: Sample Matrix	Matrix Spike 0199W19088MS Water			· · · · · · · · · · · · · · · · · · ·	Date Reported: Date Extracted: Date Analyzed:	12/03/99 NA 12/02/99
--	---------------------------------------	--	--	---------------------------------------	---	----------------------------

	Analytical Result	Spike Added	Spike Results	Spi k e Recovery	
Parameter	mg/L	mgiL	mg/L	3/ . a	
Benzene		0.050	0.054	et.08	
Carbon Tetrachioride	ND	0.050	0.059	119	
Chlorobenzene	ND	0.050	0.054	109	
Chloreform	ND	0.050	0.061	121	
1.2-Dichloroethane	ND	0.050	0.054	108	
1,1-Dichloroethylene	ND	0.050	ົ 0.050	100	
Methyl Ethyl Ketone (2-Butanone)	ND	0.100	0.084	84	
Tetrachloroethylene	ND	0.050	0.059	118	
Trichloroethyiene	ND	0.050	0.057	113	~
Vinyl Chloride	ND	0.050	0.054	108 ·	**

ND - Compound not detected at stated Detection Limit.

Surragata Pacavan	 ۵/	Limite
Surrogate Recovery	 /0	Linnis
Dibromofluoromethane	 - 98	36 - 118
Dichloroethane-d4	96	80 - 120
Toluene-d8	92	88 - 110
4-Bromofluorobenzene	95	86 - 116

Reference. Test Methods for Evaluating Water, Wastewater and Solid Waste, SW-846 U.S.E.P.A., Volume IB, Revision 2., December 1996.

Analyst

_	_			
2	62	.505)/326-4737	Fax (505) 325-4132	

Inter-Mc

ain Laboratories, Inc. 2506 West Main Street, Farmington, NM 87401

Quality Control / Quality Assurance

Known Analysis FLASH POINT

Burlington Resources Date Reported: Clienti 12/13/99 Compressor Stations Date Analyzed: Projecti 12/07/99 Sample Matrix: Liquid -Date Received: 11/23/99

Parameter	Found Result		÷,
p-Xylene	~ 76°F	77°F	÷

Reference: Analysis performed according to SW-846 "Test Methods for Evaluating Solid Waste: Physical / Chemical Methods" United States Environmental Protection Agency 3rd Edition, Final Update II, September, 1994.

Annual Book of ASTM Standards, Method D93-80.

Comments:

Reported

Reviewed by



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CHAIN OF CUSTODY RECORD

Client/Project Name Builinstein Resource		ITKI	Pro	ject Location	1 . 5tert.	6~5			ANAL	YSES	/ PAF	AMET	ERS	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>
Sampler: (Signature)			E Chain of C	ustody Tape	No.		5		/ .		/		łemarks	
Sample No./ Identification	, Date	Time	Lab Number		Matrix		No. of Containe	TCLP Metals	TCLP Dores	FI 4.5 F				
Water fier Used O.I Tenk	11/23		W05762	Liqu			3	V				I	ML is me	,Ke
11	17			11			6		~				mposite	in hab
<i>p</i>	11			4			3			V				
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Relinquished by (Signature)				Date	Time	Received	by labora	ntory: (S	ignature)			Date	Time
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1633 Torra Avenue	 1701	Phillins Cin	clo 4506	West Main St	lieet	1160 Bese	aich Dri	VP	111 111	83 Stat	e Hwv 3	()	KO1	123
Sheridan, Wyoming 8280	1 Gillel	lte, Wyomin	j 82718 Farm	ington, NM 87	7401	Bozeman,	Montana	10 1 597 18	Col	lege Sta	ation, TX	77845		6 Ta F 2
Telephone (307) 672-894	5 Telep	phone (307)	682-8945 Telep	hone (505) 32	26-4737	Telephone	(406) 58	36-8450	Tele 	ephone	(409) 77	6-8945		

District I 1625 N. French Dr., Hobbs, NM 88240 District I 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resour

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

REQUESTFOR APPROVAL TO ACCEPT SOLID WASTE						
RCRA Exempt: Non-Exempt: X	4. Generator HAlliburton					
Verbal Approval Received: Yes 📄 No 💢	5. Originating Site MAIN YARD					

2. Management Facility Destination KEY D1500346	6. Transporter Key
3. Address of Facility Operator #349 C23500 Aztec NM	8. State NM
HIOG E. MAIN ST 7. Location of Material (Street Address or ULSTR) FALMINGTON, NM 87402	

9. Circle One:

1. RCRA Exe

- A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.
- B)All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved
- All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

UNUSED FRAC Floid	Gel	JUN 2001 HEORIVED CILCON DIV DIST. 3	JUN 2001 RECEIVED OIL CON. DIV DIST. 3 DIST. 3
Estimated Volume <u>160 66 ls</u> cy	Known Volun	ne (to be entered by the operator at	the end of the hau! cy
SIGNATURE <u>Millial Colon</u>		TITLE:	DATE! <u>6-1-01</u>
TYPE OR PRINT NAME: <u><i>MICHAEL</i></u>	TALOUI	Сну TELEPHONE	NO. 505-334-6/86
(This space for State Use)	Kent	TITLE: <u>Geolosis</u>	DATE: <u>6/4/0/</u>
APPROVED BY: APPROVED BY: Mannagen	Khy,	TITLE: <u>Environmental</u>	<u>600/951</u> DATE: <u>6-8-01</u>

1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec. NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

Energy Minerals and Natural Resource Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

REQUEST	FOR APPROVAL	L TO ACCEPT SOLID	WASTE

1. RCRA Exempt: Non-Exempt: X	4. Generator HAlliburton
Verbal Approval Received: Yes No	5. Originating Site MAIN 42D
2. Management Facility Destination KEY D150034C	6. Transporter Key
3. Address of Facility Operator #349 C23500 AZHEC NM	8. State NM
HIOG E. MAIN ST 7. Location of Material (Street Address or ULSTR) FARMINGTON, NM B7402	

c. <u>Circle One</u>:

A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator: one certificate per job.

DAll requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

Cel UNUSED FRAC Florid



Estimated Volume 160 6615 cy	Known Volume (to be entered by the operator of	at the end of the haulcy
SIGNATURE Multure Value	TITLE: Mice	DATE 6-1-01
TYPE OR PRINT NAME:	TALOUICH TELEPHO!	NE NO. 505-334-6186
(This space for State Use) APPROVED BY:	Pant TITLE: Geologi	37 DATE: 6/4/0/
APPROVED BY:	TITLE:	DATE:

nergy mera s an atura esources epartment District H + (505) 748-1283 811 S. First Oil Conservation Division Artesia, NNT 88240 District III - (505) 334-6178 2040 South Pacheco Street -Submit to OCD 1000 Rio Brazos Road Santa Fe. New Mexico 87505 Permitted Surface Artec, \$\$\$1 87410 District IV - (505) 827-7131 (505) 827-7131 Waste Management 2040 S. Pacheco Facility Santa Fe, NM 87505 GENERATOR CERTIFICATE OF WASTE STATUS 1. Waste Generator Name and Address: 2.Permit Number (if waste generated at an OCD HALLIBURTON ENERLY SERVICES permitted facility) 4109 E. MAIN St FREMINGTON, HM 87402 3. Description of Waste and Generating Process: 4. Location of Waste (Street address &/or ULSTR): HALL BURTON ENERLY SERVICES FEAC KENDEN FWIDS ALOGE. MAINST. FARMINGTON, NM 87402 3/00/5 5. Destination (Surface Waste Management Facility): 6. Transporter: KEY ENERGY SERVICES KEY ENERGY SERVICES 5651 Uls Huy. 64 Farmington, NM 27402 7. Estimated Volume 143 cy/bbls For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items): MSDS Information RCRA Hazardous Waste Analysis (With Chain of Custody). Other (Description) Generator certifies that, according to the Resource Conservation and Recovery Act (RCRA) and the Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (check appropriate classification) **EXEMPT** oilfield waste. EXEMPT oilfield waste that is non-hazardous pursuant to 40 CFR Part 261. (Attach appropriate documentation) In addition. Generator certifies that nothing has been added to this exempt or non-exempt non-hazardous waste and that this waste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403. Date: 5-18-01 Generator Signature: dRiGU€ HLLEN Print Name: FACILITIES SUPERIOK SERVICES SHAREd Title:

FOUROTEC LOBS

SUSPECTED HAZARDOUS WASTE ANALYSIS

- · -

			·
Client:	Halliburton Energy Services	Project #:	92132-001
Sample ID:	Junk Water Tank	Date Reported:	05-02-01
-Labile#:	19788	Date Sampled:	04-25-01
Sample Måtrix:	Water	Date Received:	04-25-01
Preservative:	Cool	Date Analyzed:	04-30-01
Condition:	Cool and Intact	Chain of Custody:	8625
Parameter	Result	· · · · · · · · · · · · · · · · · · ·	·····
IGNITABILITY:	Negative		
CORROSIVITY:	Negative	pH = 2.26	
REACTIVITY:	Negative		
RCRA Hazardous Waste Crite	ria		
Parameter	Hazardous Waste Criterion		
IGNITABILITY:	Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. (i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)		
CORROSIVITY:	Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. (i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)		
REACTIVITY:	Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23. (i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)		
Reference:	40 CFR part 261 Subpart C se	ections 261.21 - 261.23, July 1, 1	992
Comments:	4109 E. Main St., Farmi	ngton, New Mexico.	

Analyst

<u>millaters</u> Review

ENVIROTICIÓ ABS

AROMATIC / HALOGENATED VOLATILE ORGANICS

elan en en antes de la

Client:	Halliburton Energy Services	Project #:	92132-001
Sample ID:	Junk Water Tank	Date Reported:	05-03-01
Laboratory Number:	19788	Date Sampled:	04-25-01
Chain of Custody:	8625	Date Received:	04-25-01
Sample Matrix:	Water	👡 Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	05-02-01
Condition:	Cool & Intact	Analysis Requested:	TCLP
		Detection	Regulatory
	Concentration	Limit	Limits
Parameter	(mg/L)	(mg/L)	(mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	0.749	0.0001	200
Chloroform	ND	0.0001	6.0
Garbon Tetrachloride	ND	- 0.0001	0.5
Benzene	0.0015	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	т 100 ^г
1.4-Dichlorobenzene	ND	0.0002	7.5

. ..

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptar	nce Criteria	Parameter		Percent F	Recovery
. • • • • • • • • • • • • • • • • • • •		Fluorobenz 1.4-difluoro	ene benzene		100% 100%
		4-bromochl	orobenzene		100%
References:	Method 1311, Toxicity Characte Method 5030, Purge-and-Trap, 3 Method 8010, Halogenated Vola Method 8020, Aromatic Volatile	ristic Leaching F SW-846, USEPA atile Organic, SW Organics, SW-8	'rocedure, SW-84 A, July 1992. I-846, USEPA, S 46, USEPA, Sep'	46, USEPA, ept. 19 <u>9</u> 4. t. 1994.	July 1992.
Note:	Regulatory Limits based on 40 (CFR part 261 Su	bpart C section 2	261.24, July	1, 1992.
Comments:	4109 E. Main St.		-		
Ánalyst	Celu-		(Ekvinster Review		. Daeters

_PA METHOD 8040 PHENOLS

Client:	Halliburton Energy Services	Project #:	.92132-001
Sample ID:	Junk Water Tank	Date Reported:	05-03-01
Laboratory Number:	. 19788	Date Sampled:	04-25-01
Chain of Custody:	8625		04-25-01
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Ĉool	Date Analyzed:	05-02-01
Condition:	Cool & Intact	- Analysis Requested:	TCLP
		,	

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	0.296	0.020	200
p,m-Cresol	0.720	0.040	200
2,4,6-Trichlorophenol	0.073	0:020	2.0
2,4,5-Trichlorophenol	0.098	0.020	400
Pentachlorophenol	0.278	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophe	nol 99%

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments:

4109 E. Main St.

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.²A METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

Client:	ent: Halliburton Energy Services		92132-001
Sample ID:	Junk Water Tank	Date Reported:	05-02-01
Laboratory Number:	19788	Date Sampled:	04-25-01
Chain of Custody:	8625	Date Received	04-25-01
Sample Matrix:	Water	Date Analyzed:	05-02-01
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Analysis Needed:	TCLP metals
	······	Det.	Regulatory
	Concentration	Limit	Level
Parameter	(mg/L)	(mg/L)	(mg/L)
Arsenic	0.006	0.001	5.0
Barium	0.035	0.001	100
Cadmium 🦟	0.005	0.001 -	1.0
Chromium	0.331	0.001	5.0
Lead	0.339	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.001	0.001	1.0
Silver	ND	0.001	5.0

::.

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

4109 E. Main St.

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QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1868

L. A METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	05-03-01
Laboratory Number:	05-02-TCV	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A -	Date Analyzed:	05-02-01
Condition:	N/A	Analysis Requested:	TCLP
		Detection	Regulatory
	Concentration	Limit	Limits
Parameter	(mg/L)	(mg/L)	(mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

Parameter	Percent Recovery
Fluorobenzene	100%
1,4-difluorobenzene	100%
4-bromochlorobenzene	100%
	Parameter Fluorobenzene 1,4-difluorobenzene 4-bromochlorobenzene

References:	Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.			
	Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.			
	Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.			
	Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.			
N1 4	Description Limits based on 40 CED and 261 Subport Classifier 261 24 July 1, 1992			
INOTE:	Regulatory Limits based on 40 CFR ball 201 Subball C Section 201.24, July 1, 1992,			

Comments:

QA/QC for sample 19788.

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EFA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client	OA/OC		Project #	
Sample ID:	Matrix Duplicate		Date Reported	05-03-01
Laboratory Number:	19788		Date Sampled:	N/A
Sample Matrix:	Water		Date Received:	N/A
Analysis Requested:	TCLP		Date Analyzed:	05-02-01
Condition:	N/A		Date Extracted:	N/A
	•			
28		Duplicate		
	Sample	Sample	Detection	
	Result	Result	Limits	Percent
Parameter	<u>(mg/L)</u>	(mg/L)	(mg/L)	Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1.1-Dichloroethene	ND	ND	0.0001	0.0%
2-Butanone (MEK)	0.749	0.750	0.0001	0.2%
Chloroform	ND	ND	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	0.0015	0.0015	0.0001	0.0%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	ND	ND .	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

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E... METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

	Client:	QA/QC			Project #:		N/A
	Sample ID:	Matrix Spike	-	· · * * .	Date Reported	d:	05-03-01
	Laboratory Number:	19788			* Date Sampled	1:	N/A
	Sample Matrix:	Water -			Date Receive	d:	N/A
	Analysis Requested:	TCLP			Date Analyze	d:	05-02-01
	Condition:	N/A			Date Extracte	d:	N/A
				Spiked			SW-846
		Sample	Spike	Sample	Det.		% Rec.
		Result	Added	Result	Limit	Percent	Accept.
	Parameter	(mg/L)	(mg/L)	(mg/L)	(mg/L)	Recovery	Range
	Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
	1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
	2-Butanone (MEK)	0.749	0.050	0.798	0.0001	100%	47-132
	Chloroform	ND	0.050	0.0500	0.0001	100%	49-133
	Carbon Tetrachloride	ND	0.050	0.0490	0.0001	98%	43-143
	Benzene	0.0015	0.050	0.0510	0.0001	99%	39-150
	1,2-Dichloroethane	ND	0.050	0.0490	0.0001	98%	51-147
-	Trichloroethene	ND	0.050	0.0495	0.0003	. 99%	35-146
	Tetrachloroethene	ND	0.050	0.0495	0.0005	99%	26-162
	Chlorobenzene	ND	0.050	0.0495	0.0003	99%	38-150
	1,4-Dichlorobenzene	ND	0.050	0.0495	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

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EPA METHOD 8040 PHENOLS Quality Assurance Report Laboratory Blank

Analytical Results	Concentration	Detection	Regulatory
Condition:	N/A	Analysis Requested:	TCLP
Preservative:	N/A	Date Analyzed:	05 = 02-01
Sample Matrix:	2-Propanol	Date Received:	N/A
Laboratory Number:	05-02-TCA	Date Sampled:	N/A
Sample ID:	Laboratory Blank	Date Reported:	05-03-01
Client:	QA/QC	Project #:	N/A

Parameter	(mg/L)	(mg/L)	(mg/L)	
o-Cresol	ND	0.020	200	
p,m-Cresol	ND	0.040	200	
2,4,6-Trichlorophenol	ND	0.020	2.0	
2,4,5-Trichlorophenol	ND	0.020	400	
Pentachlorophenol	ND	0.020	100	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter Percent Recov		
	2-fluorophenol	98 %	
	2,4,6-tribromophenol	99 %	

References:	Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
	Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.Note:Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample 19788.

Analyst

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EPA METHOD 8040 PHENOLS Quality Assurance Report

	• :-	· • • • ·	· · · · · · · · · · · · · · · · · · ·	•
Client:		-, .	Project #:	N/A
Sample ID:	Matrix Duplicate		Date Reported:	05-03-01
Laboratory Number:	19788 -		Date Sampled:	N/A
Sample Matrix:	Water		Date Received:	N/A
Preservative:	Cool		Date Extracted:	N/A
Condition:	Cool & Intact		Date Analyzed:	05-02-01
			Analysis Requested:	TCLP
	•••			
· · · · · · · · · · · · · · · · · · ·	Sample	Duplicate	Detection	
	Result	Result	Limit	Percent
Parameter	(mg/L)	(mg/L)	(mg/L)	Difference
o-Cresol	0.296	0.293	Ô.020	1.0%
p,m-Cresol	0.720	0.705	0.040	2.0%
2,4,6-Trichlorophenol	0.073	0.072	0.020	1.0%
2,4,5-Trichlorophenol	0.098	0.097	0.020	1.1%
Pentachlorophenol	0.278	0.276	0.020	0.8%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:		Parameter	Maximum Difference
		8040 Compounds	30.0%
References:	Method 1311, Toxicity Chara Waste, SW-846, USEPA, Ju	acteristic Leaching Procedure Tes ly 1992.	t Methods for Evaluating Solid
	Method 3510, Separatory Fu Waste, SW-846, USEPA, Ju	unnel Liquid-Liquid Extraction, Tes Ily 1992.	st Methods for Evaluating Solid
	Method 8040, Phenols, Test	t Methods for Evaluating Solid Wa	ste, SW-846, USEPA, Sept. 1986.
Note:	Regulatory Limits based on	40 CFR part 261 subpart C section	on 261.24, July 1, 1992.
Comments:	QA/QC for sample 197	788.	-
Analyst	P. Cepun	Review	to my Walter

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EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics Quality Assurance Report

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_Client:	QA/QC	Project #:	N/A
Sample ÎD?	Laboratory Blank	Date Reported:	05-03-01
Laboratory Number:	05-02-TBN	Date Sampled:	N/A
Sample Matrix:	Hexane	Date Received:	N/A
Preservative:	, N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	05-02-01
		Analysis Requested:	TCLP
· · • • •	· · · · · · · · · · · · · · · · · · ·	Det.	Regulatory
	Concentration	Limit	Limit
Parameter	(mg/L)	(mg/L)	(mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0

0.020

0.020

0.020

ND

ND

ND

ND - Parameter not detected at the stated detection limit.

Hexachlorobutadiene

HexachloroBenzene

2,4-Dinitrotoluene

QA/QC Acceptance Criteria		Parameter	Percent Recovery
	•	2-fluorobiphenyl	96%
References:	Method 1311, Toxicity Method 3510, Separa Method 8090, Nitroard	y Characteristic Leaching Procedure, SW- tory Funnel Liquid-Liquid Extraction, SW- omatics and Cyclic Ketones, SW-846, US	846, USEPA, July 1992. 846, USEPA, July 1992. EPA, Sept. 1986.
Note:	Regulatory Limits bas	sed on 40 CFR part 261 Subpart C sectior	1 261.24, July 1, 1992. [*]

Comments:

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EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QA/QC Matrix Duplicate Report

Client: Sample ID: Laboratory Number: Sample Matrix: Preservative: Condition:	QA/QC Matrix Duplicate 19788 Water N/A N/A	Project #: Date Reported: Date Sampled: Date Received: Date Extracted: Date Analyzed: Analysis Requeste	Project #: Date Reported: Date Sampled: Date Received: Date Extracted: Date Analyzed: Analysis Requested:			
Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)		
Pyridine Hexachloroethane Nitrobenzene Hexachlorobutadiene 2,4-Dinitrotoluene HexachloroBenzene	ND ND 0.077 ND 0.088 ND	ND ND 0.076 ND 0.088 ND	0.0% 0.0% 0.9% 0.0% 0.0% 0.0%	0.020 0.020 0.020 0.020 0.020 0.020		

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria		Parameter	Maximum Difference
		8090 Compounds	30%
References:	Method 1311, Toxicity C Method 3510, Separato Method 8090, Nitroaron	Characteristic Leaching Procedure, SV ry Funnel Liquid-Liquid Extraction, SV natics and Cyclic Ketones, SW-846, L	W-846, USEPA, July 1992. N-846, USEPA, July 1992. JSEPA, Sept. 1986.
Note:	Regulatory Limits based	d on 40 CFR part 261 Subpart C sect	ion 261.24, July 1, 1992.

Comments:

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EPA METHOD 1311 **TOXICITY CHARACTERISTIC** LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

Client:		QA/QC		Project #:			N/A
- Sample ID:		05-02-TCM	QA/QC	Date Report	ed:		05-02-01
		19788		Date Sample	ed:	-	N/A
Sample Matrix:		Water		Date Receiv	ed:		N/A
Analysis Requested:		TCLP Metal	s	Date Analyz	ed:		Ò5-02-01
Condition: -		N/A		Date Extrac	ted:		N/A
Blank & Duplicate Conc. (mg/L)	r Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% 0.105	Acceptance 0.107
Arsenic	ND	ND	0.001	0.006	0.006	0.0%	0% - 30%
Barium	ND	ND	0.001	0.035	0.035	0.0%	0% - 30%
Cadmium	ND	ND	0.001	0.005	0.005	0.0%	0% - 30%
Chromium	ND	ND	0.001	0.331	0.328	0.9%	0% - 30%
Lead	ND	ND	0.001	0.339	0.333	1.8%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Spike		Spike	Sample	Spiked	Percent		Acceptance
Conc. (mg/L)		Added		Sample	Recovery		Range
Arsenic		0.500	0.006	0.505	99.8%		80% - 120%
 Barium 		0.500	0.035	0.533	99.6%		80% - 120%
Cadmium		0.500	0.005	0.506	10 0.2%		80% - 120%
Chromium		0.500	0.331	0.829	99.8%		80% - 120%
Lead		0.500	0.339	0.834	99.4%		80% - 120%
Mercury		0.050	ND	0.049	98.0%		80% - 120%
Selenium		0.500	0.001	0.500	99.8%		80% - 120%
Silver		0.500	ND	0.499	99.8%		80% - 120%

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission. SW-846, USEPA, December 1996.

Comments:

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CHAIN OF CUSTODY RECORD

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Client / Project Name		<i>"</i>	Project Location	n				<u></u>					DAMET				
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Sampler:			Client No.				S	4							Remark	s	
HARLAN M.	Brow	と	9213	32- c			o. of aine	J. H	1								
Sample No./ Identification	Sample Date	Sample Time	Lab Number		Sample Matrix		Cont Cont										
Junkwoler Itrok	4.25.01	13:45	19788	L	Waler		5							1			(.
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				5 Farmi	796 U.S	. Highv ew Me	vay 64 xico 8	4 37401					Rece	eived Intact		_	
•	•				(505)	632-06	615				J		Cool -	Ice/Blue Ice	1		

New Mexico D. Box 1980 D. Box 1980 Solution NM 88241-1980 Enery Interals and Natural Resource Oil Conservation Division S. First Since III - (505) 334-6178 No Brazos Road -c, NM 87410 trict IV - (505) 827-7131	Form C-13 Originated 8/8/9 Submit Origin Plus 1 Čo to appropria District Offi
REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: 🖄 Non-Exempt: 🛄	4. Generator BAKELOIL Tool
Verbal Approval Received: Yes 🗋 No 💋	5. Originating Site Shop Somp
2. Management Facility Destination Ley Disposed	6. Transporter Key
3. Address of Facility Operator #345CR3500 AZtec NM	8. State NM
7. Location of Material (Street Address or ULSTR) 2795 Iuland St.	
9. <u>Circle One</u> :	
B. An requests for approval to accept non-exempt wastes must be accordeneed and the Generator's certification listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned BRIEF DESCRIPTION OF MATERIAL: When used to which Dow hole to	for transport.
	MAY 2001 RECEIVED ONLCON. DIV DIST. 3
e_{100} lob/s	CCC 02,61,81, Mar
Estimated Volume Known Volume (to be entered by the ope	rator at the end of the haul) cy
Estimated Volume cy Known Volume (to be entered by the open SIGNATURE: TITLE:	rator at the end of the haul) cy
Estimated Volume <u>Clobbls</u> cy Known Volume (to be entered by the open SIGNATURE: <u>Michael</u> TITLE: <u>MGA</u> Waste Management FacilityAuthorized Agent TYPE OR PRINT NAME: <u>MICHAEL TALOUICH</u> TEL	rator at the end of the haul) cy DATE: <u>5-2-01</u> EPHONE NO. <u>505-324-6186</u>

VASTE STAT Number (if waste g p on of Waste (Stree 2795 I	US generated at an OCD ermitted facility) et address &/or ULSTR):	
Number (if waste ç P on of Waste (Stre 2795 I	generated at an OCD permitted facility) et address &/or ULSTR):	an a
	nland St.	
porter:	MAY 2001 - OP RECEIVED DIST. S 26 Y	
c appropriate items	s):	
ardous Waste Anal	ِ lysis (With Chain of Custo	ody).
y Act (RCRA) and heck appropriate c EXEMPT oilfield w o 40 CFR Part 261 docun	the Environmental Protect classification) vaste that is non-hazardou . (Attach appropriate nentation)	ction us
non-exempt non-h ulated pursuant to :	azardous waste and that 20 NMAC 3.1	this
	5.201	
Date:		
Date:		
Date:		
϶gι	gulated pursuant to Date:	egulated pursuant to 20 NMAC 3.1

811. S. FirstOff Conservation DivisionArtesia, NM 882102040 South Pacheco StreetSubmit OVirtet III - (505) 334-6178Santa Fe, New Mexico 87505Plus 1Nio Brazos Road(505) 827-7131DistrictDistrictDistrictDistrict	District I - (505) 393-6161 P. C. Box 1980 Hobbs, NM 88241-1980 District II - (505) 748-1283	Energy	New Mexico Aerals and Natural Resources	rtment	Form C-138 Originated 8/8/99	;
	Bill S. First Artesia, NM 88210 Print III - (505) 334-6178 Nio Brazos Road Aug. C, NM 87410 District IV - (505) 827-7131		Oil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131		Submit Origina Plus 1 Cop to appropriat District Offic	

· .	REQUEST FOR API	PROVAL	TO ACCEPT	SOLID W	ASTE

1.	RCRA Exempt: X Non-Exempt:	4. Generator Baker Oil tooly
	Verbal Approval Received: Yes 🗋 No 🔀	5. Originating Site old shop yeed
2.	Management Facility Destination Key DISposal	6. Transporter Key
З.	Address of Facility Operator #345C2 3500 12 ke NM	8. State Nm
7.	Location of Material (Street Address or ULSTR) 1732 E. MAIN	

- 9. Circle One:
 - A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.
 - B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.

All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

Water uses to wash :	Down hole	tools	
		13117	23456
		M.	AY 2001
		12.25 2.25 2.25 2.25 2.25 2.25 2.25 2.25	XON. DIV
;			
KIDO bbls		No Color	61,81,11,200
Estimated Volume cy Known Volume	(to be entered by the	operator at the end of	the haul) cy
	TITLE:	<u>A</u>	DATE 5-2-01
TYPE OR PRINT NAME: <u>MICHAE CTACO</u>	101T		5-334-6186
			<u></u>
(This space for State Use)			
APPROVED BY: Damy tant	_ TITLE: <u>6-00</u>	log'st	DATE: 5-114/01
APPROVED BY:	TITLE:	<u>ار</u>	DATE: 5-14-1

1393-0161 1625 N. French Dr Habba, NM 88240 District II - (505) 748-1283 811 S. First Auto Structures 10	New Energ Flinerals and Na Oil Conser	v Mexico atural Resources I Partment vation Division	Form C-143 3/15/00
District III + (525) 334-6178 1000 Rio Brazos Road Azace, NM 87410 <u>District IV</u> - (505) 827-7131 2040 S. Pacheco Santa Fe, NM 87505	2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131		Submit to OCD Permitted Surface Waste Management Facility
	GENERATOR CERTIFI	CATE OF WASTE STATU	S
1. Waste Generator N Doug Bowers PO Box 718	lame and Address: For BAker Oil Tools 327 - 3266	2.Permit Number (if waste gen	erated at an OCD nitted facility)
FArmington.	NM 87499	· , ,	
3. Description of Was WATER U.S.C.	te and Generating Process: d to wash downhole too	4. Location of Waste (Street a 1732 EAST MAIN	address &/or ULSTR):
	1	FArmington N.	W 87401
	1234	N. N	~
	A BUILLE		·
5. Destination (Surfac	e Waste Management (Facility)	01 (O) Transporter:	
VEY ENer	y Disposal & OILCOND	W = Key ENel	64
7. Estimated Volume	<u>-150</u> cy/bbls	Lalleller .	
For NON-EXEMPT wa	aste only, the following documentation is	attached (check appropriate items):	
MSDS Inf	ormation	RCRA Hazardous Waste Analysis	s (With Chain of Custody).
Other (De	scription)		
Generator certifies the Agency's July 1988 re	at, according to the Resource Conservat egulatory determination, the above descr	ion and Recovery Act (RCRA) and the ibed waste is: (check appropriate clas	Environmental Protection sification)
	EXEMPT oilfield waste.	NON-EXEMPT oilfield wast pursuant to 40 CFR Part 261. (A documen	e that is non-hazardous ttach appropriate tation)
In addition, Generator waste does not conta Subpart 1403.	r certifies that nothing has been added to in Naturally Occurring Radioactive Mater	o this exempt or non-exempt non-haza rial (NORM) regulated pursuant to 20	ardous waste and that this NMAC 3.1
Generator Signatur	e: R. Donalas Bomers_	Date: 67	2.01
Print Name:	R Douglas Bowers	00.0. <u></u>	<u></u>
Title: Disc	trict MANAuer		
F	······································		

District I - (505) 393-6161 P. O. Box 1980 Hobbs, NM 88241-1980	Energyerals	New Mexico and Natural Resources D	Partment Originated 8/8/9	} 5
District II - (305) 748-1283 811 S. First Artesia, NM 88210 Pt-trict III - (505) 334-6178 Rio Brazos Road C	Oil 20 Sau	Conservation Division 040 South Pacheco Street nta Fe, New Mexico 87505 (505) 827-7131	Submit Origina Plus 1 Cop to appropriat District Offic	il Y ie

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE				
1. RCRA Exempt: D Non-Exempt:	4. Generator COFS			
Verbal Approval Received: Yes 🔲 No 🗹	5. Originating Site ECEN20Coupley			
2. Management Facility Destination Key D(SPost)	6. Transporter Ver			
3. Address of Facility Operator #345 CR 3500 AZ tcc	8. State WM			
7. Location of Material (Street Address or ULSTR) Hwy by mm 100.5				
 9. <u>Circle One</u>: All requests for approval to accept oilfield exempt wastes will be acc Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be acc PROVE the material is not-hazardous and the Generator's certification listing or testing will be approved. 	ompanied by a certification of waste from the ompanied by necessary chemical analysis to on of origin. No waste classified hazardous by			

BRIEF DESCRIPTI	ON OF MATERIAL:				
Amiwe	TREAting	Fluid	and the the the second	MAY 2001 RECEIVED OIL CON DAV DIST. 3	
Estimated Volume	CODES cy CODES cy Inste Management FacilityAuth AME: <u>MICH4</u> EL	Known Volume	(to be entered by	the operator at the end of	the haul) cy DATE: <u>5 - 1 - 0 1</u> DS - 334 - 6186
(This space for S APPROVED BY: APPROVED BY:	itate Uso) Denny P	unt M	TITLE: ()-6	eologist 11	DATE: <u>5714/0/</u> DATE: <u>5714/1</u>
L	<u>_</u>	·		· · ·	

CERTIFICATE OF WASTE STATUS **Destination Name:** Generator Name and Address: 2. WILLIAMS FEL CERPO COMPLEX HWY 69 MILE MARKER 100.5 SPOSAL Location of the Waste (Street address &/or ULSTR): 3. Originating Site (name): (FDFO COMPLEX Attach list of originating sites as appropriate 4. Source and Description of Waste AMWE TREATING - 95% RAIN WATER 2.5% AMWE 2.5% TREATING TEG representative for: FRUCK do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1988, regulatory determination, the above described waste is: (Check appropriate classification) EXEMPT oilfield waste NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification TREATING PLACET and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above. For NON-EXEMPT waste only the following documentation is attached (check appropriate items): **MSDS** Information Other (description): **RCRA Hazardous Waste Analysis** Chain of Custody Name (Original Signature): 632-4879 ORD WAT Title: Date:

÷,

1 ±1 CO 1025 N. F Dr., Hobbs, NM 88240 Energy Res District II Oil Conservation Division 2040 South Pacheco 1000 Rio Brazos Road. Aztec, NM 87410 Santa Fe, NM 87505 Santa Fe, NM 87505	Norman Submit Original Plus 1 Copy to Appropriate District Office
REQUEST FOR APPROVAL TO ACCEPT	Г SOLID WASTE
1. RCRA Exempt: Non-Exempt: X	4. Generator Federated Environmental Services
Verbal Approval Received: Yes No	5. Originating Site AB VA2D
2. Management Facility Destination KEY DISP054	6. Transporter Key
3. Address of Facility Operator #345 C& 3500 Aztec NM	8. State Nm
7. Location of Material (Street Address or ULSTR) 5928 USHwy 64 FARM WG tow), NM 879	01
 A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by material is not-hazardous and the Generator's certification of origin. No waste c approved 	by a certification of waste from the Generator: necessary chemical analysis to PROVE the classified hazardous by listing or testing will be
All transporters must certify the wastes delivered are only those consigned for tran	sport.
When From Hydro shop Sum MAR	APR 2001 APR 2001 CH-CON DW DWT. 3
Estimated Volume $\angle 20bb/s$ cy Known Volume (to be entered by the op	perator at the end of the haulcy
SIGNATURE Management Facility Authorized Agent TITLE: MGR	DATE: 3-27-0/
TYPE OR PRINT NAME: <u>MICHAEL TALOVICA</u> TEL	EPHONE NO. 505-334-6186
(This space for State Use)	
APPROVED BY: Jeny Tecan TITLE: Ceela	<u>6915</u> DATE: 3/27/01
APPROVED BY: Monthon 9.26. TITLE: Engroum	1 600/0057 DATE: 7-3-01

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco. Santa Fe. NM 87505

State of New Mexico Energy Minerals and Natural Resource

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR ATTROVAL TO ACCEPT SULID WASTE	REQUEST FOR	APPROVAL TO	ACCEPT SOLID	WASTE
--	--------------------	--------------------	--------------	--------------

1. RCRA Exempt: 🔲 Non-Exempt: 🕅	4. Generator fecterated Earliententent services
Verbal Approval Received: Yes No	5. Originating Site Ab YA2D
2. Management Facility Destination KEY DISP054C	6. Transporter Key
3. Address of Facility Operator #345 CK 3500 AZ HECNM	8. State Nim
7. Location of Material (Street Address or ULSTR) 5978 USHWY 64 FARMINGTON, NM 8740	

9. Circie One:

A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator: one certificate per job.

B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

All transporters must certify the wastes delivered are only those consigned for transport. **.**.

BRIEF DESCRIPTION OF MATERIAL:

When From Hydro shop Stollows
Estimated Volume $\angle 20bb/s$ cy Known Volume (to be entered by the operator at the end of the haul cy
SIGNATURE Maragement Facility Authorized Agent TITLE: MGR - DATE: 3-27-01
TYPE OR PRINT NAME: MICHAEL TALOVICY TELEPHONE NO. 505-334-6186
(This space for State Lise)
APPROVED BY: Demy Fort TITLE: Geologist DATE: 3/27/0/
APPROVED BY: TITLE: DATE:



NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION AZTEC DISTRICT OFFICE 1000 RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (505) 334-6178 Fax (505)334-6170

GARY E. JOHNSON governor

JENNIFER A. SALISBURY CABINET SECRETARY

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
FEDERATED ENvironmente Services	KeyEwergy Services, Despose Facility
Bedford Square, 1314 BEDFord the.	# 345 Country Road 3500
Baltimore, Alderrand 21208	AZTER, DM 87410
3. Originating Site (name):	Location of the Waste (Street address &/or ULSTR):
INFAB	
5928 US HWY 64	
FARMingtow, DH 87410 Attach list of originating sites as appropriate	
4. Source and Description of Waste	
Vator from Hydro 5H0	p Sump
	< Zo bhis
· · ·	
1. HARLAS M. Brown	representative for:
(Print Name)	
Federated Eduironmental Servi	ce_3 (TOFA) and Emission do hereby certify that,
1988, regulatory determination, the above described	waste is: (Check appropriate classification)
EXEMPT oilfield waste X NON-EXEM analysis or	IPT oilfield waste which is non-hazardous by characteristic by product identification
and that nothing has been added to the exempt or no	n-exempt non-hazardous waste defined above.
For NON-EXEMPT waste the following documenta	tion is attached (check appropriate items):
MSDS Information	Other (description):
\underline{K} RCRA Hazardous Waste Analysis	TCCP W/O HEP
This waste is in compliance with Regulated Levels of I	Naturally Occurring Radioactive Material (NORM) pursuant
to 20 NMAC 3.1 subpart 1403.C and D.	

Name (Original Signature): Howan The Brown
Title: GEOLOGIST / Project Ultuteen
Date: 3 · 26 · 01

PRACTICAL SOLUTIONS FOR A DETTERMOMORIEOW

SUSPECTED HAZARDOUS WASTE ANALYSIS

Client: Sample ID: Lab ID#: Sample Matrix: Preservative: Condition:	Federated Environmental Hydro Shop Sump 19317 Liquid Cool Cool and Intact	Project #: Date Reported: Date Sampled: Date Received: Date Analyzed: Chain of Custody:	01007-00 1 03-01-01 02-27-01 02-27-01 02-28-01 8530
		•	
Parameter	Result		
IGNITABILITY:	Negative		
CORROSIVITY:	Negative	pH = 6.69	
REACTIVITY:	Negative		
RCRA Hazardous Waste Criteria		· · · · · · · · · · · · · · · · · · ·	
Parameter	Hazardous Waste Criterion		
IGNITABILITY:	Characteristic of Ignitability as de (i.e. Sample ignition upon direct o	fined by 40 CFR, Subpart C, Sec. 261.21. contact with flame or flash point < 60° C.)	
CORROSIVITY:	Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. (i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)		
REACTIVITY:	Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23. (i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)		
Reference:	40 CFR part 261 Subpart C secti	ons 261.21 - 261.23, July 1, 1992.	
Comments:	INFAB.		

Analyst

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FOUROTECH LABS

PRACTICAL SOLUTIONS FOR A SETTIER TOMORROW

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

Client:	Federated Environmental	Project #:	01007-001
Sample ID:	Hydro Shop Sump	Date Reported:	03-02-01
Laboratory Number:	19317	Date Sampled:	02-27-01
Chain of Custody:	8530	Date Received:	02-27-01
Sample Matrix:	Liquid	Date Extracted:	NA
Preservative:	Cool	Date Analyzed:	03-02-01
Condition:	Cool & Intact	Analysis Requested:	TCLP

		Detection	Regulatory
	Concentration	Limit	Limits
Parameter	(mg/L)	(mg/L)	(mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	0.212	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0216	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	0.0030	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria		Parameter	Percent Recovery
		Trifluorotoluene	98%
		Bromofluorobenzene	99%
References:	Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.		
	Method 5030, Purge-and Method 8010, Halogena	d-Trap, SW-846, USEPA, July 1992. ted Volatile Organic, SW-846, USEPA	Sent 1994
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 199			ept. 1994.
Note:	Regulatory Limits based	I on 40 CFR part 261 Subpart C section	n 261.24, July 1, 1992.
Comments:	INFAB.	•	· · ·

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PRACTICAL SOLUTIONS FOR A BETTIER TOMORIOW

EPA METHOD 8040 PHENOLS

•			
Client:	Federated Environmental	Project #:	01007-001
Sample ID:	Hydro Shop Sump	Date Reported:	03-12-01
Laboratory Number:	19317	Date Sampled:	02-27-01
Chain of Custody:	8530	Date Received:	02-27-01
Sample Matrix:	Liquid .	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-12-01
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

References:

Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments:

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"hristine m Walters

IRFACTICAL SOLUTIONS FOR A RETTERTOMORIOW

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics

Parameter	(mg/L)	(mg/L)	(mg/L)
	Concentration	Det.	Regulatory
Condition:	Cool and Intact	Analysis Requested:	TCLP
Preservative:	Cool	Date Analyzed:	03-12-01
Sample Matrix:	Liquid	Date Extracted:	N/A
Chain of Custody:	8530	Date Received:	02-27-01
Laboratory Number:	19317	Date Sampled:	02-27-01
Sample ID:	Hydro Shop Sump	Date Reported:	03-12-01
Client:	Federated Environmental	Project #:	01007-001

Pyridine	ND	0.020	5.0	
Hexachloroethane	1.22	0.020	3.0	
Nitrobenzene	ND	0.020	2.0	
Hexachlorobutadiene	ND	0.020	0.5	
2,4-Dinitrotoluene	0.040	0.020	0.13	
HexachloroBenzene	ND	0.020	0.13	

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria		Parameter	Percent Recovery
		2-fluorobiphenyl	100%
References:	Method 1311, Toxicity Method 3510, Separate Method 8090, Nitroaro	Characteristic Leaching Procedure, S ory Funnel Liquid-Liquid Extraction, S matics and Cyclic Ketones, SW-846,	SW-846, USEPA, July 1992. SW-846, USEPA, July 1992. USEPA, Sept. 1986.
Note:	Regulatory Limits base	ed on 40 CFR part 261 Subpart C sec	tion 261.24, July 1, 1992.
Comments:	INFAB		

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m Walters L_hA Review

PRACTICAL SOLUTIONS FOR A BETMER TOMORROW

EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

Client:	Federated Environmental	Project #:	01007-001
Sample ID:	Hydro Shop Sump	Date Reported:	03-01-01
Laboratory Number:	19317	Date Sampled:	02-27-01
Chain of Custody:	8530	Date Received:	02-27-01
Sample Matrix:	Liquid	Date Analyzed:	03-01-01
Preservative:	Cool	Date Extracted:	NA
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration	Det. Limit	Regulatory Level
	(119/6)	(119/2)	(119/2)
Arsenic	0.019	0.001	5.0
Barium	0.431	0.001	100
Cadmium	0.018	0.001	10

ouunnum	0.010	0.001	1.0
Chromium	0.008	0.001	5.0
Lead	0.446	0.001	5.0
Mercury	0.009	0.001	0.2
Selenium	0.004	0.001	1.0
Silver	ND	0.001	5.0

ND - Parameter not detected at the stated detection limit.

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, References: December 1996. Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996. Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996. Regulatory Limits based on 40 CFR part 261 subpart C Note: section 261.24, August 24, 1998.

Comments:

INFAB.

Analyst

<u>L'mintui m L'alles</u> Review

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

5796 U.S. Hi hway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

HERACHICAL SOLUTIONS FOR A FETTER TOMORROW

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-02-01
Laboratory Number:	03-02-TCV	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-02-01
Condition:	N/A	Analysis Requested:	TCLP
		Detection	Regulatory
	Concentration	Limit	Limits
Parameter	(mg/L)	(mg/L)	(mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria		Parameter	Percent Recovery	
		Trifluorotoluene	100%	
		Bromofluorobenzene	100%	
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.				
	Method 5030, Purge-ar	Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.		
	Method 8010, Halogena	Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.		

Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

QA/QC for samples 19316 - 19318.

/ Mistine m Walters Review

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HERACOTION SCOLUMIONS FOR A LEAMER TOMORROM

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client: Sample ID:	QA/QC Matrix Duplicate	Project #: Date Reported:	N/A 03-02-01
Laboratory Number:	19316	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	03-02-01
Condition:	N/A	Date Extracted:	N/A

		Duplicate		
	Sample	Sample	Detection	
· · ·	Result	Result	Limits	Percent
Parameter	(mg/L)	(mg/L)	(mg/L)	Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	ND	ND	0.0001	0.0%
2-Butanone (MEK)	0.017	0.017	0.0001	0.0%
Chloroform	ND	ND	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	0.036	0.036	0.0001	0.0%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	ND	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	ND	ND	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for samples 19316 - 19318.

- L. aferre Analyst

m Walters <u> Review</u>

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PRACTICAL SOLUTIONS FOR A BENTLER TOMORROW

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client	04/00	Project #:	NI/A
			N/A
Sample ID:	Matrix Spike	Date Reported:	03-02-01
Laboratory Number:	19316	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	03-02-01
Condition:	N/A	Date Extracted:	N/A

Parameter	Sample Result (mg/L)	Spike Added (mg/L)	Spiked Sample Result (mg/L)	Det. Limit (mg/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	0.0172	0.050	0.0662	0.0001	99%	47-132
Chloroform	ND	0.050	0.0500	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0490	0.0001	98%	43-143
Benzene	0.0361	0.050	0.0856	0.0001	99%	39-150
1,2-Dichloroethane	ND	0.050	0.0490	0.0001	98%	51-147
Trichloroethene	ND	0.050	0.0495	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0495	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0495	0.0003	99%	38-150
1,4-Dichlorobenzene	ND	0.050	0.0495	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for samples 19316 - 19318.

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REACTICAL SOLUTIONS FOR A BEINER TOMORION

EPA METHOD 8040 PHENOLS Quality Assurance Report

Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-12-01
Laboratory Number:	03-12-TCA	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-12-01
Condition:	N/A	Analysis Requested:	TCLP
Analytical Results		Detection	Regulatory
	Concentration	Limit	Limit
Parameter	(mg/L)	(mg/L)	(mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
· ·			

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery	
· · ·	2-fluorophenol	98 %	
	2,4,6-tribromophenol	99 %	

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for samples 19316 - 19318.

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PRACTICAL SOLVITONS LEOF A SEGMET STOMORISOW

EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-12-01
Laboratory Number:	19316	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Date Analyzed:	03-12-01
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	0.123	0.122	0.020	1.0%
p,m-Cresol	0.130	0.128	0.040	2.0%
2,4,6-Trichlorophenol	ND	ND	0.020	0.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

Analyst

QA/QC Acceptance Criteria:		Parameter	Maximum Difference
		8040 Compounds	30.0%
References:	Method 1311, Toxicity (Waste, SW-846, USEP/	Characteristic Leaching Procedure Test A, July 1992.	Methods for Evaluating Solid
	Method 3510, Separato Waste, SW-846, USEP	ry Funnel Liquid-Liquid Extraction, Tes A, July 1992.	t Methods for Evaluating Solid
	Method 8040, Phenols,	Test Methods for Evaluating Solid Was	ste, SW-846, USEPA, Sept. 1986.
Note:	Regulatory Limits based	I on 40 CFR part 261 subpart C section	a 261.24, July 1, 1992.
Comments:	QA/QC for sample	s 19316 - 19318.	
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5796 U.S. Hi hway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

Review

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-12-01
Laboratory Number:	03-12-TBN	Date Sampled:	N/A
Sample Matrix:	Hexane	Date Received:	N/A
Preservative:	N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	03-12-01
		Analysis Requested	TOLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pvridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

ND - Parameter not detected at the stated detection limit.

QA/QC Accep	tance Criteria	Parameter	Percent Recovery				
		2-fluorobiphenyl 101%					
References:	Method 1311, Toxicity C Method 3510, Separator Method 8090, Nitroarom	Characteristic Leaching Procedure, S ry Funnel Liquid-Liquid Extraction, S natics and Cyclic Ketones, SW-846,	W-846, USEPA, July 1992. W-846, USEPA, July 1992. USEPA, Sept. 1986.				
Note:	Regulatory Limits based	l on 40 CFR part 261 Subpart C sec	tion 261.24, July 1, 1992.				

Comments:

QA/QC for samples 19316 - 19318.

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PRACTICAL SOLUTIONS FOR A EXTILER TOMORICOW

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QA/QC Matrix Duplicate Report

	Sample	Duplicate	Det.
		Analysis Requested:	TCLP
Condition:	N/A	Date Analyzed:	03-12-01
Preservative:	N/A	Date Extracted:	N/A
Sample Matrix:	Water	Date Received:	N/A
Laboratory Number:	19316	Date Sampled:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-12-01
Client:	QA/QC	Project #:	N/A

	oampie	Dupilcale		Det.
	Result	Result	Percent	Limit
Parameter	(mg/L)	(mg/L)	Difference	(mg/L)
Pyridine	0.061	0.061	0.0%	0.020
Hexachloroethane	0.051	0.050	1.0%	0.020
Nitrobenzene	0.054	0.054	0.0%	0.020
Hexachlorobutadiene	0.184	0.182	1.1%	0.020
2,4-Dinitrotoluene	0.030	0.030	0.0%	0.020
HexachloroBenzene	0.086	0.085	1.8%	0.020

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria		Parameter	Maximum Difference			
		8090 Compounds	30%			
References:	rences: Method 1311, Toxicity Characteristic Le Method 3510, Separatory Funnel Liquid Method 8090, Nitroaromatics and Cyclic		W-846, USEPA, July 1992. W-846, USEPA, July 1992. USEPA, Sept. 1986.			
Note:	Regulatory Limits base	d on 40 CFR part 261 Subpart C sect	tion 261.24, July 1, 1992.			

Comments:

QA/QC for samples 19316 - 19318.

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<u>Ahristine</u> <u>Malters</u> Review

PRACTICAL SOLUTIONSTROK A BETTIER TOMORROW

EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

Acceptance

Client:		QA/QC		Project #:			N/A
Sample ID:		03-01-TCM	I QA/QC	Date Rep	orted:		03-01-01
Laboratory Number:		19316		Date Sam	pled:		N/A
Sample Matrix:		Water		Date Rece	eived:		N/A
Analysis Requested:		TCLP Meta	ls	Date Anal	yzed:		03-01-01
Condition:		N/A		Date Extra	acted:		N/A
		•		•			
Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detecti Limit	on Sample	Duplicate	9 % 0.105	Acceptance 0.107
Arsenic	ND	ND	0.001	0.012	0.012	0.0%	0% - 30%
Barium	ND	ND	0.001	0.050	0.049	2.0%	0% - 30%
Cadmium	ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
Chromium	ND	ND	0.001	0.003	0.003	0.0%	0% - 30%
Lead	ND	ND	0.001	0.013	0.013	0.0%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	0.002	0.002	0.0%	0% - 30%
Silver	ND	ND	0.001	0.006	0.006	0.0%	0% - 30%

Conc. (mg/L Added Sample Recover Range 80% - 120% Arsenic 0.500 0.012 0.512 100.0% Barium 0.500 0.050 99.6% 80% - 120% 0.548 Cadmium 0.500 0.001 0.500 99.8% 80% - 120% Chromium 0.003 0.503 100.0% 80% - 120% 0.500 0.013 99.8% 80% - 120% Lead 0.500 0.512 ND 0.049 98.0% 80% - 120% Mercury 0.050 80% - 120% Selenium 0.500 0.002 0.502 100.0% 0.505 80% - 120% Silver 0.500 0.006 99.8%

Sample

Spiked

Percent

ND - Parameter not detected at the stated detection limit.

References:

Spike

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission, SW-846, USEPA, December 1996.

Comments:

QA/QC for samples 19316 - 19318.

Spike

. Cerecco Analyst

Apristas m Walten Beview

CHAIN OF CUSTODY RECORD

Client / Project Name	Ju Wonne	utal	Project Location							A	NALYS	S / PAF	AMETER	S			
Sampler: HARLAN M.	Browa		Client No. の(つの	7-00(. of ainers	P H&f					_	F	Remark	5	
Sample No./ Identification	Sample Date	Sample Time	Lab Number		Sample Matrix		Cont	h 33							<u> </u>		
HydroStopSmp	02.77.01	11.05	19317	۷.	Quip		5	~									
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·····														· · · · · · · · · · · · · · · · · · ·			
Relinquished by: (Signatu	ire)	>		Date 02,27	Time	Receiv	ver by:	(Signatu	ire) P	O_{α}				2	Date	T	ime
Relinquished by: (Signatu	ıre)					Receiv	ved by:	(Signatu	ire)	- p		<u> </u>	4		~		
Relinquished by: (Signatu	ıre)			-	<u> </u>	Receiv	ved by:	(Signatu	ıre)	<u></u>							
				ENV		TEC	CH		C.					Sample	Receipt	1	
					706 11 9	High		S4						·····	Y	N	N/A
				Fami	ington, N	lew M	lexico	8740 ⁻	1				Recei	ved Intact	1	-	
					(505)	632-0	9615						Coel - i	ee/Stud loe	1		

1925 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505	Energy Oil Conservation Divi 2040 South Pachee Santa Fe, NM 8750	Resor Vision CO Submit Orig 05 Plus 1 C to Appropri District Of
REQUEST FO	OR APPROVAL TO ACC	EPT SOLID WASTE
1. RCRA Exempt: Non-Exempt:		4. Generator Federated ENGIRONMENTAL Se
Verbal Approval Received: Yes	No Ø	5. Originating Site INFAB VARD
2. Management Facility Destination	Y DISPOSAL	6. Transporter Uey
3. Address of Facility Operator #345	Ce 3500, AZtec, NM	8. State WM
7. Location of Material (Street Address of	TULSTR) 5928 US HWY 64	1

9. Circle One:

A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

FARMINGTON, NM 87401

B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

Water from Hydrotest taks, Code Shop Floor Sump MAIN Shop Floorsump, AND DRUMS labored Reeze Estimated Volume ____ 1000bbls ev the hau! Known Volume (to be entered by the operator at DATE 3-27-01 TITLE: MG2 SIGNATURE Waste Management Facility Authorized Agem -334-6186 TYPE OR PRINT NAME: MICHAPL TAI DUICH TELEPHONE NO. 505 (This space for State Use) TITLE: (Seclegis, APPROVED BY: $\mathcal{L}_{\mathcal{L}}$ DATE: 5 TITLE: Zhui 6 Gedocst APPROVED BY: "
District 1 1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resour

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

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Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: Non-Exempt: 🕅	4. Generator Federated ENVIRONMENTAL Service
Verbal Approval Received: Yes No	5. Originating Site INFAB YHED
2. Management Facility Destination Key DISPOSAL	6. Transporter Vey
3. Address of Facility Operator #345 CR 3500, AZtec, NM	8. State Win
7. Location of Material Street Address or ULSTRI 5928 US HWY 64 FARMINGTON, NM 8740)
9. <u>Circie One</u> :	
 All requests for approval to accept officie exempt wastes with be accompanied by material is not-hazardous and the Generator's certification of origin. No waste c approved 	necessary chemical analysis to PROVE the lassified hazardous by listing or testing will be
All transporters must certify the wastes delivered are only those consigned for tran	sport.
BRIEF DESCRIPTION OF MATERIAL:	~
Water from Hydrotest taks, Code S.	hop Flock Sump,
MANShop Floorsump, AND DRUMS 14	bled AntioReez<
MAR 2007	
Estimated Volume <u>2 1000666 ov</u> Known Volume (to be entered by the o	perator at the end of the haulcy
SIGNATURE Master Management Facility Authorized Agent	DATE! 3-27-01
TYPE OR PRINT NAME MICHAEL TALOURCH TEI	LEPHONE NO. 505-334-6186

(This space for State	e Use)		
APPROVED BY:	Dent	torm TITLE: Geolog	5/ DATE: 3/27/0/
APPROVED BY:	0		DATE:



• • • • •

NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION AZTEC DISTRICT OFFICE 1000 RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (505) 334-6178 Fax (505)334-6170

GARY E. JOHNSON GOVERNOR

JENNIFER A. SALISBURY CABINET SECRETARY

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address: 2.	Destination Name:
FEDERATED FAUIRONM outal Survices	Key Evergy Services - Disposal Facility
BEDFord Square, 1314 Bedford Aue	# 345 County Rd 3500
Beltimore, alaryland 21208	AZTEC, NW. 87410
3. Originating Site (name): Lo エルFAB	ocation of the Waste (Street address &/or ULSTR):
S92BUS How 64	
FARmington, NM 87481	
Attach list of originating sites as appropriate	
4. Source and Description of Waste	
Wale From Hydrostetic (E	ST TANKS, Code Stop Hoor Sump
Main SHOP Floor Sump and dr	ume Laboled ANTIFrance
······································	
	· · ·
1, HARLAN M. Brown	representative for:
(Print Name)	
according to the Resource Conservation and Recovery A 1988, regulatory determination, the above described was	do hereby certify that, act (RCRA) and Environmental Protection Agency's July, ate is: (Check appropriate classification)
EXEMPT oilfield waste NON-EXEMPT analysis or by	oilfield waste which is non-hazardous by characteristic product identification
and that nothing has been added to the exempt or non-ex	empt non-hazardous waste defined above.
For NON-EXEMPT waste the following documentation	is attached (check appropriate items):
MSDS Information	Other (description):
$\underline{\checkmark}$ RCRA Hazardous Waste Analysis (764	cal blacked 5)
This waste is in compliance with Regulated Levels of Natu to 20 NMAC 3.1 subpart 1403.C and D.	rally Occurring Radioactive Material (NORM) pursuant
Name (Original Signature):	Zou

Title: GEOLOGIST - Project MANAGER

Date: 3.26.01

ENVIROTECH LABS

THRACH COAL SOLUTIONS FOR ANDERNER TOMORROW

TRACE METAL ANALYSIS

Client:	Federation Environmental	Project #:	01007-001
Sample ID:	Anti-Freeze Drums	Date Reported:	03-01-01
Laboratory Number:	19310	Date Sampled:	02-27-01
Chain of Custody:	8529	Date Received:	02-27-01
Sample Matrix:	Liquid	Date Analyzed:	03-01-01
Preservative:	Cool	Date Digested:	03-01-01
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	0.030	0.001	5.0
Barium	0.139	0.001	100
Cadmium	0.038	0.001	1.0
Chromium	0.017	0.001	5.0
Lead	0.266	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.012	0.001	1.0
Silver	0.031	0.001	5.0

ND - Parameter not detected at the stated detection limit.

References:

Method 3050B, Acid Digestion of Sediments, Sludges and Soils. SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emmision Spectorscopy, SW-846, USEPA, December 1996.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

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FOVIROTECH LABS

PRACTICAL SOLUTIONS FOR A SETTIER TOMORROW

TRACE METAL ANALYSIS

,			
Client:	Federation Environmental	Project #:	01007-001
Sample ID:	Code Shop Sump	Date Reported:	03-01-01
Laboratory Number:	19311	Date Sampled:	02-27-01
Chain of Custody:	8529	Date Received:	02-27-01
Sample Matrix:	Liquid	Date Analyzed:	03-01-01
Preservative:	Cool	Date Digested:	03-01-01
Condition:	Cool & Intact	Analysis Needed:	RCRA Metais

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)		
Arsenic	ND	0.001	5.0		
Barium	0.012	0.001	100		
Cadmium	ND	0.001	1.0		
Chromium	ND	0.001	5.0		
Lead	ND	0.001	5.0		
Mercury	ND	0.001	0.2		
Selenium	ND	0.001	1.0		
Silver	ND	0.001	5.0		

ND - Parameter not detected at the stated detection limit.

References:

Method 3050B, Acid Digestion of Sediments, Sludges and Soils. SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emmision Spectorscopy, SW-846, USEPA, December 1996.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A FEMILER TOMORROW

TRACE METAL ANALYSIS

		Dat	Pagulatany
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals
Preservative:	Cool	Date Digested:	03-01-01
Sample Matrix:	Liquid	Date Analyzed:	03-01-01
Chain of Custody:	8529	Date Received:	02-27-01
Laboratory Number:	19312	Date Sampled:	02-27-01
Sample ID:	Main Shop Sump	Date Reported:	03-01-01
Client:	Federation Environmental	Project #:	01007-001

	Concentration	Limit	Level
Parameter	(mg/L)	(mg/L)	(mg/L)
Arsenic	0.003	0.001	5.0
Barium	0.011	0.001	100
Cadmium	ND	0.001	1.0
Chromium	ND	0.001	5.0
Lead	ND	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	ND	0.001	1.0
Silver	ND	0.001	5.0

ND - Parameter not detected at the stated detection limit.

References:

Method 3050B, Acid Digestion of Sediments, Sludges and Soils. SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emmision Spectorscopy, SW-846, USEPA, December 1996.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

INFAB.

Analyst

m Wallen Review

ENVIROTECHI

PRACTICAL SOLUTIONS FOR A BETTIER TOMORROW

TRACE METAL ANALYSIS Quality Control / **Quality Assurance Report**

Client:		QA/QC		Project #:			N/A		
Sample ID:		03-01-TM QA/QC		Date Rep	orted:	03-01-01			
Laboratory Number:	•	19310		Date Sam	pled:		N/A		
Sample Matrix:		Water		Date Rece	eived:	N/A			
Analysis Requested:		Total RCR/	A Metals	. Date Anal	yzed:		03-01-01		
Condition:		N/A		Date Dige	sted:		03-01-01		
Blank & Duplicate	Instrument	Method	Detectio	on Sample	Duplicate	%.*	Acceptance		
Conc. (mg/L)	Blank (mg/L)	Blank	Limit			Diff.	Range		
Arsenic	ND	ND	0.001	0.030	0.030	0.0%	0% - 30%		
Barium	ND	ND	0.001	0.139	0.137	1.4%	0% - 30%		
Cadmium	ND	ND	0.001	0.038	0.039	2.6%	0% - 30%		
Chromium	ND	ND	0.001	0.017	0.017	0.0%	0% - 30%		
Lead	ND	ND	0.001	0.266	0.264	0.8%	0% - 30%		
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%		
Selenium	ND	ND	0.001	0.012	0.012	0.0%	0% - 30%		
Silver	ND	ND	0.001	0.031	0.030	3.2%	0% - 30%		
Spike		Spike	Sample	e Spiked	Percent		Acceptance		
Conc. (mg/L)		Added		Sample	Recovery		Range		
Arsenic	,	0.500	0.030	0.529	99.8%		80% - 120%		
Barium		0.500	0.139	0.637	99.7%		80% - 120%		
Cadmium		0.500	0.038	0.538	100.0%		80% - 120%		
Chromium		0.500	0.017	0.516	99.8%		80% - 120%		
Lead		0.500	0.266	0.763	99.6%		80% - 120%		
Mercury		0.050	ND	0.049	98.0%		80% - 120%		

ND - Parameter not detected at the stated detection limit.

0.500

0.500

References:

Selenium Silver

> Method 3050B, Acid Digestion of Sediments, Sludges and Soils. SW-846, USEPA, December 1996.

0.012

0.031

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emmision Spectorscopy, SW-846, USEPA, December 1996.

0.511

0.530

Comments:

QA/QC for samples 19310 - 19315.

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Christin m Walten Review

99.8%

99.8%

80% - 120%

80% - 120%

CHAIN OF CUSTODY RECORD

	the second s	the second s	the second se					_									
Client / Project Name	. \	40	Project Location	D						A	NALYS	S / PAR	AMETERS				
FEDERATED EN	Uranno		LNFAL	5						-							
Sampler:		Client No. 01007 - 001		lient No. 01007 - 001			w y	ا ا عد					Re	marks			
HARLAW M. S.	~0.00		980	565	•		o. of aine	25	2 J								
Sample No./	Sample	Sample	Lab Number		Sample		Cont	A I	たん								
Identification	Date	Time			Matrix						ļ		ļ				
ANTI. FREEZE	2.27.01	9:55	19310		Liqui	<u>o</u>	ι										
Codes HOP Sunap	2.27	10:00	19311		Liquip	>	l I										
MAIN SHOP Sump	z.27	10:05	19312		Liquid)	(1								
upper Davit Area	2.27	10:25	19313		Soil		. (~	1								
Lower Paint Area	2.27	10:30	19314		so il		(~							• •		
Hill top Status	2.27	10:40	19315		Soil		l	~	~								
					- 										<u> </u>		
			-														
												-		/uh/ <u></u>			
Relinquished by: (Signatu	re)	L	1	Date	Time	Recei	Ved by:	(Signatu	⊥ µre)		.1	1	1	D	ate	Ti	ime
Harland	now	\square		2.27.0	10:53		Les	~~	P. (le	<u>ic</u>	<u></u>		2.2	.7.01	10	:53
Relinquished by: (Signatu	re)					Recei	ived by:	(Signatı	ıre)	1							
Relinquished by: (Signatu	re)					Recei	ived by:	(Signati	ure)			·					
				FOV	'IRO	TE(CH		C				Sar	nple Re	eceipt		
					يې تې د مې تر پې د مې تر پې د مې او د مې تر پې د مې تر پ										Y	N	N/A
				ع Farm	5796 U.S inaton, N	. Higl Iew M	hway (Iexico	64 8740	1				Received In	tact	\mathcal{V}	-	
					(505)	632-(0615		-				Cool - Ice/Blu	e Ice			

08529

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811, South First, Artesia, NM 88210 Usstrict III. 1 DO Rio Brazos Road. Aztec, NM 87410 District IV State of New Mexico Energy Minerals and Natural Resour

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505 Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

2040 South Pacheco, Santa Fe, NM 87505	to Appropriate District Office
REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
	4. Generator Rederated
1. RCRA Exempt: Non-Exempt:	ENVIRONMENTAL Services
Verbal Approval Received: Yes No X	5. Originating Site TANKINYARD
2. Management Facility Destination KEY DISPOSAL	6. Transporter Key
3. Address of Facility Operator #345 Cl 3500 Aztec NM	8. State NM
7. Location of Material (Street Address or ULSTR) 5928 US HWY 64 ARMINGTON, NM	
9. <u>Circle One</u> :	
one certificate per job. B. All fequests for approval to accept non-exempt wastes must be accompanied by material is not-hazardous and the Generator's certification of origin. No waste c approved	necessary chemical analysis to PROVE the lassified hazardous by listing or testing will be
All transporters must certify the wastes delivered are only those consigned for trans	sport
equipment, MAR 2001 MECEIVED OIL CON. DIV DIST. 3 07	d production
Estimated Volume _ 24066/s cy Known Volume (to be entered by the op	perator at the end of the haulcy
SIGNATURE Management Facility Authorized Agent TITLE: MGR	DATE: 3-27-01
TYPE OR PRINT NAME: MICHAEL TALOUICH TEL	EPHONE NO. <u>505 334 6/86</u>
(This space for State Use)	
APPROVED BY: Dent TITLE: Geolo	<u>G 157</u> DATE: <u>3/27/01</u>
APPROVED BY: At May TITLE:	10915T DATE: 3/27/1



NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION AZTEC DISTRICT OFFICE 1000 RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (506) 334-6178 Fax (505)334-6170

GARY E. JOHNSON GOVERNOR

JENNIFER A. SALISBURY CABINET SECRETARY

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
BEDFORD Square, 1314 BEDFORD AUR	#345 County Rotto 3500
Baltimore, Harrinan 21208	AZTEC, NE 87410
3. Originating Site (name):	Location of the Waste (Street address &/or ULSTR):
Infab	
5928 US HWY 64	
FARMINGTON, Nun HEXICO Attach list of originating sites as appropriate	
4. Source and Description of Waste	
WATER from WASHING E	xempt field production of
(TANK @ WASH pad - Hill	Top GANG Area). < 240 bbls
1. HURLAN ME Brown	representative for:
(Print Name)	Tales P do hereby certify that
according to the Resource Conservation and Recover 1988, regulatory determination, the above described	ery Act (RCRA) and Environmental Protection Agency's July, waste is: (Check appropriate classification)
X EXEMPT oilfield waste NON-EXEM	MPT oilfield waste which is non-hazardous by characteristic r by product identification
and that nothing has been added to the exempt or no	on-exempt non-hazardous waste defined above.
and that nothing has been added to the exempt or no For NON-EXEMPT waste the following document	on-exempt non-hazardous waste defined above.
and that nothing has been added to the exempt or no For NON-EXEMPT waste the following document MSDS Information	on-exempt non-hazardous waste defined above. ation is attached (check appropriate items): Other (description):

Name (Original Signature):

Title: GEOLDEIST -Proj. N HONGER

Date: 3.26.01

	I FOR APPROVAL TO ACCE	CPT SOLID WASTE
I. RCRA Exempt: 🗍 Non-E	xempt: 🕎	4. Generator HAlliburton Energy Seri
Verbal Approval Received:	Yes No	5. Originating Site
2. Management Facility Destinatio	#345 cR 3500 AZtec NM	6. Transporter
3. Address of Facility Operator	(EYDISPOSAL	8. State
7. Location of Material (Street Add	iress or ULSTR) 409 EIMAIN ST FARMINGTON, NM B	3740)
9. <u>Circle One</u> :		
All transporters must certify the	wastes delivered are only those consigned for	transport.
		MAR 2001
Estimated Volume <u>30066</u>	Known Volume (to be entered by ti	he operator at the end of the hau!
	TITLE:- MG	C DATE: 3-/6-0/
SIGNATURE Mula Waste Management	acility Authorized Agem	

	Phos 1
2040 Santa I NM \$7505	to Disn _t
REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: Non-Exempt:	4. Generator HAIIIbirton Energy Serv.
Verbal Approval Received: = Yes No	- 5. Originating-Site MAIN YARD
2. Management Facility Destination #345 CR 3500 A24CC NM	6. Transporter Key
3. Address of Facility Operator Key D130034 C	8. State NM
7. Location of Material (Street Address or ULSTR) 409 E. MAIN ST. FARMINGTON, N.M. 87401	
9. <u>Circle One</u> :	
A. All requests for approval to accept oilfield exempt wastes will be accompanied by	a certification of waste from the Generator:
B.All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste cla approved	ecessary chemical analysis to PROVE the assified hazardous by listing or testing will be
All transporters must certify the wastes delivered are only those consigned for transp	роп
BRIEF DESCRIPTION OF MATERIAL:	
UNUSED Gel WAter	
	TA 15 16 77
	MAR 2001
A CONTRACT OF A	NET. 3
The second se	AICOG BERLEY
	معتشم الارمال
Estimated Volume 30066/Sey Known Volume (to be entered by the ope	erator at the end of the haul cy
	· · · · · · · · · · · · · · · · · · ·
SIGNATURE MULA CONTINUE: MGR	DATE: 3-16-01
Waste Management Facility Authorized Agent	
TYPE OR PRINT NAME MICHAEL TALQUICL TELE	EPHONE NO
(Ins space for State Use)	
APPROVED BY: 1. Contract Time: Colle	<u>09/3/ DATE: 5/20///</u>
APPROVED BY:	DATE
	an alle in the alless and all an

New Mexico Form C-143 1625 N. French Dr Hobbs, NM 88240 3/15/00 inerals and Natural Resources I Energ rtment District II - (565) 748-1283 811 S. First Oil Conservation Division Artesia, Nivi 88210 Submit to OCD District III - (505) 334-6178 2040 South Pacheco Street 1000 Rio Brazos Road Permitted Surface Santa Fe, New Mexico 87505 Aziec, NM 87410 District IV - (505) 827-7131 (505) 827-7131 Waste Management 1040 S. Pacheco Facility Santa Fe. NM 87505 GENERATOR CERTIFICATE OF WASTE STATUS 1. Waste Generator Name and Address: 2.Permit Number (if waste generated at an OCD Hallibuzion Energy Services 4109 E. Main St. permitted facility) Farmington, TVM 8740 3. Description of Waste and Generating Process: Location of Waste (Street address &/or ULSTR): 4109 E Main St. inaste witer Farmington, NM 87401 6. Transporter: Key Energy Destination (Surface Waste Management Facility): Estimated Volume <u>238</u> cy/bbls For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items): RCRA Hazardous Waste Analysis (With Chain of Custody). MSDS Information Other (Description) LUASTE where Generator certifies that, according to the Resource Conservation and Recovery Act (RCRA) and the Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (check appropriate classification) NON-EXEMPT oilfield waste that is non-hazardous EXEMPT oilfield waste. pursuant to 40 CFR Part 261. (Attach appropriate documentation) In addition, Generator certifies that nothing has been added to this exempt or non-exempt non-hazardous waste and that this waste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403. an Generator Signature: AR Print Name: Title:

ENVIROTECHLABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

SUSPECTED HAZARDOUS WASTE ANALYSIS

		· · ·	
Client:	Halliburton Energy Services	Project #:	92132-001
Sample ID:	Field Liquids Tank	Date Reported:	03-01-01
Lab ID#:	19318	Date Sampled: 7	02-27-01
Sample Matrix:	Liquid	Date Received:	02-27-01
Preservative:	Cool	Date Analyzed:	02-28-01
Condition:	Cool and Intact	Chain of Custody:	8532
	· · · ·		27
Parameter	Result		
· .	·		
IGNITABILITY:	Negative		
CORROSIVITY:	Negative	pH = 8.24	
REACTIVITY:	Negative		
RCRA Hazardous Waste Criteria			
	•		
Parameter	Hazardous Waste Criterion	· · ·	
IGNITABILITY:	Characteristic of Ignitability as de	efined by 40 CFR, Subpart C, Sec. 261.21.	
	(i.e. Sample ignition upon direct	contact with flame or flash point < 60° C.)	
	Chamatoriatia of Correctivity on d	offred by 40 CED Subset O. Co.e. 201.20	,
CORROSITIT.	(i.e. oH less than or equal to 2.0	or pH greater than or equal to 12.5.	
REACTIVITY:	Characteristic of Reactivity as de	fined by 40 CFR, Subpart C, Sec. 261.23.	
	(i.e. Violent reaction with water, s	strong base, strong acid, or the generation	
	of Sulfide or Cyanide gases	at STP with pH between 2.0 and 12.5)	
Deference	40 CEP part 261 Subpart C sast	ione 261 21 261 22 July 1 1002	•
Releience:	40 UPK part 201 Subpart C Sect	10118 201121 - 201123, JULY 1, 1992.	
Comments:	4109 E. Main St., Farming	ton.	
		,	

Jaeters Analyst

Review

ENVIROTECH LABS

EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

Olionte	Hellibuten Enemy Services	Project #	02122 001
Client:	namburton chergy Services	Fillject #.	92132-001
Sample ID:	Field Liquids Tank	Date Reported:	03-01-01
Laboratory Number:	19318	Date Sampled:	02-27-01
Chain of Custody:	8532	Date Received:	02-27-01
Sample Matrix:	Liquid	Date Analyzed:	03-01-01
Preservative:	Cool	Date Extracted:	NA ·
Condition:	* Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
			<u>_</u>
Arsenic	ND	0.001	5.0
Barium ^	0.063	0.001	100
Cadmium	ND	0.001	1.0
Chromium	0.031	0.001	5.0
Lead	0.051	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	ND 🖟	0.001	1.0
Silver	ND	0.001	5.0

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

4109 E. Main St., Farmington.

ENVIROTECH LABS

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics

•			
Client:	Halliburton Energy Services	Project #:	92132-001
Sample ID:	Field Liquids Tank	Date Reported:	03-12-01
Laboratory Number:		Date Sampled:	.02-27-01
Chain of Custody:	8532	Date Received:	02-27-01
Sample Matrix:	Liquid	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-12-01
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mɡ/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020-	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery	

2-fluorobiphenyl

97%

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: 1

4109 E. Main St., Farmington

-t. Cite

Review

ENVIROTICH LABS

EPA METHOD 8040 PHENOLS

Client:	Halliburton Energy Services	Project #:	92132-001
Sample ID:	Field Liquids Tank	Date Reported:	03-12-01
Laboratory Number:	19318 -	Date Sampled:	- 02-27-01
Chain of Custody:	8532	Date Received:	02-27-01
Sample Matrix:	Liquid	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-12-01 [°]
Condition:	Cool & Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	0.283	0.020	200
p.m-Cresol	0.318	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
•	2-Fluorophenol	98%
	2,4,6-Tribromophenol	99%

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments:

4109 E. Main St., Farmington.

Analyst

Review

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

Client:	Halliburton Energy Services	Project #:	92132-001
Sample ID:	Fleld Liquids Tank	Date Reported:	03-02-01
Laboratory Number:	19318	Date Sampled:	02-27-01
Chain of Custody:	8532	Date Received:	02-27-01
Sample Matrix:	Liquid	Date Extracted:	NA
Preservative:	Cool	Date Analyzed:	03-02-01
Condition:	Cool & Intact	Analysis Requested:	TCLP
,		Detection	Regulatory
	Concentration	Limit	Limits
Parameter	(mg/L)	(mg/L)	(mg/L)
Vinvl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	0.135	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND .	0.0001	0.5
Benzene	0.0315	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5

0.0003

0.0005

0.0003

0.0002

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria		Parameter	Percent Recovery
		Trifluorotoluene	.98%
		Bromofluorobenzene	99%
References: Method 1311, Toxicity Ch		haracteristic Leaching Procedure, SW-	-846, USEPA, July 1992.
	Method 5030, Purge-an	d-Trap, SW-846, USEPA, July 1992.	
Method 8010, Halogenat Method 8020, Aromatic V		ted Volatile Organic, SW-846, USEPA,	, Sept. 1994.
		Volatile Organics, SW-846, USEPA, Se	ept. 1994.
		J	
Note:	Regulatory Limits based	i on 40 CFR part 261 Subpart C section	n 261.24, July 1, 1992.

Comments:

Trichloroethene

Chlorobenzene

Tetrachloroethene

1,4-Dichlorobenzene

4109 E. Main St., Farmington.

ND

ND

ND

0.0693

Walters <u>/_h/lis</u> Review

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 186



0.5

0.7

7.5

100



QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

ENVIROTECHELABS

∠PA METHOD 8040 PHENOLS Quality Assurance Report Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-12-01
Laboratory Number:	03-12-TCA	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-12-01
Condition:	N/A	Analysis Requested:	TCLP
Analytical Results		Detection R	egulatory
	Concentration	Limit	Limit
Parameter	(mg/L)	(mg/L)	(mg/L)
o-Cresol	ND	0.020	200
p.m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	- ND-	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
ļ	2-fluorophenol 2,4,6-tribromophenol	98 % 99 %

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments:

Note:

QA/QC for samples 19316 - 19318.

Analyst

Review

VIR PRACTICAL SOLUTIONS FOR TTER TOMORROW

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

- Client:	QA/QC			Project #:		N/A	
Sample ID:	Matrix Spike			Date Reporte	d:	03-02-01	- e _
Laboratory Number:	19316	•	•••	Date Sample	d:	N/A	
Sample Matrix:	Water			Date Receive	ed:	N/A	
Analysis Requested:	TCLP			Bate Analyze	ed:	03-02-01	
Condition:	N/A *			Date Extracte	ed:	N/A	
			Spiked		· -··	SW-846	7
	Sample	Spike	Sample	Det.		% Rec.	
· •	Result	Added	Result	Limit	Percent	Accept.	
Parameter	(mg/L)	(mg/L)	(mg/L)	(mg/L)	Recovery	Range	
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163	
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143	
2-Butanone (MEK)	0.0172	0.050	0.0662	0.0001	99%	47-132	
Chloroform	ND	0.050	0.0500	0.0001	100%	49-133	

0.050

0.0490

Benzene	0.0361	0.050	0.0856	0.0001	99%
1,2-Dichloroethane	ND	0.050	0.0490	0.0001	98%
Trichloroethene	ND	0.050	0.0495	0.0003	99%
Tetrachloroethene	ND	0.050	0.0495	0.0005	99%
Chlorobenzene	ND	0.050	0.0495	0.0003	99%
1,4-Dichlorobenzene	ND	0.050	0.0495	0.0002	99%
ND - Parameter not detected at	t the stated detectio	n limit.			

References:

Carbon Tetrachloride

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for samples 19316 - 19318.

ND

L. Cepeur

m Walter Review

0.0001

98%

43-143 39-150

51-147

35-146

26-162

38-150 42-143

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PRACT(CAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-02-01
Laboratory Number:	19316	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	03-02-01
-Condition:	N/A	Date Extracted:	N/A

		Duplicate		
	Sample	Sample	Detection	
	Result	Result	Limits	Percent
Parameter	(mg/L)	(mg/L)	(mg/L)	Difference
Vinyl Chloride	ND .	ND	0.0001	0.0%
1,1-Dichloroethene	ŃD	ND	0.0001	0.0%
2-Butanone (MEK)	0.017	0.017	J 0.0001	0.0%
Chloroform	ND	ND	0.0001	0.0%
Carbon Tetrachloride	ND	ND	0.0001	0.0%
Benzene	0.036	0.036	0.0001	0.0%
1,2-Dichloroethane	ND	ND	0.0001	0.0%
Trichloroethene	NĎ	ND	0.0003	0.0%
Tetrachloroethene	ND	ND	0.0005	0.0%
Chlorobenzene	ND	ND	0.0003	0.0%
1,4-Dichlorobenzene	ND	ND	0.0002	0.0%

ND - Parameter not detected at the stated detection limit.

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for samples 19316 - 19318.

Ánalvst

Review

References:

ENVIROTECHLABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

	,		
Client:	QA/QC	Project #:	N/A
 Sample ID:	Laboratory Blank	Date Reported:	03-02-01
Laboratory Number:	03-02-TCV	Date Sampled:	N/A
Sample Matrix:	Water -	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-02-01
Condition:	- N/A	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride 🚽 -	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

QA/QC Accep	tance Criteria	Parameter	Percent Recovery
		Trifluorotoluene Bromofluorobenzen	۶ 100% e. 100%
References:	Method 1311, Toxicity Charact Method 5030, Purge-and-Trap Method 8010, Halogenated Vo Method 8020, Aromatic Volatil	teristic Leaching Procedure, S , SW-846, USEPA, July 1992 platile Organic, SW-846, USEPA e Organics, SW-846, USEPA	SW-846, USEPA, July 1992. PA, Sept. 1994. , Sept. 1994.
Note:	Regulatory Limits based on 40) CFR part 261 Subpart C sec	tion 261.24, July 1, 1992.
Comments:	QA/QC for samples 193	16 - 19318.	
Analyst	- L. Querre		tim my Walters

ENVIROTECH LABS

EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

	•		
Client:	QA/QC	Project #:	N/A
Sample ID:	03-01-TCM QA/QC	Date Reported:~	03-01-01
Laboratory Number:	19316	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	03-01-01
Condition:	N/A	Date Extracted:	N/A

Instrument	Method	🔆 🖉 Detectio	on Sample		2. 10	Acceptance So
Blank 🖓	s, Blank;	Cimit 🔄			-s. 0.105	T
ND	ND	0.001	0.012	0.012	0.0%	0% - 30%
ND	ND	0.001	0.050	0.049	2.0%	0% - 30%
ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
ND .	, ND	0.001	0.003	0.003	0.0%	0% - 30%
ND	ND "	0.001	0.013	0.013	0.0%	0% - 30%
ND	ND	0.001	ND	.N₽D	0.0%	0% - 30%
ND	ND	0.001	0.002	0.002	0.0%	0% - 30%
ND	ND	0.001	0.006	0.006	0.0%	0% - 30%
	ND ND ND ND ND ND ND ND ND ND ND	Instrument Method Blank ND	Instrument Method Detecti Blank Blank Eimo ND ND 0.001 ND ND 0.001	Instrument Method Detection Sample Blank Emits Emits Emits Sample ND ND 0.001 0.012 ND ND 0.001 0.050 ND ND 0.001 0.001 ND ND 0.001 0.001 ND ND 0.001 0.003 ND ND 0.001 0.013 ND ND 0.001 ND ND ND 0.001 ND ND ND 0.001 0.002 ND ND 0.001 0.006	Instrument Method Detection Sample Duglicate Blank Emit Emit 1000000000000000000000000000000000000	Instrument Method Detection Sample Duplicate 0105 Blank Cimit Cimit 0105 0105 0105 ND ND 0.001 0.012 0.012 0.0% ND ND 0.001 0.050 0.049 2.0% ND ND 0.001 0.001 0.001 0.0% ND ND 0.001 0.001 0.0049 2.0% ND ND 0.001 0.001 0.0049 2.0% ND ND 0.001 0.001 0.0% 0.0% ND ND 0.001 0.013 0.03 0.0% ND ND 0.001 ND MD 0.0% ND ND 0.001 0.002 0.002 0.0% ND ND 0.001 0.006 0.0% 0.0%

Spike Sample Spike Sample

Arsenic	0.500	0.012	0.512	100.0%	80% - 120%
Barium	0.500	0.050	0.548	99.6%	80% - 120%
Cadmium	0.500	0.001	0.500	99.8%	80% - 120%
Chromium	0.500	0.003	0.503	100.0%	80% - 120%
Lead	0.500	0.013	0.512	9 9 .8%	80% - 120%
Mercury	0.050	ND	0.049	98.0%	80% - 120%
Selenium	0.500	0.002	0.502	100.0%	80% - 120%
Silver	0.500	0.006	0.505	99.8%	80% - 120%

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996 Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals,

SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission, SW-846, USEPA, December 1996.

Comments:

QA/QC for samples 19316 - 19318.

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Walter Review



PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QA/QC Matrix Duplicate Report

Parameter	(mg/L)	(mg/L) Difference	(mg/L)
,	Result	Result Percent	Limit
······································	Sample	Duplicate	Det.
		Analysis Requested:	TCLP
Condition:	N/A,, *	Date Analyzed:	03-12-01
Preservative:	N/A	Date Extracted:	N/A
Sample Matrix:	Water	Date Received:	N/A
Laboratory Number:	. 19316 .	Date Sampled:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	03-12-01
Client:	QA/QC	Project #:	N/A

Pyridine	0.061	0.061	0.0%	0.020
Hexachloroethane	∽ 0.05 1	0.050	1.0%	0.020
Nitrobenzene	0.054	0.054	0.0% 🦳	0.020
Hexachlorobutadiene	0.184	0.182	1.1%	0.020
2,4-Dinitrotoluene	0.030	0.030	0.0%	0.020
HexachloroBenzene	0.086	0,085	1.8%	0.020

ND - Parameter not detected at the stated detection limit.

QA/QC Accep	tance Criteria	Maximum Difference	
•		8090 Compounds	30%
References:	Method 1311, Toxicity Charac Method 3510, Separatory Fun	teristic Leaching Procedure, الأ nel Liquid-Liquid Extraction, S۱	W-846, USEPA, July 1992. N-846, USEPA, July 1992.
	Method 8090, Nitroaromatics	and Cyclic Ketones, SW-846, L	JSEPA, Sept. 1986.
Note: ,	Regulatory Limits based on 40) CFR part 261 Subpart C sect	ion 261.24, July 1, 1992.

Comments:

QA/QC for samples 19316 - 19318.

Review

ENVIROTECHLABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORHOW

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics Quality Assurance Report

Client:		QA/QC	Project #:	s.,"- *	N/A
Sample ID:		Laboratory Blank	Date Reported:		03-12-01
Laboratory Number:		03-12-TBN	Date Sampled:	*	N/A
Sample Matrix:		Hexane	Date Received:		N/A
Preservative:	٠	N/A	Date Extracted:		N/A
Condition:		N/A	Date Analyzed:		03-12-01
			Analysis Requested:		TCLP

Perometer	Concentration	Det. Limit	Regulatory Limit
Parameter	~ (mg/L)	(mg/L)	(mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria		Parameter	Percent Recovery					
		2-fluorobiphenyl	101%					
References:	Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992. Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.							
Note:	Regulatory Limits base	ed on 40 CFR part 261 Subpart C sec	tion 261.24, July 1, 1992.					
			·					
Comments:	QA/QC for sample	es 19316 - 19318.						
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		• .						

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m Walters Review

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EPA METHOD 8040 PHENOLS Quality Assurance Report

Client:				Project #:	N/A
Sample ID:		Matrix Duplicate		Date Reported:	03-12-01
Laboratory Number:		19316		Date Sampled:	N/A
Sample Matrix:	. ~	Water		Date Received:	N/A
Preservative:		Cool	+	Date Extracted:	N/A
Condition:		Cool & Intact		Date Analyzed:	03-12-01
. W				Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	0.123	0.122	0.020	· 1.0%
p.m-Cresol	0.130	0.128	0.040	2.0%
2,4,6-Trichlorophenol	ND	ND	0.020	0.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Accep	tance Criteria:	Parameter	Maximum Difference	
		8040 Compounds	30.0%	
References:	Method 1311, Toxicity Char Waste, SW-846, USEPA, Ju	acteristic Leaching Procedure Test i Ily 1992.	Methods for Evaluating Solid	
	Method 3510, Separatory Fi Waste, SW-846, USEPA, Ju	unnel Liquid-Liquid Extraction, Test Ily 1992.	Methods for Evaluating Solid	
	Method 8040, Phenols, Tes	t Methods for Evaluating Solid Wast	te, SW-846, USEPA, Sept. 1986.	
Note:	Regulatory Limits based on	40 CFR part 261 subpart C section	261.24, July 1, 1992.	
Comments:	QA/QC for samples 1	9316 - 19318.	· .	
Analyst	L. Officer	Review	ine my Walten	

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Identification	Date	Time	Lab Number		Matrix			F 3	e								
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ETALLI BUETON	1975		Client No			0			I .	1	[1	1	<u>, , , , , , , , , , , , , , , , , , , </u>			
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1025 N. Hobos, NM 55240 Energy	Form 138
Conservation Division 2040 South Pacheco	Submit Original
1000 Rio Brazos Kosa, Aztec, NM 87410 District IV 2040 Santa Perhero, Santa Fe, NM 87505	Plus I Copy to Appropriate
PEOLIEST FOR APPROVAL TO ACCEPT	SOI ID WASTE
NEQUEST FOR ATTROVAL TO ACCEFT	A Generator
1. RCRA Exempt: Non-Exempt: X	VELE ENERGY Services
Verbal Approval Received: Yes No	5. Originating Site MAIN YARO
2. Management Facility Destination KEY DISPOSAL	6. Transporter Uey
3. Address of Facility Operator #345 CR3500 AZtec NM	8. State NM
7. Location of Material (Street Address or ULSTR) 5651 US Hury 64	
9. <u>Circle One</u> :	
B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste cla approved	ecessary chemical analysis to PROVE the ssified hazardous by listing or testing will be
All transporters must certify the wastes delivered are only those consigned for transp	ort.
MAR 2001 R OIL LON. DIV CUST. 3	MAR 2001 F. OIL CON, DIV DICT. 3
Estimated Volume <u>BOObbls</u> cy Known Volume-(fo be entered by the ope	rator at the end of the hau cy
SIGNATURE Waster Management Pacility Authorized Agent	DATE! <u>3-16-0</u>
TYPE OR PRINT NAME: MICHAEL THOUICAL TELE	PHONE NO. <u>505 - 334-6186</u>
(This space for State Use) APPROVED BY: Denyteny TITLE: G-Colo APPROVED BY: MAL WI	0915 DATE: 3/20/01
<u> </u>	

Kie Road, Aziec, NM 87410 Idi IV South Pacheco, Santa Fe, NM 87505

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE 4. Generator 1. RCRA Exempt: Non-Exempt: 🔽 ENERGY 5. Originating Site Verbal Approval Received: Yes No X MSIN 2. Management Facility Destination KEY DIS POSAL 6. Transporter #345 CR3500 AZTEC NM 8. State 3. Address of Facility Operator 5651 USHWY64 7. Location of Material (Street Address or ULSTR) HRMINLETEN NM 9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator: one certificate per job. BAll requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved All transporters must certify the wastes delivered are only those consigned for transport. BRIEF DESCRIPTION OF MATERIAL: WASH WALL OFF OIL Field Equipment MAR 200 RECEIVED OIL CON. DW Z I ALE OF Estimated Volume 800661s ev Known Volume (to be entered by the operator at the end of the haul DATE: 3-16-01 TITLE: MGD SIGNATURE Waste Management Pacility Authorized Agent والمسترد ويدونه بالاتيان والمتقار والمتعاد والمتعاجر والمعاجر والمتعاد والمعاجر والمتعاد والمعادي والمتعاد the second in the second second TALOUICA TELEPHONE NO. TYPE OR (This space for State Use) 000-15 APPROVED BY: TITLE: TITLE:

Santa

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District [- (303) 393-6161 1625 N. French Dr Hobbs, NM 88240	Nergy percent and N	w Mexico	nortmo-t	Form C-143 3/15/00
District II - (505) 748-1283 811,S. First Artefa, NAV 55240 District III - (505) 334-6178 1000 Rio Brazos Road Aztec, NM 87410 District IV - (505) 827-7131 2040 S. Pacheco Santa Fe, NM 87505	Oil Conse 2040 Sou Santa Fe. (50	valural Resources De ervation Division uth Pacheco Street New Mexico 87505 05) 827-7131	-	Submit to OCD Permitted Surface Waste Management Facility
GE	NERATOR CERTIF	FICATE OF WAST	E STATUS	· ·
1. Waste Generator Name and A	ddress	2.Permit Numbe	r (if waste genera permitte	ted at an OCD ed facility)
5651 US NW4 64	÷			
FARMINGTON NM 6	37401	•		
3. Description of Waste and Gen	erating Process:	4. Location of W	/aste (Street add	ress &/or ULSTR):
Wash Water		5651	US NWY	64
		Fut	LMINGton ,	U.M
	~			
5. Destination (Surface Waste M	anagement Facility):	6. Transporter:		
KEY DISPOSAL		iVe	1	
7. Estimated Volume cy	/bbis	· ·	-	
For NON-EXEMPT waste only th		is attached (check appro	priate items):	
MSDS Information		<u>X</u> <u>R</u> CRA Hazardous	Waste Analysis (V	With Chain of Custody).
Other (Description)				
Generator certifies that, accordin Agency's July 1988 regulatory de	g to the Resource Conserv termination, the above des	ation and Recovery Act (cribed waste is: (check a	RCRA) and the Ei ppropriate classifi	nvironmental Protection cation)
EXEMPT	oilfield waste.	• pursuant to 40 CF	PT oilfield waste ti R Part 261. (Atta documentati	nat is non-hazardous ch appropriate ion)
in addition, Generator certifies th waste does not contain Naturally Subpart 1403.	at nothing has been added Occurring Radioactive Mat	l to this exempt or non-ex terial (NORM) regulated p	empt non-hazardo bursuant to 20 NM	ous waste and that this IAC 3.1
Generator Signature	t am		Date: 3	-15-01
Print Name:Bob	Jamı,	· · · · · · · · · · · · · · · · · · ·		
Title: <u>Seuipme</u>	nt + Environmental	Manasc	-	
		· · · · ·		

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NVIROTEC

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW.

SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Key Energy	Project #:	98065-001
Sample ID:	Wash Water Tank	Date Reported:	03-01-01
	19316	Date Sampled:	02-27-01
Sample Matrix:	vvater*	Date Received:	02-27-01
Preservative:		Date Analyzed:	02-28-01
Condition:	Cool and Intact	Chain of Custody:	8528
	•		
Parameter	Result		
IGNITABILITY:	Negative		
CORROSIVITY:	Negative	pH = 6.68	
REACTIVITY:	Negative		
RCRA Hazardous Waste Criteria			
Parameter	Hazardous Waste Criterion) Î
IGNITABILITY:	Characteristic of Ignitability as de (i.e. Sample ignition upon direct of	fined by 40 CFR, Subpart C, Sec. 261.21. contact with flame or flash point < 60° C.)	
CORROSIVITY:	Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. (i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)		
REACTIVITY:	Characteristic of Reactivity as de (i.e. Violent reaction with water, s of Sulfide or Cyanide gases	fined by 40 CFR, Subpart C, Sec. 261.23. strong base, strong acid, or the generation at STP with pH between 2.0 and 12.5)	
Reference:	40 CFR part 261 Subpart C secti	ons 261.21 - 261.23, July 1, 1992.	
Comments:	5651 US Hwy 64.		

Analyst

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PRACTICAL SOLUTIONS FOR A BEITER TOMORROW

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

Client:	Key Energy	Project #:	98065-001
Sample ID:	Wash Water Tank	Date Reported:	03-02-01
Laboratory Number:	19316	Date Sampled:	02-27-01
Chain of Custody:		Date Received:	02-27-01
Sample Matrix:	Water	Date Extracted:	NA
Preservative:	Cool	Date Analyzed:	03-02-01
Condition:	- Cool & Intact	Analysis Requested:	TCLP
		, Detection	Regulatory
	Concentration	Limit	Limits
Parameter	(mg/L)	(mg/L)	(mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	0.0172	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0361	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

tance Criteria	Parameter	Percent Recovery	
	Trifluorotoluene	98%	
	Bromofluorobenzene	99%	
Method 1311, Toxicity C Method 5030, Purge-an Method 8010, Halogena Method 8020, Aromatic	Characteristic Leaching Procedure, SW- d-Trap, SW-846, USEPA, July 1992. Ited Volatile Organic, SW-846, USEPA, Volatile Organics, SW-846, USEPA, Se	-846, USEPA, July 1992. Sept. 1994. ept. 1994.	
Regulatory Limits based	d on 40 CFR part 261 Subpart C section	n 261.24, July 1, 1992.	
5651 US Hwy 64.			
	tance Criteria Method 1311, Toxicity C Method 5030, Purge-an Method 8010, Halogena Method 8020, Aromatic Regulatory Limits based 5651 US Hwy 64.	tance Criteria Parameter Trifluorotoluene Bromofluorobenzene Method 1311, Toxicity Characteristic Leaching Procedure, SW- Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Method 8020, Aromatic Volatile Organics, SW-846, USEPA, SW- Regulatory Limits based on 40 CFR part 261 Subpart C section 5651 US Hwy 64.	tance CriteriaParameterPercent RecoveryTrifluorotoluene Bromofluorobenzene98% 99%Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994. Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.5651 US Hwy 64.

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ENVIROTECA LABS

EPA METHOD 8040 PHENOLS

Key Energy	Project #:		98065-001
Wash Water Tank	Date Reported:		03-12-01
19316	Date Sampled:		02-27-01
8528	Date Received:		02-27-01
Watêr	Date Extracted:		N/A
Cool	Date Analyzed:		03-12-01
Cool & Intact	Analysis Requested:	•	TCLP
	Key Energy Wash Water Tank 19316 8528 Watêr Cool Cool & Intact	Key EnergyProject #:Wash Water TankDate Reported:19316Date Sampled:8528Date Received:WatêrDate Extracted:CoolDate Analyzed:Cool & IntactAnalysis Requested:	Key EnergyProject #:Wash Water TankDate Reported:19316Date Sampled:8528Date Received:WatêrDate Extracted:CoolDate Analyzed:Cool & IntactAnalysis Requested:

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	0.123	0.020	200
p,m-Cresol	0.130	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	0 Elementer en el	0.00/

2-Fluorophenol 2,4,6-Tribromophenol 98% 99% ļ. Ī

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Note:

Comments:

5651 US Hwy 64.

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ENVIROTECH LABS

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics

Key Energy	Project #:	98065-00
Wash Water Tank	Date Reported:	03-12-01
19316	Date Sampled:	⁻ 02-27-01 ⁻
8528	Date Received:	02-27-01
Water	Date Extracted:	N/A
Cool	Date Analyzed:	03-12-01
Cool and Intact	* Analysis Requested:	TCLP
	Det.	Regulatory
Concentration	Limit	Limit
(mg/L)	(mg/L)	(mg/L)
0.061	0.020	5.0
0.051	0.020	3.0
0.054	0.020	2.0
0.184	0.020	0.5
0.000	0.000	0.42
0.030	0.020	0.13
	Key Energy Wash Water Tank 19346 8528 Water Cool Cool and Intact Concentration (mg/L) 0.061 0.051 0.054 0.184	Key Energy Project #: Wash Water Tank Date Reported: 19346 Date Sampled: 8528 Date Received: Water Date Extracted: Cool Date Analyzed: Cool and Intact Analysis Requested: Det. Det. Concentration Limit (mg/L) 0.061 0.020 0.051 0.020 0.054 0.184 0.020 0.020

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria	Parameter	Percent Recovery

2-fluorobiphenyl

Ĵ.

101%

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

5651 US Hwy 64.

Analyst

Review

ENVIROTECA LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

			•
Client:	Key Energy	Project #:	98065-001
Sample ID:	Wash Water-Tank	Date Reported:	03-01-01
Laboratory Number:	19316.	Date Sampled: -	02-27-01
Chain of Custody:	8528	Date Received:	02-27-01
Sample Matrix:	Water	Date Analyzed:	03-01-01
Preservative:	Cool	Date Extracted:	NA
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration	Det. Limit (mg/L)	Regulatory Level (mg/l.)
	(119/2)	((
Arsenic	0.012	0.001	5.0
Barium 🚐 🕔	0.050	0.001 ~	100
Cadmium	0.001	0.001	1.0
Chromium	0.003	0.001	5.0
Lead	0.013	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.002	0.001	1.0
Silver	0.006	0.001	5.0

ND - Parameter not detected at the stated detection limit,

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

5651 US Hwy 64.

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION
ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW.

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

		· ·	······································
Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	-Date Reported:	03-02-01
Laboratory Number:	03-02-TCV	Date Sampted;	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-02-01
Condition:	N/A	Analysis Requested:	TCLP
· 			
	•	Detection	Regulatory
	Concentration	Limit	Limits
Parameter	(mg/L)	(mg/L)	(mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform 🦳	ND	0.0001 ^	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	ND	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria		Parameter	Percent Recovery	
		Trifluorotoluene	100%	
		Bromofluorobenzene	100%	
References:	Method 1311, Toxicity C	Characteristic Leaching Procedure, SW	V-846, USEPA, July 1992.	
	Method 5030, Purge-an	d-Trap, SW-846, USEPA, July 1992.		
	Method 8010, Halogena	ted Volatile Organic, SW-846, USEPA	λ, Sept. 1994.	
	Method 8020, Aromatic	Volatile Organics, SW-846, USEPA, S	Sept. 1994.	
Note:	Regulatory Limits based	d on 40 CFR part 261 Subpart C sectio	on 261.24, July 1, 1992.	

Comments:

QA/QC for samples 19316 - 19318.

Analyst

Review

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ENVIROTECH LABS

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

QA/QC		Project #:	N/A
- Matrix Duplic	ate	Date Reported:	03-02-01
19316	ž.,	Date Sampled:	N/A
Water	·	Date Received:	N/A
TCLP		Date Analyzed:	03-02-01
N/A 🕋	1-	Date Extracted:	N/A
	*		
	Duplicate		
Sample	Sample	Detection	
Result	Result	Limits	Percent
(mg/L)	(mg/L)	(mg/L)	Difference
		0.0004	0.00/
ND	ND	0.0001	0.0%
ND	ND	0.0001	0.0%
0.017	⁻ 0.017	0.0001	0.0%
ND	ND	0.0001	0.0%
ND	ND	0.0001	0.0%
0.036	0.036	0.0001	0.0%
ND	ND	0.0001	0.0%
ND	ND	0.0003	0.0%
ND	ND	0.0005	0.0%
ND	ND	0.0003	0.0%
ND	ND	0.0002	0.0%
	QA/QC Matrix Duplic 19316 Water TCLP N/A Sample Result (mg/L) ND ND 0.017 ND 0.017 ND 0.036 ND ND ND ND ND ND ND ND ND ND ND ND ND	QA/QC Matrix Duplicate 19316 Water TCLP N/A ND Sample Result Result (mg/L) ND ND ND ND ND ND ND ND ND ND ND ND ND	QA/QCProject #: Date Reported:Matrix DuplicateDate Reported:19316Date Sampled:WaterDate Received:TCLPDate Analyzed:N/ADate Extracted:DuplicateSampleSampleResultLimits(mg/L)(mg/L)ND0.0003NDNDND0.0002

ND - Parameter not detected at the stated detection limit.

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for samples 19316 - 19318.

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ENVIROTECH LABS

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client: Sample ID: Laboratory Number: Sample Matrix: Analysis Requested: Condition:	QA/QC Matrix Spike 19316 Water TCLP N/A			Project #: Date Reporter Date Sampler Date Receive Date Analyze Date Extracte	d: 1: d: d: sd:	N/A 03-02-01 N/A N/A 03-02-01 Ň/A
-			Spiked			SW-846
	Sample	Spike	Sample	Det.	Deveent	% Rec.
Parameter		Added (ma/L)	(mg/L)		Recovery	Accept.
	(119/2)	(mg/c)	(mg/L)	(ing/L)	Recovery	Range
Vinyl Chloride	ND	0.050	0.0495	0.0001	99%	28-163
1,1-Dichloroethene	ND	0.050	0.0494	0.0001	99%	43-143
2-Butanone (MEK)	0.0172	0.050	0.0662	0.0001	99%	47-132
Chloroform	ND	0.050	0.0500	0.0001	100%	49-133
Carbon Tetrachloride	ND	0.050	0.0490	0.0001	98%	43-143
Benzene	0.0361	0.050	0.0856	0.0001	99%	39-150
1,2-Dichloroethane	ND	0.050	0.0490	0.0001	98%	51-147
Trichloroethene	ND	0.050	0.0495	0.0003	99%	35-146
Tetrachloroethene	ND	0.050	0.0495	0.0005	99%	26-162
Chlorobenzene	ND	0.050	0.0495	0.0003	99%	38-150
1,4-Dichlorobenzene	ND	0.050	0.0495	0.0002	99%	42-143

ND - Parameter not detected at the stated detection limit.

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for samples 19316 - 19318.

Review

INVIROTICA LABS

EPA METHOD 8040 PHENOLS Quality Assurance Report Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-12-01
Laboratory Number:	03-12-TCA	Date Sampled:	• • • • • • • • • • • • • • • • • • •
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-12-01
Condition:	N/A	Analysis Requested:	TCLP
A shutter of Describe			
Analytical Results		Detection	Regulatory
	Concentration	Limit	Limit
Parameter	(mg/L)	(mg/L)	(mg/L)
o-Cresol	ND	0.020	200
p,m-Cresol	ND	0.040	200
2,4,6-Trichlorophenol	ND	0.020	2.0
2,4,5-Trichlorophenol	ND -	0.020	400
Pentachlorophenol	ND	0.020	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-fluorophenol	98 %
	2,4,6-tribromophenol	99 %

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments:

QA/QC for samples 19316 - 19318.

Analyst

Review

ENVIROTECHLABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040 PHENOLS Quality Assurance Report

		- · ·	
Client:	- QA/QC	Project #:	N/A -
Sample ID:	Matrix Duplicate	Date Reported:	03-12 - 01
Laboratory Number:	19316	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Extracted:	, N/A *
Condition:	Cool & Intact	Date Analyzed:	03-12-01
		Analysis Requested:	TCLP

	Sample Result	Duplicate Result	Detection	Percent
Parameter	(mg/L)	(mg/L)	(mg/L)	Difference
o-Cresol	0.123	0.122	0.020	1.0%
p,m-Cresol	0.130	0.128	0.040	2.0%
2,4,6-Trichlorophenol	ND	ND	0.020	0.0%
2,4,5-Trichlorophenol	ND	ND	0.020	0.0%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

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QA/QC Accepta	nce Criteria:	Parameter		Maximum Difference
		8040 Comp	ounds	30.0%
References:	Method 1311, Toxicity Ch Waste, SW-846, USEPA,	aracteristic Leaching July 1992.	Procedure Test Metho	ods for Evaluating Solid
	Method 3510, Separatory Waste, SW-846, USEPA,	Funnel Liquid-Liquid July 1992.	Extraction, Test Meth	ods for Evaluating Solid
	Method 8040, Phenols, T	est Methods for Evalu	ating Solid Waste, SV	V-846, USEPA, Sept. 1986.
Note:	Regulatory Limits based	on 40 CFR part 261 si	ubpart C section 261.	24, July 1, 1992.
Comments:	QA/QC for samples	19316 - 19318.		
Analyst	C. Ofene		Christine Review	m Walten

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FOVIROTEC LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	03-12-01
Laboratory Number:	03-12-TBN	Date Sampled:	N/A
Sample Matrix:	Hexane 🔔 🚽	Date Received:	N/A
Preservative:	N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	03-12-01
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	ND	0.020	5.0
Hexachloroethane	ND	0.020	3.0
Nitrobenzene	ND	0.020	2.0
Hexachlorobutadiene	ND	0.020	0.5
2,4-Dinitrotoluene	ND	0.020	0.13
HexachloroBenzene	ND	0.020	0.13

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria		Parameter	Percent Recovery	
		2-fluorobiphenyl	101%	
References: Method 1311, Toxicity Cha Method 3510, Separatory		Characteristic Leaching Procedure, ory Funnel Liquid-Liquid Extraction,	, SW-846, USEPA, July 1992. SW-846, USEPA, July 1992.	
	Method 8090, Nitroaro	matics and Cyclic Ketones, SW-846	5, USEPA, Sept. 1986.	
Note:	Regulatory Limits base	ed on 40 CFR part 261 Subpart C se	ection 261.24, July 1, 1992.	

Comments:

QA/QC for samples 19316 - 19318.

Analyst

<u>Review</u> Walters

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ENVIROTLCHLABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QA/QC Matrix Duplicate Report

0.0%

1.8%

0.020

0.020

Client:	QA/QC	Project #:		N/A
Sample ID:	Matrix Duplicate	Date Reported:	An ere to	03-12-01
Laboratory Number:	19316	Date Sampled:	·	N/A
Sample Matrix:	Water	Date Received:		N/A
Preservative:	N/A	Date Extracted:	~	N/A
Condition:	N/A	Date Analyzed:		03-12-01
		Analysis Reques	ited:	TCLP
	Sample	Duplicate		Det.
	Result	Result	Percent	Limit
Parameter	(mg/L)	(mg/L)	Difference	(mg/L)
Pyridine	0.061	0.061	0.0%	0.020
Hexachloroethane	0.051	0.050	1:0%	0.020
Nitrobenzene	0.054	0.054	0.0%	0.020
Hexachlorobutadiene	0.184	0.182	1.1%	0.020

ND - Parameter not detected at the stated detection limit.

QA/QC Accep	tance Criteria	Parameter	Maximum Difference
		8090 Compounds	30%
References:	Method 1311, Toxicity Method 3510, Separato Method 8090, Nitroaror	Characteristic Leaching Procedure, S ory Funnel Liquid-Liquid Extraction, S natics and Cyclic Ketones, SW-846,	SW-846, USEPA, July 1992. SW-846, USEPA, July 1992. USEPA, Sept. 1986.
Note:	Regulatory Limits base	d on 40 CFR part 261 Subpart C sec	ction 261.24, July 1, 1992.

0.030

0.085

Comments:

2,4-Dinitrotoluene

ļ Ī HexachloroBenzene

QA/QC for samples 19316 - 19318.

0.030

0.086

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EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

Client: Sample ID: Laboratory Number: Sample Matrix: Analysis Requested: ^ Condition:	QA/QC 03-01-TCM 19316 Water TCLP Meta N/A	QA/QC	Project #: Date Repor Date Samp Date Recei Date Analy: ~Date Extrac	ted: led: ved: zed: cted:	• • •	N/A 03-01-01 N/A N/A 03-01-01 N/A
Blank & Duplicate Instru Conc. (mg/L) Bla	ment Method nk Blank	Detec	tion Sample	Duplicat	e %	Acceptance
Arsenic NI	D ND	0.001	0.012	0.012	0.105 0.0%	0% - 30%
Barium NI	D ND	0.001	0.050	0.049	2.0%	0% - 30%
Cadmium NI	D ND	0.001	0.001	0.001	0.0%	0% - 30%
Chromium NI	D ND	0.001	0.003	0.003	0.0%	0% - 30%
Lead NI	D ND	0.001	0.013	0.013	0.0%	0% - 30%
Mercury NI	D ND	0.001	ND	ND	0.0%	0% - 30%
Selenium NI	D ND	0.001	0.002	0.002	0.0%	0% - 30%
Silver NI	D ND	0.001	0.006	0.006	0.0%	0% - 30%

Spike	Spike	Sample	e Spiked	Percent	Acceptance
Conc. (mg/L-)	Added		Sample	Recovery	Range
Arsenic	0.500	0.012	0.512	100.0%	80% - 120%
Barium	0.500	0.050	0.548	99.6%	80% - 120%
Cadmium	0.500	0.001	0.500	99.8%	80% - 120%
Chromium	0.500	0.003	0.503	100.0%	80% - 120%
Lead	0.500	0.013	0.512	99.8%	80% - 120%
Mercury	0.050	ND	0.049	98.0%	80% - 120%
Selenium	0.500	0.002	0.502	100.0%	80% - 120%
Silver	0.500	0.006	0.505	99.8%	80% - 120%

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission, SW-846, USEPA, December 1996.

Comments:

QA/QC for samples 19316 - 19318.

Analyst

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Client / Project Name KEY ENERGY	•		Project Location	1 US Hwy	, 64						ANALYS	IS / PAI	RAMETI	ERS				,
Sampler: Harcha M. T	Згошы		Client No.	8 0 65	- 001		o. of ainers	A PH							Ren	arks		
Sample No./ Identification	Sample Date	Sample Time	Lab Number		Sample Matrix		Cont	F3	•									
Wash Water- Tank	2.27.0	9:30	19316		walu	Ĺ	5	/	- i									
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Polinguished by: (Signatur	0)			Date	Time	Becei	yd pyr (Signatur							Date	•	Time	
Harlon Mr. Signatur	low	>		2.27.01	10:48		Leu			fler	<u>ı</u> cı	~ ;			2/27	61	1048	8-1
Relinquished by: (Signature	e)					Receiv	ved by: (Signatur	re)			,		jļi.				
Relinquished by: (Signature	e)					Receiv	ed by: (Signatur	ę)				, 1	?" -				
				ENV	IRO	ΓΕΟ	H	INC	<u>).</u>					Sam	ole Rece	ipt		
	·			5	796 U.S	. High	way 6	4					Rece	eived Inta	ct L	7	N N	
· ·				in a ran i	ngton, N (SQS)	641 M 660.49	686003 210	: ZAD]	······································			•	Deci -	ter te				k i i i

625 N.F Dr., Hobbs, NM 88240 District II 811 South First, Antesia, NM 88210 District III	Energy Minerals and Natural Reso Oil Conservation Division 2040 South Pacheco	Form C-138 Revised March 17, 1999 Submit Origi
1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505	Santa Fe, NM 87505	Plus 1 Copy to Appropriate District Office
REQUEST FOR	R APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: Non-Exempt:	Z	4. Generator WAS
Verbal Approval Received: Yes	Herse	5. Originating Site HORSE CAMPON CDP
Management Facility Destination KEY	DISPOSAC-	6. Transporter Key
Address of Facility Operator #345	- C2 3500 Aztec NM	8. State NM
7. Location of Material (Street Address or U	LSTR, RNG9W	
D. <u>Circie One</u> :		· · ·
approved All transporters must certify the wastes d	elivered are only those consigned for transp)ort.
WAShwater + k	UN OFF WATER	MAR 2001
Estimated Volume 1000 Movily of	Known Stillme (to be entered by the opt	erator at the end of the haul
Estimated Volume <u>1000 MovHly</u> of SIGNATURE <u>Mulau Color</u> Waste Management Facility Auto	Knowf Agent	erator at the end of the hau:
Estimated Volume <u>1000 movi41y</u> cy SIGNATURE <u>Muhae Touris</u> Waste Management Facility Auto TYPE OR PRINT NAME: <u>MICH4E</u>	Know F Sign E to be entered by the open TITLE: MG L TALOUICH TELE	erator at the end of the haul
Estimated Volume <u>1000 Movi41y</u> of SIGNATURE <u>Mulau Colour</u> Waste Management Facility Auto TYPE OR PRINT NAME: <u>MiCA44</u>	RE OIL CON DIV DIST. 3 Known dolline (to be entered by the open TITLE: MG TALOVICA TELE	erator at the end of the haul
Estimated Volume 1000 Movily of SIGNATURE Management Facility Auto Waste Management Facility Auto TYPE OR PRINT NAME: MiCAIAE (This space for State Use) APPROVED BY: Management Facility Auto	RE OIL CON DIV DIST. 3 Knowf Solution to be entered by the operation TITLE: MG TALOUICA TELE TALOUICA TELE	erator at the end of the hau: DATE: $3 - 16 - 0$ EPHONE NO. $305 - 334 - 6186$ DATE: $3/20/0$

••••

N. French Dr., Hobbs, NM 88240 511 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505	Energy Minerals and Natural R Oil Conservation Divisi 2040 South Pacheco Santa Fe, NM 87505	on T	Form C-13 Revised March 17, 199 Submit Origins Plus 1 Cop to Appropriat District Offic
REQUEST FO	OR APPROVAL TO ACCE	PT SOLID WASTI	5
1. RCRA Exempt: Non-Exempt:	∑	4. Generator)
Verbal Approval Received: Yes	Te X	5. Originating Site	COP
2. Management Facility Destination K	EY D15 P02+C-	6. Transporter	ey
3. Address of Facility Operator #34	15 C.2 3500 Aztec NM	8. State	
7. Location of MateFial (Street Address o	UNITA SECZTTUNGO DE ULSTRI RNG9W		
9. <u>Circie One</u> :			
All transporters must certify the waste	enerator's certification of origin. No was es delivered are only those consigned for t	te classified hazardous by li ransbort.	sting or testing will be
Estimated Volume <u>1000 Movt41</u> est SIGNATURE <u>Management Pacility</u> TYPE OR PRINT NAME: <u>MICH</u>	Rnown Volume to be entered by th Authorized Agent Authorized Agent Authorized Agent	MAR 2001 MAR 2001 NAR	DATE: 3-16-
(This space for State Use) APPROVED BY:	Frent TITLE: G	eolog13t	date: <u>3/20</u>

.

د بریا وراند دورون در

Distric	(505) 393-6161	
. 162	Dr	•
Hobbs, N	NM 88240	
District	11 - (505) 748-1283	
811 S. Fi	rst	
Artesia,	NM 88210	
District	III - (505) 334-6178	
1000 Rio	Brazos Road	
Aztec, N	M 87410	
District	IV - (505) 827-7131	
2040 S. I	Pacheco	
Santa Fe	, NM 87505	

New Mexico Energy Minerals and Natural Resources Oil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505

partment

Form C-143 3/15/00

Submit to OCD Permitted Surface Waste Management Facility

GENERATOR CERTIFICATE OF WASTE STATUS

(505) 827-7131

1. Waste Generator Name and Address:	2.Permit Number (if waste generated at an OCD
WILLIAMS	permitted facility)
187 C.R. 4980	
BLOOMFIELD, NM 87413	•
3. Description of Waste and Generating Process:	4. Location of Waste (Street address &/or ULSTR):
WASH WATER + PUNDER WATER	HORSE CANYON CDP
	UNIT A, SEC 27, TWN JON RNG9W
GENERATED BY WASH DOWN	LONGITHOS: -107.759937
OF EQUIPMENT + PRECIPITATION	LATITUDE: 31 787046
_	FROM AZTEC, NM EAST ON STATE
	HWY 173 APPROX, 14 MILES
5. Destination (Surface Waste Management Facility):	6. Transporter:
KEY DISPOSAL / ENERCY	
OR OTHER NMOCH DERMITTED FACILITY	VARIOUS SJA SERVICE PROVIDERS
7 Estimated Volume 1000 Wibbls men THLy	
For NON-EXEMPT waste only, the following documentation is atta	ached (check appropriate items): RCRA Hazardous Waste Analysis (With Chain of Custody).
Other (Description)	
Generator certifies that, according to the Resource Conservation Agency's July 1988 regulatory determination, the above described	and Recovery Act (RCRA) and the Environmental Protection d waste is: (check appropriate classification)
EXEMPT oilfield waste.	NON-EXEMPT oilfield waste that is non-hazardous pursuant to 40 CFR Part 261. (Attach appropriate documentation)
In addition, Generator certifies that nothing has been added to thi waste does not contain Naturally Occurring Radioactive Material Subpart 1403.	s exempt or non-exempt non-hazardous waste and that this (NORM) regulated pursuant to 20 NMAC 3.1
Generator Signature: MI Kon Kon ACHALF OF	Ewilliams Date: 3-09-01
Print Name: MARK HARVEY	

Title: PROJECT COORDINATOR

QWAL LABORATORIES, INC.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0102592

1 1 1

SENT TO:	WILLIAMS GAS PIPELINE 187 COUNTY ROAD # 4980 BLOOMFIELD, NM 87413	•	DATE DĂŦE, DATE	REPORTED: COLLECTED: RECEIVED:	03/07/0 02/21/0 02/23/0
	JIM STRUHS (S			-	
PROUE	CI: WFS/WFD/ HURSE CDP		7 -		

Reference Fraction:0102592-01A Sample ID: WH-NE-WW-01 NON EXEMPT Sample Date Collected: 02/21/0110:40:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
PH	EPA 150.1	6.7	SU	· · · · · · · · · · · · · · · · · · ·	02/23/01	SLR
REACTIVE CYANIDE	SW846 SEC7	.3 <0.001	MG/L	0.001	03/01/01	KKL
REACTIVE SULFIDE-	SEC.7.3.4.	1 <0.05	MG-/L	0.05	03/01/01	MS2
METAL PREPARATION	EPA 3010IL	010226A			02/26/01	JH
SILVER, TOTAL	SW 846 601	0B <0.05	MG/L	0.05	02/27/01	ΧМ
ARSENIC, TOTAL	SW 846 601	0B 0.62	MG/L	0.05	02/27/01	ΧМ
EARIUM, TOTAL	SW 846 601	0B 1.321	MG/L	0.025	02/27/01	XM
CADMIUM, TOTAL	SW 846 601	0B <0.025	MG/L	0.025	02/27/01	ΧМ
CHROMIUM, TOTAL	SW 846 601	0B 0.06	MG/L	0.05	02/27/01	XM
MERCURY, TOTAL	SW 846 747	0 <0.0002	MG/L	0.0002	02/27/01	ΧМ
LEAD, TOTAL	SW 846 601	0B 0.15	MG/L	0.05	02/27/01	XM
SELENIUM, TOTAL	SW 846 601	0B 1.24	MG/L	0.05	02/27/01	ХM
TOTAL CHLORINE/HALOG	SW 846 902	OM 535.1	MG/L	5.0	03/01/01	MS2
TPH GRO	8015G/OA1	64000	UG/L	5000	02/28/01	MB
BTEX	OA1/8021B			3.0		
BENZENE		2950	UG/L	100	02/28/01	MB
TOLUENE		8180	UG/L	100	02/28/01	MB
ETHYLBENZENE		330	UG/L	100	02/28/01	MB
TOTAL XYLENES		4680	'UG/L	100	02/28/01	MB
BFB (SURROGATE)		89	125	75		
TPH	SW846-8015	AZ		0.3		
>C3 - C10		262	MG/L	10	03/03/01	BEM
>C10 - C22		869	MG/L	15	03/03/01	BEM
>C22 - C32		146	MG/L	25	03/03/01	BEM
TOTAL C6 - C32		1277	MG/L	50	03/03/01	BEM

ND=NONE DETECTED PQL=PRACTICAL QUANTITAION LIMIT SU=STANDARD UNITS B=DETECTED IN METHOD BLANK

APPROVED BY: KOESTER RRY RATORY DIRECTOR

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resource

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. KCKA Exempt.	4. Generator WFS
Verbal Approval Received: Yes No X Horse	5. Originating Site DOCSECANYON CDP
2. Management Facility Destination KEYDISPOSAL	6. Transporter Uen
3. Address of Facility Operator #345 CR3500 Azlec NM	8. State NM
7. Location of Material (Street Address or ULSTR) HOCKE CAWYON CDP UNITA, SCCZ7, TWN 30N, RNG94	2
9 Circle One	
All requests for approval to accept oilfield every twaster will be accompanied by	a continuation of waste from the Concenter
one certificate per job.	a certification of waste from the Generator,
All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste cla approved	cessary chemical analysis to PROVE the ssified hazardous by listing or testing will be
All transporters must certify the wastes delivered are only those consigned for transp	ort.
BRIEF DESCRIPTION OF MATERIAL:	
provoled water GENERAted by KOMOVAL	of Aqueous
	10,17V
	Ta 15 16 17 78 79 3
	TAT5 16 17 78 79 79
	MAR 2001
10,63	MAR 2001
100.63L	MAR 2001 CILCON. DIV DIST. 3
6.810	MAR 2001 RL. GILCON. DIV DIST. 3
Estimated Volume 1000 Montly cy Known Volume (to be entered by the ope	MAR 2001 Fit. CALCON. DIV DIST. 3 Atocautile end of the haul
Estimated Volume 1000 monthly cy Known Volume (to be entered by the ope	MAR 2001 RECONDIV DIST. 3 A To call the haulcy
Estimated Volume 1000 months cy Known Volume (to be entered by the open sign ATURE Mach. OTAT TITLE: Mach.	MAR 2001 Pit. Oil CON. DIV DIST. 3 Pato authle end of the haui DATE: 3-16-01
Estimated Volume <u>1000 month</u> cy Known Volume (to be entered by the open signature <u>Multa Management Facility Authorized Agent</u> TITLE: <u>Male</u>	MAR 2001 Fit. CAL CON. DIV DIST. 3 Atocautific end of the haulcy DATE: 3-16-01
Estimated Volume <u>1000 month</u> cy Known Volume (to be entered by the ope SIGNATURE <u>Multiple</u> TITLE: <u>Male</u> Waste Management Facility Authorized Agent TYPE OR PRINT NAME: <u>MICANNEL</u> TANAVICH	MAR 2001 H
Estimated Volume 1000 Months cy Known Volume (to be entered by the open SIGNATURE Multa Multa Multa Authorized Agent TYPE OR PRINT NAME: MICAHEL TOCOUCH TELE	MAR 2001 Pi OIL CON. DIV DIST. 3 DATE: 3-16-01 PHONE NO. 505-334-6186
Estimated Volume [1000 mon44] cy Known Volume (to be entered by the ope SIGNATURE Multiple Title: Male Microsoft TITLE: Male TYPE OR PRINT NAME: MICRAREL TALOUICE TELE	MAR 2001 Fil. CAL CON. DIV DIST. 3 DATE: 3-16-01 PHONE NO. 505-334-6186
Estimated Volume (1000 Montil) cy Known Volume (to be entered by the ope SIGNATURE <u>Multa Management Facility Authorized Agent</u> TITLE: <u>Mace</u> TYPE OR PRINT NAME: <u>MICH44eC TACOUICL</u> TELE	MAR 2001 Fil. CAL CON. DIV DIST. 3 Atoe authle end of the haul DATE: 3-16-01 PHONE NO. 505-334-6186
Estimated Volume 1000 montil cy Known Volume (to be entered by the ope SIGNATURE Management Facility Authorized Agent TYPE OR PRINT NAME: MICHAEL TACOUCH TELE (This space for State Use)	MAR 2001 File CAL CON. DIV DIST. 3 DATE: 3-16-01 PHONE NO. 505-334-6186
Estimated Volume <u>1000 month</u> cy Known Volume (to be entered by the ope SIGNATURE <u>Multiply Authorized Agent</u> TYPE OR PRINT NAME: <u>MICA/46</u> TACOUICL TELE (This space for State Use) APPROVED BY: J. M. M. TITLE: Geolog	MAR 2001 Fil. CALCON. DIV DIST. 3 A Total the send of the haui DATE: $3-16-21$ PHONE NO. $505-334-6186$ PHONE NO. $505-334-6186$

District I - (505) 393-6161 1625 NJFrench Dr Hobbs, NM 88240 District II - (505) 748-1283 811 S. First	New Mexico Inerals and Natural Resources 1 arts	Form C-143 3/15/00
Artesia, NM 88210 District III - (505) 334-6178 1000 Rio Brazos Road Aztec, NM 87410 <u>District IV</u> - (505) 827-7131 2040 S. Pacheco Santa Fe, NM 87505	2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131	Submit to OCD Permitted Surface Waste Management Facility
GENERA	TOR CERTIFICATE OF WASTE ST	ATUS
1. Waste Generator Name and Address: WILLIAMS 187 C.R. 4980 BROMERICA NM 87413	2.Permit Number (if was	te generated at an OCD permitted facility)
2 Description of Waste and Concreting P	recession of Master (C	tract odderes 8 (set U CTD)
Bablus (a list in Generaling P	Hoose CANNER (S	treet address &/or ULSTR): $\sim \langle c \rangle$
GENERATED BY THE REMOVA OF ARMEDUS LIRKIDS FROM NATURAL GAS	HL UNIT A SEC 2 LONGITUDE = - LATITUDE :	7, TWN 30N, RNG 9W 107.759933 36.787046.
na an a	HWY 173 APPR	DX. 14 MILES.
REY DIFFORAL PERERCY OR OTHER NMOCO PERMIT 7. Estimated Volume <u>1000</u> (bbls m	ONTHLY E MARINE SI	A SERVICE PROVIDERS
For NON-EXEMPT waste only, the following	ng documentation is attached (check appropriate ite	ms): A station motion of
MSDS Information	RCRA Hazardous Waste Ar	nalysis (With Chain of Custody).
Other (Description)		
Generator certifies that, according to the R Agency's July 1988 regulatory determination	esource Conservation and Recovery Act (RCRA) a on, the above described waste is: (check appropriat	nd the Environmental Protection e classification)
EXEMPT oilfield wa	aste NON-EXEMPT oilfield pursuant to 40 CFR Part 20 doc	waste that is non-hazardous 51. (Attach appropriate umentation)
In addition, Generator certifies that nothing waste does not contain Naturally Occurring Subpart 1403.	has been added to this exempt or non-exempt non g Radioactive Material (NORM) regulated pursuant t	-hazardous waste and that this o 20 NMAC 3.1
Generator Signature:	Date:	3-09-01
Print Name: <u>MARK HARVEY</u>		
Title: PROJECT COORDINATOR	· · · · · · · · · · · · · · · · · · ·	

QWAL LABORATORIES, INC.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

<u>نه</u> .

REFERENCE #: 0102592

DATE REPORTED: 03/07/01 DATE COLLECTED: 02/20/01 DATE RECEIVED: 02/23/01

SENT	WILI	LIAMS	GAS	PIF	EI	INE
TO :	187	COUNT	CY R	OAD	#	4980
	BLOO	OMFIEI	ЪD,	NM	87	413
	JIM	STRU	IS \{	s		
PROJEC	CT: V	VFS/₩	HB	HORS	E Yo	CDP N

Reference Fraction:0102592-02A Sample ID: WH-WW-01 EXEMPT WASTEWATER Sample Date Collected: 02/20/0114:27:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
РН	EPA 150.1	7.4	SU		02/23/01	SLR
REACTIVE CYANIDE	SW846 SEC7.	3 <0.001	MG/L	0.001	03/01/01	KKL
REACTIVE SULFIDE	SEC.7.3.4.1	<0.05	MG/L	0.05	03/01/01	MS2
METAL PREPARATION	EPA 3010ILC	10226A			02/26/01	$_{\rm JH}$
SILVER, TOTAL	SW 846 6010	B <0.05	MG/L	0.05	02/27/01	XM
ARSENIC, TOTAL	SW 846 6010	B 0.0445	MG/L	0.05	02/27/01	XM
EARIUM, TOTAL	SW 846 6010	B <0.025	MG/L	0.025	02/27/01	XM
C'ADMIUM, TOTAL	SW 846 6010	B <0.025	MG/L	0.025	02/27/01	XM
CHROMIUM, TOTAL	SW 846 6010	B <0.05	MG/L	0.05	02/27/01	XM
MERCURY, TOTAL	SW 846 7470	0.0128	MG/L	0.0002	02/27/01	XM
LEAD, TOTAL	SW 846 6010	B 0.0475	MG/L	0.05	02/27/01	XM
SELENIUM, TOTAL	SW 846 6010	B 0.065	MG/L	0.05	02/27/01	XM
TOTAL CHLORINE/HALOG	SW 846 9020	M 5.1	MG/L	5.0	03/01/01	MS2
TPH GRO	8015G/OA1	888000	UG/L	5000	02/28/01	MB
BTEX	OA1/8021B			3.0		
BENZENE	·	4790	UG/L	100	02/28/01	MB
TOLUENE		9100	UG/L	100	02/28/01	MB
ETHYLBENZENE		2550	UG/L	100	02/28/01	MB
TOTAL XYLENES		20700	UG/L	100	02/28/01	MB
BFB (SURROGATE)		92	125	75		
TPH	SW846-8015A	Z		0.3		
>C3 - C10		129	MG/L	10	03/03/01	BEM
>C10 - C22		20	MG/L	15	03/03/01	BEM
>C22 - C32		41	MG/L	25	03/03/01	BEM
TOTAL C6 - C32		190	MG/L	50	03/03/01	BEM

ND=NONE DETECTED PQL=PRACTICAL QUANTITAION LIMIT SU=STANDARD UNITS B=DETECTED'IN METHOD BLANK

APPROVED BY: ERRÝ KOESTER BORATORY DIRECTOR

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV District IV 2040 South I

State of New Mexico Energy Minerals and Natural Resour

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

Submit Original Plus 1 Copy to Appropriate District Office

...

District IV 2040 South Pacheco, Santa Fe, NM 87505	to Appropriate District Office
REQUEST FOR APPROVAL TO ACCEPT S	SOLID WASTE
1. RCRA Exempt: Non-Exempt:	4. Generator Williams
Verbal Approval Received: Yes 🕅 No 🗍	5. Originating Site LA MAQ VINSA Plant
2. Management Facility Destination KEYENERBY DISPOSAC	6. Transporter
3. Address of Facility Operator #345 CR 3500 AZtec NM	8. State NM
3.8 miles EAST ON C2 2770 7. Location of Material (Street Address or ULSTR) Aztec, NM	
 9. <u>Circle One</u>: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by nec material is not-hazardous and the Generator's certification of origin. No waste class approved All transporters must certify the wastes delivered are only those consigned for transport 	a certification of waste from the Generator; cessary chemical analysis to PROVE the sified hazardous by listing or testing will be
BRIEF DESCRIPTION OF MATERIAL: DI WAter miged with Aminie Teret RAIN WATER	HYLOWE GLYCOL AND
Estimated Volume Z000 6615 cy Known Volume (to be entered by the oper	ator at the end of the haul

SIGNATURE Management Facility Authorized Agent TITLE: MOR	DATE: 2-2/-01
TYPE OR PRINT NAME: MICHAEL TALOUICA TELEPHONE NO.	505-334-6186
(This space for State Use) APPROVED BY: Dury Tour TITLE: (-eologist APPROVED BY: S, TITLE: Did Jum	DATE: 2/22/0, DATE: 2/22/0,

CERTIFICATE OF WASTE STATUS

ĩ.

.

1 Conceptor Name and Address:
L. Destination Name:
WILLIAM'S ENERGY SENTIOUS
KEY ENERGY LISPOSAL
M2 0K 4100 Burning 0, MM, \$7413
3. Originating Site (name): Location of the Waste (Street address &/or ULSTR):
11 June FileRIH SERVICES
LA MARTINIA PRAIT
LA MAQUINA I VANT
Attach list of originating sites as appropriate 3, & MILES EAST CR 2770
4. Source and Description of Waste
90% DI WATER
tor AngulF
STO FUNITION
STATETHYLERE CUER
I. <u>HARLES IEMPLETON</u> representative for:
WILLIAMS FNER SERVICES do hereby certify that according
to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory
to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification)
to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification)
WILLIAMS EVERLY SERVICES do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification)
WILLIAMS EVERY SERVICES do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification)
WILLIAMS WERLY SERVICES do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification) EXEMPT oilfield waste NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.
WILLIAMS EVERY SERVICES do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification) EXEMPT oilfield wasteNON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.
<u>WUMAMS WERE SERVICES</u> do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification) <u>EXEMPT</u> oilfield waste <u>NON-EXEMPT</u> oilfield waste which is non-hazardous by characteristic analysis or by product identification and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.
do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification) EXEMPT oiffield waste NON-EXEMPT oiffield waste which is non-hazardous by characteristic analysis or by product identification and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above. MSDS Information Other (description): MSDS Information Other (description): RCRA Hazardous Waste Analysis Other (description): Chain of Custody Name (Original Signature) T Title: MEXATOR T

.

1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
20. ma +

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ate c New Mexico inerais and Natural Resour Energy

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

Submit Original Plus 1 Copy

District IV 2040 South Pacheco, Santa Fe, NM 87505	to Appropriate District Office
REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: 🔲 Non-Exempt: 🔀	4. Generator VINWATERS + Rogers
Verbal Approval Received: Yes No 🗙	5. Originating Site
2. Management Facility Destination KEY DISPOSAL	6. Transporter dez
3. Address of Facility Operator #345 C-23500 AZtec NM	8. State WM
7. Location of Material (Street Address or ULSTR) #15 CR 5860 FURSH (NGTON, NM 8740)	
9. <u>Circle One</u> :	
 A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by neumaterial is not-hazardous and the Generator's certification of origin. No waste class approved 	a certification of waste from the Generator; cessary chemical analysis to PROVE the sified hazardous by listing or testing will be
All transporters must certify the wastes delivered are only those consigned for transpo	ort.
BRIEF DESCRIPTION OF MATERIAL:	
FEB 2001 FEB 2001 FEB 2001 OL CON. DRV DIST. 3 VIII 6 8 L9 State Known Volume (to be entered by the oper	FEO RONT
SIGNATURE Management Facility Authorized Agent TITLE: Mice	DATE: 2-14-01
TYPE OR PRINT NAME: MICHAEL TALOWICH TELEP	HONE NO. 505-334-6184
APPROVED BY: Deny Tom TITLE: Geolog	15 DATE: 2/15/0/
APPROVED BY: Martin Ary. TITLE: Env. ronm	In Crologst DATE: 2/17/01

District I	
1625 N. Frenc	h Dr., Hobbs, NM 88240
District II	
\$11 South Fir	st, Artesia, NM 88210
Sistrict III	
1000 Rio Braz	zos Road, Aztec, NM 87410
District IV	_
2010 0 11 0	1 . 0 . 5

State of New Mexico Energy Minerals and Natural Resource Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

2040 South Pacheco, Santa Fe, NM 87505	District Óffice
REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
I. RCRA Exempt: Non-Exempt: 🔀	4. Generator VINWATERS + Rogers
Verbal Approval Received: Yes No X	5. Originating Site VAR O
2. Management Facility Destination KEY DISPOSAL	6. Transporter
3. Address of Facility Operator #345 C23500 AZTEC NM	8. State Nu
7. Location of Material (Street Address or ULSTR) #15 CR 5860 Full Material (Street Address or ULSTR)	
9. <u>Circle One</u> :	
 A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste class approved 	a certification of waste from the Generator; cessary chemical analysis to PROVE the ssified hazardous by listing or testing will be
All transporters must certify the wastes delivered are only those consigned for transpo	ort.
BRIEF DESCRIPTION OF MATERIAL:	· · ·
	FEB 2001 FECEIVED OLCOM. DW DIST. 3
Estimated Volume <u>SCIUS</u> cy Known Volume (to be entered by the open	rator at the end of the hau!cy
SIGNATURE Management Facility Authorized Agent	DATE: 2-14-01
TYPE OR PRINT NAME: MICHAEL TOPLOVICAL TELE	PHONE NO. 505-334-618
APPROVED BY: Demy Fant TITLE: Geolog	(3) DATE: 2/15/01
APPROVED BY: TITLE:	DATE:

Hobbs, NM 88240 3/15/00 erals and Natural Resources De, Energy nent District 11 - (505) 748-1283 811 S. First Oil Conservation Division Artes 6, NM 88210 2040 South Pacheco Street Submit to OCD District III - (505) 334-6178 1000 Rio Brazos Road Santa Fe, New Mexico 87505 Permitted Surface Aztec: NM 87410 District IV - (505) 827-7131 (505) 827-7131 Waste Management 2040 S. Pacheco Facility Santa Fe, NM 87505 GENERATOR CERTIFICATE OF WASTE STATUS 1. Waste Generator Name and Address: 2.Permit Number (if waste generated at an OCD VAN WATERS & NUGERS permitted (acility) Van WALEIS & Rogers 0 15 CR 5860 Forminister Nm 87401 3. Description of Waste and Generating Process: 4. Location of Waste (Street address &/or ULSTR): 5000 GAI OF RAIN WATER TANK FARM Pit mixed with 100 GAI OF Ethylen . GLYCOL 5. Destination (Surface Waste Management Facility): 6. Transporter: KEYERERGY DISPOSAL 7. Estimated Volume CV/bbls For NON-EXEMPT waste only, the following documentation is attached (check appropriate items): MSDS Information RCRA Hazardous Waste Analysis (With Chain of Custody). Other (Description) Generator certifies that, according to the Resource Conservation and Recovery Act (RCRA) and the Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (check appropriate classification) NON-EXEMPT oilfield waste that is non-hazardous pursuant to 40 CFR Part 261. (Attach appropriate EXEMPT oilfield waste. documentation) In addition, Generator certifies that nothing has been added to this exempt or non-exempt non-hazardous waste and that this waste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403. Generator Signature: Santana Print Name: Lowrence Lowg Title: Lead Man Date: 2-14-01

New Mexico

Form C-143

(Matrict I - (505) 393-6161

1625 N. French Dr

REPORT NUMBER: 971	VAN WATERS & ROGERS INC.
MSDS NO: DZ30478	MATERIAL SAFETY DATA SHEET
MAINFRAME UPLOAD DATE:	12/19/00

PAGE: 001

.

PRODUCT: ETHYLENE GLYCOL

,

ORDER NO: PROD NO :

)

VAN WATERS & ROGERS INC. , A ROYAL VOPAK COMPANY (425)889-3400 6100 CARILLON POINT , KIRKLAND , WA 98033 ----- EMERGENCY ASSISTANCE -----FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL - CHEMTREC (800)424-9300

PRODUCT NAME: ETHYLENE GLYCOL

MSDS **#**: DZ30478

EFFECTIVE DATE: 4/17/00

ISSUED BY: 008360

Synonyms: Van Glycol CP 2000

2. COMPOSITION/INFORMATION ON INGREDIENTS

ETHYLENE GLYCOL

CAS**#** 000107-21-1 >99%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

**********	Ŕ.
* COLORLESS. VISCOUS LIQUID. SLIGHT ODOR. MAY BE FATAL IF	÷
* SWALLOWED. TOXIC FUMES ARE RELEASED IN FIRE SITUATIONS.	¥
* SLIPPING HAZARD.	ż
*******	*
POTENTIAL HEALTH EFFECTS (SEE SECTION 11 FOR TOXICOLOGICAL DATA.)	

EYE: MAY CAUSE SLIGHT TRANSIENT (TEMPORARY) EYE IRRITATION.

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REPORT NUMBER: 971 VAN WATERS & ROGERS INC. MSDS NO: DZ30478 MATERIAL SAFETY DATA SHEET MAINFRAME UPLOAD DATE: 12/19/00

PAGE: 002

PRODUCT: ETHYLENE GLYCOL

ORDER NO: PROD NO :

CORNEAL INJURY IS UNLIKELY. VAPORS OR MISTS MAY CAUSE EYE IRRITATION.

- SKIN: ESSENTIALLY NONIRRITATING TO SKIN. REPEATED SKIN EXPOSURE TO LARGE QUANTITIES MAY RESULT IN ABSORPTION OF HARMFUL AMOUNTS. MASSIVE CONTACT WITH DAMAGED SKIN OR OF MATERIAL SUFFICIENTLY HOT TO BURN SKIN MAY RESULT IN ABSORPTION OF POTENTIALLY LETHAL AMOUNTS.
- INGESTION: SINGLE DOSE ORAL TOXICITY IS CONSIDERED TO BE MODERATE. EXCESSIVE EXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, CARDIOPULMONARY EFFECTS (METABOLIC ACIDOSIS), AND KIDNEY FAILURE. SMALL AMOUNTS SWALLOWED INCIDENTAL TO NORMAL HANDLING OPERATIONS ARE NOT LIKELY TO CAUSE INJURY; HOWEVER, SWALLOWING AMOUNTS LARGER THAN THAT MAY CAUSE SERIOUS INJURY, EVEN DEATH.
- INHALATION: AT ROOM TEMPERATURE, EXPOSURES TO VAPORS ARE MINIMAL DUE TO PHYSICAL PROPERTIES; HIGHER TEMPERATURES MAY GENERATE VAPOR LEVELS SUFFICIENT TO CAUSE ADVERSE EFFECTS.
- SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: EXCESSIVE EXPOSURE MAY CAUSE IRRITATION TO UPPER RESPIRATORY TRACT. OBSERVATIONS IN ANIMALS INCLUDE KIDNEY AND LIVER EFFECTS AND DEPOSITION OF CALCIUM SALTS IN VARIOUS TISSUES AFTER LONG-TERM DIETARY INTAKE OF ETHYLENE GLYCOL.
- CANCER INFORMATION: ETHYLENE GLYCOL DID NOT CAUSE CANCER IN LONG-TERM ANIMAL STUDIES.
- TERATOLOGY (BIRTH DEFECTS): BASED ON ANIMAL STUDIES, INGESTION OF VERY LARGE AMOUNTS OF ETHYLENE GLYCOL APPEARS TO BE THE MAJOR AND POSSIBLY ONLY ROUTE OF EXPOSURE TO PRODUCE BIRTH DEFECTS. EXPOSURES BY INHALATION (TESTED NOSE-ONLY IN ANIMALS TO PREVENT INGESTION) OR SKIN CONTACT, THE PRIMARY ROUTES OF OCCUPATIONAL EXPOSURE, HAD MINIMAL OR ESSENTIALLY NO EFFECT ON THE FETUS.
- REPRODUCTIVE EFFECTS: INGESTION OF LARGE AMOUNTS OF ETHYLENE GLYCOL HAS BEEN SHOWN TO INTERFERE WITH REPRODUCTION IN ANIMALS. SPECIFICALLY, GROWTH RETARDATION AND DECREASED LITTER SIZE IN RATS AND MICE AND MATING FREQUENCY IN MICE WERE ABOSERVED.

4, FIRST AID

EYE: FLUSH EYES WITH PLENTY OF WATER.

SKIN: WASH OFF IN FLOWING WATER.

REPORT NUMBER: 971

VAN WATERS & ROGERS INC.

!

MAINFRAME UPLOAD DATE: 12/19/00

VERSION: 005

PRODUCT: ETHYLENE GLYCOL

ORDER NO: PROD NO :

INGESTION: IF SWALLOWED, INDUCE VOMITING IMMEDIATELY AS DIRECTED BY MEDICAL PERSONNEL. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIDUS PERSON. CONSULT MEDICAL PERSONNEL.

INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT A PHYSICIAN.

NOTE TO PHYSICIAN: EARLY ADMINISTRATION OF ETHANOL MAY COUNTER THE TOXIC EFFECTS OF EHTYLENE GLYCOL -- METABOLIC ACIDOSIS AND RENAL DAMAGE. HEMODIALYSIS OR PERITONEAL DIALYSIS HAVE BEEN OF BENEFIT. NEW ENG. J. MED. 304:21 1981. SUPPORTIVE CARE. TREATMENT BASED ON JUDGEMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATIENT.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES FLASH POINT: 247F, 119C METHOD USED: SETAFLASH AUTOIGNITION TEMPERATURE: AUTOIGNITION TEMPERATURE FOR ETHYLENE GLYCOL IS 748F, 398C.

FLAMMABILITY LIMITS

LFL: 3.2%

UFL: NOT DETERMINED.

- HAZARDOUS COMBUSTION PRODUCTS: DURING A FIRE, SMOKE MAY CONTAIN THE ORIGINAL MATERIAL IN ADDITION TO UNIDENTIFIED TOXIC AND/OR IRRITATING COMPOUNDS. HAZARDOUS COMBUSTION PRODUCTS MAY INCLUDE AND ARE NOT LIMITED TO: CARBON MONOXIDE, CARBON DIOXIDE. HAZARDOUS COMBUSTION PRODUCTS MAY INCLUDE TRACE AMOUNTS OF: ALDEHYDES, ORGANIC ACIDS.
- OTHER FLAMMABILTIY INFORMATION: VIOLENT STEAM GENERATION OR ERUPTION MAY OCCUR UPON APPLICATION OF DIRECT WATER STREAM. FLAMMABLE CONCENTRATION OF VAPOR CAN ACCUMULATE AT TEMPERATURES ABOVE 247.0 DEG. F. SPILLS OF THESE ORGANIC LIQUIDS ON HOT FIBROUS INSULATIONS MAY LEAD TO LOWERING OF THE AUTOIGNITION TEMPERATURES POSSIBLY RESULTING IN SPONTANEOUS COMBUSTION.

EXTINGUISHING MEDIA: WATER FOG OR FINE SPRAY, CARBON DIOXIDE, DRY CHEMICAL, FOAM. ALCOHOL RESISTANT FOAMS (ATC TYPE) ARE ARE PREFERRED IF AVAILABLE. GENERAL PURPOSE SYNTHETIC FOAMS (INCLUDING AFFF) OR PROTEIN FOAMS MAY FUNCTION, BUT MUCH LESS EFFECTIVELY. DO NOT USE DIRECT WATER STREAM. WILL SPREAD FIRE.

MEDIA TO BE AVOIDED: DO NOT USE DIRECT WATER STREAM.

ORDER NO: PROD NO :

- FIRE FIGHTING INSTRUCTIONS: KEEP PEOPLE AWAY. ISOLATE FIRE AND DENY UNNECESSARY ENTRY. BURNING LIQUIDS MAY BE MOVED BY FLUSHING WITH WATER TO PROTECT PERSONNEL AND MINIMIZE PROPERTY DAMAGE. BURNING LIQUIDS MAY BE EXTINGUISHED BY DILUTION WITH WATER. DO NOT USE DIRECT WATER STREAM. MAY SPREAD FIRE.
- PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: WEAR POSITIVE-PRESSURE, SELF-CONTAINED BREATHING APPARATUS (SCBA) AND PROTECTIVE FIRE FIGHTING CLOTHING (INCLUDES FIRE-FIGHTING HELMET, COAT, PANTS, BOOTS AND GLOVES). IF PROTECTIVE EQUIPMENT IS NOT AVAILABLE OR NOT USED, FIGHT FIRE FROM A PROTECTED LOCATION OR SAFE DISTANCE.
- 6, ACCIDENTAL RELEASE MEASURES (SEE SECTION 15 FOR REGULATORY

INFORMATION)

PROTECT PEOPLE: CLEAR NON-EMERGENCY PERSONWEL FROM AREA.

PROTECT THE ENVIRONMENT: CONTAIN MATERIAL TO PREVENT CONTAMI-NATION OF SOIL, SURFACE WATER OR GROUND WATER.

CLEANUP: SMALL SPILLS: ABSORB WITH MATERIALS SUCH AS: CAT LITTER, SAND, SAWDUST, VERMICLITE AND ZORB-ALL(R) OR HAZORB(R). LARGE SPILLS: DIKE AND PUMP INTO SUITABLE AND PROPERLY LABELED CONTAINERS.

7. HANDLING AND STORAGE

PRODUCT: ETHYLENE GLYCOL

HANDLING: ACCUMULATION OF THIS PRODUCT ON SURFACES CAN CAUSE SLIPPERY CONDITIONS WHEN WET.

STORAGE: KEEP OUT OF REACH OF CHILDREN. PRODUCT MAY BECOME A SOLID AT TEMPERATURES BELOW 8F, -13C. DO NOT STORE NEAR FOOD, FOODSTUFFS, DRUGS OR POTABLE WATER SUPPLIES. FOR MORE STORAGE AND HANDLING INFORMATION REFER TO BULLENTIN TITLED 'A GUIDE TO GLYCOLS'.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: PROVIDE GENERAL AND/OR LOCAL EXHAUST VENTILATION TO CONTROL AIRBORNE LEVELS BELOW THE EXPOSURE GUIDELINES. LOCAL EXHAUST VENTILATION MAY BE NECESSARY FOR SOME OPERATIONS.

PERSONAL PROTECTIVE EQUIPMENT

PAGE: 005

EYE PROTECTION: USE SAFETY GLASSES. IF VAPOR EXPOSURE CAUSES EYE DISCOMFORT, USE A FULL-FACE RESPIRATOR.

- SKIN PROTECTION: WHEN PROLONGED OR FREQUENTLY REPEATED CONTACT COULD OCCUR, USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS, APRON OR FULL-BODY SUIT WILL DEPEND ON OPERATION.
- RESPIRATORY PROTECTION: ATMOSPHERIC LEVELS SHOULD BE MAINTAINED BELOW THE EXPOSURE GUIDELINE. FOR MOST CONDITIONS, NO RESPIRATORY PROTECTION SHOULD BE NEEDED; HOWEVER, IF MATERIAL IS HEATED OR SPRAYED, USE AN APPROVED AIR-PURIFYING RESPIRATOR.
- EXPOSURE GUIDELINE(S): ETHYLENE GLYCOL: ACGIH TLV IS 100 MG/M3, CEILING, A4. OSHA PEL IS 50 PPM CEILING. PELS ARE IN ACCORD WITH THOSE RECOMMENDED BY OSHA, AS IN THE 1989 REVISION OF PELS.
- 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: COLORLESS LIQUID. ODOR: SLIGHT VAPOR PRESSURE: 0.12 MMHG @ 25C VAPOR DENSITY: 2.14 BOILING POINT: 387.1F 197C SOLUBILITY IN WATER: COMPLETELY MISCIBLE. SPECIFIC GRAVITY: 1.1155 @ 20/20C

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: STABLE UNDER RECOMMENDED STORAGE CONDITIONS. SEE STORAGE SECTION. THERMALLY STABLE AT TYPICAL USE TEMPERATURES.

CONDITIONS TO AVOID: AVOID TEMPERATURES BELOW 8F, -13C. AVOID TEMPERATURES ABOVE 775F, 413C. PRODUCT CAN DECOMPOSE AT ELEVATED TEMPERATURES.

- INCOMPATIBILITY WITH OTHER MATERIALS: AVOID CONTACT WITH OXIDIZING MATERIALS SUCH AS NITRIC ACID. AVOID CONTACT WITH ACIDS, BASES, STRONG ACIDS, STRONG BASES, STRONG OXIDIZERS.
- HAZARDOUS DECOMPOSITION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS DEPEND UPON TEMPERATURE, AIR SUPPLY AND THE PRESENCE OF OTHER MATERIALS.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

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PRODUCT: ETHYLENE GLYCOL

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11. TOXICOLOGICAL INFORMATION (SEE SECTION 3 FOR POTENTIAL HEALTH

EFFECTS. FOR DETAILED TOXICOLOGICAL DATA, WRITE OR CALL THE

ADDRESS OR NON-EMERGENCY NUMBER SHOWN IN SECTION 1)

SKIN: THE DERMAL LD50 HAS NOT BEEN DETERMINED.

- INGESTION: THE LETHAL DOSE IN HUMANS IS ESTIMATED TO BE 30Z. OR 100ML. THE ORAL LD50 FOR RATS IS BETWEEN 6000-13,000 MG/KG.
- MUTAGENICITY (THE EFFECTS ON GENETIC MATERIAL): IN VITRO MUTAGENICITY STUDIES WERE NEGATIVE. ANIMAL MUTAGENICITY STUDIES WERE NEGATIVE.
- 12. ECOLOGICAL INFORMATION (FOR DETAILED ECOLOGICAL DATA, WRITE OR CALL

THE ADDRESS OR NON-EMERGENCY NUMBER SHOWN IN SECTION 1)

ENVIRONMENTAL FATE

- MOVEMENT & PARTITIONING: BIOCONCENTRATION POTENTIAL IS LOW (BCF LESS THAN 100 OR LOG KOW LESS THAN 3). LOG OCTANOL/WATER PARTITION COEFFICIENT (LOG KOW) IS -1.36. HENRY'S LAW CONSTANT (H) IS 6.0E-08 ATM-M3/MOL. BIDCONCENTRATION FACTER (BCF) IS 10 IN GOLDEN ORFE.
- DEGRADATION & TRANSFORMATION: BIODEGRADATION UNDER AEROBIC STATIC LABORATORY CONDITIONS IS HIGH (BOD20 OR BOD28/THOD GREATER THAN 40%). 5-DAY BIOCHEMICAL OXYGEN DEMAND (BOD5) IS 0.78 P/P. 10-DAY BIOCHEMICAL OXYGEN DEMAND (BOD10) IS 1.06 P/P. 20-DAY BIOCHEMICAL OXYGEN DEMAND (BOD20) IS 1.15 P/P. THEORETICAL OXYGEN DEMAND (BOD20) IS 1.15 P/P. THEORETICAL OXYGEN DEMAND (HOD) IS CALCULATED TO BE 1.29 P/P. BIODEGRADATION MAY OCCUR UNDER BOTH AEROBIC AND ANAEROBIC CONDITIONS (IN EITHER THE PRESENCE OR ABSENCE OF 0XYGEN). INHIBITORY CONCENTRATION (IC50) IN OECD "ACTIVATED SLUDGE, RESPIRATION INHIBITION TEST" (GUIDELINE ‡ 209) IS < 1000 MG/L. DEGRADATION IS EXPECTED IN THE ATMOSPHERIC ENVIRONMENT WITHIN DAYS TO WEEKS.
- ECOTOXICOLOGY: MATERIAL IS PRACTICALLY NON-TOXIC TO AQUATIC ORGANISMS ON AN ACUTE BASIS (LC50 GREATER THAN 100 MG/L IN MOST SENSITIVE SPECIES). ACUTE LC50 FOR FATHEAD MINNOW (PIMEPHALES PROMELAS) IS 51000 MG/L. ACUTE LC50 FOR BLUEGILL (LEPOMIS MACROCHIRUS) IS 27549 MG/L. ACUTE LC50 FOR RAINBOW TROUT (ONCORHYNCHUS MYKISS) IS ABOUT 18000-46000 MG/L. ACUTE LC50 FOR GUPPY (POECILIA RETICULATA) IS 49300 MG/L. ACUTE LC50 FOR

REPORT NUMBER: 971VAN WATERS & ROGERS INC.PAGE: 007MSDS NO: DZ30478MATERIAL SAFETY DATA SHEETMATERIAL SAFETY DATA SHEETMAINFRAME UPLOAD DATE: 12/19/00VERSION: 005

PRODUCT: ETHYLENE GLYCOL

ORDER NO: PROD NO : WATER FLEA (DAPHNIA MAGNA) IS 46300-51100 MG/L. ACUTE LC50 FOR THE CLADDCERAN CERIODAPHNIA DUBIA IS 10000-25800 MG/L. ACUTE LC50 FOR CRAYFISH IS 91430 MG/L. ACUTE LC50 FOR BRINE SHRIMP (ARTEMIA SALINA) IS 20000 MG/L. ACUTE LC50 FOR GOLDEN ORFE (LEUCISCUS IDUS) IS GREATER THAN 10000 MG/L. ACUTE LC50 FOR GOLDFISH (CARASSIUS AURATUS) IS GREATER THAN 5000 MG/L. GROWTH INHIBITION EC50 FOR GREEN ALGA SELENASTRUM CAPRICORNUTUM IS 9500-13000 MG/L.

13. DISPOSAL CONSIDERATIONS (SEE SECTION 15 FOR REGULATORY INFORMATION)

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. ALL DISPOSAL METHODS MUST BE IN COMPLIANCE WITH ALL FEDERAL, STATE/PROVINCIAL AND LOCAL LAWS AND REGULATIONS. REGULATIONS MAY VARY IN DIFFERENT LOCATIONS. WASTE CHARACTER-IZATIONS AND COMPLIANCE WITH APPLICABLE LAWS ARE THE RESPONSI-BILITY SOLELY OF THE WASTE GENERATOR. THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (COMPOSITION/INFORMATION ON INGREDIENTS).

FOR UNUSED & UNCONTAMINATED PRODUCT, THE PREFERRED OPTIONS INCLUDE SENDING TO A LICENSED, PERMITTED: INCINERATOR OR OTHER THERMAL DESTRUCTION DEVICE.

AS A SERVICE TO ITS CUSTOMERS, DOW CAN PROVIDE NAMES OF INFORMATION RESOURCES TO HELP IDENTIFY WASTE MANAGEMENT COMPANIES AND OTHER FACILITIES WHICH RECYCLE, REPROCESS OR MANAGE CHEMICALS OR PLASTICS, AND THAT MANAGE USED DRUMS. TELEPHONE DOW'S CUSTOMER INFORMATION CENTER AT 800-258-2436 OR 517-832-1556 FOR FURTHER DETAILS.

14. TRANSPORT INFORMATION

CANADIAN TDG INFORMATION: FOR TDG REGULATORY INFORMATION, IF REQUIRED, CONSULT TRANSPORTATION REGULATIONS, PRODUCT SHIPPING PAPERS OR YOUR DOW REPRESENTATIVE.

FOR DOT REGULATORY INFORMATION, IF REQUIRED, CONSULT TRANSPORTATION REGULATIONS, PRODUCT SHIPPING PAPERS, OR YOUR DOW REPRESENTATIVE.

15. REGULATORY INFORMATION (NOT MEANT TO BE ALL-INCLUSIVE--SELECTED

REGULATIONS REPRESENTED)

NOTICE: THE INFORMATION HEREIN IS PRESENTED IN GOOD FAITH AND

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PRODUCT: ETHYLENE GLYCOL

ORDER NO: PROD NO : NO WARRANTY, EXPRESS OR IMPLIED IS GIVEN. REGULATORY REQUIREMENTS ARE SUBJECT TO CHANGE AND MAY DIFFER FROM ONE LOCATION TO ANOTHER; IT IS THE BUYER'S RESPONSIBILITY TO ENSURE THAT ITS ACTIVITIES COMPLY WITH FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS. THE FOLLOWING SPECIFIC INFORMATION IS MADE FOR THE PURPOSE OF COMPLYING WITH NUMEROUS FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS AND REGULATIONS. SEE OTHER SECTIONS FOR HEALTH AND SAFETY INFORMATION.

SARA 313 INFORMATION: THIS PRODUCT CONTAINS THE FOLLOWING SUBSTANCES SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372:

CHEMICAL N	IAME	CAS	NUMBER	CONCENTRATION	
ETHYLENE G	LYCOL	0001	07-21-1	99	%

SARA HAZARD CATEGORY: THIS PRODUCT HAS BEEN REVIEWED ACCORDING TO THE EPA "HAZARD CATEGORIES" PROMULGATED UNDER SECTIONS 311 AND 312 OF THE SUPERFUND AMENDMENT AND REAUTHORIZATION ACT OF 1986 (SARA TITLE III) AND IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO MEET THE FOLLOWING CATEGORIES:

AN IMMEDIATE HEALTH HAZARD A DELAYED HEALTH HAZARD

.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

ALL INGREDIENTS ARE ON THE TSCA INVENTORY OR ARE NOT REQUIRED TO BE LISTED ON THE TSCA INVENTORY.

STATE RIGHT-TO-KNOW: THE FOLLOWING PRODUCT COMPONENTS ARE CITED ON CERTAIN STATE LISTS AS MENTIONED, NON-LISTED COMPONENTS MAY BE SHOWN IN THE COMPOSITION SECTION OF THE MSDS.

CHEMICAL	NAME	CAS NUMBER	LIST
ETHYLENE	GLYCOL	000107-21-1	NJ3 PA1 PA3
			N.12

REPORT NUMBER: 971 MSDS NO: DZ30478 MATNERAME UPLOAD DATE:	VAN WATERS & ROGERS INC. MATERIAL SAFETY DATA SHEET	PAGE:	009	
PRODUCT: ETHYLENE GLYC	:0L	VENJION,	000	

ORDER NO: PROD NO :

NJ2=NEW JERSEY ENVIRONMENTAL HAZARDOUS SUBSTANCE (PRESENT AT GREATER

OR EQUAL TO 1.0%). PA1=PENNSYLVANIA HAZARDOUS TO 1.0%). PA3=PENNSYLVANIA ENVIRONME THAN OR EQUAL TO 1.0%)	SUBSTANCE (PRESENT NTAL HAZARDOUS SUBS '	TAT GREAT	AT GREAT ER THAN ESENT AT	ER THAN OR EQUAL GREATER	
 OSHA HAZARD COMMUNICATION	STANDARD:	** ****			
THIS PRODUCT IS A "HAZARDO COMMUNICATION STANDARD, 29	US CHEMICAL" AS DEF CFR 1910.1200.	INED BY T	HE OSHA	HAZARD	
COMPREHENSIVE ENVIRONMENTA (CERCLA, OR SUPERFUND):	L RESPONSE COMPENSA	TION AND	LIABILIT	Y ACT	
THIS PRODUCT CONTAINS THE	FOLLOWING SUBSTANCE	(S) LISTE	D AS "HA	ZARDOUS	
CATEGORY: CHEMICAL NAME	CAS#	RQ	r KELEHD % IN PRO	DUCT	
ETHYLENE GLYCOL	000107-21-1	 5000 LBS	 > 99	 X	
	an an an				
CANADIAN REGULATIONS					
WHMIS INFORMATION: THE CAN INFORMATION SYSTEM (WHMIS)	ADIAN WORKPLACE HAZ CLASSIFICATION FOR	ARDOUS MA THIS PRO	TERIALS DUCT IS:		
D2A - MATERIAL IS TERATOGEN REFER ELSEWHERE SAFE HANDLING INI WORKPLACE EDUCAT	NIC, EMBRYOTOXIC, C IN THE MSDS FOR SPE FORMATION. REFER TC ION PROGRAM.)R FETOTOX CIFIC WAR) THE EMPL	IC NINGS AN DYER'S	D	
CPR STATEMENT: THIS PRODUC HAZARD CRITERIA OF THE CAN AND THE MSDS CONTAINS ALL	T HAS BEEN CLASSIFI ADIAN CONTROLLED PR THE INFORMATION REG	ED IN ACC CODUCTS RE UIRED BY	ORDANCE GULATION THE CPR.	WITH THE 5 (CPR)	
HAZARDOUS PRODUCTS ACT INFO	ORMATION: THIS PROE	UCT CONTA	INS THE	FOLLOWING	
REPORT NUMBER: 971 MSDS NO: DZ30478	VAN WATERS & R MATERIAL SAFETY	OGERS INC ' DATA SHE	ĖT	PAGE :	010
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MAINFRAME UPLOAD DATE: 12/: PRODUCT: ETHYLENE GLYCOL			nça	-Ρ NN ·	

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16. OTHER INFORMATION

HAZARD RATING SYSTEM:

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

HEALTH 1 FLAMMABILITY 1 REACTIVITY 0

NOTE: NOT FOR USE IN THE MANUFACTURE OF FOOD OR PHARMACEUTICALS.

SHELF LIFE: THIS PRODUCT HAS A SHELF LIFE OF APPROXIMATELY 6 MONTHS IN AN UNLINED BULK STEEL TANK AT AMBIENT CONDITIONS. THE SHELF LIFE CAN BE UP TO 12 MONTHS IF THE BULK TANK OR DRUM IS LINED. HIGH COLOR AND A DROP IN PH ARE SIGNS THAT THE PRODUCT IS STARTING TO DETERIORATE. IF SIGNS OF DETERIORATION ARE STARTING TO OCCUR, THE CUSTOMER NEEDS TO VERIFY THAT THE MATERIAL STILL MEETS SPECIFICATION PRIOR TO USE.

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PRODUCT: ETHYLENE GLYCOL

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•	•			FOR ADDI	TIONAL INFORMAT	[ON	
	•	CONTACT:	MSDS COOF DURING	OINATOR BUSINESS HOURS,	VAN WATERS & PACIFIC TIME	ROGERS INC. (425)889-3400)
		02/14/01	12:51	PRODUCT:	CUST NO:	ORDER	NO :

----- NOTICE ------

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ALL EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A

PARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED

HEREIN, AND SHALL UNDER NO CIRCUMSTANCES BE LIABLE FOR INCIDENTAL OR

CONSEQUENTIAL DAMGAGES. **

DO NOT USE INGREDIENT INFORMATION AND/OR PERCENTAGES IN THIS MSDS AS A PRODUCT SPECIFICATION. FOR PRODUCT SPECIFICATION INFORMATION REFER TO A PRODUCT SPECIFICATION SHEET AND/OR A CERTIFICATE OF ANALYSIS. THESE CAN BE OBTAINED FROM YOUR LOCAL VW&R SALES OFFICE.

ALL INFORMATION APPEARING HEREIN IS EASED UPON DATA OBTAINED FROM THE MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMATION IS BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO ITS ACCURACY OR SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&RS CONTROL AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA UNDER THEIR OWN OPERATING CONDITIONS TO DETERMINE WHETHER THE PRODUCT IS SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY ASSUME ALL RISKS OF THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM THE PUBLICATION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN. THIS INFORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HEREIN, AND DOES NOT RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER PROCESS.

* * * END OF MSDS * * *

The second	Energy Minerals and Nat	ural Resor	Form C-
District Pi 811 South First, Artesia, NM 88210	Oil Conservation	Division 31475	Revised March 17,
District III 1000 Rio Brazos Road, Aztec, NM 87410	Santa Fe, NM 8	87505 N K A A A A A A	Submit Ori Plus 1 (
2040 South Pacheco, Santa Fe, NM 87505		∞	District O
REQUEST FO	OR APPROVAL TO AC	CEPTISOLIDW	ASTE
		4:5Generato	22
T. KCKA Exempt. Non-Exempt:	LXI		NER THE
Verbal Approval Received: Yes	<u>No</u> <u>X</u>	ADJ	ng Site N.M.
2. Management Facility Destination K_i	EY DISPOSAL	6. Transpor	ter
3. Address of Facility Operator #345	CR3500 HZtec NM	8. State	NM
7. Location of Material (Street Address o	Prewit N.M (ULSTR) ON TEMSWESTERN	RIGHTOAUMY	· · · · · · · · · · · · · · · · · · ·
9. <u>Circle One</u> :			······································
A. All requests for approval to accept of one certificate per job	ilfield exempt wastes will be accord	mpanied by a certification	of waste from the Generate
B. All requests for approval to accept n material is not-hazardous and the G approved	on-exempt wastes must be accomp enerator's certification of origin. N	panied by necessary chemic to waste classified hazardo	al analysis to PROVE the us by listing or testing will
All transporters must certify the waste	delivered are only those consigne	d for transport.	
	<u>_</u>		
BRIEF DESCRIPTION OF MATERIAL: Pipe line test w	Ater (old line		12 13 14 15 16
BRIEF DESCRIPTION OF MATERIAL: PIPE / INE fest W	Ater (old line) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	NAL 2001
BRIEF DESCRIPTION OF MATERIAL: PIPE INE fest w Estimated Volume <u>2000 bbls</u> cy	AFC2 (Old line Known Volume (to be entered	by the operator at the end	C 1000 70 C 1000 70 EALEO 70 EALE
BRIEF DESCRIPTION OF MATERIAL: PIPE INE test w Estimated Volume 2000 bbls_cy SIGNATURE Management Facility A	AFC2 (old line Known Volume (to be entered	by the operator at the end	DATE: <u>/-26</u>
BRIEF DESCRIPTION OF MATERIAL: PIPE INE fest w Estimated Volume <u>2000 bbls</u> cy SIGNATURE <u>Waste Management Facility A</u> TYPE OR PRINT NAME: <u>MICAGE</u>	AFC2 (old line Known Volume (to be entered University of Agent THLE: M	by the operator at the end MCC TELEPHONE NO. 2	DATE: <u>1-26</u>
BRIEF DESCRIPTION OF MATERIAL: PIPE INE fest w Estimated Volume <u>2000 bbls</u> cy SIGNATURE <u>Management Facility A</u> TYPE OR PRINT NAME: <u>MICAGE</u>	AHCL (Old line Known Volume (to be entered Unithorized Agent TACOUCL	by the operator at the end MCMTELEPHONE NO. 2	DATE: <u>1-26</u>
BRIEF DESCRIPTION OF MATERIAL: PIPE I IN E fest w Estimated Volume <u>2000 bbls</u> cy SIGNATURE <u>Management Facility A</u> TYPE OR PRINT NAME: <u>MICHAE</u> ((This space for State Use)	AHCL (old line Known Volume (to be entered Unithorized Agent TRICK	by the operator at the end 160 TELEPHONE NO. 2	DATE: 1-26
BRIEF DESCRIPTION OF MATERIAL: PIPE I IN E fest w Estimated Volume 2000 bbls_cy SIGNATURE <u>Waste Management Facility A</u> TYPE OR PRINT NAME: <u>MICAGE</u> ((This space for State Use) APPROVED BY: <u>Waste Management</u>	Atcz (old line Known Volume (to be entered Unithorized Agent TACOUCL Puttorized TITLE: M Duttorized TITLE: Geo	by the operator at the end MCA TELEPHONE NO. 2 Solog is T	DATE: $\frac{1}{29}$

District 1 1625 N. F Dr., Hobbs, NM 88240 District II 811 5 suth First, Artesia, NM 88210 District III 1000 Rio Brazos Road Arter: NM 87410	State of New Mexico Energy Minerals and Natural Resour Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505	Form C-138 Revised March 17, 1999 Submit Original Phys 1 Comy
District IV 2040 South Pacheco, Santa Fe, NM 87505		to Appropriate District Office
REQUEST FOR	APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: Non-Exempt:		4. Generator TRANGUESTEEN
Verbal Approval Received: Yes	No X	5. Originating Site N.M HOREAU ADJACIENT PIPE/INC
2. Management Facility Destination KEY	D150054-	6. Transporter Uey
3. Address of Facility Operator #345 じん	3500 Hztec NM	8. State NM
7. Location of Material (Street Address or ULS	PREWIT N.M TR) ON TEANSWESTERN RIGHTON	usy
9. <u>Circle One</u> :		**************************************
A. An requests for approval to accept oilfield one certificate per job. B. All requests for approval to accept non-ex material is not-hazardous and the Generat approved	exempt wastes will be accompanied by empt wastes must be accompanied by ne or's certification of origin. No waste clas	a certification of waste from the Generator; cessary chemical analysis to PROVE the sified hazardous by listing or testing will be
All transporters must certify the wastes deliv	vered are only those consigned for transpo	ort
BRIEF DESCRIPTION OF MATERIAL:		
PIPEline test wate	22 (old line)	12 13 14 75 763
		DELLOS ALES ALES
Estimated Volume <u>2000 bbls</u> cy K	Known Volume (to be entered by the oper	rator at the end of the haulycy
SIGNATURE	ed Agent TITLE: MCA	DATE: / - 26 - 01
TYPE OR PRINT NAME: MICHAE 7	TELE	PHONE NO. 505-334-6186
(This space for State Use)		
APPROVED BY: Deny	ent TITLE: Geolog	2'57 DATE: 1/29/0
APPROVED BY:	TITLE:	DATE
renbal approval 1/26/01 as	discussed with MK	

$\begin{array}{c} Energy Minerals and Natures and Senter and Natures and Na$	aral Resources Department 3/15/00 tion Division Submit to OCD acbcco Street Submit to OCD Mexico 87505 Permitted Surface 27-7131 Waste Management Facility Facility ATE OF WASTE STATUS 2.Permit Number (if waste generated at an OGD permitted facility) G-W-325 4. Location of Waste (Street address &/or ULSTR): PR Fwitt N-PRFX or Not For the North Facility TRANS WESTERN P: PELing
And A Difference of the and address: TRANSWERT North Contract of the address: TRANSWESTERN BY THE STERNE HOOL IN DIAN SCHOOL ROUTE HOOL IN DIAN SCHOOL ROUTE HOUL IN DIAN SCHOOL ROUTE HOUL IN DIAN SCHOOL ROUTE HY DRUSTATIC TEST WATER	submit to OCD Mexico Street Mexico 87505 27-7131 Submit to OCD Permitted Surface Waste Management Facility ATE OF WASTE STATUS 2.Permit Number (if waste generated at an OGD permitted facility) GW-325 4. Location of Waste (Street address &/or ULSTR): PREWIT W-PREX O W TRANS WESTERN PriPELING
GENERATOR CERTIFICS Waste Generator Name and Address: TRANSWESTERN P. PELINE 4001 IN DIAN SCHOOL IZD ALBUG VIERBNE N.M. B7110 Description of Waste and Generating Process: HYDRUSTATEC TEST WATER	ATE OF WASTE STATUS 2. Permit Number (if waste generated at an OGD permitted facility) GW-325 4. Location of Waste (Street address &/or ULSTR): PREMIT N-MISK ON TRANS WESTERN P: PELING
Waste Generator Name and Address: TRANSWESTERN P. PELINE 4001 IN DIAN School RD ALBURVERBUE NOM B7110 Description of Waste and Generating Process: HYDRUSTRTAC TEST WATER	2.Permit Number (if waste generated at an OGD permitted facility) G-W-325 4. Location of Waste (Street address &/or ULSTR): PREWIT N-MISK ON TRANS WESTERN P: PELING
4001 IN DIAN School RD ALBURVERBUE N-1-1 B7110 Description of Waste and Generating Process: HYDRUSTRTYC TEST WATER	GW-325 4. Location of Weste (Street address &/or ULSTR): PREW,TN-MIEXON TRANSWESTERN Pipeling
. Description of Waste and Generating Process: HYDRUSTATEC TEST WATER	4. Location of Waste (Street address &/or ULSTR): PREW, TN-MEXON TRANSWESTERN P: PELING
	RIGHTOFWAY
Destination (Surface Waste Management Facility): 80,000 9 cl	6. Transporter: ICEY ENERGY
Estimated Volume cy/bbls	
or NON-EXEMPT waste only, the following documentation is att	ached (check appropriate items);
MSDS Information	RCRA Hazardous Waste Analysis (With Chain of Custody).
Other (Description)	
enerator certifies that, according to the Resource Conservation a gency's July 1988 regulatory determination, the above described	and Recovery Act (RCRA) and the Environmental Protection I waste is: (check appropriate classification)
EXEMPT oilfield waste,	<u>X</u> NON-EXEMPT difield waste that is non-hazardous pursuant to 40 CFR Part 261. (Attach appropriate documentation)
addition, Generator certifies that nothing has been added to this aste does not contain Naturally Occurring Radioactive Material (ubpart 1403.	s exempt or non-exempt non-hazardous waste and that this (NORM) regulated pursuant to 20 NMAC 3.1
senerator Signature: fromes R. Kunsell	Date: 1-26-01
int Name: SAMES R. PUSSEFE	£
ille: <u>Earkanneartal</u> SPE	×.

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poly pop	ASS ANA LAB 7300_0	AIGAI ALYTICAI DRATOF	- IES, INC , Aiduquerque, New Me	9XICO 87109 • (50)	5) 345- 89 64	• FAX (50)5) 345- 725 9	
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eni #1 /	IYDR OW	ATER		Sample . W			Sample	01/11/
C Group Rur	Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Dytection Limit Code	Run Date
01086-01B		SW848 1311/30	10A/601DA ICP TCLP					
12\$ MVV.	2001.44-29	7440-88-2	Arsenic	ND	mall	1	0,1	- 31/11/01
128 MV/	2001.44-29	7440-39-3	Barlum	0.2	mg/L	1	0.1	01/(1/01
129 MW.	2061,44-29	7440-43-9	Cadmium	ND .	mg/L	1	0.02	01/11/0 01/11/0
168 3100. 1959 MM	2001.44.29	7439-92-1	f ead	ND	ma/L	<u>-</u>	0.06	01/16/0
120 MIN	2001 44-29	7782-49-2	Selenium	0,12	mg/L	1	0.05	01/11/01
	2001.44-29	7440-22-4	Silver	ND	mg / L	1	0.04	01/11/0
:20 MW		CINGAR 4944171						
1929 MW		011040 01111	Mercuty	0003	mail	1	0.0002	C1/19/01
;26 MW 01 086-018 1145 MW	2001.81-11	7439-87-8		0.0000		· · ·		
0 1086-018 0145 MW	2001.81-11	7439-87-8	· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·	ali and a constant and a second	
01089-018 0145 MW	2001.81-11	7439-87-8 IATER		Sample W		· · · · · · · · · · · · · · · · · · ·	Sample Coileded	
:26 MW 01086-018 145 MW ent #2 J https://www.	2001.81-11 HYDRON n Sequence	7439-87-8 IATER CAS #	Analyte	Sample W Matrix Result	Units	Dilution Factor	Sample Collected Detection Limit Code	01/11 05:30 Run Date
126 MW 01086-018 145 MW cont #2 / Diske JD #2 / C Group Ru 01966-028	2001.81-11 YYDROV n Sequence	7439-87-8 /ATER CAS # SW845 1311/3	Analyte 510B/82708 SVOCe by GC/Mi	Sample Matrix Result	Units	Dilution Factor	Sample Collected Detection Limit Cod	01/11 05:20 Run Date
126 MW 01089-018 1145 MW cont #2 / Dise /0 #2 / C Group Rut 01966-028 00653 X0.	2001.81-11 TYDROM In Sequence 2001.30-2	7439-87-8 IATER CAS # SWB45 1311/3	Analyte 510B/8270B SVOCe by GC/Mi 1,4-Dichlorobenzene	Sample W Mainx Result	Units	Dilution Factor	Sample Collected Detection Limit Code	01/11 05:22 Run Date
126 MW 01086-018 1145 MW cnt #2 / C Group Ru 01966-028 01966-028 01965 XG. 10183 XG.	2001.81-11 HYDROM In Sequence 2001.30-2 2001.58-2	7439-87-8 /ATER CAS # SW845 1311/3 108-46-7 95-98-4 81-08-9	Analyte 510BJ8270B SVOCe by GC/Mi 1,4-Dichlorobenzene 2,4,5-Trichloropheno! 2,4 4-Trichloropheno!	Sample Mathx Result STCLP ND ND	Units mg/L mg/L mg/L	Dilution Factor	Sample Collected Detection Limit Code	01/71 05:22 Run Date
126 MW 01086-018 MW 1145 MW cnt #2 / https://doc.org/line/10 Rut 01956-028 No. 01955-328 XG. 0183 XG. 0183 XG. 0183 XG.	2001.81-11 HYDROM In Sequence 2001.88-2 2001.58-2 2001.58-2 2001.58-2	7439-87-8 /ATER CAS # SW845 1311/3 108-46-7 95-96-4 BE-06-2 121-14-2	Analyte 510B/8270B SVOCe by GC/Mi 1.4-Dictuorobenzene 2.4.5-Trichloropheno! 2.4.6-Trichloropheno! 2.4-Dimitrotoluene	Sample Matrix Result STCLP ND ND	Units mg/L mg/L mg/L mg/L	Dilution Factor	Sample Collected Detection Limit Code 0.001 0.01 0.01 0.01	01/11 06:33 Run Date 01/18/0 01/18/0 01/18/0
Initial State MW C Group #2 / C Group Rui C	2001.81-11 TYDROM a Sequence 2001.38-2 2001.38-2 2001.38-2 2001.38-2 2001.38-2	7439-87-8 /ATER CAS # SW845 1311/3 108-467 95-98-4 BE-06-2 121-14-2 1127-41	Analyte 510B/8270B SVOCe by GC/Mi 1,4-Dichlorobenzene 2,4,5-Trichloropheno! 2,4,6-Trichloropheno! 2,4-Dinitrotoluene Hexachlorobenzene	Sample Mainx Result 5 TCLP ND ND ND ND	Units mg/L mg/L mg/L mg/L mg/L	Dilution Factor	Sample Collected Detection Limit Code 0.01 0.01 0.01 0.01 0.01	01/11 05:32 Run Date 01/16/0 01/16/0 01/16/0 01/16/0
126 MW 01086-018 145 MW 145 MW 01166-018 01956-028 0008 0	2001.81-11 YDROM a Sequence 2001.38-2 2001.38-2 2001.38-2 2001.58-2	7439-87-8 /ATER CAS # SW845 1311/3 108-467 95-964 ==06-2 121-14-2 118-74.1	Analyte 510B/82708 3VOCe by GC/Mf 1,4-Dichlorobenzene 2,4,5-Trichloropheno! 2,4,6-Trichloropheno! 2,4-Dinitrotoluene Hexechlorobenzene	Sample W Mainx W Result 5 TCLP ND ND ND ND	Units mg/L mg/L mg/L mg/L mg/L	Dilution Factor	Sample Collected Detection Limit Code 0.001 0.01 0.01 0.01 0.01 0.01 0.01 0.	01/11 06:20 Run Date 01/18/0 01/18/0 01/16/0 01/16/0 01/16/0

Anticipus Council of Independent Luberusseien, Ing.

of the insent in any manner by the client or any uther the prodict endorsement by any accreditation program.
7-076 P. 03/04 F-750

FROM-ASSAIGAJ LAB

Asseigni Analytical Laboratories, Inc.

Certificate of Analysis

Client. TRANSWESTERN PIPELINE CO. Project: 0101086 PREWITT TRAIN DE-RAILMENT

X00463	XG 2001.58-2	97-66-3	Hexachlorobutadiena	NC	mg / L	1	0.001	01/16/01
X00453	XG_2001.58-2	37-72-1	Hexachioroethane	ND	mg / L	1	0.001	01/16/01
00480	XG.2001.58-2	·	m-Cresol & p-Cresol	0.007	mg /L		0.001	: 01/16/01
X00483	XG.2001.58-2	98-96-3	Nitrobenzene	NO	mgil	י ר	0.001	01/16/01
X 00483	XG.2001.59-2	98-48-7	o-Cresol	0.005	mg/L	1	0.001	01/14/01
×00483	XG.2001.58-2	87-86-5	Pentachiorophenci	ND	mg/L	5	<u>C.01</u>	01:18:01
X00483	XG.2001.58-2	110-86-1	Pyridine	ND.	mg/L	1	0.01	01/18/01

0101089-028		244840 12114	ixeua murgeable vocs by Garn	IS ICLP				
X00481	XG.2001 52-3	75-35-4	1,1 Dichlorcethylene	ND	mg/L	10	0.001	01/11/01
X00481	XG.2001.52-3	107-05-2	1,2 Dichloroethane	ND	mg/L	10	0,001	01/11/01
X00481	XG.2001,62-3	108-46-7	1,4 Dichlorobenzene	ND	mg/L	10	0.001	רסורוערס
X00491	XG.2001.52-3	71-43-2	Banzene	0.26	mg/L j	10	0.001	a (71 170)
X00481	XG.2001.52-3	56.23.3	Carben tetrachloride	ND	mg/L	10	0.001	01/11/01
K00481	KG.2031.52-3	108-90-7	Chicrobenzene	ND	mg / L	10	0.001	01/11/01
K00481	XG.2001.82-3	67-86-3	Chieroform	ND	mg/L	10	C.001	01/21/01
X00481	X/3.2001.52-4	78-53-3	Methyl athyl ketone	9.2	mg / L	100	0.005	01/11/01
X00481	XG.2501.62-3	127-18-4	Tetrachiorcethylene	ND	mg/L	10	0.001	01/11/01
X00451	XG.2001.52-3	78-01-5	Trichloroethylene	ND	mg / L	10	0.001	01/11/01
XODAE1	X@.2001.62-3	75-01-4	Viny! chloride	NO	mg/L	10	0.001	C1/11/01
				A CONTRACTOR OF A CONTRACTOR O				

*** Sample specific Detection Limit is determined by multiplying the sample Cluster Factor by the listed Reporting Detection Limit *** r=* ND = Nor detected; task than the sample specific Detection Limit. Results relate only to the items tested. ***

Client Reports

Report Date 1/22/2001 4:26:07 PM

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Inchod ad Ship Shipment No Special Instruct	nent:		Canime Trix Trix	MS: F Report	TA7 1-12.01- ts to 505-862-7 ssell.	× 826	1 505-	৯১৭	- 143	:7 A	Hr>-		After	an aly Q	tis, s Disp Stor	ample losed (20 (30	s are to be: of (additional f days max)	

ASSAIGAL PROJECT FILE

3

District I 1625 N. French Dr.,	late c ew exico Energy inerals and Natural Reso	Form C-138
811 South First, Artesia, 10 District III	Oil Conservation Division.	Submit Original
1000 Rio Brazos Road, A 87410 District IV	Santa Fe, NM 87505	FEB 2001 Plus 1 Copy
2040 South Pachece Sant F NM 87505	[·	District Office
UEST FOR	APPROVAL TO ACCEPT S	SOEID WASTE
1. RCRA Exempt: Non-Exempt:		A. General A thoseton
Verbal Approval Received: Yes 🔀	No	5. Originating Site
2. Management Facility Destination VEY Ex	BRBY DISPOSAL	6. Transporter U
3. Address of Facility Operator #345 Ce	23500 Aztec NM	8. State NM
7. Location of Material (Street Address or ULS	4109 E. MAIN ST. STR) FARMINGTON, NM 87402	
9. <u>Circle One</u> :	· ·	
A. All requests for approval to accept oilfield one certificate per job. All requests for approval to accept non-ex- material is not-hazardous and the General approved	d exempt wastes will be accompanied by a kempt wastes must be accompanied by nec tor's certification of origin. No waste class	a certification of waste from the Generator; cessary chemical analysis to PROVE the sified hazardous by listing or testing will be
All trans orters must cert the wastes delivered and the second se	vered are only those considered for trans	.
BRIEF DESCRIPTION OF MATERIAL:		
UNUSED BEL WAtez, I They are looking for ak induding all Themadditives, k tank after jobs, Estimated Volume 12066/s cy H	brought in From the inoutedge of process by trop 5-10 bbls in yard collect inown Volume (to be entered by the opera	A field JAN 2001 FIEOENDO OKST. 3 A field Control of the haul)cy
SIGNATURE Waste Management Facility Authoriz	TITLE: <u>MCol</u>	DATE: <u>1-17-01</u>
TYPE OR PRINT NAME: <u>MICHAE</u>	TALOUICH TELEP	HONE NO. <u>505-334-6186</u>
(This space for State Use)		
APPROVED BY: Denifice	11/ TITLE: Geologi	DATE: 1/19/0(
APPROVED BY: Multiporting	- TITLE: Shortonm	1 (x0/0452 DATE: 2/9/02

District I 1625 N. French Dr., Hobbs, NM 88240 District III 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505

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State of New Mexico Energy Minerals and Natural Resourc

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505 Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

	REOUEST FOR	APPROVAL'	ТО АССЕРТ	SOLID WAS	TE
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1. RCRA Exempt: 🔲 Non-Exempt: 🔀	4. Generator HALLIbueton				
Verbal Approval Received: Yes No	5. Originating Site				
2. Management Facility Destination VEY ENERBY DISPOSAL	6. Transporter UEY				
3. Address of Facility Operator #345 C23500 AZtec NM	8. State NM				
7. Location of Material (Street Address or ULSTR) 4109 E. MAIN ST. FARMINGTON, NM 87402					
 9. <u>Circle One</u>: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B) All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved 					
BRIEF DESCRIPTION OF MATERIAL: UNUSED BEL WAter, brought in From 4	Le field JAN 2001 ARECEIVED				

Estimated Volume _	12066/s	cy
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1

Known Volume (to be entered by the operator at the end of the haul) ______ cy

SIGNATURE Waste Management Facility Authorized Agent	TITLE: <u>MOL</u>	DATE: <u>/-/7-0/</u>
TYPE OR PRINT NAME: MICHAEL TALOU	TELEPHONE N	10. 505-334-6186
(This space for State Use)		
APPROVED BY: Demy Tan	TITLE: Geologist	DATE: <u>01/19/01</u>
APPROVED BY:	TITLE:	DATE:

District I - (505) 393-6161
1625 N. French Dr
Hobbs, NM 88240
District II - (505) 748-1283
811 S. First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131
2040 S. Pacheco
Santa Fe, NM 87505

New Mexico Energy Minerals and Natural Resources Department Oil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131 Form C-143 3/15/00

Submit to OCD Permitted Surface Waste Management Facility

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GENERATOR CERTIFICATE OF WASTE STATUS

1.	Waste Generator Name and Address: Halliburton Energy Services 4109 East Main Street Farmington NM 87402	2.Permit Number (if waste generated at an OCD permitted facility)	
3.	Description of Waste and Generating Process:	4. Location of Waste (Street address &/or ULSTR):	
	Stimulation fluids returned from field.	4109 East Main Street Farmingon, NM 87402	
5.	Destination (Surface Waste Management Facility): Key Energy Disposal Facility	6. Transporter: KEY	
7.	Estimated Volume <u>120</u> bbls		
Fc	or NON-EXEMPT waste only, the following documentation is atta	ached (check appropriate items):	
	X MSDS Information	RCRA Hazardous Waste Analysis (With Chain of Custody).	
	Other (Description)		
Ge Ag	enerator certifies that, according to the Resource Conservation a gency's July 1988 regulatory determination, the above described	and Recovery Act (RCRA) and the Environmental Protection waste is: (check appropriate classification)	
	EXEMPT oilfield waste.	x NON-EXEMPT oilfield waste that is non-hazardous pursuant to 40 CFR Part 261. (Attach appropriate documentation)	
ln wa Su	addition, Generator certifies that nothing has been added to this aste does not contain Naturally Occurring Radioactive Material (abpart 1403.	exempt or non-exempt non-hazardous waste and that this NORM) regulated pursuant to 20 NMAC 3.1	
G	enerator Signature:	Date: _/ - 3 - 200/	
Pr	int Name: James (, Haney		
Ti	He Supervisor Shared Serv	ic-s	

KCL POTASSIUM CHLORIDE

I

MATERIAL SAFETY DATA SHEET DATE: 01-02-01 HALLIBURTON ENERGY SERVICES REVISED DATE 04-07-99 DUNCAN, OKLAHOMA 73536 EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359 EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359 * * * * * * * * * * * SECTION I - PRODUCT DESCRIPTION * * * * * * * * * * * * * * * * PART NUMBER: 070153020 APPLICATION: INHIBIT CLAY SWELLING PKG QTY: 50 LB BAG SERVICE USED: FRACTURING * * * * * * * * * * * * SECTION II - COMPONENT INFORMATION * * * * * * * * * * * COMPONENT+ + + + + + + + + + PERCENT TLV PEL POTASSIUM CHLORIDE > 60 % 10 MG/M3 15 MG/M3 * * * * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * * * * * PROPERTY MEASUREMENT APPEARANCE WHITE TO GREY SOLID, CRYSTALS ODORLESS ODOR SPECIFIC GRAVITY (H2O=1) 1.990 72.80 LB/CU.FT. BULK DENSITY 9.2 FOR 1% SOL ΡH SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 25.5 BIODEGRADABILITY N/D PERCENT VOLATILES N/A EVAPORATION RATE(BUTYL ACETATE=1) N/A VAPOR DENSITY N/A VAPOR PRESSURE (MMHG) N/A BOILING POINT(760 MMHG) /O F / -17 C POUR POINT N/A FREEZE POINT N/A SOLUBILITY IN SEAWATER 34.7% PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED * * * * * * * * * * * SECTION IV - FIRE AND EXPLOSION DATA * * * * * * * * * * * NFPA(704) RATING: HEALTH 1 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE FLASH POINT N/A AUTOIGNITION TEMPERATURE NDF/ ND C UPPER FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER ND ND ************* EXTINGUISHING MEDIA: USE MEDIA APPROPRIATE FOR SURROUNDING MATERIALS. SPECIAL FIRE FIGHTING PROCEDURES: NOT APPLICABLE. UNUSUAL FIRE AND EXPLOSION HAZARDS: NOT APPLICABLE. * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * * * * * *

CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65.

PAGE 2

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CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH". PRODUCT TOXICITY DATA: IRR EYE-RBT 500 MG/24H MLD TOX ORL-RAT LD50:2430 MG/KG AQU TLM96: 100-330 PPM (BROWN SHRIMP) PRODUCT TLV: 10 MG/M3 (N) ----- EFFECTS OF EXPOSURE -----ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: DUST MAY CAUSE SEVERE EYE IRRITATION. SKIN: DUST MAY CAUSE MODERATE IRRITATION. INHALATION: MAY BE IRRITATING. INGESTION: IRRITATION OF THE MOUTH AND THROAT, ABDOMINAL PAIN, NAUSEA AND VOMITING. DIARRHEA, AND COLLAPSE MAY RESULT FROM INGESTION. CHRONIC EFFECTS: NO DATA AVAILABLE OTHER SYMPTOMS AFFECTED: BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. ----- EMERGENCY AND FIRST AID PROCEDURES -------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE. INHALATION: REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION. * * * * * * * * * * * * * SECTION V1 - REACTIVITY DATA * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): NONE KNOWN. HAZARDOUS DECOMPOSITION PRODUCTS: NONE KNOWN. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST. WASTE DISPOSAL METHOD: IF NOT CONTAMINATED, REUSE PRODUCT.

PN: 070153020 PAGE 3 GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL. * * * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * * * RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): TOXIC DUST/MIST RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. PROTECTIVE GLOVES: NORMAL WORK GLOVES. EYE PROTECTION: DUST PROOF GOGGLES. OTHER PROTECTIVE EQUIPMENT: NORMAL WORK COVERALLS. * * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * * PRECAUTIONARY LABELING KCL POTASSIUM CHLORIDE 070.153020 WARNING! MAY CAUSE SKIN AND RESPIRATORY IRRITATION. MAY CAUSE SEVERE EYE IRRITATION. FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY. REQUIRES COVERED STORAGE. AVOID CREATING OR INHALING DUST. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION. * * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * * DOT SHIPPING DESCRIPTION: NOT RESTRICTED * * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y FIRE: N CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: PURE B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) N/A C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS D. EPA - SARA TITLE 111, 40 CFR 372 (LIST OF TOXIC CHEMICALS) E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES ISCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261 IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE

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	K-34	PAGE 1
MATERIAL HALLIBUR DUNCAN	SAFETY DATA SHEET TON ENERGY SERVICES , OKLAHOMA 73536	DATE: 01-02-01 REVISED DATE 04-07-99
EMERGENCY TELEPH Emergency teleph	ONE: 800/666-9260 OR 5 ONE: 800/666-9260 OR 5	80/251-3359 80/251-3359
* * * * * * * * * * * * SECTION 1 -	PRODUCT DESCRIPTION *	* * * * * * * * * * *
CHEMICAL CODE: K-34 PKG QTY: 50 LB BAG A SERVICE USED: WATER CONTROL	PPLICATION: BUFFER	PART NUMBER: 070151860
* * * * * * * * * * * * SECTION II -	COMPONENT INFORMATION	* * * * * * * * * *
COMPONENT+ + + + + + + + + +	PERCENT TL	V PEL
SODIUM BICARBONATE * * * * * * * * * * * * SECTION !!	> 60 % 10 I - Physical data * *	MG/M3 15 MG/M3 * * * * * * * * * * * *
PROPERTY	MEASUR	EMENT
APPEARANCE FREE FLOWIN ODOR SPECIFIC GRAVITY (H2O=1) BULK DENSITY PH SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 BIODEGRADABILITY PERCENT VOLATILES EVAPORATION RATE(BUTYL ACETATE=1) VAPOR DENSITY VAPOR DENSITY VAPOR PRESSURE (MMHG) BOILING POINT(760 MMHG) POUR POINT FREEZE POINT SOLUBILITY IN SEAWATER PARTITION COEF (OCTANOL IN WATER)	NG, WHITE SOLID, POWDE ODORLESS 2.159 60.00 LB/CU.FT. 8.3 FOR 1% SOLUTION 7 N/D N/A N/A N/A N/A N/A N/A SOLUBLE NOT EVALUATED	R

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NFPA(704) RATING: HEALTH O FLAMMABILITY O REACTIVITY 0 SPECIAL NONE FLASH POINT NONE AUTOIGNITION TEMPERATURE NDF/ ND C FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER ND UPPER ND EXTINGUISHING MEDIA: USE MEDIA APPROPRIATE FOR SURROUNDING MATERIALS. SPECIAL FIRE FIGHTING PROCEDURES: FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL. UNUSUAL FIRE AND EXPLOSION HAZARDS:

* * * * * * * * * * * SECTION IV - FIRE AND EXPLOSION DATA * * * * * * * * * * * *

RELEASES CARBON DIOXIDE ON DECOMPOSITION.

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CALIFORNIA PROPOSITION 65:

PN: 070151860 PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF, PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH". PRODUCT TOXICITY DATA: IRR SKN-HMN 30 MG/3D-1 MLD TOX ORL-RAT LD50: 4220 MG/KG TOX ORL-INF LDLO: 1260 MG/KG PRODUCT TLV: 10 MG/M3 (N) ----- EFFECTS OF EXPOSURE -----ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE MILD IRRITATION. SKIN: MAY CAUSE MILD IRRITATION. INHALATION: MAY CAUSE MILD IRRITATION. TREAT AS NUISANCE DUST. INGESTION: NO DATA AVAILABLE CHRONIC EFFECTS: NO DATA AVAILABLE OTHER SYMPTOMS AFFECTED: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENED BY EXPOSURE TO THIS PRODUCT. ------ EMERGENCY AND FIRST AID PROCEDURES ------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. SKIN: PROMPTLY WASH SKIN WITH SOAP AND WATER. IF IRRITATION DEVELOPS, SEEK MEDICAL ATTENTION. INHALATION: REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION, * * * * * * * * * * * * * * SECTION V1 - REACTIVITY DATA * * * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG ACIDS. HAZARDOUS DECOMPOSITION PRODUCTS: RELEASES CARBON DIOXIDE ON DECOMPOSITION. HAZARD POLYMERIZATION: WON'T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST. WASTE DISPOSAL METHOD: IF NOT CONTAMINATED, REUSE PRODUCT. GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL.

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PAGE 2

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PN: 070151860 PAGE 3 RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): NOT NORMALLY NECESSARY. TOXIC DUST/MIST RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. PROTECTIVE GLOVES: NORMAL WORK GLOVES. EYE PROTECTION: GOGGLES AND/OR FACE SHIELD. OTHER PROTECTIVE EQUIPMENT: NORMAL WORK COVERALLS. * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * 070.151860 PRECAUTIONARY LABELING K-34 WARNING! MAY CAUSE MILD IRRITATION TO EYES, SKIN AND UPPER RESPIRATORY SYSTEM. TREAT AS NUISANCE DUST. FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY. REQUIRES COVERED STORAGE. AVOID CREATING OR INHALING DUST. CONTAINER DISPOSITION: EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION. * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * DOT SHIPPING DESCRIPTION: NOT RESTRICTED * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: PURE B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) N/A C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS D. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS) E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES DRSM NE TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261 IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS

GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE

DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

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CLAYFIX MATERIAL MATERIAL SAFETY DATA SHEET

PAGE 1

| | MATERIAL
HALLIBURT
DUNCAN, | SAFETY DATA SHEET
ON ENERGY SERVICES
OKLAHOMA 73536 | DATE: 01-02-01
REVISED DATE 04-07-99 |
|---|--|--|--|
| | EMERGENCY TELEPHO
EMERGENCY TELEPHO | NE: 800/666-9260 0
NE: 800/666-9260 0 | R 580/251-3359
R 580/251-3359 |
| * * * * * * * * * | * * SECTION I - P | RODUCT DESCRIPTION | * * * * * * * * * * * * |
| CHEMICAL CODE: CLA
PKG QTY: 50 LB BAC
SERVICE USED: CHE | AYFIX MATERIAL
AP
EMICAL SER., WATER | PLICATION: INHIBIT
&SAN | PART NUMBER: 070152060
CLAY SWELLING |
| * * * * * * * * * | * * SECTION II - | COMPONENT INFORMAT | ION * * * * * * * * * * * * |
| COMPONENT+ + | + + + + + + + + | PERCENT | TLV PEL |
| AMMONIUM CHLORIDE | * * * SECTION 111 | > 60 %
- Physical data * | 10 MG/M3 10 MG/M3
* * * * * * * * * * * * * |
| PROPERT | Y. | MEA | SUREMENT |
| APPEARANCE
ODOR
SPECIFIC GRAVITY (
BULK DENSITY | WHITE TO YE
H2O=1) | LLOW SOLID, CRYSTA
ODORLESS
1.529
96.10 LB/CU.FT. | LS |

PH 5.5 FOR 1% SOL SOLUBILITY IN WATER AT 27 20 DEG C. GMS/100ML H20 BIODEGRADABILITY N/D PERCENT VOLATILES N/A EVAPORATION RATE(BUTYL ACETATE=1) N/A VAPOR DENSITY N/A VAPOR PRESSURE (MMHG) N/D BOILING POINT(760 MMHG) 2340 F / 171 C POUR POINT NZA FREEZE POINT N/A SOLUBILITY IN SEAWATER NOT EVALUATED PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED * * * * * * * * * * SECTION 1V ~ FIRE AND EXPLOSION DATA * * * * * * * * * * * * NFPA(704) RATING: HEALTH 2 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE FLASH POINT N/A AUTOIGNITION TEMPERATURE ND F / ND С FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER ND UPPER ND ******** EXTINGUISHING MEDIA: USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. SPECIAL FIRE FIGHTING PROCEDURES: FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL. UNUSUAL FIRE AND EXPLOSION HAZARDS: EMITS AMMONIA AND HYDROGEN CHLORIDE GAS WHEN HEATED.

* * * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * * * * * *

CALIFORNIA PROPOSITION 65:

PN: 070152060 PAGE 2 PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH". PRODUCT TOXICITY DATA: IRR EYE-RBT 500 MG/24H SEV TOX ORL-RAT LD50:1650 MG/KG TOX ORL-RAT LD50:1000 MG/KG PRODUCT ILV: 10 MG/M3 ----- EFFECTS OF EXPOSURE -----ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE : VAPORS, MIST OR SPRAY MAY CAUSE IRRITATION. SKIN: CONTACT MAY CAUSE SKIN IRRITATION. INHALATION: HIGH CONCENTRATIONS MAY CAUSE HEADACHE, COUGHING, SEVERE LUNG CONGESTION, BREATHING DIFFICULTIES, CONVULSIONS AND SHOCK. HIGHER CONCENTRATIONS MAY CAUSE LARYNGITIS, TRACHEITIS, PULMONARY EDEMA, CHEST PAINS AND PNEUMONITIS. INGESTION: IRRITATION OF THE MOUTH AND THROAT, ABDOMINAL PAIN, NAUSEA AND VOMITING, DIARRHEA, AND COLLAPSE MAY RESULT FROM INGESTION. CHRONIC EFFECTS: NO DATA AVAILABLE OTHER SYMPTOMS AFFECTED: BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. BREATHING OF VAPOR AND/OR MISTS MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE. ----- EMERGENCY AND FIRST AID PROCEDURES EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE. INHALATION: REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION. * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): ALKALIES AND THEIR CARBONATES, AND LEAD AND SILVER SALTS. HAZARDOUS DECOMPOSITION PRODUCTS: AMMONIA. CARBON DIOXIDE AND/OR CARBON MONOXIDE, AMMONIA AND OXIDES OF NITROGEN. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * *

PN: 070152060 STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST. WASTE DISPOSAL METHOD: IF NOT CONTAMINATED, REUSE PRODUCT. GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL. * * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * * RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): TOXIC DUST/MIST RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN DUSTY ENVIRONMENTS. PROTECTIVE GLOVES: IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: GOGGLES OR SAFETY GLASSES. OTHER PROTECTIVE EQUIPMENT: NORMAL WORK COVERALLS. * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING CLAYFIX MATERIAL 070.152060 WARNING! IRRITATING TO THE EYES, SKIN AND RESPIRATORY SYSTEM. FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM ALKALIES. STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY. REQUIRES COVERED STORAGE. AVOID CREATING OR INHALING DUST. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. CONTAINER DISPOSITION: EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION. SPECIAL PRECAUTIONS: PRODUCT HAS A SHELF LIFE OF 60 MONTHS. * * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * DOT SHIPPING DESCRIPTION: NOT RESTRICTED * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: N PRESSURE: N REACTIVE: N ACUTE (INMEDIATE): Y CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: PURE B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) 5,000 LBS. - AMMONIUM CHLORIDE C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO ÉXTREMELY HAZARDOUS COMPONENTS D. EPA - SARA FITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS) E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA YES EEC N/D ACOIN N/D NPR NE DRSM NE

H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261

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IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES. IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

FE-2A - BULK

PAGE 1

MATERIAL SAFETY DATA SHEET DATE: 01-02-01 HALLIBURTON ENERGY SERVICES REVISED DATE 04-07-99 DUNCAN, OKLAHOMA 73536

EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359 EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359

* * * * * * * * * * * SECTION I - PRODUCT DESCRIPTION * * * * * * * * * * * * * * * * *

CHEMICAL CODE: FE-2A - BULK PART NUMBER: 516000290 PKG QTY: 330 GALLON TANK APPLICATION: BUFFER SERVICE USED: FRACTURING, I.C., CHEM S

* * * * * * * * * * * SECTION II - COMPONENT INFORMATION * * * * * * * * * * * *

| COMPONENT+ + + + + + + + + | PERCENT | TLV | PEL |
|----------------------------|---------|-----|-----|
| CITRIC ACID | 31-60 % | NE | NE |

* * * * * * * * * * * * SECTION 111 - PHYSICAL DATA * * * * * * * * * * *

PROPERTY

MEASUREMENT

| APPEARANCE | YELLOW LIQL | ID | | | | |
|----------------------------|-------------|-------------|---------|-------|-----|-----|
| ODOR | | SLIGHT SUGA | RY | | | |
| SPECIFIC GRAVITY (H2O=1) | | 1.240 | | | | |
| BULK DENSITY | | 10.33 LB/ | GAL | | | |
| РН | | 2.2 FOR 0.1 | N SOL | | | |
| SOLUBILITY IN WATER AT | | | | | | |
| 20 DEG C. GMS/100ML H20 | | MISCIBLE | | | | |
| BIODEGRADABILITY | | READILY | | | | |
| PERCENT VOLATILES | | <50 | | | | |
| EVAPORATION RATE(BUTYL A | CETATE=1) | <1 | | | | |
| VAPOR DENSITY | | 9.6 | | | | |
| VAPOR PRESSURE (MMHG) | | 11.16 | | | | |
| BOILING POINT(760 MMHG) | | 2219 F / C1 | 03 C | | | |
| POUR POINT | | -011 F / | 17 C | | | |
| EREEZE POINT | | NZD | | | | |
| SOLUBILITY IN SEAWATER | | NOT EVALUAT | FD | | | |
| PARTITION COFF (OCTANOL | IN WATERS | NOT EVALUAT | ED | | | |
| ANTITION EDET (OCHANGE | | HOT LINCONT | 20 | | | |
| * * * * * * * * * * * SECT | ION IV - FI | RE AND EXPL | OSION D | ATA * | * * | * * |
| NFPA(704) RATING: | | | | | | |
| | 1 7 1/ 4 | DEACT INITY | 4 | DECIM | | |

HEALTH 1 FLAMMABILITY 1 REACTIVITY 1 SPECIAL NONE FLASH POINT NONE AUTOIGNITION TEMPERATURE ND F / ND C FLAMMABLE LIMITS (% BY VOLUME) LOWER ND UPPER ND **** EXTINGUISHING MEDIA: USE MEDIA APPROPRIATE FOR SURROUNDING MATERIALS. SPECIAL FIRE FIGHTING PROCEDURES: NOT APPLICABLE.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NOT APPLICABLE.

* * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * * * * *

CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65.

PAGE 2

CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH". PRODUCT TOXICITY DATA: NOT DETERMINED PRODUCT ILV: 10 MG/M3 ----- EFFECTS OF EXPOSURE ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE SEVERE IRRITATION WHICH MAY INJURY TISSUE IF NOT REMOVED PROMPTLY. SKIN: CONTACT MAY CAUSE SKIN IRRITATION. INHALATION: MIST MAY CAUSE IRRITATION OF UPPER RESPIRATORY SYSTEM. INGESTION: NO DATA AVAILABLE CHRONIC EFFECTS: NO CHRONIC EFFECTS EXPECTED. OTHER SYMPTOMS AFFECTED: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENED BY EXPOSURE TO THIS PRODUCT. ----- EMERGENCY AND FIRST AID PROCEDURES -------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION. SK1N: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE. INHALATION: REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION, INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION. * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS AND STRONG ALKALIES. HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN AND ABSORB SPILL WITH AN INERT MATERIAL. SCOOP UP AND REMOVE. WASTE DISPOSAL METHOD: GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT ABSORBED MATERIAL TO SANITARY LANDFILL. * * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * *

PAGE 3

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RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): NOT NORMALLY NECESSARY. TOXIC DUST/MIST RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION IS NOT NORMALLY NEEDED. PROTECTIVE GLOVES: IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: GOGGLES AND/OR FACE SHIELD. OTHER PROTECTIVE EQUIPMENT: NORMAL WORK COVERALLS. * * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING FE-2A - BULK 516.000290 CAUTION! MAY CAUSE IRRITATION TO THE EYES, SKIN OR RESPIRATORY SYSTEM. FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION. * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * DOT SHIPPING DESCRIPTION: NOT RESTRICTED * * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) N/A C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS D. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS) E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261 IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM

VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS

GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

PAGE 4

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| FE-1A ACIDIZ | ING COMPOSITION - BULK PAGE 1 |
|--|---|
| MATERIAL
HALLIBUR
DUNCAN | SAFETY DATA SHEET DATE: 01-02-01
TON ENERGY SERVICES REVISED DATE 04-07-99
, OKLAHOMA 73536 |
| ÉMERGENCY TELEPH
Emergency teleph | ONE: 800/666-9260 OR 580/251-3359
ONE: 800/666-9260 OR 580/251-3359 |
| * * * * * * * * * * * SECTION & - | PRODUCT DESCRIPTION * * * * * * * * * * * * * |
| CHEMICAL CODE: FE-1A ACIDIZING COM
PKG QTY: CARGO TANK A
SERVICE USED: CHEMICAL SERVICES | POSITION - BULK PART NUMBER: 070154180
PPLICATION: ACIDIZING MATERIAL |
| * * * * * * * * * * * * SECTION II - | COMPONENT INFORMATION * * * * * * * * * * * |
| COMPONENT+ + + + + + + + + + | PERCENT TLV PEL |
| ACETIC ANHYDRIDE
GLACIAL ACETIC ACID
* * * * * * * * * * * * SECTION II | 31-60 % 5 PPM 5 PPM
31-60 % 10 PPM 10 PPM
1 - PHYSICAL DATA * * * * * * * * * * * * * * |
| PROPERTY | MEASUREMENT |
| APPEARANCE CLEAR, COL
DODOR
SPECIFIC GRAVITY (H2O=1)
BULK DENSITY
PH
SOLUBILITY IN WATER AT
20 DEG C. GMS/100ML H20
BIODEGRADABILITY
PERCENT VOLATILES
EVAPORATION RATE(BUTYL ACETATE=1)
VAPOR DENSITY
VAPOR DENSITY
VAPOR PRESSURE (MMHG)
BOILING POINT(760 MMHG)
POUR POINT
FREEZE POINT
SOLUBILITY IN SEAWATER
PARTITION COEF (OCTANOL IN WATER) | PUNGENT ACRID
1.065
8.87 LB/GAL
1
COMPLETE
READILY
100
N/D
3.5
11.40
/245 F / 118 C
D015 F / -9 C
N/D
NOT EVALUATED
NOT EVALUATED
NOT EVALUATED |
| NFPA(704) RATING:
HEALTH 2 FLAMMABILITY 2
FLASH POINT
AUTOIGNITION TEMPERATURE
FLAMMABLE LIMITS (% BY VOLUME)
************************************ | REACTIVITY 1 SPECIAL NONE
103 F / 39 C FLASH MIHD TCC
630 F / 332 C
LOWER 3.0 UPPER 19.0
HICAL, OR CARBON DIOXIDE.
(POSED SURFACES.
OSH/MSHA APPROVED SELF-CONTAINED BREATHING
SHTING PERSONNEL.
S:
INTO STORAGE CONTAINERS SINCE THE REACTION |

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PN: 070154180 PAGE 2 AND FROM A PROTECTED LOCATION. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND INJURIES. CONTACT CAUSES BURNS TO EYES AND SKIN. * * * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINGEN "NTP, IARC, OSHA, OR, ACIGH". ACCORDING TO : PRODUCT TOXICITY DATA: AQU TLM96: 100-10 PPM PRODUCT TLV: C 5 PPM ----- EFFECTS OF EXPOSURE ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN. SKIN: MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN. INHALATION: VAPOR, MIST OR SPRAY CAUSE SEVERE IRRITATION OF UPPER RESPIRATORY SYSTEM. INGESTION: CORROSIVE TO MOUTH, ESOPHAGUS, AND STOMACH UPON INGESTION. CHRONIC EFFECTS: . CONTINUED EXPOSURE CAN ERODE THE TEETH. OTHER SYMPTOMS AFFECTED: BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. BREATHING OF VAPOR AND/OR MISTS MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE. ----- EMERGENCY AND FIRST AID PROCEDURES -----EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL FOR MEDICAL ATTENTION. CONTINUE FLUSHING UNTIL MEDICAL HELP ARRIVES. SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. CALL FOR MEDICAL ATTENTION. FLUSH SKIN UNTIL MEDICAL HELP ARRIVES. WASH CLOTHING BEFORE REUSE. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION. * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: HEAT, SPARKS AND OPEN FLAME. INCOMPATIBILITY (MATERIALS TO AVOID): REACTS VIOLENTLY WITH WATER LIBERATING LARGE VOLUMES OF GAS, WHICH IF

CONFINED CAN RUPTURE CONTAINER. STRONG OXIDIZERS AND STRONG ALKALIES.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN AND NEUTRALIZE TO A PH OF 6-8. SCOOP UP AND REMOVE. WASTE DISPOSAL METHOD: IF MATERIAL HAS BEEN COMPLETELY NEUTRALIZED. GET APPROVAL FROM A SANITARY LANDFILL OPERATOR AND TRANSPORT TO A SANITARY LANDFILL. IF NOT GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL FACILITY, AUTHORIZED UNDER EPA/RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP ABSORBED MATERIAL TO SITE. * * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): ORGANIC VAPOR/ACID GAS CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE AND A DUST-MIST FILTER. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. LOCAL EXHAUST VENTILATION MUST BE DESIGNED FOR EXPLOSIVE ATMOSPHERES (NEC CLASS I EQUIPMENT). PROTECTIVE GLOVES: BUTYL GLOVES. EYE PROTECTION: WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM. OTHER PROTECTIVE EQUIPMENT: RUBBER BOOTS WITHOUT LACE HOLES WEAR FULL PROTECTIVE SUIT WHEN SKIN CONTACT IS POSSIBLE. * * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING FE-1A ACIDIZING COMPOSITION - BULK 070.154180 DANGER MAY CAUSE SEVERE IRRITATION TO EYES AND UPPER RESPIRATORY SYSTEM. MAY CAUSE SEVERE EYE AND SKIN BURNS. COMBUSTIBLE! FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM ALKALIES. STORE AWAY FROM OXIDIZERS. KEEP FROM HEAT, SPARKS, AND OPEN FLAME. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION; NOTICE: THIS IS A RETURNABLE, REUSABLE CONTAINER. DO NOT CONTAMINATE. STORE CONTAINER WITH ALL CLOSURES IN PLACE. RETURN EMPTY CONTAINER FOR REUSE AND/OR CREDIT. * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * DOT SHIPPING DESCRIPTION: CORROSIVE LIQUID, FLAMMABLE, N.O.S. - 8 - UN2920 - 11 (ACETIC ANHYDRIDE, ACETIC ACID) -* * * * * * * * SECTION X1 - ENVIRONMENTAL EVALUATION * * * * *

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- EPA SUPERFUND(SARA) TITLE III HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: Y PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX
- B. EPA CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) 930 GALS. - ACETIC ANHYDRIDE
- C. EPA SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS
- D. EPA SARA TITLE 111, 40 CFR 372 (LIST OF TOXIC CHEMICALS)
- E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE
- H. EPA RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY US EPA BECAUSE OF:

CORROSIVITY IGNITABILITY

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

| MSA | - I I | INHI | BI | TOR |
|-----|-------|------|----|-----|

PAGE 1

| MATERIAL SAFETY DA | TA SHEET | DATE: | 01-02-01 |
|--------------------|----------|--------------|----------|
| HALLIBURTON ENERGY | SERVICES | REVISED DATE | 04-07-99 |
| DUNCAN, OKLAHOMA | 73536 | | |

EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359 EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359

* * * * * * * * * * * SECTION I - PRODUCT DESCRIPTION * * * * * * * * * * * * * * * *

CHEMICAL CODE: MSA-II INHIBITOR PART NUMBER: 516005720 PKG QTY: 55 GALLON DRUM APPLICATION: ORGANIC ACID CORROSION INHIBITOR SERVICE USED: CHEMICAL SERVICES

* * * * * * * * * * * SECTION 11 - COMPONENT INFORMATION * * * * * * * * * * * *

| COMPONENT+ + + + + + + + + + | PERCENT | TLV | PEL |
|---|----------------|-----------|---------------|
| ROSIN AMINE DERIVATIVE | 31-60 % | NOT EST | NOT EST |
| ETHYLENE GLYCOL | 11-30 % | C 50 PPM | С 50 РРМ |
| THIOUREA | 1-10 % | NOT EST | NOT EST |
| OXYETHYLATED FATTY AMINES | 1-10 % | NOT EST | NOT EST |
| OXYALKYLATED ALKYLPHENOL | 1-10 % | NOT EST | NOT EST |
| ACETONE | 1-10 % | 750 PPM | 750 PPM |
| * * * * * * * * * * * * * SECTION 111 - P | HYSICAL DATA * | * * * * * | * * * * * * * |

PROPERTY

MEASUREMENT

| APPEARANCE
ODOR
SPECIFIC GRAVITY (H2O=1)
BULK DENSITY
PH
SOLUBILITY IN WATER AT
20 DEG C. GMS/100ML H2O
BIODEGRADABILITY
PERCENT VOLATILES -
EVAPORATION RATE(BUTYL /
VAPOR DENSITY
VAPOR DENSITY
VAPOR PRESSURE (MMHG)
BOILING POINT
FREEZE POINT
SOLUBILITY IN SEAWATER
PARTITION COFF (OCTANOL | DARK RED L | IQUID
PUNGENT
1.090
9.08 LB
NOT DETERM
DISPERSES
N/D
N/D
>1
N/D
>1
N/D
-D05 F / -
N/D
N/D
N/D
-D05 F / -
N/D
N/D
S EVALUA | /GAL
INED
- 15 C
TED
TED | | | | |
|---|---|--|--------------------------------------|--------------------------------|----------------------|-------------|----------|
| * * * * * * * * * * SEC | FION IV - F | IRE AND EXP | LOSION | DATA * * | · * * * | * * | * * * * |
| NFPA(704) RATING:
HEALTH 2 FLAMMAB
FLASH POINT
AUTOIGNITION TEMPERATURE
FLAMMABLE LIMITS (% BY V | LITY O
E
Volume) | REACTIVITY
120
ND
LOWER | 0
F /
F /
N/A | SPECIAL
48 C
ND C
UPF | NONE
FLASH
PER | MTHD
N/A | SETA |
| EXTINGUISHING MEDIA:
USE WATER SPRAY, FOAN
SPECIAL FIRE FIGHTING PF
USE WATER SPRAY TO CC
FULL PROTECTIVE CLOTH
APPARATUS REQUIRED FO | A, DRY CHEM
CCEDURES:
OOL FIRE-EX
HING AND NI
DR FIRE FIG | ICAL, OR CA
POSED SURFA
OSH/MSHA AP
HTING PERSO | RBON DI
CES.
PROVED
NNEL. | UXIDE. | •++++++ | BREA | ++++++++ |

UNUSUAL FIRE AND EXPLOSION HAZARDS: INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE, CARBON MONUXIDE AND OXIDES OF NITROGEN AND SULFUR. * * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : NTP, AND IARC PRODUCT TOXICITY DATA: NOT DETERMINED PRODUCT TLV: NOT ESTABLISHED ----- EFFECTS OF EXPOSURE ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: CAUSES MODERATE TO SEVERE IRRITATION AND MAY PRODUCE MODERATE BUT REVERSIBLE EYE INJURY. SKIN: INTERMITTENT, BRIEF CONTACT MAY CAUSE MILD IRRITATION. PROLONGED CONTACT MAY CAUSE MODERATE TO SEVERE IRRITATION RESULTING IN RASHES AND DERMATITIS. INHALATION: PROLONGED OR EXCESSIVE EXPOSURE MAY RESULT IN IRRITATION, HEADACHE AND NAUSEA. IN EXTREME CASES, MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION LEADING TO DIZZINESS, DROWSINESS AND NARCOSIS. INGESTION: MAY CAUSE ADOMINAL DISCOMFORT AND PAIN, DIZZINESS, DRUNKENESS AND CENTRAL NERVOUS SYSTEM DEPRESSION. GROSS OVEREXPOSURES MAY CAUSE SEVERE HEART. KIDNEY AND BRAIN DISORDERS. THIOUREA HAS BEEN OBSERVED TO PRODUCE ANEMIA THROUGH BONE MARROW DEPRESSION. AND MAY AFFECT THE THYROID. THUS CARE SHOULD BE TAKEN TO MINIMIZE CONTACT WITH THIS MATERIAL. CHRONIC EFFECTS: THIOUREA IS A SUSPECTED CARCINOGEN OF THE LIVER AND THYROID. CHRONICALLY HIGH EXPOSURES CAUSE BONE MARROW DEPRESSION WITH ANEMIA, LEUKOPENIA AND THROMBOXYTOPENIA. CONTAINS ETHYLENE GLYCOL WHICH MAY CAUSE KIDNEY, LIVER, HEART, BLOOD & BRAIN DISORDERS. ETHYLENE GLYCOL HAS BEEN SHOWN TO CAUSE DEVELOPMENTAL AND REPRODUCTIVE EFFECTS IN LABORATORY ANIMALS. THESE FINDINGS ARE OF UNCERTAIN TO HUMANS. ETHYLENE GLYCOL HAS PRODUCED DOSE RELATED TERATOGENIC EFFECTS IN RATS AND MICE, WHEN GIVEN BY GAVAGE OR DRINKING WATER AT HIGH DOSES. TERATOGENIC EFFECTS WERE ALSO PRODUCED BY INHALATION IN VERY HIGH CONCENTRATIONS BUT ONLY IN MICE. THE DATA SUGGESTS ETHYLENE GLYCOL MAY CAUSE BIRTH DEFECTS. OTHER SYMPTOMS AFFECTED: MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE INCLUDE SKIN DISORDERS AND ALLERGIES, LIVER DISORDER, AND EYE DISEASE. ----- EMERGENCY AND FIRST AID PROCEDURES EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION. SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT. GIVE OXYGEN.

PN: 516005720

PAGE 2

SEEK PROMPT MEDICAL ATTENTION.

INGESTION:

DO NOT INDUCE VOMITING! ASPIRATION INTO LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO LUNGS. * * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS. HAZARDOUS DECOMPOSITION PRODUCTS: OXIDES OF NITROGEN AND SULFUR, CARBON DIOXIDE AND/OR CARBON MONOXIDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN AND ABSORB SPILL WITH AN INERT MATERIAL. SCOOP UP AND REMOVE. WASTE DISPOSAL METHOD: GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE. * * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): ORGANIC VAPOR CARTRIDGE RESPIRATOR. IN OXYGEN DEFICIENT AREAS OR CONFINED SPACES, POSITIVE PRESSURE SUPPLIED-AIR RESPIRATOR WITH 5-MINUTE AUXILIARY BOTTLE, OR PRESSURE-DEMAND OR POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. PROTECTIVE GLOVES: IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM. OTHER PROTECTIVE EQUIPMENT: RUBBER APRON TO PREVENT DIRECT SKIN CONTACT. * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING MSA-II INHIBITOR 516.005720 WARNING! MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE IRRITATION TO THE EYES, SKIN OR RESPIRATORY SYSTEM. CONTAINS THIOUREA, A SUSPECTED CARCINOGEN. CONTAINS ETHYLENE GLYCOL WHICH MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA. FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM OXIDIZERS. STORE IN A COOL WELL VENTILATED LOCATION. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: IF CONTAINER RETAINS PRODUCT RESIDUES, LABEL PRECAUTIONS MUST BE OBSERVED.

| PN: 516005720 PA | GE | 4 |
|--|-------------|----|
| STORE CONTAINER WITH CLOSURES IN PLACE. OFFER EMPTY CONTAINER TO RECO
TIONOR OR RECYCLER FOR RECONDITIONING OR DISPOSAL. ENSURE RECONDITIO
OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS. | NDI-
NER | |
| * * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * | * * | * |
| DOT SHIPPING DESCRIPTION:
FLAMMABLE LIQUID, N.O.S 3 - UN1993 - III
(CONTAINS ACETONE) - RQ (THIOUREA - 10 LBS) | | |
| * * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * | * * * | k |
| EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFOR
FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y
CHRONIC (DELAYED): Y, MIXTURE OR PURE MATERIAL: MIX | MATIC | лс |
| B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)
24 GAL, THIOUREA | | |
| C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES)
PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS | | |
| D. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS)
ETHYLENE GLYCOL 107-21-1 11-30 %
THIOUREA 62-56-6 1-10 %
ACETONE 67-64-1 1-10 % | | |
| E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE | | |
| H. EPA – RCRA (HAZARDOUS WASTE), 40 CFR 261 | | |
| IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY US EPA BECAUSE OF: | | |

IGNITABILITY

* * * * * * * * * * * * * * * * *

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

| {AI-81M | • | HAL-TANK | PAGE |
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| IAI "OIM | • | HAL-IANK | PAGE |

MATERIAL SAFETY DATA SHEET DATE: 01-02-01 HALLIBURTON ENERGY SERVICES REVISED DATE 04-07-99 DUNCAN, OKLAHOMA 73536

EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359 EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359

* * * * * * * * * * * SECTION I - PRODUCT DESCRIPTION * * * * * * * * * * * * * * *

CHEMICAL CODE: HAI-81M - HAL-TANK PART NUMBER: 516009380 PKG QTY: 330 GALLON TANK APPLICATION: CORROSION INHIBITOR SERVICE USED: STIMULATION

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PROPERTY

MEASUREMENT

1

| APPEARANCE DARK REDDI
ODOR
SPECIFIC GRAVITY (H2O=1) | SH-BROWN LIQUID
SWEET AROMATIC
.935 |
|---|--|
| BULK DENSITY | 7.79 LB/GAL |
| РН | 3 TO 5 |
| SOLUBILITY IN WATER AT | |
| 20 DEG C. GMS/100ML H20 | INSOLUBLE |
| BIODEGRADABILITY | NOT DETERMINED |
| PERCENT VOLATILES | N/D |
| EVAPORATION RATE(BUTYL ACETATE=1) | |
| VAPOR DENSITY | .316 |
| VAPOR PRESSURE (MMHG) | 3.70 |
| BOILING POINT(760 MMHG) | 20 F / -17 C |
| POUR POINT | /DO F / -17 C |
| FREEZE POINT | -50 F / -17 C |
| SOLUBILITY IN SEAWATER | NOT EVALUATED |
| PARTITION COEF (OCTANOL IN WATER) | NOT EVALUATED |
| * * * * * * * * * * SECTION IV - F | IRE AND EXPLOSION DATA * * * * * * * * * * * |
| NEPA(704) RATING: | |
| HEALTH 2 FLAMMABILITY 3 | REACTIVITY O SPECIAL NONE |
| FLASH POINT | 58 F / 14 C FLASH MTHD PMCC |
| AUTOIGNITION TEMPERATURE | NDF/ ND C |
| FLAMMABLE LIMITS (% BY VOLUME) | LOWER 6.0 UPPER 36.5 |
| · + + + + + + + + + + + + + + + + + + + | ********** |
| EXTINGUISHING MEDIA: | |
| USE WATER SPRAY, FOAM, DRY CHEM | ICAL, OR CARBON DIOXIDE. |
| SPECIAL FIRE FIGHTING PROCEDURES: | • |
| USE WATER SPRAY TO COOL FIRE-EX | POSED SURFACES. |
| FULL PROTECTIVE CLOTHING AND NI | OSH/MSHA APPROVED SELF-CONTAINED BREATHING |
| APPARATUS REQUIRED FOR FIRE FIG | HTING PERSONNEL. |
| UNUSUAL FIRE AND EXPLOSION HAZARDS | : |
| MAY BE IGNITED BY HEAT, SPARKS, | OR FLAMES. FIGHT FIRE FROM A SAFE DISTANCE |

PN: 516009380 AND FROM A PROTECTED LOCATION. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND INJURIES. INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE TOXIC GASES. VAPORS ARE HEAVIER THAN AIR AND MAY ACCUMULATE IN LOW AREAS OR AREAS INADE-QUATELY VENTILATED. VAPORS MAY ALSO TRAVEL ALONG THE GROUND TO BE IGNITED AT LOCATIONS DISTANT FROM THE HANDLING SITE, AND FLASH BACK TO REIGNITE THE SOURCE. RUNOFF TO SEWER MAY CAUSE FIRE OR EXPLOSION HAZARD. * * * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN "NTP, IARC, OSHA, OR, ACIGH". ACCORDING TO : PRODUCT TOXICITY DATA: NOT DETERMINED PRODUCT TLV: NOT DETERMINDED ----- EFFECTS OF EXPOSURE ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. FYF: MAY CAUSE MODERATE IRRITATION. SKIN: MAY BE ABSORBED THROUGH SKIN. FREQUENT OR PROLONGED CONTACT WILL DRY AND DEFAT THE SKIN, POSSIBLY LEADING TO IRRITATION AND DERMATITIS. REPEATED CONTACT MAY SENSITIZE THE SKIN. INHALATION: HIGH CONCENTRATIONS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. THIS MAY BE EVIDENCED BY GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS. VAPORS, MIST OR SPRAY MAY CAUSE IRRITATION. INGESTION: CONTAINS METHANOL, MAY CAUSE NAUSEA, VOMITING, HEADACHE, DIZZINESS. SHORTNESS OF BREATH, CONFUSION, VISUAL DISTURBANCES, DROWSINESS, COMA AND POSSIBLY DEATH. VISUAL EFFECTS INCLUDE BLURRED VISION, DIPLOPIA, CHANGES IN COLOR PERCEPTION, RESTRICTION IN VISUAL FIELDS AND BLINDNESS. CHRONIC EFFECTS: PROLONGED OR REPEATED EXPOSURE TO HIGH CONCENTRATIONS OF METHANOL MAY CAUSE VISUAL IMPAIRMENT OR BLINDNESS AND BLOOD, LUNG, LIVER, KIDNEY AND SPLEEN INJURY. PROLONGED EXPOSURE TO EXCESSIVE AMOUNTS OF METHANOL CAN CAUSE LUNG SWELLING, FATTY TISSUE INFILTRATION IN THE LIVER. FATTY DEGENERATION OF THE HEART TISSUE AND DEGENERATIVE CHANGES IN THE CENTRAL NERVOUS SYSTEM AND EYE. ISOPROPYL ALCOHOL HAS CAUSED UNEXPECTED ACUTE TOXICITY WHEN ADMINISTED TO PREGNANT RABBITS BY GAVAGE AND RELATIVELY MILD DEVELOPMENTAL EFFECTS IN RATS AT MATERNALLY TOXIC LEVELS. THE EFFECT LEVEL FOR RABBITS AND RATS WERE AT SEVERAL TIMES THE MAXIMUM EXPOSURE THAT WOULD OCCUR AT THE TLV. PROPARGYL ALCOHOL IS HIGHLY TOXIC WHEN INGESTED, DAMAGING TO THE EYES, AND ABSORBED THROUGH THE SKIN. IRRITATING TO THE MUCOUS MEMBRANES, PRODUCES STRONG TEARING, AND AFFECTS THE CENTRAL NERVOUS SYSTEM. OTHER SYMPTOMS AFFECTED: BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. BREATHING OF VAPOR AND/OR MISTS MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE. ----- EMERGENCY AND FIRST AID PROCEDURES ------EYE:

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK

PAGE 2

PROMPT MEDICAL ATTENTION.

SKIN:

PROMPILY WASH SKIN WITH SOAP AND WATER. WASH CLOTHING BEFORE REUSE. IF IRRITAION DEVELOPS, SEEK PROMPT MEDICAL ATTENTION. INHALATION:

REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION.

INGESTION: GIVE DILUTED MILK OF MAGNESIA, WATER OR MILK. INDUCE VOMITING. SEEK PROMPT MEDICAL ATTENTION.

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STABILITY: STABLE CONDITIONS TO AVOID: HEAT, SPARKS AND OPEN FLAME. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS. HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE. NITROGEN OXIDES. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID:

NOT APPLICABLE.

* * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * *

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AREA AND STOP LEAK WHERE SAFE. REMOVE IGNITION SOURCES. CONTAIN AND ABSORB SPILL WITH SAND OR OTHER INERT MATERIAL. SCOOP OR SWEEP UP USING NON-SPARKING TOOLS. IN ENCLOSED AREAS, WEAR SELF-CONTAINED BREATHING APPARATUS. WASTE DISPOSAL METHOD:

GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE.

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RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):

NOT NORMALLY NEEDED. BUT IF SIGNIFICANT EXPOSURES ARE TO BE ENCOUNTERED THEN THE FOLLOWING TYPE OF RESPIRATOR IS RECOMMENDED:

ORGANIC VAPOR CARTRIDGE RESPIRATOR.

WHEN MATERIAL IS HEATED, SUPPLIED-AIR OR SELF-CONTAINED BREATHING APPARATUS. VENTILATION:

USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION.

PROTECTIVE GLOVES: IMPERVIOUS RUBBER GLOVES.

EYE PROTECTION:

WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM. OTHER PROTECTIVE EQUIPMENT:

BUTYL COATED CLOTHING FOR REPEATED OR PROLONGED SKIN CONTACT.

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PRECAUTIONARY LABELING HAI-81M - HAL-TANK

516.009380

DANGER! MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSIEM EFFECTS. CONTAINS METHANOL, MAY CAUSE BLINDNESS, CENTRAL NERVOUS SYSTEM DEPRESSION OR EVEN DEATH, IF SWALLOWED. MAY BE ABSORBED THROUGH THE SKIN.

PAGE 3

PAGE 4

MAY CAUSE IRRITATION TO THE EYES, SKIN OR RESPIRATORY SYSTEM. FLAMMABLE! FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS; STORE AWAY FROM OXIDIZERS. KEEP FROM HEAT, SPARKS, AND OPEN FLAME. STORE IN A COOL WELL VENTILATED LOCATION. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: IF EMPTY CONTAINER RETAINS PRODUCT RESIDUES, ALL LABEL PRECAUTIONS MUST BE OBSERVED. STORE AWAY FROM IGNITION SOURCES WITH ALL DRUM CLOSURES IN PLACE. OFFER CONTAINER TO RECONDITIONER OR RECYCLER. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS. SPECIAL PRECAUTIONS: PRODUCT HAS A SHELF LIFE OF 24 MONTHS. * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * DOT SHIPPING DESCRIPTION: FLAMMABLE LIQUID, N.O.S. - 3 - UN1993 - II (CONTAINS METHANOL, KEROSENE) * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: Y PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): Y MIXTURE OR PURE MATERIAL: MIX B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) 22,936 POUNDS OR 2967 GALLONS C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS D. EPA - SARA TITLE III. 40 CFR 372 (LIST OF TOXIC CHEMICALS) 67-56-1 11-30 % METHANOL 107-19-7 1-10 % PROPARGYL ALCOHOL E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA YES EEC NO ACOIN NO NPR NE DRSM NE H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261 IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY US EPA BECAUSE OF: IGNITABILITY

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY

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OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES. FORMIC ACID - 90% - BULK

PAGE 1

MATERIAL SAFETY DATA SHEET DATE: 01-02-01 HALLIBURTON ENERGY SERVICES REVISED DATE 04-07-99 DUNCAN, OKLAHOMA 73536 EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359 EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359 * * SECTION 1 - PRODUCT DESCRIPTION * * * * * * * * * * * * * CHEMICAL CODE: FORMIC ACID - 90% - BULK PART NUMBER: 070153660 PKG QTY: CARGO TANK APPLICATION: SOLVENT SERVICE USED: CHEMICAL SERVICES & I.C. * * * * * * * * * * * SECTION 11 - COMPONENT INFORMATION * * * * * * * * * * * * COMPONENT+ + + + + + + + + + PERCENT ŤĹV PEL FORMIC ACID > 60 % 5 PPM 5 PPM ACETIC ACID 1-10 % 10 PPM 10 PPM * * * * * * * * * * * * SECTION !!! - PHYSICAL DATA * * * * * * * * * * * * * * * PROPERTY MEASUREMENT APPEARANCE CLEAR COLORLESS LIQUID SHARP ODOR SPECIFIC GRAVITY (H2O=1) 1.207 BULK DENSITY 10.05 LB/GAL PH 1 SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 MISCIBLE BIODEGRADABILITY READILY PERCENT VOLATILES 100 EVAPORATION RATE(BUTYL ACETATE=1) 2.1 VAPOR DENSITY 1.59 VAPOR PRESSURE (MMHG) 23.00 BOILING POINT(760 MMHG) 2215 F / C101 C POUR POINT N/D FREEZE POINT D-50 F / 10 C SOLUBILITY IN SEAWATER NOT EVALUATED PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED * * * * * * * * * * SECTION IV - FIRE AND EXPLOSION DATA * * * * * * * * NFPA(704) RATING: SPECIAL NONE HEALTH 3 FLAMMABILITY 2 REACTIVITY 0 FLASH POINT 121 F / 49 C FLASH MTHD TCC AUTOIGNITION TEMPERATURE 1114 F / 601 C FLAMMABLE LIMITS (% BY VOLUME) LOWER 18 UPPER 57 ***** EXTINGUISHING MEDIA: USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. SPECIAL FIRE FIGHTING PROCEDURES: FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL. UNUSUAL FIRE AND EXPLOSION HAZARDS: INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE AND CARBON MONOXIDE. DO NOT ALLOW RUNOFF TO ENTER WATERWAYS. CONTACT CAUSES BURNS TO EYES AND SKIN.

* * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH". PRODUCT TOXICITY DATA: IRR SKN-RBT 610 MG OPEN MLD IRR EYE-RBT 122 MG SEV TOX ORL-RAT LD50:1100 MG/KG TOX IHL-RAT LC50:15000/M3/15M PRODUCT TLV: 5 PPM ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN. SKIN: MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN. INHALATION: VAPOR, MIST OR SPRAY CAUSE SEVERE IRRITATION OF UPPER RESPIRATORY SYSTEM. INHALATION OF VAPOR MAY CAUSE NAUSEA AND VOMITING. INGESTION: CORROSIVE TO MOUTH, ESOPHAGUS, AND STOMACH UPON INGESTION. CHRONIC EFFECTS: CHRONIC OVEREXPOSURE MAY LEAD TO EROSION OF THE TEETH. OTHER SYMPTOMS AFFECTED: BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION. SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION. * * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS AND STRONG ALKALIES. HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE.

CARBON MONOXIDE CAN FORM IN STORAGE.

DANGER!

HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: HEAT, SPARKS AND OPEN FLAME. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * SIEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN AND NEUTRALIZE TO A PH OF 6-8. SCOOP UP AND REMOVE. WASTE DISPOSAL METHOD: IF MATERIAL HAS BEEN COMPLETELY NEUTRALIZED. GET APPROVAL FROM A SANITARY LANDFILL OPERATOR AND TRANSPORT TO A SANITARY LANDFILL. IF NOT GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL FACILITY, AUTHORIZED UNDER EPA/RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP ABSORBED MATERIAL TO SITE. * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): ACID GAS CHEMICAL CARTRIDGE RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. PROTECTIVE GLOVES: IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM. **OTHER PROTECTIVE EQUIPMENT:** WEAR FULL PROTECTIVE SUIT WHEN SKIN CONTACT IS POSSIBLE. * * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * * PRECAUTIONARY LABELING FORMIC ACID - 90% - BULK 070.153660 MAY CAUSE SEVERE EYE AND SKIN BURNS. COMBUSTIBLE! FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM ALKALIES. STORE AWAY FROM OXIDIZERS KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION. * * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * DOT SHIPPING DESCRIPTION: FORMIC ACID - 8 - UN1779 - 11 RQ (FORMIC ACID - 5000 LBS)

* * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * *

EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): Y MIXTURE OR PURE MATERIAL: MIX

B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) 550 GALS. - FORMIC ACID, U123

PAGE 3
- C. EPA SARA TITLE 111, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS
- D. EPA SARA TITLE 111, 40 CFR 372 (LIST OF TOXIC CHEMICALS)

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE

H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY US EPA BECAUSE OF:

CORROSIVITY IGNITABILITY

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES. IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

| HYDROCHLORIC ACID | - NEAT | - 35.21% - | - BULK | PAGE | 1 |
|-------------------|--------|------------|--------|------|---|
|-------------------|--------|------------|--------|------|---|

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| | MATERIAL SAFETY DATA SHEET
HALLIBURTON ENERGY SERVICES
DUNCAN, OKLAHOMA 73536 | DATE: 01-02-01
REVISED DATE 04-07-99 |
|--|---|---|
| EMERG
EMERG | SENCY TELEPHONE: 800/666-9260 OR
SENCY TELEPHONE: 800/666-9260 OR | 580/251-3359
580/251-3359 |
| * * * * * * * S | SECTION I - PRODUCT DESCRIPTION * | * * * * * * * * * * * * * |
| L CODE: HYDROCHL
: CARGO TANK
USED: CHEMICAL | ORIC ACID - NEAT - 35.21% - BULK
APPLICATION: SOLVENT
SERVICES, 1. C. | <pre>< PART NUMBER: 070155300</pre> |

* * * * * * * * * * * SECTION II - COMPONENT INFORMATION * * * * * * * * * * *

COMPONENT+++++++++ PERCENT TLV PEL

| HYD | DRC | DCF | ILC | RI | С | AC | ID | | | | | | | | 31-6 | 0% | С | 5 | PF | РΜ | | 0 | : 5 | F | РРМ | í – | | | | |
|-----|-----|-----|-----|----|---|----|----|---|---|---|---------|----|---|---------|-------|------|---|---|----|----|---|---|-----|---|-----|-----|---|---|---|--|
| * * | * * | к ж | · * | * | * | * | * | * | * | * | SECTION | HI | - | PHYSICA | I. DA | TA * | * | * | * | * | * | * | * | * | * | * | * | * | * | |

PROPERTY

CHEMICA PKG QTY SERVICE

MEASUREMENT

CLEAR, COLORLESS LIQUID APPEARANCE ODOR PUNGENT, ACRID SPECIFIC GRAVITY (H2O=1) 1.160 BULK DENSITY 9.66 LB/GAL 0.8 FOR 1% SOL РН SOLUBILITY IN WATER AT MISCIBLE 20 DEG C. GMS/100ML H20 BIODEGRADABILITY N/D PERCENT VOLATILES 35 EVAPORATION RATE(BUTYL ACETATE=1) >1 1.27 VAPOR DENSITY VAPOR PRESSURE (MMHG) 26.00 BOILING POINT(760 MMHG) /230 F / 110 C POUR POINT N/D /D-50 F / -45 C FREEZE POINT TOTALLY MISCIBLE SOLUBILITY IN SEAWATER PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED * * * * * * * * * * SECTION IV - FIRE AND EXPLOSION DATA * * * * * NFPA(704) RATING: HEALTH 3 FLAMMABILITY O REACTIVITY 1 SPECIAL CORROSIVE NONE FLASH POINT N/A F / AUTOIGNITION TEMPERATURE N/A C FLAMMABLE LIMITS (% BY VOLUME) LOWER N/A UPPER N/A ****** EXTINGUISHING MEDIA: USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. SPECIAL FIRE FIGHTING PROCEDURES: FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL. UNUSUAL FIRE AND EXPLOSION HAZARDS: MAY FORM EXPLOSIVE MIXTURE WITH STRONG ALKALIS. REACTION WITH STEEL, AND CERTAIN OTHER METALS GENERATES FLAMMABLE AND POTENTIALLY EXPLOSIVE HYDROGEN GAS. CONSIDERABLE HEAT IS EVOLVED WHEN CONTACTED WITH MANY SUBSTANCES. DO NOT ALLOW RUNOFF TO ENTER WATERWAYS.

PN: 070155300 PAGE 2 CONTACT CAUSES BURNS TO EYES AND SKIN. * * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN "NTP, IARC, OSHA, OR, ACIGH". ACCORDING TO : PRODUCT TOXICITY DATA: TOX IHL-HMN LCLO: 1300 MG/30M TOX ORL-RBT LD50:900 MG/KG TOX IHL-RAT LC50:3124 PPM/1H AQU TLM96: 282 PPM PRODUCT TLV: 5 PPM HCL ----- EFFECTS OF EXPOSURE ------ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN. SKIN: MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN. INHALATION: VAPOR, MIST OR SPRAY CAUSE SEVERE IRRITATION OF UPPER RESPIRATORY SYSTEM. INGESTION: CORROSIVE TO MOUTH, ESOPHAGUS, AND STOMACH UPON INGESTION. CHRONIC EFFECTS: CONTINUED EXPOSURE CAN ERODE THE TEETH. OTHER SYMPTOMS AFFECTED: BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. ----- EMERGENCY AND FIRST AID PROCEDURES ------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION. SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION. * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): ALKALIES (EG. AMMONIA AND ITS SOLUTIONS, CARBONATES, SODIUM HYDROXIDE (CAUSTIC), POTASSIUM HYDROXIDE, CALCIUM HYDROXIDE, CYANIDES, SULFIDES, HYPOCHLORITES, CHLORITES) WHICH CAN GENERATE HEAT WITH SPLATTERING OR

BOILING AND THE RELEASE OF TOXIC FUMES.

PN: 070155300 PAGE - 3 HYDROCHLORIC ACID MAY GENERATE AND RELEASE FLAMMABLE HYDROGEN AND TOXIC CHLORINE GAS IN THE PRESENCE OF IRON. IN THE PRESENCE OF IRON SULFIDE. HYDROCHLORIC ACID MAY PRODUCE HIGHLY TOXIC HYDROGEN SULFIDE. HAZARDOUS DECOMPOSITION PRODUCTS: MAY RELEASE HYDROGEN AND CHLORINE GAS IN THE PRESENCE OF IRON, AND HYDROGEN SULFIDE IN THE PRESENCE OF IRON SULFIDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN AND NEUTRALIZE TO A PH OF 6-8. SCOOP UP AND REMOVE. PREVENT RUNOFF FROM ENTERING SEWERS, LAKES, RIVERS, STREAMS OR PUBLIC WATER SUPPLIES. WASTE DISPOSAL METHOD: IF MATERIAL HAS BEEN COMPLETELY NEUTRALIZED, GET APPROVAL FROM A SANITARY LANDFILL OPERATOR AND TRANSPORT TO A SANITARY LANDFILL. IF NOT GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL FACILITY, AUTHORIZED UNDER EPA/RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP ABSORBED MATERIAL TO SITE. * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * **RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):** ACID GAS CHEMICAL CARTRIDGE RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. PROTECTIVE GLOVES: BUTYL GLOVES. EYE PROTECTION: WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM. **OTHER PROTECTIVE EQUIPMENT:** RUBBER BOOTS WITHOUT LACE HOLES WEAR FULL PROTECTIVE SUIT WHEN SKIN CONTACT IS POSSIBLE. * * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * * PRECAUTIONARY LABELING HYDROCHLORIC ACID - NEAT - 35.21% - BULK 070.155300 DANGER! MAY CAUSE SEVERE IRRITATION TO EYES AND UPPER RESPIRATORY SYSTEM. MAY CAUSE SEVERE EYE AND SKIN BURNS. FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM ALKALIES. STORE IN A COOL WELL VENTILATED LOCATION. KEEP CONTAINER CLOSED WHEN NOT IN USE. 1 AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION. * * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * * DOT SHIPPING DESCRIPTION: HYDROCHLORIC ACID SOLUTION - 8 - UN1789 - II

RQ (HYDROCHLORIC ACID - 5000 LBS)

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* * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * *

- EPA SUPERFUND(SARA) TITLE 111 HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX
- B. EPA CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) 1,640 GALS. - HYDROCHLORIC ACID.
- C. EPA SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS
- D. EPA SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS) HYDROCHLORIC ACID 7647-01-0 31-60 %
- E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE
- H. EPA RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY US EPA BECAUSE OF:

CORROSIVITY

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

BE-6 MICROBIOCIDE

MATERIAL SAFETY DATA SHEET HALLIBURTON ENERGY SERVICES REVISE DUNCAN, OKLAHOMA 73536

DATE: 01-02-01 REVISED DATE 04-07-99

EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359 EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359

* * * * * * * * * * * SECTION I - PRODUCT DESCRIPTION * * * * * * * * * * * * * * * * *

CHEMICAL CODE: BE-6 MICROBIOCIDE PART NUMBER: 516007710 PKG QTY: 48 LB FIBER DRUM APPLICATION: MICROBIOCIDE SERVICE USED: FRACTURING

* * * * * * * * * * * SECTION II - COMPONENT INFORMATION * * * * * * * * * * *

| COMPONENT+ + + + + + + + + + | PERCENT TLV | PEL |
|----------------------------------|---------------|-----------|
| 2-BROMO-2-NITRO-1, 3-PROPANEDIOL | > 60 % NOT ES | T NOT EST |

* * * * * * * * * * * SECTION 111 - PHYSICAL DATA * * * * * * * * * * * * * * *

PROPERTY

MEASUREMENT

APPEARANCE WHITE SOLID POWDER ODOR N/D SPECIFIC GRAVITY (H20=1) N/D BULK DENSITY LB/CU.FT. N/D 4 FOR 20% SOLUTION РH SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 SOLUBLE BIODEGRADABILITY N/D PERCENT VOLATILES NIL EVAPORATION RATE(BUTYL ACETATE=1) N/A VAPOR DENSITY >1 VAPOR PRESSURE (MMHG) N/D BOILING POINT(760 MMHG) N/D POUR POINT N/D FREEZE POINT N/D SOLUBILITY IN SEAWATER NOT EVALUATED PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED * * * * * * * * * * SECTION IV - FIRE AND EXPLOSION DATA * * * * * * * * * * NFPA(704) RATING: HEALTH 2 FLAMMABILITY O REACTIVITY 0 SPECIAL NONE FLASH POINT > 200 F / > 93 C FLASH MTHD SFCC AUTOIGNITION TEMPERATURE ND F / ND C FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/D UPPER N/D ********************* EXTINGUISHING MEDIA: USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. SPECIAL FIRE FIGHTING PROCEDURES: FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL. UNUSUAL FIRE AND EXPLOSION HAZARDS: IF PRODUCT IS HEATED ABOVE 140' C, THE SOLID DECOMPOSES LIBERATING HEAT. TOXIC HYDROGEN BROMIDE FUMES, AND OXIDES OF NITROGEN. THE PRODUCT SWELLS UP INTO A TARRY MASS WHICH BURNS READILY.

* * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * * * * * * *

CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH". PRODUCT TOXICITY DATA: TOX ORL-RAT LD50: 180-400 MG/KG TOX IHL-RAT LC50: 5 MG/L TOX SKN-RBT LD50: > 1600 MG/KG PRODUCT TLV: NOT ESTABLISHED FFFECTS OF EXPOSURE ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: CONTACT WILL PRODUCE SEVERE IRRITATION OR BURNS AND, IF NOT IMMEDIATELY REMOVED, MAY LEAD TO PERMANENT EYE DAMAGE. SKIN: PROLONGED OR REPEATED CONTACT MAY CAUSE SEVERE IRRITATION IF NOT PROMPTLY REMOVED. INHALATION: THIS PRODUCT IS EXPECTED TO BE A LOW INHALATION HAZARD. INGESTION: LARGE DOSES CAUSES ABDOMINAL PAIN, NAUSEA, VOMITING AND DIARRHEA. CHRONIC EFFECTS: NO SPECIFIC INFORMATION IS AVAILABLE ON THE CHRONIC EFFECTS OF EXPOSURE. OTHER SYMPTOMS AFFECTED: BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. ----- EMERGENCY AND FIRST AID PROCEDURES ------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION. SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE. INHALATION: REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION, INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION. NOTE TO PHYSICIAN: . PROBABLE MUCOSAL DAMAGE MAY CONTRAINDICATE THE USE OF GASTRIC LAVAGE. * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: STABLE AT NORMAL AMBIENT TEMPERATURES. AVOID STORAGE AT HIGH TEMPERATURES. DECOMPOSITION OCCURS AT MELTING POINT OF 130' C. ALKALINE PH WILL LIBERATE FORMALDEHYDE INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS AND STRONG ALKALIES. HAZARDOUS DECOMPOSITION PRODUCTS: OXIDES OF NITROGEN, BROMINE AND FORMALDEHYDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE.

| PN: 516007710 | PAGE 3 | | |
|--|--|-----|---|
| * * * * * * * * * * SECTION VII - SPILL OR LEAK | PROCEDURES * * * * * * * * * * | | |
| STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPI
SWEEP UP MATERIAL AND PLACE IN APPROPRIATE DIS
COMPOUND OR OTHER CLEANING AIDS TO PICK-UP RE
THOROUGHLY WITH WATER. USE APPROPRIATE PERSON
NECESSARY.
WASTE DISPOSAL METHOD:
SECURE CONTAINER AND TAKE TO AN APPROVED WASTE
ACCORDANCE WITH APPLICABLE WASTE MANAGEMENT PERSON | LLED:
SPOSAL CONTAINER. USE SWEEPING
SIDUES. WASH DOWN AREA
NAL PROTECTIVE EQUIPMENT AS
E DISPOSAL SITE. DISPOSE OF IN | | |
| * * * * * * * * SECTION VIII - SPECIAL PROTECT | ION INFORMATION * * * * * * * * | | |
| RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED I
NOT NORMALLY NECESSARY.
TOXIC DUST/MIST RESPIRATOR.
VENTILATION:
USE ONLY WITH ADEQUATE VENTILATION.
PROTECTIVE GLOVES:
IMPERVIOUS RUBBER GLOVES.
EYE PROTECTION:
GOGGLES AND/OR FACE SHIELD. | EQUIPMENT): | · · | |
| OTHER PROTECTIVE EQUIPMENT:
NORMAL WORK COVERALLS. | | | |
| * * * * * * * * * * * * * SECTION IX - SPECIAL PREG | CAUTIONS * * * * * * * * * * * * | | , |
| WARNING!
MAY CAUSE SEVERE EYE AND SKIN IRRITATION.
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTION
EPA REGISTRATION NUMBER 10707-53-40153
EPA EST. NUMBER 10707-TX-008
OTHER HANDLING AND STORAGE CONDITIONS:
STORE IN DRY LOCATION TO PROTECT PRODUCT QUALT
AVOID CREATING OR INHALING DUST.
AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
SPECIAL PRECAUTIONS:
PRODUCT HAS A SHELF LIFE OF 24 MONTHS. | NS IV-VIII.
ITY. REQUIRES COVERED STORAGE. | | July July July July July July July July |
| * * * * * * * * * * SECTION X - TRANSPORTATION IN | NFORMATION * * * * * * * * * * | | |
| DOT SHIPPING DESCRIPTION:
2-BROMO-2-NITROPROPANE-1,3-DIOL - 4.1 - UN3241 - | III | | |
| * * * * * * * * * * SECTION XI - ENVIRONMENTAL EV | /ALUATION * * * * * * * * * * | • | |
| EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICA
FIRE: N PRESSURE: N REACTIVE: N ACUTE
CHRONIC (DELAYED): N MIXTURE OR PURE MATERI | ATION & ASSOCIATED INFORMATION
E (IMMEDIATE): Y
IAL: MIX | | |
| B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE
NOT EVALUATED | E SPILL QUANTITY) | | |
| C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZAR | RDOUS SUBSTANCES) NOT EVALUATED | | |
| | | | |
| D. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXI | C CHEMICALS) | | |

PAGE 4

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H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE

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| MATERIAL SAFETY DA | TA SHEET | DATE: 01-02-01 |
|--------------------|----------|-----------------------|
| HALLIBURTON ENERGY | SERVICES | REVISED DATE 04-07-99 |
| DUNCAN, OKLAHOMA | 73536 | |

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EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359 EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359

* * * * * * * * * * * SECTION I - PRODUCT DESCRIPTION * * * * * * * * * * * * * *

CHEMICAL CODE: SP BREAKER - SODIUM PERSULPHATE - 10 LBS PART NUMBER: 516000420 PKG QTY: 10 LBS / BOX APPLICATION: BREAKER, CATALYST SERVICE USED: FRACTURING, WATER&SAND

SODIUM PERSULFATE > 60 % 2 MG/M3 NOT EST * * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * * * * *

PROPERTY MEASUREMENT APPEARANCE WHITE SOLID, CRYSTALS ODOR ÓDORLESS SPECIFIC GRAVITY (H2O=1) 2.470 BULK DENSITY 81.90 LB/CU.FT. 6.0 FOR 1% SOL PH SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 35 BIODEGRADABILITY READILY PERCENT VOLATILES N/A EVAPORATION RATE(BUTYL ACETATE=1) N/A VAPOR DENSITY N/A VAPOR PRESSURE (MMHG) N/D BOILING POINT(760 MMHG) N/A POUR POINT N/A FREEZE POINT N/A SOLUBILITY IN SEAWATER NOT EVALUATED PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED * * * * * * * * * * SECTION IV - FIRE AND EXPLOSION DATA * * * * NFPA(704) RATING: HEALTH 1 FLAMMABILITY O REACTIVITY 1 SPECIAL NONE FLASH POINT N/A AUTOIGNITION TEMPERATURE ND F / ND С FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER ND UPPER ND EXTINGUISHING MEDIA: USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. SPECIAL FIRE FIGHTING PROCEDURES: AVOID CREATING DUST CLOUDS WITH EXTINGUISHERS. FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL. UNUSUAL FIRE AND EXPLOSION HAZARDS: MAY IGNITE COMBUSTIBLES. REACTION WITH FUELS MAY BE VIOLENT. A POWERFUL OXIDIZER. REACTS VIGOROUSLY WITH REDUCING MATERIALS. DECOMPOSES WHEN HEATED LIBERATING OXYGEN WHICH MAY INTENSIFY A FIRE.

PN: 516000420 PAGE 2 * * * * * * * * * * * * SECTION V ~ HEALTH HAZARD DATA * * * * * * * * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH". PRODUCT TOXICITY DATA: TOX IPR-MUS LD50:226 MG/KG TOX IVN-RBT LDLO:178 MG/KG TOX ORL-RAT LD50: 895 MG/KG тох SKN-RBT LD50: >10000 MG/KG TOX IHL-RAT LD50: >21 MG/L PRODUCT TLV: 2 MG (S208)/M3 ----- EFFECTS OF EXPOSURE ------ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: ESSENTIALLY NON-IRRITATING. SKIN: ESSENTIALLY NON-IRRITATING. MAY CAUSE SKIN SENSITIZATION, AN ALLERGIC REACTION WHICH BECOMES EVIDENT ON REPEATED EXPOSURES TO THIS PRODUCT. INHALATION: MAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS. DUST AT HIGH LEVELS MAY PRODUCE SHORTNESS OF BREATH IN ALLERGIC PERSONS. INGESTION: NO DATA AVAILABLE CHRONIC EFFECTS: MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION IN SUSCEPTIBLE INDIVIDUALS. CONTAINS TRACE AMOUNTS OF ARSENIC, CHROMIUM AND LEAD WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR REPRODUCTIVE EFFECTS. EXPSOURES TO THESE TRACE ELEMENTS SHOULD NOT EXCEED THE FEDERAL OSHA PELS UNLESS USED IN A MANNER THAT PRODUCES EXTREMELY HEAVY AIRBORNE CONCENTRATIONS. OTHER SYMPTOMS AFFECTED: MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE. ----- EMERGENCY AND FIRST AID PROCEDURES -------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. SKIN: PROMPTLY WASH SKIN WITH SOAP AND WATER. IF IRRITATION DEVELOPS, SEEK MEDICAL ATTENTION. INHALATION: REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION, INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION. * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: AVOID CONTACT WITH COMBUSTIBLE MATERIALS SUCH AS SOLVENTS, OR WITH MONOMERS SUCH AS ACRYLAMIDE. INCOMPATIBILITY (MATERIALS TO AVOID): ACIDS, ALKALIS, HALIDES (FLUORIDES, CHLORIDES, BROMIDES), COMBUSTIBLE MATERIALS, HEAVY METALS, OXIDIZABLE MATERIALS. HAZARDOUS DECOMPOSITION PRODUCTS:

PN: 516000420 PAGE 3 FUMES OF SULFURIC ACID MIST, OXYGEN WHICH SUPPORTS COMBUSTION AND OXIDES OF SULFUR AND NITROGEN. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: CONTAMINATION WITH READILY OXIDIZABLE MATERIALS AND POLYMERIZATION. ACCELERATORS. * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST. WASTE DISPOSAL METHOD: IF NOT CONTAMINATED, REUSE PRODUCT. GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE. * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): TOXIC DUST/MIST RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN DUSTY ENVIRONMENTS. **PROTECTIVE GLOVES:** BUTYL GLOVES. EYE PROTECTION: GOGGLES AND/OR FACE SHIELD. **OTHER PROTECTIVE EQUIPMENT:** RUBBER APRON TO PREVENT DIRECT SKIN CONTACT. * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING SP BREAKER - SODIUM PERSULPHATE - 10 LBS 516.000420 DANGER! CAUSES ALLERGIC RESPIRATORY AND SKIN REACTION IN SENSITIVE INDIVIDUALS. IRRITATING TO THE EYES, SKIN AND RESPIRATORY SYSTEM. STRONG OXIDIZER! CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY. REQUIRES COVERED STORAGE. AVOID CREATING OR INHALING DUST. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. CONTAINER DISPOSITION: THIS BAG MAY CONTAIN RESIDUE OF A HAZARDOUS MATERIAL. SOME STATES REGULATE SUCH CONTAINERS AS HAZARDOUS WASTE. WHERE SUCH CONTAINERS ARE REGULATED. PRIOR AUTHORIZATION SHOULD BE OBTAINED FROM A HAZARDOUS WASTE DISPOSAL SITE OPERATED UNDER RCRA SUBTITLE C REGULATIONS OR STATE EQUIVALENT. * * * * * * * * * SECTION X ~ TRANSPORTATION INFORMATION * * * * * * * * * DOT SHIPPING DESCRIPTION: SODIUM PERSULFATE - 5.1 - UN1505 - III * * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: Y PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: PURE B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) N/A

PAGE 4

C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS

D. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS)

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE

H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY US EPA BECAUSE OF:

IGNITABILITY

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| SANDW | EDGE - HAL-TANK | PAGE 1 | |
|--|---|--|--|
| MATERIAL
HALLIBUR
DUNCAN | SAFETY DATA SHEET
TON ENERGY SERVICES
, OKLAHOMA 73536 | DATE: 01-02-01
REVISED DATE 04-07-99 | |
| EMERGENCY TELEPH
EMERGENCY TELEPH | ONE: 800/666-9260 OR 5
ONE: 800/666-9260 OR 5 | 580/251-3359
580/251-3359 | |
| * * * * * * * * * * * * SECTION 1 - | PRODUCT DESCRIPTION * | * * * * * * * * * * * | |
| CHEMICAL CODE: SANDWEDGE - HAL-TAN
PKG QTY: 300 GALLON HALTANK AN
SERVICE USED: FRACTURING | K
PPLICATION: CONDUCTIVI | PART NUMBER: 516011670
ITY ENHANCER | |
| * * * * * * * * * * * SECTION II - | COMPONENT INFORMATION | * * * * * * * * * * * | |
| COMPONENT+ + + + + + + + + + | PERCENT TL | V PEL | |
| ISOPROPANOL
HEAVY AROMATIC NAPHTHA
* * * * * * * * * * * * SECTION II | 31-60 % 40
1-10 % 30
I - Physical Data * * | 00 PPM 400 PPM
00 PPM 400 PPM
* * * * * * * * * * * * | |
| PROPERTY | MEASUR | REMENT | |
| APPEARANCE DARK BROWN
ODOR
SPECIFIC GRAVITY (H2O=1)
BULK DENSITY
PH
SOLUBILITY IN WATER AT
20 DEG C. GMS/100ML H20
BIODEGRADABILITY
PERCENT VOLATILES
EVAPORATION RATE(BUTYL ACETATE=1)
VAPOR DENSITY
VAPOR PRESSURE (MMHG)
BOILING POINT(760 MMHG)
POUR POINT
FREEZE POINT
SOLUBILITY IN SEAWATER
PARTITION COEF (OCTANOL IN WATER) | LIQUID
BLAND
.903
7.52 LB/GAL
7.8 TO 9.8
INSOLUBLE
NOT DETERMINED
35
N/D
N/D
/0 F / -17 C
>/A-20 F / >-28 C
>/A-20 F / >-28 C
NOT EVALUATED
NOT EVALUATED | | |
| NFPA(704) RATING:
HEALTH 2 FLAMMABILITY 3
FLASH POINT
AUTOIGNITION TEMPERATURE
FLAMMABLE LIMITS (% BY VOLUME)
++++++++++++++++++++++++++++++++++++ | REACTIVITY 0 SPEC
66 F / 18
ND F / ND
LOWER 2
************************************ | IAL NONE
C FLASH MTHD PMCC
C
UPPER 12.7
++++++++++++++++++++++++++++++++++++ | |

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INJURIES. INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE AND CARBON MONOXIDE. DO NOT ALLOW RUNOFF TO ENTER WATERWAYS. * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH". PRODUCT TOXICITY DATA: NOT DETERMINED PRODUCT TLV: NOT DETERMINED ----- EFFECTS OF EXPOSURE ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE SEVERE IRRITATION WITH POSSIBLE CORNEAL BURNS. SKIN: MAY BE ABSORBED THROUGH SKIN. PROLONGED OR REPEATED CONTACT MAY CAUSE DERMATITIS. INHALATION: HIGH CONCENTRATIONS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. THIS MAY BE EVIDENCED BY GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS. HIGH CONCENTRATIONS CAUSES NARCOSIS. VAPORS, MIST OR SPRAY MAY CAUSE IRRITATION. INGESTION: LARGE DOSES CAUSES ABDOMINAL PAIN, NAUSEA, VOMITING AND DIARRHEA. CHRONIC EFFECTS: CHRONIC OVEREXPOSURE MAY CAUSE LIVER AND KIDNEY DISORDERS. **OTHER SYMPTOMS AFFECTED:** A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENED BY EXPOSURE TO THIS PRODUCT. ----- EMERGENCY AND FIRST AID PROCEDURES -------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION. SKIN: PROMPTLY WASH SKIN WITH SOAP AND WATER. WASH CLOTHING BEFORE REUSE. DISCARD CONTAMINATED LEATHER ARTICLES. SEEK PROMPT MEDICAL ATTENTION. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION. SEEK PROMPT MEDICAL ATTENTION. * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS. HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND/OR CARBON DIOXIDE.

PAGE 3

HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AREA AND STOP LEAK WHERE SAFE. REMOVE IGNITION SOURCES. CONTAIN AND ABSORB SPILL WITH SAND OR OTHER INERT MATERIAL. SCOOP OR SWEEP UP USING NON-SPARKING TOOLS. IN ENCLOSED AREAS. WEAR SELF-CONTAINED BREATHING APPARATUS. WASTE DISPOSAL METHOD: GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE. * * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): ORGANIC VAPOR CARTRIDGE RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. PROTECTIVE GLOVES: IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM. OTHER PROTECTIVE EQUIPMENT: RUBBER APRON TO PREVENT DIRECT SKIN CONTACT. * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING SANDWEDGE - HAL-TANK 516.011670 WARNING! MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE IRRITATION TO THE EYES, SKIN OR RESPIRATORY SYSTEM. FLAMMABLE! FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM OXIDIZERS. KEEP FROM HEAT, SPARKS, AND OPEN FLAME. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: IF EMPTY CONTAINER RETAINS PRODUCT RESIDUES, ALL LABEL PRECAUTIONS MUST BE OBSERVED. STORE AWAY FROM IGNITION SOURCES WITH ALL DRUM CLOSURES IN PLACE. OFFER CONTAINER TO RECONDITIONER OR RECYCLER. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS. SPECIAL PRECAUTIONS: PRODUCT HAS A SHELF LIFE OF 24 MONTHS. * * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * DOT SHIPPING DESCRIPTION: FLAMMABLE LIQUID, N.O.S. - 3 - UN1993 - II (CONTAINS ISOPROPANOL, HEAVY AROMATIC NAPHTHA) * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: Y PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX

- B. EPA CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) 12,500 LBS OR 1673 GALLONS
- C. EPA SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS
- D. EPA SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS) ISOPROPANOL 67-63-0 31-60 %
- E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA YES EEC N/D ACOIN N/D NPR NE DRSM NE
- H. EPA RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY US EPA BECAUSE OF:

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| OP L. | IFLO-HIE | PAGE |
|--|---|---|
| MATERIAL SA
HALLIBURTON
DUNCAN, C | AFETY DATA SHEET
N ENERGY SERVICES
DKLAHOMA 73536 | DATE: 01-02-01
REVISED DATE 04-07-99 |
| EMERGENCY TELEPHONE
EMERGENCY TELEPHONE | E: 800/666-9260 OR 58
E: 800/666-9260 OR 58 | 0/251-3359
0/251-3359 |
| * * * * * * * * * * * SECTION I - PRO | DOUCT DESCRIPTION * * | * * * * * * * * * * |
| CHEMICAL CODE: OPTIFLO-HTE
PKG QTY: 50 LB FIBER DRUM APPL
SERVICE USED: FRACTURING | ICATION: BREAKER | PART NUMBER: 516009080 |
| * * * * * * * * * * * SECTION II - CC | OMPONENT INFORMATION | * * * * * * * * * * * |
| COMPONENT+ + + + + + + + + + | PERCENT TLV | PEL |
| SILICA, CRYSTALLINEQUARTZ
* * * * * * * * * * * * SECTION III - | 11-30 % 0.1
• Physical Data * * | MG/M3 0.1 MG/M3
* * * * * * * * * * * |
| PROPERTY | MEASURE | MENT |
| APPEARANCEDARK RED SOLIODORTYSPECIFIC GRAVITY (H2O=1)1.BULK DENSITYN/PHNCSOLUBILITY IN WATER AT20 DEG C. GMS/100ML H2OREBIODEGRADABILITYN/PERCENT VOLATILESN/EVAPORATION RATE(BUTYL ACETATE=1)N/VAPOR DENSITYN/POUR POINTN/FREEZE POINTN/SOLUBILITY IN SEAWATERN/PARTITION COEF (OCTANOL IN WATER)NO | ID POWDER
PICAL FERMENTATION 0
500
TD LB/CU.FT.
DT APPLICABLE
ADILY
A
A
A
A
A
A
A
A
A
A
A
DT EVALUATED
DT EVALUATED | DOR |
| * * * * * * * * * * * SECTION IV - FIRE | AND EXPLOSION DATA | * * * * * * * * * * |
| NFPA(704) RATING:
HEALTH 1 FLAMMABILITY 1 RE
FLASH POINT
AUTOIGNITION TEMPERATURE
FLAMMABLE LIMITS (% BY VOLUME)
++++++++++++++++++++++++++++++++++++ | ACTIVITY 0 SPECI
N/A
ND F / ND
LOWER N/A
++++++++++++++++++++++++++++++++++++ | AL NONE
C
UPPER N/A
++++++++++++++++++++++++++++++++++++ |
| OPCANIC DUST IN THE DRESENCE OF A | SOURCE OF ICULTION C | ADDIES & DOTENTIAL |

ORGANIC DUST IN THE PRESENCE OF A SOURCE OF IGNITION CARRIES A POTENTIAL EXPLOSION HAZARD IF THE CONCENTRATION IN THE AIR IS TOO HIGH. GOOD HOUSEKEEPING PROCEDURES ARE REQUIRED TO MINIMIZE THIS POTENTIAL HAZARD.

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HAZARD POLYMERIZATION: WON"T OCCUR

CONDITIONS TO AVOID:

* * * * * * * SECTION V - HEALTH HAZARD DATA * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : NTP, AND IARC PRODUCT TOXICITY DATA: NOT DETERMINED PRODUCT TLV: NOT DETERMINED ----- EFFECTS OF EXPOSURE -----ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: ESSENTIALLY NON-IRRITATING. SKIN: ESSENTIALLY NON-IRRITATING. INHALATION: MAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS. CONTAINS A SMALL AMOUNT OF CRYSTALLINE SILICA, REPEAT OR PROLONG EXPOSURES MAY CAUSE A DELAYED RESPIRATORY SYSTEM ILLNESS, SILICOSIS. SYMPTOMS INCLUDE SHORTNESS OF BREATH, COUGH, FEVER, WEIGHT LOSS, CHEST PAIN, REDUCTION OF LUNG FUNCTION AND HEART IMPAIRMENT. ONSET OF SYMPTOMS MAY BE DELAYED. INGESTION: NO DATA AVAILABLE CHRONIC EFFECTS: MAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS. CONTAINS TRACE AMOUNTS OF ARSENIC AND LEAD WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR REPRODUCTIVE EFFECTS. EXPSOURES TO THESE TRACE ELEMENTS SHOULD NOT EXCEED FEDERAL OSHA PELS UNLESS USED IN A MANNER THAT PRODUCES EXTREMELY HEAVY AIRBORNE CONCENTRATIONS WELL ABOVE THE TLV. **OTHER SYMPTOMS AFFECTED:** A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENED BY EXPOSURE TO THIS PRODUCT. ----- EMERGENCY AND FIRST AID PROCEDURES ------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. SKIN: PROMPTLY WASH SKIN WITH SOAP AND WATER. WASH CLOTHING BEFORE REUSE. IF IRRITAION DEVELOPS, SEEK PROMPT MEDICAL ATTENTION. INHALATION: REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION, INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION. * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS. HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE.

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NOT APPLICABLE.

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PAGE 3

PAGE 4

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA NO EEC NO ACOIN NO NPR NE DRSM NE

H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

| MATERIAL SAFETY DATA S | SHEET [| DATE: 01-02-01 |
|------------------------|----------------|----------------|
| HALLIBURTON ENERGY SER | RVICES REVISED | DATE 04-07-99 |
| DUNCAN, OKLAHOMA 735 | 536 | |

EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359 EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359

* * * * * * * * * * * SECTION 1 - PRODUCT DESCRIPTION * * * * * * * * * * * * * * * * *

CHEMICAL CODE: LOSURF-300 NONIONIC SURFACTANT - HAL-TANK PART NUMBER: 516001790 PKG QTY: 330 GALLON TANK APPLICATION: NONEMULSIFIER SERVICE USED: STIMULATION

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| COMPONENT+ + + + + + + + + + | PERCENT | TLV | PEL |
|---|----------------|-----------|-----------------|
| ISOPROPANOL | 31-60 % | 400 PPM | 400 PPM |
| AROMATIC SOLVENT | 11-30 % | 100 PPM | 100 PPM |
| PROPYLENE OXIDE | TRACE % | 20 PPM | 20 PPM |
| NAPHTHALENE | 1-10 % | 10 PPM | 10 PPM |
| * * * * * * * * * * * * SECTION III - P | HYSICAL DATA * | * * * * * | * * * * * * * * |

PROPERTY

MEASUREMENT

AMBER LIQUID APPEARANCE ODOR SOLVENT SPECIFIC GRAVITY (H2O=1) .910 BULK DENSITY 7.59 LB/GAL NOT DETERMINED ΡH SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 DISPERSES BIODEGRADABILITY N/D PERCENT VOLATILES 46-50 EVAPORATION RATE(BUTYL ACETATE=1) N/D VAPOR DENSITY N/D VAPOR PRESSURE (MMHG) 33.00 BOILING POINT(760 MMHG) N/D POUR POINT N/D FREEZE POINT N/D SOLUBILITY IN SEAWATER NOT EVALUATED PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED * * * * * * * * * * SECTION IV - FIRE AND EXPLOSION DATA * * * * * * * * * * * * * NFPA(704) RATING: HEALTH 1 FLAMMABILITY 4 REACTIVITY 0 SPECIAL NONE 17 C FLASH MTHD PMCC FLASH POINT 63 F/ AUTOIGNITION TEMPERATURE ND F / ND C FLAMMABLE LIMITS (% BY VOLUME) LOWER N/D UPPER N/D ***** EXTINGUISHING MEDIA: USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. SPECIAL FIRE FIGHTING PROCEDURES: USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES. FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL. UNUSUAL FIRE AND EXPLOSION HAZARDS: MAY BE IGNITED BY HEAT, SPARKS, OR FLAMES. FIGHT FIRE FROM A SAFE DISTANCE

AND FROM A PROTECTED LOCATION. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND INJURIES. INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE. CARBON MONOXIDE AND NITROGEN OXIDES. * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN "NTP, IARC, OSHA, OR, ACIGH". ACCORDING TO : PRODUCT TOXICITY DATA: AQU TLM96: 3.3-10 PPM(BROWN SHRIMP) PRODUCT TLV: NOT ESTABLISHED ----- EFFECTS OF EXPOSURE ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE EYE IRRITATION. SKIN: FREQUENT OR PROLONGED CONTACT WILL DRY AND DEFAT THE SKIN, POSSIBLY LEADING TO IRRITATION AND DERMATITIS. REPEATED CONTACT MAY SENSITIZE THE SKIN. INHALATION: HIGH CONCENTRATIONS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. THIS MAY BE EVIDENCED BY GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS. VAPORS, MIST OR SPRAY MAY CAUSE IRRITATION. INGESTION: ASPIRATION INTO LUNGS BY INGESTION OR VOMITING, MAY CAUSE CHEMICAL PNEUMONITIS RESULTING IN EDEMA AND HEMORRAGE AND MAY BE FATAL. SYMPTOMS INCLUDE INCREASED RESPIRATORY RATE AND BLUISH DISCOLORATION OF SKIN. COUGHING AND GAGGING ARE OFTEN NOTED AT THE TIME OF ASPIRATION. CHRONIC EFFECTS: CHRONIC OVEREXPOSURE MAY CAUSE LIVER AND KIDNEY DISORDERS. **OTHER SYMPTOMS AFFECTED:** BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. BREATHING OF VAPOR AND/OR MISTS MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE. ------ EMERGENCY AND FIRST AID PROCEDURES EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION. SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! ASPIRATION INTO LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL. IF VOMITING OCCURS SPONTANEOUSLY. KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO LUNGS. * * * * * * * * * * * * SECTION VI ~ REACTIVITY DATA * * * * * * * * * * * * * *

STABILITY: STABLE

PAGE 3

CONDITIONS TO AVOID: HEAT, SPARKS AND OPEN FLAME. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS. HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AREA AND STOP LEAK WHERE SAFE. REMOVE IGNITION SOURCES. CONTAIN AND ABSORB SPILL WITH SAND OR OTHER INERT MATERIAL. SCOOP OR SWEEP UP USING NON-SPARKING TOOLS. IN ENCLOSED AREAS. WEAR SELF-CONTAINED BREATHING APPARATUS. WASTE DISPOSAL METHOD: GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE. * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * **RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):** ORGANIC VAPOR CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. LOCAL EXHAUST VENTILATION MUST BE DESIGNED FOR EXPLOSIVE ATMOSPHERES (NEC CLASS I EQUIPMENT). **PROTECTIVE GLOVES:** IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: GOGGLES AND/OR FACE SHIELD. OTHER PROTECTIVE EQUIPMENT: RUBBER APRON TO PREVENT DIRECT SKIN CONTACT. * * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING LOSURF-300 NONIONIC SURFACTANT - HAL-TANK516.001790 WARNING! MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE EYE IRRITATION. MAY CAUSE DEFATTING OF SKIN WHICH MAY LEAD TO IRRITATION OR DERMATITIS. FLAMMABLE! FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM OXIDIZERS. KEEP FROM HEAT, SPARKS, AND OPEN FLAME. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION. * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * DOT SHIPPING DESCRIPTION: FLAMMABLE LIQUID, N.O.S. - 3 - UN1993 - II (CONTAINS ISOPROPANOL)

PAGE 4

* * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * *

- EPA SUPERFUND(SARA) TITLE III HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: Y PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX
- B. EPA CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) N/A
- C. EPA SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS
- D. EPA SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS)ISOPROPANOL67-63-0PROPYLENE OXIDE75-56-9NAPHTHALENE91-20-31-10 %
- E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA YES EEC N/D ACOIN N/D NPR NE DRSM NE

H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY US EPA BECAUSE OF:

IGNITABILITY

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

| LGC-VIII CON | ICENTRATE - BULK PAGE 1 |
|---|---|
| MATERIAL SA
HALLIBURTON
DUNCAN, C | NFETY DATA SHEET DATE: 01-02-01
N ENERGY SERVICES REVISED DATE 04-07-99
OKLAHOMA 73536 |
| EMERGENCY TELEPHONE
EMERGENCY TELEPHONE | : 800/666-9260 OR 580/251-3359
: 800/666-9260 OR 580/251-3359 |
| * * * * * * * * * * * SECTION 1 - PRO | DDUCT DESCRIPTION * * * * * * * * * * * * * |
| CHEMICAL CODE: LGC-VIII CONCENTRATE
PKG QTY: CARGO TANK APPL
SERVICE USED: STIMULATION | BULK PART NUMBER: 516005670
ICATION: CONCENTRATE |
| * * * * * * * * * * * * SECTION 11 - CC | MPONENT INFORMATION * * * * * * * * * * * |
| COMPONENT+ + + + + + + + + + | PERCENT TLV PEL |
| GUAR GUM
ETHOXYLATED NONYLPHENOL
DIESEL
* * * * * * * * * * * * * SECTION 111 - | 31-60 % 10 MG/M3 15 MG/M3
1-10 % NOT EST NOT EST
31-60 % NOT EST NOT EST
PHYSICAL DATA * * * * * * * * * * * * * * * |
| PROPERTY | MEASUREMENT |
| APPEARANCEYELLOWISHLIGODORDISPECIFIC GRAVITY (H2O=1)1BULK DENSITY8PHNCSOLUBILITY IN WATER AT2020 DEG C. GMS/100ML H20NIBIODEGRADABILITYSLPERCENT VOLATILES10EVAPORATION RATE (BUTYL ACETATE=1)10VAPOR PRESSURE (MMHG)13POUR POINTN/SOLUBILITY IN SEAWATERN/SOLUBILITY IN SEAWATERN/ | UID, GEL
ESEL
035
62 LB/GAL
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| * * * * * * * * * * SECTION IV - FIRE | AND EXPLOSION DATA * * * * * * * * * * * |
| NFPA(704) RATING:
HEALTH 1 FLAMMABILITY 2 RE
FLASH POINT
AUTOIGNITION TEMPERATURE
FLAMMABLE LIMITS (OZ. PER CU. FT.)
HINTER FLAMMABLE LIMITS (OZ. PER CU. FT.)
HINTER SPRAY, FOAM, DRY CHEMICA
SPECIAL FIRE SPRAY, FOAM, DRY CHEMICA
SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER SPRAY TO COOL FIRE-EXPOS
FULL PROTECTIVE CLOTHING AND NIOSH
APPARATUS REQUIRED FOR FIRE FIGHTI
UNUSUAL FIRE AND EXPLOSION HAZARDS: | ACTIVITY O SPECIAL NONE
128 F / 53 C FLASH MTHD TCC
ND F / ND C
LOWER N/D UPPER N/D
++++++++++++++++++++++++++++++++++++ |

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PN: 516005670 PAGE 2 CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND INJURIES. INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE. CARBON MONOXIDE AND NITROGEN OXIDES. * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : NTP, IARC, AND OSHA PRODUCT TOXICITY DATA: NOT DETERMINED PRODUCT TLV: NOT ESTABLISHED ----- EFFECTS OF EXPOSURE ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE EYE IRRITATION. SKIN: FREQUENT OR PROLONGED CONTACT WILL DRY AND DEFAT THE SKIN, POSSIBLY LEADING TO IRRITATION AND DERMATITIS. REPEATED CONTACT MAY SENSITIZE THE SKIN. INHALATION: HIGH CONCENTRATIONS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. THIS MAY BE EVIDENCED BY GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS. VAPORS, MIST OR SPRAY MAY CAUSE IRRITATION. INGESTION: IRRITATION OF THE MOUTH AND THROAT, ABDOMINAL PAIN, NAUSEA AND VOMITING. DIARRHEA, AND COLLAPSE MAY RESULT FROM INGESTION. ASPIRATIÓN INTO LUNGS BY INGESTION OR VOMITING, MAY CAUSE CHEMICAL PNEUMONITIS RESULTING IN EDEMA AND HEMORRAGE AND MAY BE FATAL. SYMPTOMS INCLUDE INCREASED RESPIRATORY RATE AND BLUISH DISCOLORATION OF SKIN. COUGHING AND GAGGING ARE OFTEN NOTED AT THE TIME OF ASPIRATION. CHRONIC EFFECTS: PROLONGED OR REPEATED APPLICATION OF A SIMILAR PRODUCT TO THE SKIN OF LAB LABORATORY MICE WITHOUT WASHING BETWEEN APPLICATIONS RESULTED IN INCREASED INCIDENCE OF SKIN TUMORS. IT IS SUSPECTED THAT TUMORS MAY BE DUE IN PART TO SEVERELY IRRITATED CONDITIONS FROM CONTINOUS CONTACT WITH THE PRODUCT. OTHER SYMPTOMS AFFECTED: BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. ----- EMERGENCY AND FIRST AID PROCEDURES EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. SKIN: PROMPTLY WASH SKIN WITH SOAP AND WATER. IF IRRITATION DEVELOPS, SEEK MEDICAL ATTENTION. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! ASPIRATION INTO LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL. IF VOMITING OCCURS SPONTANEOUSLY. KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO LUNGS.

* * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * * *

STABILITY: STABLE CONDITIONS TO AVOID: HEAT, SPARKS AND OPEN FLAME. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS. HAZARDOUS DECOMPOSITION PRODUCTS: NITROGEN OXIDES, CARBON DIOXIDE AND/OR CARBON MONOXIDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AREA AND STOP LEAK WHERE SAFE. REMOVE IGNITION SOURCES. CONTAIN AND ABSORB SPILL WITH SAND OR OTHER INERT MATERIAL. SCOOP OR SWEEP UP USING NON-SPARKING TOOLS. IN ENCLOSED AREAS, WEAR SELF-CONTAINED BREATHING APPARATUS. WASTE DISPOSAL METHOD: GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE. * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): ORGANIC VAPOR CARTRIDGE RESPIRATOR WITH A DUST-MIST FILTER. IN OXYGEN DEFICIENT AREAS OR CONFINED SPACES, POSITIVE PRESSURE SUPPLIED-AIR RESPIRATOR WITH 5-MINUTE AUXILIARY BOTTLE, OR PRESSURE-DEMAND OR POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. LOCAL EXHAUST VENTILATION MUST BE DESIGNED FOR COMBUSTIBLE ATMOSPHERES (NEC CLASS II EQUIPMENT). **PROTECTIVE GLOVES:** IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM. OTHER PROTECTIVE EQUIPMENT: RUBBER APRON TO PREVENT DIRECT SKIN CONTACT. * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING LGC-VIII CONCENTRATE - BULK 516.005670 WARNING! MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE IRRITATION TO THE EYES, SKIN OR RESPIRATORY SYSTEM. COMBUSTIBLE! FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM OXIDIZERS. KEEP FROM HEAT, SPARKS, AND OPEN FLAME. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION.

* * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * *

PAGE 4

DOT SHIPPING DESCRIPTION: DIESEL FUEL SOLUTION - 3 - NA1993 - III

* * * * * * * * * * SECTION X1 - ENVIRONMENTAL EVALUATION * * * * * * * * * *

EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: Y PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): Y MIXTURE OR PURE MATERIAL: MIX

- B. EPA CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) N/A
- C. EPA SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS
- D. EPA SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS) ETHOXYLATED NONYLPHENOL 9016-45-9 1-10 %
- E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE

H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY US EPA BECAUSE OF:

IGNITABILITY

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES. IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

| ISOPROPYL ALCOHOL | - 55 | GALLONS |
|-------------------|------|---------|
|-------------------|------|---------|

INJURIES.

| APPEARANCE | COLORLESS LIQUID | | | |
|---|---|---|--------------------------------|--------------------------------|
| PROPERTY | | MEASUREMENT | | |
| ISOPROPANOL
* * * * * * * * * | * * * SECTION III - PHY | > 60 %
SICAL DATA * | 400 PPM 4 | 00 PPM
* * * * * * * |
| COMPONENT+ + | + + + + + + + + | PERCENT | TLV | PEL |
| * * * * * * * * * | * * SECTION II - COMPON | IENT INFORMATI | ON * * * * * | * * * * * * * |
| CHEMICAL CODE: ISC
PKG QTY: 55 GALLON
SERVICE USED: SAN | PROPYL ALCOHOL - 55 GAL
DRUM APPLICAT
D CONTROL | LONS
ION: PREFLUSE | PART NUME | BER: 070155110 |
| * * * * * * * * * | * * SECTION I - PRODUCT | DESCRIPTION | * * * * * * | * * * * * * * |
| | EMERGENCY TELEPHONE: 80
EMERGENCY TELEPHONE: 80 | 0/666-9260 OF
0/666-9260 OF | 8 580/251-335
8 580/251-335 | 59
59 |
| | MATERIAL SAFETY
HALLIBURTON ENE
DUNCAN, OKLAF | Y DATA SHEET
ERGY SERVICES
HOMA 73536 | D/
REVISED | ATE: 01-02-01
DATE 04-07-99 |

APPE/ ALCOHOLIC ODOR SPECIFIC GRAVITY (H2O=1) .805 6.70 BULK DENSITY LB/GAL NOT DETERMINED ΡH SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 SOLUBLE BIODEGRADABILITY RESISTANT PERCENT VOLATILES 100 EVAPORATION RATE(BUTYL ACETATE=1) 2.83 1.94 VAPOR DENSITY VAPOR PRESSURE (MMHG) 34.00 BOILING POINT(760 MMHG) /177 F / 80 C POUR POINT </A-50 F / <-45 C FREEZE POINT N/D SOLUBILITY IN SEAWATER NOT EVALUATED PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED * * * * * * * * * SECTION IV - FIRE AND EXPLOSION DATA * * * * * NFPA(704) RATING: HEALTH 1 FLAMMABILITY 3 REACTIVITY 0 SPECIAL NONE FLASH POINT 53 F/ 11 C FLASH MTHD TCC AUTOIGNITION TEMPERATURE 750 F / 398 C 2 FLAMMABLE LIMITS (% BY VOLUME) LOWER UPPER 12 ***************** EXTINGUISHING MEDIA: USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. SPECIAL FIRE FIGHTING PROCEDURES: USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES. FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL. UNUSUAL FIRE AND EXPLOSION HAZARDS: MAY BE IGNITED BY HEAT, SPARKS, OR FLAMES. FIGHT FIRE FROM A SAFE DISTANCE AND FROM A PROTECTED LOCATION. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND

PAGE 1

INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE AND CARBON MONOXIDE. * * * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH". PRODUCT TOXICITY DATA: IRR EYE-HMN 20 PPM тох ORL-MAN LDLO:8600 MG/KG IHL-HMN TCLO:400 PPM тох тох ORL-RAT LD50:5840 MG/KG AQU TLM96:1000-100 PPM PRODUCT TLV: 400 PPM ----- EFFECTS OF EXPOSURE ------ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE EYE IRRITATION. SKIN: PROLONGED OR REPEATED CONTACT MAY CAUSE DERMATITIS. INHALATION: HIGH CONCENTRATIONS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. THIS MAY BE EVIDENCED BY GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS. HIGH CONCENTRATIONS CAUSES NARCOSIS. VAPORS, MIST OR SPRAY MAY CAUSE IRRITATION. INGESTION: EXPECTED TO CAUSE SOME IRRITATION OF THE MOUTH, ESOPHAGUS AND STOMACH. CHRONIC EFFECTS: CHRONIC OVEREXPOSURE MAY CAUSE LIVER AND KIDNEY DISORDERS. OTHER SYMPTOMS AFFECTED: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENED BY EXPOSURE TO THIS PRODUCT. ----- EMERGENCY AND FIRST AID PROCEDURES ------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION. SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION. * * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * **STABILITY: STABLE** CONDITIONS TO AVOID:

NOT APPLICABLE.

PN: 070155110

INCOMPATIBILITY (MATERIALS TO AVOID):

CHRONIC (DELAYED): N

STRONG OXIDIZERS. HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AREA AND STOP LEAK WHERE SAFE. REMOVE IGNITION SOURCES. CONTAIN AND ABSORB SPILL WITH SAND OR OTHER INERT MATERIAL. SCOOP OR SWEEP UP USING NON-SPARKING TOOLS. IN ENCLOSED AREAS, WEAR SELF-CONTAINED BREATHING APPARATUS. WASTE DISPOSAL METHOD: GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE. * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): ORGANIC VAPOR CARTRIDGE RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. PROTECTIVE GLOVES: IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM. OTHER PROTECTIVE EQUIPMENT: RUBBER APRON TO PREVENT DIRECT SKIN CONTACT. * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING ISOPROPYL ALCOHOL - 55 GALLONS 070.155110 WARNING! MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE IRRITATION TO THE EYES, SKIN OR RESPIRATORY SYSTEM. FLAMMABLE! FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM OXIDIZERS. KEEP FROM HEAT, SPARKS, AND OPEN FLAME. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: IF EMPTY CONTAINER RETAINS PRODUCT RESIDUES, ALL LABEL PRECAUTIONS MUST BE OBSERVED. STORE AWAY FROM IGNITION SOURCES WITH ALL DRUM CLOSURES IN PLACE. OFFER CONTAINER TO RECONDITIONER OR RECYCLER. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS. * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * DOT SHIPPING DESCRIPTION: ISOPROPANOL - 3 - UN1219 - II * * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y FIRE: Y

MIXTURE OR PURE MATERIAL: MIX

PAGE 3

- B. EPA CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) N/A
- C. EPA SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS
- D. EPA SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS) ISOPROPANOL 67-63-0 > 60 %
- E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE
- H. EPA RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY US EPA BECAUSE OF:

IGNITABILITY

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES. INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

| GBW-30 |) BREAKER |
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PAGE 1

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| . MATERIAL SAFETY DATA SHEET DATE: 01-02-01
HALLIBURTON ENERGY SERVICES REVISED DATE 04-07-99
DUNCAN, OKLAHOMA 73536 |
|---|
| EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359
EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359 |
| * * * * * * * * * * * SECTION I - PRODUCT DESCRIPTION * * * * * * * * * * * * * |
| CHEMICAL CODE: GBW-30 BREAKER PART NUMBER: 516001460
PKG QTY: 10 LB FIBER DRUM APPLICATION: BREAKER
SERVICE USED: FRACTURING |
| * * * * * * * * * * * SECTION II - COMPONENT INFORMATION * * * * * * * * * * * |
| COMPONENT+ + + + + + + + + + PERCENT TLV PEL |
| CELLULASE ENZYME 1-10 % 10 MG/M3 15 MG/M3
CARBOHYDRATE > 60 % NOT DETERMINOT DETERMINED
* * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * * * * * |
| PROPERTY MEASUREMENT |
| APPEARANCEWHITE SOLID, POWDERODORODORLESSSPECIFIC GRAVITY (H2O=1)1.500BULK DENSITY42.00 LB/CU.FT.PH6 TO 8 @ 0.5%SOLUBILITY IN WATER AT20 DEG C. GMS/100ML H20COMPLETEBIODEGRADABILITYREADILYREADILYPERCENT VOLATILESN/AEVAPORATION RATE(BUTYL ACETATE=1)N/AVAPOR DENSITYN/AVAPOR PRESSURE (MMHG)N/ABOILING POINT (760 MMHG)N/APOUR POINTN/ASOLUBILITY IN SEAWATER27.5 AV GR/100MLPARTITION COEF (OCTANOL IN WATER)NOT EVALUATED |
| * * * * * * * * * * SECTION IV - FIRE AND EXPLOSION DATA * * * * * * * * * * * |
| NFPA(704) RATING:
HEALTH 1 FLAMMABILITY 1 REACTIVITY 0 SPECIAL NONE
FLASH POINT > 200 F / > 93 C
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (02. PER CU. FT.) LOWER N/D UPPER N/D
++++++++++++++++++++++++++++++++++++ |

PN: 516001460 EXPLOSION HAZARD IF THE CONCENTRATION IN THE AIR IS TOO HIGH. GOOD HOUSEKEEPING PROCEDURES ARE REQUIRED TO MINIMIZE THIS POTENTIAL HAZARD. DO NOT SPREAD WITH WATER. MATERIAL IS VERY SLIPPERY. * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH". PRODUCT TOXICITY DATA: AQU TLM96: >3300 PPM (BROWN SHRIMP) ECOTOXICITY: THIS PRODUCT WAS EVALUATED FOR VARIOUS PCB'S AND FOUND TO HAVE A CONTENT OF LESS THAN 100 PPB. THIS PRODUCT WAS EVALUATED FOR VARIOUS CHLOROPHENOLS AND FOUND TO HAVE A CONTENT OF LESS THAN 100 PPB. PRODUCT EVALUATION OF: CYANIDE < 10 PPM AND ORGANO-PHOSPHOROUS < 0.1 PPM. PRODUCT TLV: 10 MG/M3 (T); 5 MG/M3 (R) ----- EFFECTS OF EXPOSURE ------ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE MILD IRRITATION. SKIN: ESSENTIALLY NON-IRRITATING. INHALATION: MAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS. MAY BE IRRITATING. INGESTION: NO DATA AVAILABLE CHRONIC EFFECTS: NO CHRONIC EFFECTS EXPECTED. OTHER SYMPTOMS AFFECTED: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENED BY EXPOSURE TO THIS PRODUCT. ------ EMERGENCY AND FIRST AID PROCEDURES -------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. SKIN: PROMPTLY WASH SKIN WITH SOAP AND WATER. WASH CLOTHING BEFORE REUSE. IF IRRITAION DEVELOPS, SEEK PROMPT MEDICAL ATTENTION. INHALATION: REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! IN GENERAL, NO TREATMENT IS NECESSARY UNLESS LARGE QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED. * * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS.

PAGE 2

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PN: 516001460 PAGE 3 HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST. WASTE DISPOSAL METHOD: 1F NOT CONTAMINATED, REUSE PRODUCT. GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL. * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): TOXIC DUST/MIST RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN DUSTY ENVIRONMENTS. PROTECTIVE GLOVES: NORMAL WORK GLOVES. EYE PROTECTION: GOGGLES OR SAFETY GLASSES. OTHER PROTECTIVE EQUIPMENT: NORMAL WORK COVERALLS. * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING GBW-30 BREAKER 516.001460 WARNING MAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS. IRRITATING TO THE EYES, SKIN AND RESPIRATORY SYSTEM. AIRBORNE DUST MAY BE EXPLOSIVE! PRODUCT IS VERY SLIPPERY WHEN WET! DO NOT SPREAD WITH WATER. FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM OXIDIZERS. STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY. REQUIRES COVERED STORAGE. KEEP FROM HEAT, SPARKS, AND OPEN FLAME. AVOID CREATING OR INHALING DUST. CONTAINER DISPOSITION: EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION. * * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * DOT SHIPPING DESCRIPTION: NOT RESTRICTED * * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)

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N/A
1

C. EPA - SARA TITLE 111, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS

D. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS)

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA YES EEC N/D ACOIN N/D NPR NE DRSM NE

H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES. INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES. IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE. ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

| BC- 1 | 140 - HAL-TANK | PAGE 1 |
|---|--|--|
| MATERIAL
HALLIBUR
DUNCAN | _ SAFETY DATA SHEET
RTON ENERGY SERVICES
N, OKLAHOMA 73536 | DATE: 01-02-01
REVISED DATE 04-07-99 |
| EMERGENCY TELEPH
Emergency teleph | IONE: 800/666-9260 OR 58
IONE: 800/666-9260 OR 58 | 30/251-3359
30/251-3359 |
| * * * * * * * * * * * * SECTION 1 - | PRODUCT DESCRIPTION * | * * * * * * * * * * * * |
| CHEMICAL CODE: BC-140 - HAL-TANK
PKG GTY: 330 GALLON TANK
SERVICE USED: STIMULATION | APPLICATION: CROSSLINKIN | PART NUMBER: 516010890
NG AGENT |
| * * * * * * * * * * * SECTION II - | COMPONENT INFORMATION | * * * * * * * * * * |
| COMPONENT+ + + + + + + + + + | PERCENT TL | / PEL |
| ETHYLENE GLYCOL
MONOETHANOLAMINE
* * * * * * * * * * * * * SECTION II | 11-30 % C 5
1-10 % 3 F
11 - PHYSICAL DATA * * | 50 PPM C 50 PPM
PPM 3 PPM
****** |
| PROPERTY | MEASURE | EMENT |
| APPEARANCE DARK LIQUI
ODOR
SPECIFIC GRAVITY (H2O=1)
BULK DENSITY
PH
SOLUBILITY IN WATER AT
20 DEG C. GMS/100ML H20
BIODEGRADABILITY
PERCENT VOLATILES
EVAPORATION RATE(BUTYL ACETATE=1)
VAPOR DENSITY
VAPOR DENSITY
VAPOR PRESSURE (MMHG)
BOILING POINT(760 MMHG)
POUR POINT
FREEZE POINT
SOLUBILITY IN SEAWATER
PARTITION COEF (OCTANOL IN WATER) | D
GLYCOL
1.221
10.17 LB/GAL
7.28
N/D
N/D
N/D
N/D
N/D
N/D
N/D
N/D
N/D
N/D | |
| NFPA(704) RATING:
HEALTH 1 FLAMMABILITY 0
FLASH POINT
AUTOIGNITION TEMPERATURE
FLAMMABLE LIMITS (% BY VOLUME)
************************************ | REACTIVITY O SPECI
N/D
LOWER N/D
OXIDE.
OSH/MSHA APPROVED SELF-
SHTING PERSONNEL. | AL NONE
FLASH MTHD TCC
C
UPPER N/D
CONTAINED BREATHING
SES. |
| * * * * * * * * * * * * * SECTION V | - HEALTH HAZARD DATA * | * * * * * * * * * * |

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CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65.

CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH".

PRODUCT TOXICITY DATA: NOT DETERMINED

PRODUCT TLV: NOT DETERMINED

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

EYE:

MAY CAUSE MODERATE TO SEVERE IRRITATION, AND IN EXTREME CASES SEVERE BUT TRANSIENT EYE INJURY.

SKIN:

CONTACT MAY CAUSE SKIN IRRITATION.

INHALATION:

MIST OR HEATED VAPORS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION RESULTING IN GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS.

INGESTION:

CONTAINS ETHYLENE GLYCOL, MAY CAUSE HEART, KIDNEY AND BRAIN DISORDERS. CHRONIC EFFECTS:

REPEATED AND/OR PROLONGED EXPOSURE AT LOW LEVELS MAY RESULT IN KIDNEY DISORDERS, REPRODUCTIVE DISORDERS, AND ADVERSE EYE EFFECTS. CONTAINS ETHYLENE GLYCOL WHICH MAY CAUSE KIDNEY, LIVER, HEART, BLOOD & BRAIN

DISORDERS. ETHYLENE GLYCOL HAS BEEN SHOWN TO CAUSE DEVELOPMENTAL AND REPRODUCTIVE EFFECTS IN LABORATORY ANIMALS. THESE FINDINGS ARE OF UNCERTAIN TO HUMANS.

ETHYLENE GLYCOL HAS PRODUCED DOSE RELATED TERATOGENIC EFFECTS IN RATS AND MICE, WHEN GIVEN BY GAVAGE OR DRINKING WATER AT HIGH DOSES. TERATOGENIC EFFECTS WERE ALSO PRODUCED BY INHALATION IN VERY HIGH CONCENTRATIONS, BUT ONLY IN MICE. THE DATA SUGGESTS ETHYLENE GLYCOL MAY CAUSE BIRTH DEFECTS.

OTHER SYMPTOMS AFFECTED: MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE INCLUDE SKIN DISORDERS AND ALLERGIES, LIVER DISORDER, AND EYE DISEASE.

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION.

SKIN:

IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE.

INHALATION:

REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION.

INGESTION:

GIVE UP TO TWO (2) QUARTS OF WATER AND INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION.

STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS AND DEHYDRATING AGENTS. HAZARDOUS DECOMPOSITION PRODUCTS:

PAGE - 3 14

- 1

CARBON DIOXIDE AND/OR CARBON MONOXIDE AND UNIDENTIFIED HYDROCARBON VAPORS. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN AND ABSORB SPILL WITH AN INERT MATERIAL. SCOOP UP AND REMOVE. PREVENT RUNOFF FROM ENTERING SEWERS, LAKES, RIVERS, STREAMS OR PUBLIC WATER SUPPLIES. WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. CONTACT HALLIBURTON HEALTH, SAFETY, AND ENVIRONMENT DEPARTMENTS IN DUNCAN, OK FOR THE APPROPRIATE DISPOSAL METHOD. * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): ORGANIC VAPOR CHEMICAL CARTRIDGE RESPIRATOR WITH A DUST-MIST FILTER. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. **PROTECTIVE GLOVES:** IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM. **OTHER PROTECTIVE EQUIPMENT:** RUBBER APRON TO PREVENT DIRECT SKIN CONTACT. * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * PRECAUTIONARY LABELING BC-140 - HAL-TANK 516.010890 WARNING! MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE IRRITATION TO THE EYES, SKIN OR RESPIRATORY SYSTEM. CONTAINS ETHYLENE GLYCOL WHICH MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA. FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM OXIDIZERS. STORE IN A COOL WELL VENTILATED LOCATION. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID DUST ACCUMULATIONS. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: IF CONTAINER RETAINS PRODUCT RESIDUES, LABEL PRECAUTIONS MUST BE OBSERVED. STORE CONTAINER WITH CLOSURES IN PLACE. OFFER EMPTY CONTAINER TO RECONDI-TIONOR OR RECYCLER FOR RECONDITIONING OR DISPOSAL. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS. SPECIAL PRECAUTIONS: PRODUCT HAS A SHELF LIFE OF 36 MONTHS. * * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * * DOT SHIPPING DESCRIPTION: NOT RESTRICTED * * * * * * * * * * SECTION X1 - ENVIRONMENTAL EVALUATION * * * * * * * * * * *

EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y

1

PAGE 4

CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX

- B. EPA CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) NOT EVALUATED
- C. EPA SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS
- D. EPA SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS) ETHYLENE GLYCOL 107-21-1 11-30 %
- E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA YES EEC N/D ACOIN N/D NPR. NE DRSM NE
- H. EPA RCRA (HAZARDOUS WASTE), 40 CFR 261
 - IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE

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| AQF-2 FOAM | ING AGENT - HAL-TANK | PAGE 1 |
|---|---|---|
| MATERIAL
HALLIBUR
DUNCAN | SAFETY DATA SHEET
FON ENERGY SERVICES
, OKLAHOMA 73536 | DATE: 01-02-01
REVISED DATE 04-07-99 |
| EMERGENCY TELEPHO
Emergency telepho | DNE: 800/666-9260 OR 58
DNE: 800/666-9260 OR 58 | 0/251-3359
0/251-3359 |
| * * * * * * * * * * * SECTION I - F | PRODUCT DESCRIPTION * * | * * * * * * * * * * |
| CHEMICAL CODE: AQF-2 FOAMING AGENT
PKG QTY: 330 GALLON TANK AF
SERVICE USED: STIMULATION | - HAL-TANK
PPLICATION: FOAMING AGE | PART NUMBER: 516005190
NT |
| * * * * * * * * * * * * SECTION 11 - | COMPONENT INFORMATION | * * * * * * * * * * |
| COMPONENT+ + + + + + + + + + | PERCENT TLV | PEL |
| ETHYLENE GLYCOL MONOBUTYL ETHER
* * * * * * * * * * * * SECTION III | 11-30 % 25
- Physical Data * * * | PPM S 25 PPM S
* * * * * * * * * * * |
| PROPERTY | MEASUREI | MENT |
| APPEARANCE CLEAR LIGHT
ODOR
SPECIFIC GRAVITY (H2O=1)
BULK DENSITY
PH
SOLUBILITY IN WATER AT
20 DEG C. GMS/100ML H20
BIODEGRADABILITY
PERCENT VOLATILES
EVAPORATION RATE(BUTYL ACETATE=1)
VAPOR DENSITY
VAPOR PRESSURE (MMHG)
BOILING POINT(760 MMHG)
POUR POINT
FREEZE POINT
SOLUBILITY IN SEAWATER
PARTITION COEF (OCTANOL IN WATER) | YELLOW LIQUID
BLAND
1.038
8.65 LB/GAL
6.5-8.5 FOR 10% SOL.
SOLUBLE
N/D
73-78
N/D
N/D
N/D
N/D
N/D
N/D
N/D
N/D
N/D
N/D | |
| * * * * * * * * * * * SECTION IV - FI | RE AND EXPLOSION DATA | * * * * * * * * * * * |
| NFPA(704) RATING:
HEALTH 1 FLAMMABILITY 2
FLASH POINT
AUTOIGNITION TEMPERATURE
FLAMMABLE LIMITS (% BY VOLUME)
++++++++++++++++++++++++++++++++++++ | REACTIVITY O SPECI/
142 F / 61 (
ND F / ND (
LOWER N/D (
CAL, OR CARBON DIOXIDE
SH/MSHA APPROVED SELF-(
TING PERSONNEL. | AL NONE
C FLASH MTHD PMCC
C
JPPER N/D
HTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT |
| * * * * * * * * * * * * SECTION V - | HEALTH HAZARD DATA * 7 | * * * * * * * * * * |

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PN: 516005190 CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN "NTP, IARC, OSHA, OR, ACIGH". ACCORDING TO : PRODUCT TOXICITY DATA: NOT DETERMINED PRODUCT TLV: NOT ESTABLISHED ----- EFFECTS OF EXPOSURE -----ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE MODERATE IRRITATION. SKIN: MAY BE ABSORBED THROUGH SKIN. CONTACT MAY CAUSE SKIN IRRITATION. INHALATION: HIGH CONCENTRATIONS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. THIS MAY BE EVIDENCED BY GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS. CHRONIC EFFECTS: CONTAINS ETHYLENE GLYCOL MONOBUTYL ETHER. ANIMAL STUDIES INDICATE FETAL AND TESTICULAR TOXICITY WITH RELATED GLYCOL ETHERS. OTHER SYMPTOMS AFFECTED: BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. BREATHING OF VAPOR AND/OR MISTS MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE. ----- EMERGENCY AND FIRST AID PROCEDURES ------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION. SKIN: PROMPTLY WASH SKIN WITH SOAP AND WATER. IF IRRITATION DEVELOPS, SEEK MEDICAL ATTENTION. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION. * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS. HAZARDOUS DECOMPOSITION PRODUCTS: SULFUR DIOXIDE, CARBON DIOXIDE AND CARBON MONOXIDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * *

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN

PAGE 2

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PN: 516005190 PAGE 3 AND ABSORB SPILL WITH AN INERT MATERIAL. SCOOP UP AND REMOVE. WASTE DISPOSAL METHOD: GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT ABSORBED MATERIAL TO SANITARY LANDFILL. * * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * **RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):** ORGANIC VAPOR CARTRIDGE RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. PROTECTIVE GLOVES: IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: GOGGLES AND/OR FACE SHIELD. **OTHER PROTECTIVE EQUIPMENT:** RUBBER APRON TO PREVENT DIRECT SKIN CONTACT. * * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING AQF-2 FOAMING AGENT - HAL-TANK 516.005190 WARNING! MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE EYE AND SKIN IRRITATION. COMBUSTIBLE! FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM OXIDIZERS. STORE IN A COOL WELL VENTILATED LOCATION. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION. * * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * DOT SHIPPING DESCRIPTION: COMBUSTIBLE LIQUID, N.O.S. - COMBUSTIBLE LIQUID - NA1993 - III (CONTAINS ETHYLENE GLYCOL MONOBUTYL ETHER) * * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: Y PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) N/A C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS D. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS) ETHYLENE GLYCOL MONOBUTYL111-76-2 11-30 % E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE

PAGE 4

H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE

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| | SSO-21M | WINTERIZED - B | ULK | | PAGE 1 |
|---|--|--|---|--|---|
| | MATERIAL
HALLIBUR
DUNCAN | . SAFETY DATA S
TON ENERGY SER
I, OKLAHOMA 735 | HEET
VICES
36 | D
REVISED | ATE: 01-02-01
DATE 04-07-99 |
| | EMERGENCY TELEPH
Emergency teleph | IONE: 800/666-9
IONE: 800/666-9 | 260 OR 5
260 OR 5 | 80/251-33
80/251-33 | 59
59 |
| | * * * * * * * * * * * * SECTION I - | PRODUCT DESCRI | PTION * | * * * * * | * * * * * * * |
| | CHEMICAL CODE: SSO-21M WINTERIZED
PKG GTY: CARGO TANK A
SERVICE USED: STIMULATION | - BULK
PPLICATION: AQ | IUEOUS FC | PART NUM
AMING AGE | IBER: 516009250
NT |
| | * * * * * * * * * * * SECTION 11 - | COMPONENT INF | ORMATION | * * * * | * * * * * * * |
| | COMPONENT+ + + + + + + + + + | PERC | ENT TL | v | PEL |
| | METHANOL
ETHYLENE GLYCOL MONOBUTYL ETHER
2-ETHYL HEXANOL
* * * * * * * * * * * * SECTION II | - 11
- 11
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I - PHYSICAL D | 30 % 20
30 % 25
10 % NO
ATA * * | 0 PPM S
PPM S
T EST
* * * * * | 200 PPM S
25 PPM S
NOT EST
* * * * * * * * |
| | PROPERTY | | MEASUR | EMENT | |
| | APPEARANCE CLEAR LIGO
ODOR
SPECIFIC GRAVITY (H2O=1)
BULK DENSITY
PH
SOLUBILITY IN WATER AT
20 DEG C. GMS/100ML H20
BIODEGRADABILITY
PERCENT VOLATILES
EVAPORATION RATE(BIJTYL ACETATE=1)
VAPOR DENSITY
VAPOR DENSITY
VAPOR PRESSURE (MMHG)
BOILING POINT(760 MMHG)
POUR POINT
FREEZE POINT
FREEZE POINT
FREEZE POINT
SOLUBILITY IN SEAWATER
PARTITION COEF (OCTANOL IN WATER)
* * * * * * * * * * SECTION IV - F | SWEET
.986
8.21 LB/GA
7.7 (5% SOLU
SOLUBLE
N/D
N/D
N/D
N/D
N/D
N/D
N/D
N/D
N/D
N/D | L
TION)
D
ION DATA | * * * * | * * * * * * |
| : | NFPA(704) RATING:
HEALTH 1 FLAMMABILITY 3
FLASH POINT
AUTOIGNITION TEMPERATURE
FLAMMABLE LIMITS (% BY VOLUME)
++++++++++++++++++++++++++++++++++++ | REACTIVITY 0
93 F
ND F
LOWER N
HITHTHTHTHT
ICAL, OR CARBO
POSED SURFACES
OSH/MSHA APPRO
HTING PERSONNE
CR FLAMES. F | SPEC
/ 33
/ ND
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+++++++++
N DIOXID
VED SELF
L.
IGHT FIR | IAL NONE
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-CONTAINE
E FROM A | MTHD PMCC
N/D
D BREATHING |

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PN: 516009250 CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND INJURIES. INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE AND CARBON MONOXIDE. * * * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN "NTP, IARC, OSHA, OR, ACIGH". ACCORDING TO : PRODUCT TOXICITY DATA: NOT DETERMINED. PRODUCT TLV: NOT ESTABLISHED ----- EFFECTS OF EXPOSURE ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: VAPORS WILL SEVERELY IRRITATE THE EYES. LIQUID AND MISTS WILL IRRITATE AND DAMAGE THE EYES, CAUSING CORNEAL INJURY. SKIN: MAY BE ABSORBED THROUGH SKIN TO PRODUCE ANEMIA AND KIDNEY DAMAGE EVIDENCED BY PALENESS AND POSSIBLY RED COLORATION OF THE URINE. SIGNS AND SYMPTOMS AFTER SKIN ABSORPTION ARE SIMILAR TO THOSE OF INGESTION. INHALATION: HIGH CONCENTRATIONS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. THIS MAY BE EVIDENCED BY GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS. VAPOR, MIST OR SPRAY CAUSE SEVERE IRRITATION OF UPPER RESPIRATORY SYSTEM. INGESTION: MAY BE HARMFUL IF SWALLOWED! CONTAINS METHANOL, MAY CAUSE NAUSEA, VOMITING, HEADACHE, DIZZINESS, SHORTNESS OF BREATH, CONFUSION, VISUAL DISTURBANCES, DROWSINESS, COMA AND POSSIBLY DEATH. VISUAL EFFECTS INCLUDE BLURRED VISION, DIPLOPIA, CHANGES IN COLOR PERCEPTION, RESTRICTION IN VISUAL FIELDS AND BLINDNESS. CHRONIC EFFECTS: PROLONGED OR REPEATED EXPOSURE TO HIGH CONCENTRATIONS OF METHANOL MAY CAUSE VISUAL IMPAIRMENT OR BLINDNESS AND BLOOD, LUNG, LIVER, KIDNEY AND SPLEEN INJURY. TRACE AMOUNTS OF ETHYLENE OXIDE (ETO) IN THIS PRODUCT CREATES THE POTENTIAL OF ETO ACCUMULATION IN THE HEAD SPACE OF CONTAINERS AND IN ENCLOSED AREAS. ETO IS A POTENTIAL CARCINOGEN FOR HUMANS AND MAY ALSO PRESENT REPRODUCTIVE, MUTAGENIC, GENOTOXIC, NEUROLOGIC AND SENSITIZATION HAZARDS TO HUMANS. PROLONGED EXPOSURE TO EXCESSIVE AMOUNTS OF METHANOL CAN CAUSE LUNG SWELLING. FATTY TISSUE INFILTRATION IN THE LIVER, FATTY DEGENERATION OF THE HEART TISSUE AND DEGENERATIVE CHANGES IN THE CENTRAL NERVOUS SYSTEM AND EYE. THERE IS EVIDENCE, BASED ON ANIMAL STUDIES, THAT 2-ETHYLHEXANOL AT HIGH ORAL DOSES MAY DAMAGE THE EMBRYO/FETUS. THIS FINDING IS OF UNCERTAIN SIGNIFICANCE TO MAN. OTHER SYMPTOMS AFFECTED: BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. BREATHING OF VAPOR AND/OR MISTS MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE. ----- EMERGENCY AND FIRST AID PROCEDURES -------FYF: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION. SKIN:

IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE

PAGE 2

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REMOVING CONTAMINATED CLOTHING AND SHOES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION, WASH CLOTHING BEFORE REUSE. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! KEEP VICTIM WARM AND QUIET. SEEK PROMPT MEDICAL ATTENTION. * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS. HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND/OR CARBON DIOXIDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: PREVENT LIQUID FROM ENTERING SEWERS, WATERCOURSES, OR LOW AREAS. CONTAIN SPILLED LIQUID WITH SAND OR EARTH. DO NOT USE COMBUSTIBLE MATERIALS SUCH AS SAWDUST. USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AREA AND STOP LEAK WHERE SAFE. REMOVE IGNITION SOURCES. CONTAIN AND ABSORB SPILL WITH SAND OR OTHER INERT MATERIAL. SCOOP OR SWEEP UP USING NON-SPARKING TOOLS. IN ENCLOSED AREAS, WEAR SELF-CONTAINED BREATHING APPARATUS. WASTE DISPOSAL METHOD: CONSULT AN EXPERT ON DISPOSAL OF RECOVERED MATERIAL. GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE. * * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * * **RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):** ORGANIC VAPOR CARTRIDGE RESPIRATOR. IF METHANOL IS RELEASED, POSITIVE PRESSURE SUPPLIED-AIR RESPIRATOR WITH A 5-MINUTE AUXILIARY BOTTLE. OR PRESSURE-DEMAND OR POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. **PROTECTIVE GLOVES:** IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM. OTHER PROTECTIVE EQUIPMENT: NEOPRENE APRON TO PREVENT DIRECT SKIN CONTACT. * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * * PRECAUTIONARY LABELING SSO-21M WINTERIZED - BULK 516.009250 DANGERI MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS. CONTAINS METHANOL, MAY CAUSE BLINDNESS, CENTRAL NERVOUS SYSTEM DEPRESSION OR EVEN DEATH, IF SWALLOWED.

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MAY CAUSE SEVERE EYE IRRITATION. MAY CAUSE SEVERE SKIN IRRITATION. FLAMMABLE! FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM OXIDIZERS. KEEP FROM HEAT, SPARKS, AND OPEN FLAME. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: IF EMPTY CONTAINER RETAINS PRODUCT RESIDUES, ALL LABEL PRECAUTIONS MUST BE OBSERVED. STORE AWAY FROM IGNITION SOURCES WITH ALL DRUM CLOSURES IN PLACE. OFFER CONTAINER TO RECONDITIONER OR RECYCLER. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS. SPECIAL PRECAUTIONS: STORE BETWEEN 40 F AND 90 F KEEP AWAY FROM FOOD. PRODUCT HAS A SHELF LIFE OF 24 MONTHS. * * * * * * * * * * SECTION X - TRANSPORTATION 1NFORMATION * * * * * * * * DOT SHIPPING DESCRIPTION: FLAMMABLE LIQUID, N.O.S. - 3 - UN1993 - III (CONTAINS METHANOL, BUTYL CELLOSOLVE) * * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION FIRE: Y PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): Y MIXTURE OR PURE MATERIAL: MIX B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) 3,605 GALS. - METHANOL, U154 C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS D. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS) COMPONENT NAME CAS-REG-NO PCT METHANOL 67-56-1 11-30 % ETHYLENE GLYCOL MONOBUTYL111-76-2 11-30 % E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA NE EEC NO ACOIN NO NPR NE DRSM NE H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261 IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED BY US EPA BECAUSE OF: IGNITABILITY THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM

VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER. AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY

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SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

| F R - 2 | SLC - BULK PAGE 1 |
|--|--|
| MATERIAL S
HALLIBURTO
DUNCAN, | AFETY DATA SHEET DATE: 01-02-01
N ENERGY SERVICES REVISED DATE 04-07-99
DKLAHOMA 73536 |
| EMERGENCY TELEPHON
Emergency telephon | E: 800/666-9260 OR 580/251-3359
E: 800/666-9260 OR 580/251-3359 |
| * * * * * * * * * * * * SECTION I - PR | DDUCT DESCRIPTION * * * * * * * * * * * * * |
| CHEMICAL CODE: FR-26LC - BULK
PKG QTY: 330 GALLON TANK APP
SERVICE USED: STIMULATION | PART NUMBER: 516004810 |
| * * * * * * * * * * * SECTION II - C | DMPONENT INFORMATION * * * * * * * * * * * |
| COMPONENT+ + + + + + + + + + | PERCENT TLV PEL |
| PARAFFINIC/NAPHTHENIC SOLVENT
ETHOXYLATED OCTYLPHENOL
* * * * * * * * * * * * * SECTION III | 31-60 % 100 PPM 100 PPM
1-10 % NOT EST NOT EST
- PHYSICAL DATA * * * * * * * * * * * * * * |
| PROPERTY | MEASUREMENT |
| APPEARANCEHAZY CREAM CODORSSPECIFIC GRAVITY (H2O=1)1BULK DENSITY9PH8SOLUBILITY IN WATER AT20 DEG C. GMS/100ML H2OBIODEGRADABILITYPERCENT VOLATILESEVAPORATION RATE(BUTYL ACETATE=1)NVAPOR DENSITYNVAPOR PRESSURE (MMHG)BOILING POINT (760 MMHG)POUR POINTFREEZE POINTSOLUBILITY IN SEAWATERPARTITION COEF (OCTANOL IN WATER) | DLORED LIQUID
VEET HYDROCARBON
.090
.08 LB/GAL
.7
DLUBLE
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.3
.0
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/D
/D
/20 F / <-28 C
/0
DT EVALUATED
DT EVALUATED |
| * * * * * * * * * * SECTION IV - FIR | E AND EXPLOSION DATA * * * * * * * * * * * |
| NFPA(704) RATING:
HEALTH 1 FLAMMABILITY 1 RI
FLASH POINT
AUTOIGNITION TEMPERATURE
FLAMMABLE LIMITS (% BY VOLUME)
************************************ | ACTIVITY 0 SPECIAL NONE
> 200 F / > 93 C FLASH MTHD PMCC
ND F / ND C
LOWER N/D UPPER N/D
++++++++++++++++++++++++++++++++++++ |
| UNUSUAL FIRE AND EXPLOSION HAZARDS:
THIS PRODUCT IN NOT EXPECTED TO BU | I/MSHA APPROVED SELF-CONTAINED BREATHING
NG PERSONNEL.
IRN UNLESS ALL THE WATER IS BOILED AWAY. |

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MONOXIDE AND NITROGEN OXIDES.

* * * * * * * * * * * * SECTION V - HEALTH HAZARD DATA * * * * * * * * * * * * * CALIFORNIA PROPOSITION 65: PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65. CARCINOGENIC DETERMINATION: PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH". PRODUCT TOXICITY DATA: AQU TLM96:SHRIMP: 2600 PPM FOR A 2% SOLUTION AQU TLM96:BLUEGILL SUNFISH: >100<1000 PPM PRODUCT TLV: NOT ESTABLISHED ----- EFFECTS OF EXPOSURE -----ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE MODERATE IRRITATION. SKIN: MAY CAUSE MODERATE IRRITATION WITH REDDENING AND SWELLING. INHALATION: MIST OR HEATED VAPORS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION RESULTING IN GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS. INGESTION: ASPIRATION INTO LUNGS BY INGESTION OR VOMITING, MAY CAUSE CHEMICAL PNEUMONITIS RESULTING IN EDEMA AND HEMORRAGE AND MAY BE FATAL. SYMPTOMS INCLUDE INCREASED RESPIRATORY RATE AND BLUISH DISCOLORATION OF SKIN. COUGHING AND GAGGING ARE OFTEN NOTED AT THE TIME OF ASPIRATION. CHRONIC EFFECTS: NO SPECIFIC INFORMATION IS AVAILABLE ON THE CHRONIC EFFECTS OF EXPOSURE. OTHER SYMPTOMS AFFECTED: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENED BY EXPOSURE TO THIS PRODUCT. ----- EMERGENCY AND FIRST AID PROCEDURES -------EYE: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION. SKIN: PROMPTLY WASH SKIN WITH SOAP AND WATER. IF IRRITATION DEVELOPS, SEEK MEDICAL ATTENTION. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING! ASPIRATION INTO LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL. IF VOMITING OCCURS SPONTANEOUSLY. KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO LUNGS. * * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * * * STABILITY: STABLE CONDITIONS TO AVOID: NOT APPLICABLE. INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS. HAZARDOUS DECOMPOSITION PRODUCTS:

PAGE 3

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NITROGEN OXIDES, CARBON DIOXIDE AND/OR CARBON MONOXIDE. HAZARD POLYMERIZATION: WON"T OCCUR CONDITIONS TO AVOID: NOT APPLICABLE. * * * * * * * * * * SECTION VII - SPILL OR LEAK PROCEDURES * * * * * * * * * * * STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN AND ABSORB SPILL WITH AN INERT MATERIAL. SCOOP UP AND REMOVE. WASTE DISPOSAL METHOD: GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT ABSORBED MATERIAL TO SANITARY LANDFILL. * * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * **RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):** ORGANIC VAPOR CARTRIDGE RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. **PROTECTIVE GLOVES:** IMPERVIOUS RUBBER GLOVES. EYE PROTECTION: WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM. OTHER PROTECTIVE EQUIPMENT: RUBBER APRON TO PREVENT DIRECT SKIN CONTACT. * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * PRECAUTIONARY LABELING FR-26LC - BULK 516.004810 CAUTION! MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE IRRITATIÓN TO THE EYES, SKIN OR RESPIRATORY SYSTEM. FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII. OTHER HANDLING AND STORAGE CONDITIONS: STORE AWAY FROM OXIDIZERS. STORE IN A COOL WELL VENTILATED LOCATION. KEEP CONTAINER CLOSED WHEN NOT IN USE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. AVOID BREATHING VAPORS. CONTAINER DISPOSITION: EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION. * * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * * * DOT SHIPPING DESCRIPTION: NOT RESTRICTED * * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * * * EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y FIRE: N CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY) N/A C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS

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- D. EPA SARA TITLE 111, 40 CFR 372 (LIST OF TOXIC CHEMICALS) CHEMICAL CONTAINS NO TOXIC INGREDIENTS
- E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE

H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261

IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

| 1625 N. French Dr., Hobbs, NM 88240 | Energy inerals and Natura esou | Form C-138
Revised Mert 17 1900 |
|--|--|---|
| 81), South First, Artesia, NM 88210
District !!! | Oil Conservation Division
2040 South Pacheco | Submit Original |
| 1002. Rig Brazos Road, Aztec, NM 87410
District IV | Santa Fe. NM 87505 | Plus I Copy
to Appropriate |
| 2040 South Pacheco, Santa Fe, NM 87505 | | District Office |
| REQUEST FOR | APPROVAL TO ACCEPT | SOLID WASTE |
| I. RCRA Exempt: 🔲 Non-Exempt: 🔀 | ł | 4. Generator
Williams |
| Verbal Approval Received: Yes |) No 🔀 | 5. Originating Site
MILAGRO PIANT |
| 2. Management Facility Destination Keye | Neegy Disposal | 6. Transporter Key |
| 3. Address of Facility Operator #345 CA | 2 3500 AZtec NM | 8. State NM |
| 7 E ocation of Material (Street Address or UI | STR # 187 CR 4480 | · |
| 7. Education of Material (Street Address of OL | Bloomfield, NM 87413 | |
| 9. <u>Circle One</u> : | | |
| A. All requests for approval to accept oilfie one certificate per job. | ld exempt wastes will be accompanied by | a certification of waste from the Generator: |
| (B)All requests for approval to accept non-e
material is not-hazardous and the Genera
approved | exempt wastes must be accompanied by ne ator's certification of origin. No waste class | cessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes del | ivered are only those consigned for transpo | on. |
| BRIEF DESCRIPTION OF MATERIAL: | _ | Refiled on |
| WASTE WATER From | NATURAL 6+5 proc | 2551Ng 11-19-01
M.T. |
| SEE DISCHARGE PLAN | THE TOWN | Renewal For |
| Requests testing | WAINED AD | MILAGRO Plont |
| | | Do A LAST FILED + Approver |
| | | 0 0 11-13-2000 |
| · · · | | |
| Estimated Volume 1000 bbl cy | Known Volume (to be entered by the open | rator at the end of the haul)cy |
| SIGNATURE Waste Management Facility Author | ized Agent TITLE: | DATE: 10-29-01 |
| TYPE OR PRINT NAME: MICHAEL 7 | TELE | PHONE NO. 505-334-6186 |
| | | |
| (This space for State Use) | · | |
| APPROVED BY: Demy to | TITLE: Envivo | 1 Engr DATE: 11/20/01 |
| APPROVED BY: / North ARth | TITLE: Ennounhill | DATE: 11/2 /01 |

1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 1037 Ric-Brazos Road, Aztec, NM 87410 <u>District IV</u> 2040 Souul Pacheco, Santa Fe, NM 87505-

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Energy inerals and Natural Resources

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505 Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

> > .

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1. RCRA Exempt: Non-Exempt: X | 4. Generator
Will im s |
|---|---|
| Verbal-Approval-Received:YesNo | -5. Originating Site |
| 2. Management Facility Destination KEYENERGY Disposal | 6. Transporter Key |
| 3. Address of Facility Operator #345 CR 3500 AZHEC NM | 8. State NA |
| 7. Location of Material (Street Address or ULSTR) # 187 CR 4480
BloomField, NM 87443 | |
| 9. <u>Circle One</u> : | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste class approved | a certification of waste from the Generator:
cessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transp | ort. |
| BRIEF DESCRIPTION OF MATERIAL: | Refiled on |
| SEE DISCHARGE PLAN
Requests testing WAIVER
NOV 2001
RECEIVED
CLOOM DW
Dist. 3
Estimated Volume (to be entered by the open
CLOOM Volume (to be entered by | Renewal For
micaGeo Plont
Last Filed + Approved
11-13-2008
erator at the end of the haul)cy |
| SIGNATURE Management Facility Authorized Agent TITLE: MGR
Waste Management Facility Authorized Agent TELE | DATE: 10-29-01 |
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APPROVED BY: Demy Kent TITLE: Envirop
APPROVED BY: TITLE: | 1Engr DATE: 11/20/01 |
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NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION AZTEC DISTRICT_OFFICE 1000 RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (506) 334-6178 Fax (505)334-6170

GARÝ E. JOHNSON GOVERNOR

JENNIFER A. SALISBURY CABINET SECRETARY

| 1. | Generator Name and Address:
WILLIAMS - (MILAGRO PLANT)
#187 C2 4960
BLOOMFIELD, NM 87413 | 2. Destination Name:
KEY DISPOSAL
CR 35-0
FARMINGTON, N.M |
|----|---|--|
| 3. | Originating Site (name): | Location of the Waste (Street address &/or ULSTR): |
| | MILAGRO FLANT | = 192 CR 4900 |
| | - | BLOOMFIELD, NON 87413 |
| 4. | Attach list of originating sites as appropriate
Source and Description of Waste | |
| | NATURAL CAS PROCESSING WASTR | E - INCLUSHIC PRODUCES HARRY AMINE CONFRIENDS |
| | AND DE MINIMUS QUANTITIES OF O | THER NON-HAZAROOUS LIQUID WASTES, WASTE HAS |
| | | |

| 1, MARK HARVEY | | Tepresentative for. | |
|---------------------------------|--|--|--|
| (Print Name) | | nt Name) | |
| | · · · · · · · · · · · · · · · · · · · | | do hereby certify that, |
| according to th | e Resource Conserva | ation and Recovery Ad | t (RCRA) and Environmental Protection Agency's July, |
| 1988, regulator | y determination, the | above described wast | e is: (Check appropriate classification) |
| EXEMPT of | ilfield waste | NON-EXEMPT of analysis or by p | nilfield waste which is non-hazardous by characteristic
product identification |
| | | • | |
| and that nothing | has been added to | the exempt or non-exe | empt non-hazardous waste defined above. |
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X Other (description): Facility Discharce flag |
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is attached (check appropriate items): |

This waste is in compliance with Regulated Levels of Naturally Occurring Radioactive Material (NURIVI) pursuant to 20 NMAC 3.1 subpart 1403.C and D.

| Name (Original Signature): MAZ | - Foi Uilliams |
|--------------------------------|----------------|
|--------------------------------|----------------|

Title: PROJECT COORDINATOR

Date: <u>10-26-01</u>



2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

| LABORATORY REPORT: | REFERENCE #: | 0011535 | |
|-----------------------------|-----------------|----------|---------------------------------------|
| SENT-WILLIAMS-FIELD_SERVICE | DATE_REPORTED: | 11/29/00 | · · · · · · · · · · · · · · · · · · · |
| TO: 295 CHIPETA WAY | DATE COLLECTED: | 11/17/00 | |
| SALT LAKE CITY, UTAH 84158 | DATE RECEIVED: | 11/21/00 | |
| MARK HARVEY | P.O. #: | | |
| PROJECT: MILAGRO PONDS | - | | |

Sample ID: MIL-POND-C-01

Sample Matrix: WATER

Collection Date: 11/17/00 08:05:00

| TEST | METHOD-CAS # | RESULT | UNITS | PQL | ANALYZED | EXTRACTED |
|----------------------|--------------|-----------|-------|--------|-------------|-----------|
| METAL PREPARATION | EPA 3010 | IL001121C | | | 11/21/00JH | 14, |
| SILVER, TOTAL | SW 846 6010B | <0.01 | MG/L | 0.01 | 11/22/00RD0 | 2 |
| ARSENIC, TOTAL | SW 846 6010B | 0.12 | MG/L | 0.05 | 11/22/00RD0 | 2 |
| BARIUM, TOTAL | SW 846 6010B | 0.12 | MG/L | 0.005 | 11/22/00RD0 | 2 |
| CADMIUM, TOTAL | SW 846 6010B | 0.019 | MG/L | 0.005 | 11/22/00RD0 | 2 |
| CHROMIUM, TOTAL | SW 846 6010B | 10.0 | MG/L | 0.01 | 11/22/00RD | 2 |
| MERCURY, TOTAL | SW 846 7470 | <0.0002 | MG/L | 0.0002 | 11/22/00XM | |
| LEAD, TOTAL | SW 846 6010B | 0.10 | MG/L | 0.01 | 11/22/00RD | 2 |
| SELENIUM, TOTAL | SW 846 6010B | 0.29 | MG/Ĺ | 0.05 | 11/22/00RD | 2 |
| REACTIVE CYANIDE | SW846 SEC7.3 | <0.001 | MG/L | 0.001 | 11/22/00MS: | 2 |
| REACTIVE SULFIDE | SEC.7.3.4.1 | <0.05 | MG/L | 0.05 | 11/22/00MS: | 2 |
| HALOGENS, TOTAL ORGA | SW 846 9020 | 362.4 | UG/L | 5.0 | 11/22/00MB | |
| TPH GRO | 8015G/OA1 | 107 | UG/L | 50.0 | 11/21 00MB | |
| BTEX | OA1/8021B | | | 3.0 | | |
| BENZENE | 71-43-2 | ND | UG/L | 1.0 | 11/21/00MB | , |
| TOLUENE | 108-88-3 | 2.81 | UG/L | 1.0 | 11/21/00MB | |
| ETHYLBENZENE | 100-41-4 | ND | UG/L | 1.0 | 11/21/00MB | |
| TOTAL XYLENES | 1330-20-7 | 3.16 | UG/L | 1.0 | 11/21/00MB | |
| BFB (SURROGATE) | - | 114 | 125 | 75 | | |

ND=NONE DETECTED -- --PQL=PRACTICAL QUANTITATION LIMIT SU=STANDARD UNITS *BACKGROUND CONTAMINATION SUR=SURROGATE Q=OUTSIDE LIMITS B=DETECTED IN METHOD BLANK

> TERRY KOESSTER 641 APPROVED BY :-

TERRY KOESTER LABORATORY DIRECTOR

REPORT AMENDED TO REFERENCE APPROPRIATE METHODS FOR METALS No. 46 ANALYSIS. MS2

REFERENCE #: 0011535 PAGE: 1

AMENDED REPORT

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onservation Division | Weger Hud
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Marthe | 605 601
Form C-138
ised March 17, 1999 |
|--|--|--|---|
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040 South Pacheco, Smith Fe, NM 87505 Key can veguive | inta Fc. NM 87505 Is
what they sent. OF | waste Stream
Diocraffor life
Dermit, | Submit Original
Plus 1 Copy
to Appropriate
District Office |
| REQUEST FOR APPROV | AL TO ACCEPT SO | LID WASTE | |
| . RCRA Exempt: Non-Exempt: | 4 | Generator William | n s |
| Verbal Approval Received: Yes- No | n namen an | Originating Site | PO Plant |
| Management Facility Destination KEYENERGY D | SPOSAL 6 | Transporter Key | |
| Address of Facility Operator # 345 CL 3500 A7 | the NM 8 | State NM | 41041 - 944 - 944 - 944 - 944 - 944 - 944 - 944 - 944 - 944 - 944 - 944 - 944 - 944 - 944 - 944 - 944 - 944 - 9 |
| Location of Material (Street Address or ULSTR) # 197
Bloom | CR 4980
Field, NM 87413 | | |
| Circle One: | | | |
| A. All requests for approval to accept oilfield exempt wast
one certificate per job.
BAll requests for approval to accept non-exempt wastes r
material is not-hazardous and the Generator's certificati
approved | es will be accompanied by a ce
nust be accompanied by necess
on of origin. No waste classifi | rtification of waste from
ary chemical analysis to
ed hazardous by listing o | the Generator;
PROVE the
r testing will be |
| All transporters must certify the wastes delivered are only | those consigned for transport. | | |
| WASTE WATER FROM NATU | et 6+5 proces | SING | |
| SEE DISCHARGE PLAN
Requests testing warved | 2 Charles of the off | PRENEWAL
PMILAGED
BLAST File
No. 11-13-200 | For
Plant
D + Approv |
| stimated Volume 1000 661 cy Known Volum | e (to be entered by the operato | r at the end of the haul)_ | cy |
| SIGNATURE Management Facility Authorized Agent | TITLE: MGC | DATE | 10-29-01 |
| TYPE OR PRINT NAME: MICHAEL TALOVICA | TELEPHO | DNE NO. 505-339 | -6186 |
| | | ~ | an a |
| (This space for State Use) Need Copy | 6 most Receipt Annlytic | al 11-13-2000 0
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| MENILE AND 700 | | 1 - 1 - 0 | 11/1/151 |
| APPROVED BY: DENIED | TITLE: | DATE | 11/1/01 |

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District I 1625 N. French Dr., Hobbs, NM 88240 District II & I South First, Artesia, NM 88210 District II 1000 Rice Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505

4

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Submit Original Plus 1 Copy to Appropriate District Office

| REQUEST FOR APPROVAL TO ACCEPT | SOLID WASTE |
|--|--|
| 1. RCRA Exempt: Non-Exempt: | 4. Generator
Will iAm s |
| Verbal Approval Received: Yes No | 5. Originating Site
MILAGRO Plant |
| 2. Management Facility Destination KEYENERGY Disposal | 6. Transporter Key |
| 3. Address of Facility Operator #345 CR 3500 AZtec NM | 8. State NM |
| 7. Location of Material (Street Address or ULSTR)
Bloom Field, NM 87413 | - |
| 9. Circle One: | · · · · · · · · · · · · · · · · · · · |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by
one certificate per job.
BAll requests for approval to accept non-exempt wastes must be accompanied by neu-
material is not-hazardous and the Generator's certification of origin. No waste clas
approved | a certification of waste from the Generator;
cessary chemical analysis to PROVE the
sified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transpo | ort. |
| BRIEF DESCRIPTION OF MATERIAL: | |
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Requests testing WAIVER OUTENTING
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| TYPE OR PRINT NAME: <u>MICHAE TALOVICA</u> TELEI | PHONE NO. <u>505-334-6/86</u> |
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NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OL CONSERVATION DIVISION AZTEC DISTRICT OFFICE 1000 RIO BRAZOS ROAD AZTEC, NEW MEXICO 87410 (506) 334-6178 Fax (505)334-6170

GARY E. JOHNSON GOVERNOR

JENNIFER A. SALISBURY CABINET SECRETARY

CERTIFICATE OF WASTE STATUS

| 1. Generator Name and Address: | 2. Destination Name: |
|--|---|
| WILLIAMS - (MILAGRO PLANT) | KEY DISPOSAL |
| #187 CR 4980 | CR 3500 |
| BLOOMFIELD, NM 87413 | FARMINGTON, NM |
| 3. Originating Site (name): | Location of the Waste (Street address &/or ULSTR): |
| MILAGRO PLANT | # 192 CR 4900 |
| | BLOOMFIELD, NM 87413 |
| Attach list of originating sites as appropriate | |
| Source and Description of Waste | |
| NATURAL GAS PROCESSING WASTE -IN | ICLUDING PRODUCED WATER, AMINE COMPOUNDS |
| AND DE MINIMUS QUANTITIES OF OTHER | NON-HAZAROOUS LIQUID WASTES, WASTE HAS . |
| BEEN PREVIOUSLY CHARACTERIZED B | Y ANALYTICAL TESTING-RESULTS ON FILE |
| | |
| •••••••••••••••••••••••••••••••••••••• | |
| MARK HARVEY | representative for: |
| (Print Name) | |
| | do hereby certify that, |
| ccording to the Resource Conservation and Reco | very Act (KCKA) and Environmental Protection Agency's July, |
| | |
| EXEMPT oilfield waste NON-EX | EMPT oilfield waste which is non-hazardous by characteristic |
| analysis | or by product identification |
| In that nothing has been added to the exempt or | non-exempt non-hazardous waste defined above |
| that nothing has been added to the exempt of | |
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| or NON-EXEMPT waste the following docume | tation is attached (check appropriate items): |
| or NON-EXEMPT waste the following document MSDS Information | tation is attached (check appropriate items):
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MSDS Information
RCRA Hazardous Waste Analysis | tation is attached (check appropriate items):
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NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON Governor Jennifer A. Salisbury Cabinet Secretary

Lori Wrotenbery Director Oil Conservation Division

July 3, 2001

CERTIFIED MAIL RETURN RECEIPT NO. 5051 0630

Ms. Clara L Garcia Williams Field Services 188 CR 4900 Bloomfield, New Mexico 87413

RE: Discharge Plan Renewal Approval GW-060 Williams Field Services Milagro Gas Plant San Juan County, New Mexico

Dear Ms. Garcia:

The ground water discharge plan renewal GW-060 for the Williams Field Services Milagro Gas Plant located in the SW/4 SE/4 of Section 12, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico, is hereby approved under the conditions contained in the enclosed attachment. Enclosed are two copies of the conditions of approval. Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 days of receipt of this letter.

The original discharge plan application was submitted on December 3, 1990 pursuant to Section 5101.B.3. of the New Mexico Water Quality Control Commission (WQCC) Regulations. The discharge plan renewal application was submitted April 26, 2001 pursuant to Section 3106 of the New Mexico Water Quality Control Commission (WQCC) Regulations. It is approved pursuant to Section 3109.A. Please note Section 3109.G., which provides for possible future amendment of the plan. Please be advised that approval of this plan does not relieve Williams Field Services of liability should operations result in pollution of surface water, ground water, or the environment.

Please be advised that all exposed pits, including lined pits and open tanks (tanks exceeding 16 feet in diameter), shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that Section 3104 of the regulations provides: "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3107.C., Williams Field Services is required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to Section 3109.H.4., this discharge plan is for a period of five years. This plan will expire on March 31, 2006, and Williams Field Services should submit an application in ample time before this date. Note that under Section 3106.F. of the regulations, if a discharger submits a discharge plan renewal application at least 120 days before the discharge plan expires and is in compliance with the approved plan, then the existing discharge plan will not expire until the application for renewal has been approved or disapproved. It should be noted that all discharge plan facilities will be required to submit the results of an underground drainage testing program as a requirement for discharge plan.

Williams Field Services will submit a storm water run-off plan for approval by the OCD within six (6) months of the date of this approval letter for the Milagro Gas Plant.

Ms. Clara L.Garcia GW-060 Milagro Gas Plant July 3, 2001 Page 2

The discharge plan application for the Williams Field Services Milagro Gas Plant is subject to WQCC Regulation 3114. Every billable facility submitting a discharge plan application will be assessed a non-refundable fee equal to the filing fee of \$100. There is a flat fee assessed for natural gas processing plants equal to \$4,000.00. The OCD has received the filing fee.

Please make all checks payable to: Water Management Quality Management Fund C/o: Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505.

If you have any questions please contact Mr. W. Jack Ford at (505) 476-3489. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,

Roger C. Anderson Chief, Environmental Bureau Oil Conservation Division

RCA/wjf Attachment

xc: OCD Aztec Office

COPY

ATTACHMENT TO THE DISCHARGE PLAN GW-060 WILLIAMS FIELD SERVICES MILAGRO GAS PLANT DISCHARGE PLAN APPROVAL CONDITIONS (July 3, 2001)

- 1. <u>Payment of Discharge Plan Fees:</u> The \$100.00 filing fee has been received by the OCD. There is a flat fee assessed for natural gas processing plants equal to \$4,000.00. The required flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the plan, with the first payment due upon receipt of this approval.
- 2. <u>Williams Field Services Commitments:</u> Williams Field Services will abide by all commitments submitted in the discharge plan renewal application dated April 26, 2001 and these conditions for approval.
- 3. <u>Waste Disposal</u>: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge plan will be approved by OCD on a case-by-case basis.
- 4. <u>Drum Storage:</u> All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.
- 5. <u>Process Areas:</u> All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
- 6. <u>Above Ground Tanks</u>: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.
- 7. <u>Above Ground Saddle Tanks</u>: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

- 8. <u>Labeling:</u> All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.
- 9. <u>Below Grade Tanks/Sumps:</u> All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

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- 10. <u>Underground Process/Wastewater Lines:</u> All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity every 5 years. The permittee may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.
- 11. <u>Class V Wells</u>: No Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.
- 12. <u>Housekeeping:</u> All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.
- 13. <u>Spill Reporting:</u> All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the OCD Aztec District Office.
- 14. <u>Transfer of Discharge Plan:</u> The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.
- 15. Storm Water Plan: The facility will have an approved storm water run-off plan.

- 16. <u>Closure:</u> The OCD will be notified when operations of the Milagro Gas Plant are discontinued for a period in excess of six months. Prior to closure of the Milagro Gas Plant a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.
- 17. <u>Certification:</u> Williams Field Services, by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Williams Field Services further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Accepted: Jully 24,2001

WILLIAMS FIELD SERVICES

by Clara M. Jack Environmental Compliance

Page 3 of 3

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Williams Field Services Company

April 2001

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Appendix A – WES Spill Control Procedures Appendix B – NMOCD Notification of Fire, Breaks, Spills, Leaks, and Blowouts

I. <u>TYPE OF OPERATION</u>

1

The Milagro Plant is a natural gas conditioning and cogeneration plant for Williams Field Services (WFS).

II. LEGALLY RESPONSIBLE PARTY

Williams Field Services 188 CR 4900 Bloomfield, NM 87413 (505) 632-4634

Contact Person: Mark I. Pareta, Senior Envir

Mark J. Bareta, Senior Environmental Specialist Phone and Address, Same as Above

III. LOCATION OF FACILITY

The Milagro Plant is located in Section 12, Township 29 North, Range 11 West, in San Juan County, New Mexico, approximately 2.5 miles east of Bloomfield, New Mexico. A site location map is attached (USGS 7.5 Min. Quadrangles: Bloomfield, New Mexico) as Figure 1. The facility layout is illustrated in Figure 2. All figures are attached following Section XI of the text.

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IV. <u>LANDOWNER</u>

Williams Field Services (WFS) owns the subject property.

V. FACILITY DESCRIPTION

This facility, built in 1991, is a natural gas conditioning and cogeneration plant. The conditioning plant is designed to remove carbon dioxide and water from raw natural gas. Plant processes include gas dehydration using triethylene glycol, CO₂ removal by contacting natural gas with sufinol and glycol and sufinol regeneration.

The cogeneration plant generates electricity using natural gas fuel. The exhaust gas heat is used to generate steam for use in the gas conditioning plant. In addition, there are various storage tanks, support structures and ancillary equipment. Records related to facility operations are maintained at central office locations.

VI. SOURCE, QUANTITY, AND QUALITY OF EFFLUENTS AND WASTE SOLIDS

The source, quantity, and quality of effluent and waste solids generated at the plant are summarized in Table 1.

<u>TABLE 1</u> SOURCE, QUANTITY, AND QUALITY OF EFFLUENT AND WASTE SOLIDS MILAGRO PLANT

| PROCESS | SOUDCE | OTTANTATA | ONLAS MEN |
|--|--|--------------------------|--|
| FRUCE55 | SUURCE | QUANTITY | QUALITY |
| FLUID/WASTE | | (Ranges) | |
| Waste Water | Produced water, boiler
blowdown, sulfinol pump
building, sulfinol
reclaimer, and selected
process containment
drains. | 1,000-4,000 gal/day | Water, Amine, Amine Salts,
Glycol and Storm_water |
| Used Oil | Turbines and Oil Skimmer | 10-50 bbl/month | Used motor oil w/no
additives |
| Used Oil Filters | Turbines | 50-100 filters/year | No additives |
| Laboratory Waste | Laboratory | 50-100 gal/month | No additives |
| Used Oil, Glycol,
Amine, Ambitrol,
and Water Mixture | Filter drain pad | 1-10 bbl/month | Used motor oil, glycol,
amine, and ambitrol w/no
additives |
| Used Process
Filters | Air, Oil, Inlet, Glycol,
Ambitrol and Fuel Gas | 1,400-3,000 filters/year | No additives |
| Empty Drums /
Containers | Liquid Containers | 200-400/year | No additives |
| Spill Residue
(i.e., gravel, soil) | Incidental spills | Incident dependent | Incident dependent |
| Used Absorbents | Incidental spill/leak
equipment wipe-down | Incident dependent | No additives |

VII.

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TRANSFER, STORAGE, AND DISPOSAL OF PROCESS FLUIDS, EFFLUENTS AND WASTE SOLIDS

Wastes generated at this facility fall into two categories: exempt and non-exempt. Exempt wastes include, but may not be limited to, used process filters, certain absorbents, spill residues, and produced water with or without de minimus quantities of non-hazardous liquids. Non-exempt wastes include, but may not be limited to, used oil, used oil filters, laboratory waste, and empty drums. Tables 2a & 2b describe the transfer, storage and disposal of process fluids, effluents, and waste solids expected to be generated at the site.

Non-exempt waste management will be conducted in accordance with NMOCD requirements including the preparation of a Certificate of Waste Status for each non-exempt waste stream. Non-exempt wastes will be analyzed at a minimum for BTEX, TPH, RCRA D-List metals, ignitability, corrosivity, and reactivity to initially determine if such wastes are hazardous as defined in 40 CFR Part 261. All wastes at the facility will be periodically surveyed for naturally occurring radioactive material (NORM) to determine if the concentrations of radium 226 exceed 30 picocuries per gram or if radiation exposure exceeds 50 microroentgens per hour. If affirmed, such materials will be handled and disposed in accordance with NMOCD NORM Regulations.

Barring facility modification and/or process changes, the classification of non-exempt wastes and testing of exempt wastes (when required) by laboratory analyses will be made once during the approval period of this plan. Subsequent laboratory analyses will be performed at the generator's

| cretion (minimun | n of once every f | ve years), or mor | e frequently to cor | nply with waste a |
|---------------------------|-------------------|--|---|---|
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TABLE 2a TRANSFER, STORAGE, AND DISPOSAL OF PROCESS FLUIDS, EFFLUENTS, AND WASTE SOLIDS

Milagro Plant

| PROCESS
FLUID/WASTE | STORAGE | CONTAINER
CAPACITY
(approximate) | CONTAINMENT/
SPILL
PREVENTION | RCRA
STATUS | DESCRIPTION OF FINAL DISPOSITION | |
|---|-------------------------------|--|---|-----------------------|---|--|
| Waste Water | Above Ground
Storage Tanks | (3) 5,024 bbl | Berms | Non-exempt | Evaporation is performed at this WFS facility or transported for
disposal at an approved disposal facility. A Waste Acceptance
Profile will be filed with the disposal facility. | |
| Used Oil | Above Ground
Storage Tanks | 1,000 gallon
100 bbl | Berms | Non-exempt | May be hauled to a WFS or contactor consolidation point before
transport to EPA-registered used oil marketer for recycling. | |
| Used Oil Filters | Drum or other
container | Varies | Transported to a
WFS or contractor
facility in drum or
other container | Non-exempt | Consolidated on site, drained, and ultimately transported for
disposal at an approved disposal facility. A Waste Acceptance
Profile will be filed with the disposal facility. Recycling options
may be considered when available. | |
| Laboratory Waste | Drum or other
container | Varies | Berms | Non-exempt | Transported for disposal at an approved disposal facility. A Waste Acceptance Profile will be filed with the disposal facility. | |
| Used Process
Filters | Drum or other
container | Varies | Transported to a
WFS or contractor
facility in drum or
other container | Exempt | Consolidated on site, drained, and ultimately transported for
disposal at an approved disposal facility. A Waste Acceptance
Profile will be filed with the disposal facility. Recycling options
may be considered when available. | |
| Used Oil, Glycol,
Ambitrol, and
Water Mixture | Above Ground
Storage Tanks | (2) 250 bbl | Berms | Non-exempt | Transported for disposal at an approved disposal facility. A Waste
Acceptance Profile will be filed with the disposal facility. Recycling
options may be considered when available. | |
| Empty Drums /
Containers | N/A | Varies | Berm | Non –exempt | Barrels are returned to supplier or transported to a WFS or
contractor consolidation point and ultimately recycled/disposed
consistent with applicable regulations. | |
| Spill Residue
(i.e., soil, gravel) | N/A | N/A | In situ treatment,
land-farm, or
alternate method | Incident
dependent | Per Section VI, Remediation, in 8/13/93 NMOCD Guidelines for
Remediation of Leaks, Spills, and Releases. | |
| Used Absorbents | Drum or other
container | Varies | Transported to a
WFS or contractor
facility in drum or
other container | Incident
dependent | Consolidated on site, drained, and ultimately transported for
disposal at an approved disposal facility. A Waste Acceptance
Profile will be filed for non-exempt waste with the disposal facility.
Recycling options may be considered when available. | |

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TABLE 2b TRANSFER, STORAGE, AND DISPOSAL OF PROCESS FLUIDS, EFFLUENTS, AND WASTE SOLIDS Milagro Plant

| PROCESS
FLUID/WASTE | STORAGE | CONTAINER
CAPACITY
(approximate) | CONTAINMENT/
SPILL
PREVENTION | RCRA
STATUS | DESCRIPTION OF FINAL DISPOSITION |
|---------------------------------|-------------------------------|--|-------------------------------------|----------------|--|
| Compressor Oil | Above ground storage tanks | (2) 2,300 gallon | Berms | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Diesel | Above ground storage tanks | 1,175 gallon
1,250 gallon | Berms | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Gasoline/Diesel
Mix | Above ground storage tanks | 1,000 gallon | Berm | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Dielectric Oil | Transformer
Casings | (2) 4,233 gallon
(2) 456 gallon
(4) 233 gallon | Berms | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Ambitrol/Water
Mix | Above ground storage tanks | 100 bbl | Berm | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Amine/Water Mix | Above ground storage tanks | 100 bbl
500 bbl | Berm | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Triethylene Glycol | Above ground storage tanks | 100 вы | Berm | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Triethylene
Glycol/Water Mix | Above ground storage tanks | (2) 100 bbl | Berm | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Amine | Above ground
storage tanks | (2) 250 bbl | Berms | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Gasoline/Diesel
Mix | Above ground storage tanks | 500 gallon | Berm | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Polymer | Above ground storage tanks | (2) 400 gallons | Berms | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Solvent | Above ground
storage tank | 300 gallons | Berm | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
| Cortrol | Above ground storage tank | 400 gallons | Berm | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |

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| Stearnate | Above ground
storage tank | 400 gallons | Berm | N/A | Off-spec material recycled or disposed consistent with applicable regulations. |
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VIII. STORM WATER PLAN

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A Storm Water Pollution Prevention Plan has been prepared for this facility in accordance with federal requirements. A copy will be provided to the NMOCD under separate cover.

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IX. INSPECTION, MAINTENANCE AND REPORTING

WFS's personnel will operate and maintain the facility 24 hours per day, 7 days per week, 52 weeks per year. An operator will monitor the facility for equipment malfunctions. Regular inspections will be conducted throughout the facility. The above ground and below-grade tanks will be gauged regularly, and monitored for leak detection.

In the event of a release of a reportable quantity, the operator reports the release to a WFS spill notification service. The service immediately notifies the WFS Environmental Department and all appropriate agencies.

X. SPILL/LEAK PREVENTION AND REPORTING (CONTINGENCY PLANS)

Spill containment berms around above ground storage tanks will be designed to contain 1-1/3 times the volume of the tank. The below-grade tanks will be constructed with a means of leak detection, and will either be double-bottomed tanks or a tank set on an impermeable pad.

WFS corporate policy and procedure for the controlling and reporting of Discharges or Spills of Oil or Hazardous Substances is provided in Appendix A. Significant spills and leaks are reported to the NMOCD pursuant to NMOCD Rule 116 and WQCC 1-203 using the NMOCD form (see Appendix B).

XI. SITE CHARACTERISTICS

The Milagro Plant is located approximately 2.5 miles east of Bloomfield, New Mexico. The site elevation is approximately 5,700 feet above mean sea level. The natural ground surface topography slopes downward toward the west and southwest. The maximum relief over the site is approximately 40 feet. Intermittent flow from the site will follow natural drainage to the south towards Hare Canyon Wash. The nearest down-gradient perennial source of surface water is the San Juan River located approximately 1.9 miles south of the site, at an elevation of approximately 5,530 feet.

A review of the available hydrologic data^{1,2,3} for this area revealed that there are no water wells within a 1/4-mile radius of Milagro Plant. The Nacimiento Formation is the water-bearing unit underlying the site. This formation consists of a sequence of interbedded sandstone and mudstone. The estimated ground water depth at the site is 40 feet. The total dissolved solids concentration of area ground water is expected to range from 2,800 to 3,200 parts per million.

The 100-year 24-hour precipitation event at a regional weather station is 2.8 inches. This small amount of rainfall for the area should pose no flood hazards. Vegetation in the area consists predominantly of sagebrush and native grasses.

Flood Protection: Surface water runoff from the area surrounding the site will be diverted around the facility into the natural drainage path.

References

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IStone, W.J., Lyford, F.P., Frenzel, P.F., Mizell, N.H., Padgett, E.T., 1983, Hydrology and Water Resources of San Juan Basin, New Mexico Bureau of Mines and Mineral Resources, Hydrologic Report 6.

Mr. Fr.

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²Records of Water Wells in San Juan County, 1978-1983.

³Online Well Reports and Downloads, New Mexico Office of the State Engineer, 2001.

XII. FACILITY CLOSURE PLAN

All reasonable and necessary measures will be taken to prevent the exceedence of WCQQ Section 3103 water quality standards should WFS choose to permanently close the facility. WFS will submit a detailed closure plan to the NMOCD prior to closure.

Generally, closure measures will include removal or closure in place of underground piping and other equipment. All wastes will be removed from the site and properly disposed in accordance with the rules and regulations in place at the time of closure. When all fluids, contaminants, and equipment have been removed from the site, the site will be graded as close to the original contour as possible.

Should contaminated soil be discovered, any necessary reporting under NMOCD Rule 116 and WQCC Section 1203 will be made and clean-up activities will commence. Post-closure maintenance and monitoring plans would not be necessary unless contamination is encountered.

| District I
1625 N. French Dr., Hobbs, NM 88240 Energy Minerals and Natural Resource | rcc Form C-138 |
|---|--|
| District II Oil Conservation Division
811 South First, Artesia, NM 88210
District III | Revised March 17, 1999
Submit Original |
| 1000 Rio Brazos Road, Aztec, NM 87410 Santa Fe, NM 87505 | Plus I Copy
to Appropriate |
| REOUEST FOR APPROVAL TO ACCEPT | SOLID WASTE |
| | |
| 1. RCRA Exempt: Non-Exempt: | 4. Congressor systems Earc. |
| Verbal Approval Received: Yes No | 5. Originating Site |
| 2. Management Facility Destination KEY ENERGY DISPOSAL | 6. Transporter Key - |
| 3. Address of Facility Operator #345 CR3500 AZIEC, NM | 8. State NM |
| 7. Location of Material (Street Address or ULSTR) # 5995 US HWY 64 | · · · |
| 9. <u>Citcle One</u> : | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by | a certification of waste from the Generator; |
| B. All requests for approval to accept non-exempt wastes must be accompanied by ne
material is not-hazardous and the Generator's certification of origin. No waste class
annroved | cessary chemical analysis to PROVE the
sified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transpo | |
| BRIEF DESCRIPTION OF MATERIAL. | ······································ |
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| Estimated Volume (to be entered by the open
Known Volume (to be entered by the open | ator at the end of the haul) cy |
| SIGNATURE Management facility Authorized Agent | DATE: //-5-01 |
| TYPE OR PRINT NAME: MICHAEL TALOUICAL TELES | PHONE NO. 505-334-6186 |
| | and the second |
| (This space for State Use) | |
| APPROVED BY: Deny four TITLE: Enviro | 1Eng DATE: 11/06/0/ |
| APPROVED BY Martin All TITLE Environment | h/ Gelast DATE: 11-7-01 |
| | |

District.1 1625 N. French Dr., Hobbs, NM 88240 District.11 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505

7., -

State of New Mexico Energy Minerals and Natural Resource:

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1. RCRA Exempt: 🔲 Non-Exempt: 🔀 | 4. Generator
COMPESSOR SYSTEMS ENC. |
|--|---|
| Verbal Approval Received:YesNo | 5. Originating Site- |
| 2. Management Facility Destination KEY ENERGY DISPOSAC | 6. Transporter Key - |
| 3. Address of Facility Operator #345 CR 3500 AZEC, NM | 8. State NM |
| 7. Location of Material (Street Address or ULSTR) # 5995 US HWY 64 | |
| 9. <u>Circle One</u> : | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste class approved | a certification of waste from the Generator;
cessary chemical analysis to PROVE the -
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transp | סרז. |
| BRIEF DESCRIPTION OF MATERIAL: | |
| From compressor skids may contain as | MTI FREERE + LATSTE OIL |
| Estimated Volume 2600064000 cy Known Volume (to be entered by the ope | rator at the end of the haul |
| SIGNATURE | DATE: //-5-01 |
| TYPE OR PRINT NAME: MICHAEL TALOUICM TELE | PHONE NO. 505-334-6186 |
| (This space for State Use) | |
| APPROVED BY: Denny For TITLE: Envire | 9/Eng DATE: 11/06/01 |
| APPROVED BY: TITLE: | DATE: |

| District 1 - (505) 393-6161 |
|-------------------------------|
| 1625 N. French Dr |
| Hobbs, NM 88240 |
| District II - (505) 748-1283 |
| #11 S. First 🗠 |
| Artes NM 88240 |
| District 111 - (505) 334-6178 |
| 1000 Rio Brazos Road |
| Aztec, NM 87410 |
| District IV - (505) 827-7131 |
| 1040 S Pacheco |
| Santa Fe, NM 87505 |

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New Mexico Energy Minerals and Natural Resources Department Oil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505

;

(505) 827-7131

Form C-143 3/15/00

Submit to OCD Permitted Surface Waste Management Facility

| GENERATOR CERTIFI | CATE OF WASTE STATUS |
|---|---|
| . Waste Generator Name and Address: | 2.Permit Number (if waste generated at an OCD permitted facility) |
| 70504 1836 | • |
| Dloomtield NM 87413 | |
| 3. Description of Waste and Generating Process: | 4. Location of Waste (Street address &/or ULSTR): |
| Produced HZO MIDED WITH | US HW 64 # 5995 |
| Various mouts of wash water | FARMINETON, NM |
| Fron compresson skips, | |
| 5. Destination (Surface Waste Management Facility): | 6. Transporter: |
| 7. Estimated Volume explose cy/bbis | Key |
| For NON-EXEMPT waste only, the following documentation is | s attached (check appropriate items): |
| MSDS Information | RCRA Hazardous Waste Analysis (With Chain of Custody). |
| Other (Description) | |
| Generator certifies that, according to the Resource Conserva
Agency's July 1988 regulatory determination, the above desc | ition and Recovery Act (RCRA) and the Environmental Protection
ribed waste is: (check appropriate classification) |
| EXEMPT oilfield waste | NON-EXEMPT oilfield waste that is non-hazardous
* pursuant to 40 CFR Part 261. (Attach appropriate
documentation) |
| 'n addition, Generator certifies that nothing has been added
waste does not contain Naturally Occurring Radioactive Mate | to this exempt or non-exempt non-hazardous waste and that this erial (NORM) regulated pursuant to 20 NMAC 3.1 |
| Generator Signature: | Date: 11-5-01 |
| Print Name: John W. Grisoland | |
| Title: Shop Manager | |

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SUSPECTED HAZARDOUS WASTE ANALYSIS

| Client: | Compressor Systems Inc. | Project #: | 01038-001 |
|---|---|---|-----------|
| Sample ID: | Produced Water-Tank | Date Reported: | 05-07-01 |
| Lab ID#: | 19816 | Date Sampled: | 05-02-01 |
| Sample Matrix: | Water | Date Received: | 05-03-01 |
| Preservative: | Cool | Date Analyzed: | 05-07-01 |
| Condition: | Cool and Intact | Chain of Custody: | 8639 |
| 145, | .= | | |
| Parameter | Result | | |
| a and a second se | | е | · . |
| IGNITABILITY: | Negative | а.
С. С. С | • |
| CORROSIVITY: | Negative | pH = 5.68 | - |
| REACTIVITY: | Negative | | - |
| RCRA Hazardous Waste Criteria | | | |
| Parameter | Hazardous Waste Criterion | n in ang
ang | |
| IGNITABILITY: | Characteristic of Ignitability as de
(i.e. Sample ignition upon direct of | fined by 40 CFR, Subpart C, Sec. 261.21.
contact with flame or flash point < 60° C.) | |
| CORROSIVITY: | Characteristic of Corrosivity as do (i.e. pH less than or equal to 2.0 | efined by 40 CFR, Subpart C, Sec. 261.22
or pH greater than or equal to 12.5) | 、 |
| REACTIVITY: | Characteristic of Reactivity as de
(i.e. Violent reaction with water, s
of Sulfide or Cyanide gases | fined by 40 CFR, Subpart C, Sec. 261.23.
strong base, strong acid, or the generation
at STP with pH between 2.0 and 12.5) | - |
| Reference: | 40 CFR part 261 Subpart C secti | ions 261.21 - 261.23, July 1, 1992. | |
| Comments: | CSI Yard. | | |
| | | | |

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ENVIROTECH PABS

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

| Client: | Compressor Systems Inc. | Project #: | 01038-001 |
|---------------------------------------|-------------------------|---------------------|------------|
| Sample ID: | Produced Water Tank | Date Reported: | 05-07-01 |
| Laboratory Number: | 19816 | Date Sampled: | 05-02-01 |
| Chain of Custody: | 8639 | Date Received: | _05-03-01 |
| Sample Matrix: | Water | Date Extracted: | N/A |
| Preservative: | Cool | Date Analyzed: | 05-04-01 |
| Condition: | Cool & Intact | Analysis Requested: | TCLP |
| · · · · · · · · · · · · · · · · · · · | | Detection | Regulatory |
| | Concentration | Limit | Limite |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| Vinvi Chioride | ND | 0.0001 | 0.2 |
| 1.1-Dichloroethene | ND | 0.0001 | 0.7 |
| 2-Butanone (MEK) | 0.0750 | 0.0001 | 200 |
| Chloroform | ND | 0.0001 | 6.0 |
| Carbon Tetrachloride | ND | 0.0001 | 0.5 ~ |
| Benzene | 0.0766 | 0.0001 | 0.5 |
| 1,2-Dichloroethane | ND | 0.0001 | 0.5 |
| Trichloroethene | ND | 0.0003 | 0.5 |
| Tetrachloroethene | ND | 0.0005 | 0.7 |
| Chlorobenzene | ND ND | 0.0003 | 100 |
| 1,4-Dichlorobenzene | ND | 0.0002 | 7.5 |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter | Percent Recovery |
|---------------------------|----------------------|------------------|
| | Fluorobenzene | 100% |
| | 1,4-difluorobenzene | 100% |
| | 4-bromochlorobenzene | 100% |

| References: | Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. |
|-------------|--|
| | Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. |
| | Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. |
| | Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994. |

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

CSI Yard.

Analyst

Review



EPA METHOD 8040 PHENOLS

| Client: | Compressor Systems Inc. | Project #: | 01038-001 |
|--------------------|-------------------------|---------------------|-----------|
| Sample ID: | Produced Water Tank | Date Reported: | 05-09-01 |
| Laboratory Number: | 19816 | Date Sampled: | _05-02-01 |
| Chain of Custody: | 8639 | Date Received: | 05-03-01 |
| Sample Matrix: | Water | Date Extracted: | N/A |
| Preservative: | Cool | Date Analyzed: | 05-08-01 |
| Condițion: | Cool & Intact | Analysis Requested: | TCLP |

| Parameter | Concentration
(mg/L) | Detection
Limit
(mg/L) | Regulatory
Limit
(mg/L) | |
|-----------------------|-------------------------|------------------------------|-------------------------------|---|
| o-Cresol | ND | 0.020 | 200 | |
| p,m-Cresol | ND | 0.040 | 200 | |
| 2,4,6-Trichlorophenol | ND | 0.020 | 2.0 | ~ |
| 2,4,5-Trichlorophenol | ND | 0.020 | 400 | |
| Pentachlorophenol | ND | 0.020 | 100 | |

ND - Parameter not detected at the stated detection limit.

| | · · | |
|-----------------------|----------------------|------------------|
| Surrogate Recoveries: | Parameter | Percent Recovery |
| | 2 Elwanachanal | 000/ |
| | 2-Fluorophenol | 98% |
| | 2,4,6-Tribromophenol | 99% |

References:

Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments:

CSI Yard.

Analyst

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EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics

| Client: | Compressor Systems Inc. | Project #: | 01038-001 | |
|--------------------|-------------------------|---------------------|-----------|---|
| Sample ID: | Produced Water Tank | Date Reported: | 05-09-01 | |
| Laboratory Number: | 19816 | Date Sampled: | 05-02-01 | |
| Chain of Custody: | 8639 | Date Received: | 05-03-01 | *************************************** |
| Sample-Matrix: | Water | Date Extracted: | N/A | · – |
| Preservative: | Cool | Date Analyzed: | 05-08-01 | |
| Condition: | Cool and Intact | Analysis Requested: | TCLP | |

| Parameter | Concentration
(mg/L) | Det.
Limit
(ma/L) | Regulatory
Limit
(mg/L) |
|---------------------|-------------------------|-------------------------|-------------------------------|
| | (| | (|
| Pyridine | ND | 0.020 | 5.0 |
| Hexachloroethane | ND | 0.020 | 3.0 |
| Nitrobenzene | ND | 0.020 | 2.0 |
| Hexachlorobutadiene | ND | 0.020 | 0.5 |
| 2,4-Dinitrotoluene | ND | 0.020 | 0.13 |
| HexachloroBenzene | ND | 0.020 | 0.13 |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter | | Percent Recovery | | |
|---------------------------|-----------|--|------------------|--|--|
| | • | | ······ | | |
| | | | | | |

2-fluorobiphenyl

95%

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

CSI Yard.

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EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

| • • | | | |
|--------------------|-------------------------|--------------------|-------------|
| Client: | Compressor Systems Inc. | Project #: | 01038-001 |
| Sample ID: | Produced Water Tank | Date Reported: | 05-09-01 |
| Laboratory Number: | 19816 | Date Sampled: | 05-02-01 |
| Chain of Custody: | 8639 | Date Received: | 05-03-01 |
| Sample Matrix: | Water | Date Analyzed: | 05-08-01 |
| Preservative: | Cool | Date Extracted: | N/A |
| Condition: | Cool & Intact | , Analysis Needed: | TCLP metals |
| | | Det. | Regulatory |
| | Concentration | Limit | Level |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| | | | |
| Arsenic | ND | 0.001 | 5.0 |
| Barium | 0.007 | 0.001 | 100 |
| Cadmium | ND - | 0.001 | 1.0 |
| Chromium | ND | 0.001 | 5.0 |
| Lead | ND | 0.001 | 5.0 |
| Mercury | ND | 0.001 | 0.2 |
| Selenium | | 0.004 | . 4 0 |
| | UN UN | 0.001 | 1.0 |

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

CSI Yard.

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ENVIROTECH LABS

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

| Client: | QA/QC | Project #: | N/A |
|----------------------|------------------|---------------------|------------|
| Sample ID: | Laboratory Blank | Date Reported: | 05-07-01 |
| Laboratory Number: | 05-04-TCV | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 05-04-01 |
| Condition: | N/A | Analysis Requested: | TCLP |
| | | Detection | Regulatory |
| | Concentration | Limit | Limits |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| Vinyl Chloride | ND | 0.0001 | 0.2 |
| 1,1-Dichloroethene | ND | 0.0001 | 0.7 |
| 2-Butanone (MEK) | ND | 0.0001 | 200 |
| Chloroform | ND | 0.0001 | 6.0 |
| Carbon Tetrachloride | ND · | 0.0001 | 0.5 |
| Benzene | ND | 0.0001 | 0.5 |
| 1,2-Dichloroethane | ND | 0.0001 | 0.5 |
| Trichloroethene | ND | 0.0003 | 0.5 |
| Tetrachloroethene | ND | 0.0005 | 0.7 |
| Chlorobenzene | ND | 0.0003 | 100 |
| 1,4-Dichlorobenzene | ND | 0.0002 | 7.5 |
| | | | |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter | Percent Recovery | |
|---------------------------|----------------------|------------------|---|
| | Fluorobenzene | 100% | |
| | 1,4-difluorobenzene | 100% | • |
| | 4-bromochlorobenzene | 100% | |

| References: | | Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. |
|-------------|------------|--|
| | | Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. |
| | | Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. |
| ~ | - ' | Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994. |
| ~ | - ' | Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994. |

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

| | | | • | • |
|----------------------|----------------|---|---------------------------------------|------------|
| Client: | QA/QC | | Project #: | N/A |
| Sample ID: | Matrix Duplica | ate . | Date Reported: | 05-07-01 |
| Laboratory Number: | 19816 | an a | Date Sampled: | N/A |
| Sample Matrix: | Water | n dagt maar of den 25 m water of the fillen of a meridia see that | Date Received: | N/A |
| Analysis Requested: | TCLP | | Date Analyzed: | 05-04-01 |
| Condition: | N/A | | Date Extracted: | N/A |
| | | Duplicate | · · · · · · · · · · · · · · · · · · · | |
| | Sample | Sample | Detection | |
| | Result | Result | Limits | Percent |
| Parameter | (mg/L) | (mg/L) | (mg/L) | Difference |
| Viewl Chlorida | | ND | 0.0004 | 0.09/ |
| 1 1 Dichlesoethono | | | 0.0001 | 0.0% |
| | | | 0.0001 | 0.0% |
| 2-Butanone (MEK) | 0.0750 | 0.0754 | 0.0001 | 0.6% |
| Chloroform | ND | - ND | 0.0001 | 0.0% ~ |
| Carbon Tetrachloride | ND | ND | 0.0001 | 0.0% |
| Benzene | 0.0766 | 0.0765 | 0.0001 | 0.2% |
| 1,2-Dichloroethane | ND | ND | 0.0001 | 0.0% |
| Trichloroethene | ND | ND | 0.0003 | 0.0% |
| Tetrachloroethene | - ND - | ND | 0.0005 | 0.0% |
| Chlorobenzene | ND | ND | 0.0003 | 0.0% |
| | | | | ··· · |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap. SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

Analyst

Walters Review



EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

| Client: | QAVQC | | | Project #: | | N/A |
|----------------------|--------------|---------|---|---------------|----------|------------------|
| Sample ID: | Matrix Spike | | and a series of the series of | Date Reporte | d: | 05-0 <u>7-01</u> |
| Laboratory Number: | 19816 | | | Date Sample | j: | N/A |
| Sample Matrix: | Water | | | Date Receive | d: . | N/A |
| Analysis Requested: | TCLP | | | Date Analyze | d: | 05-04-01 |
| Condițion: | N/A | | | Date Extracte | d: | N/Ă |
| | | | Spiked | <u> </u> | | SW-846 |
| | Sample | Spike | Sample | Det. | | % Rec. |
| ž | Result | Added | Result | Limit | Percent | Accept. |
| Parameter | (mg/L) | (mg/L) | (mg/L) | (mg/L) | Recovery | Range |
| Vinyl Chloride | ND | 0.050 | 0.0495 | 0.0001 | 99% | 28-163 |
| 1,1-Dichloroethene | ND | 0.050 | 0.0494 | 0.0001 | 99% | 43-143 |
| 2-Butanone (MEK) | 0.0750 | - 0.050 | 0.124 | 0.0001 | 99% | 47-132 |
| Chloroform | ND | 0.050 | 0.0500 | 0.0001 | 100% | 49-133 |
| Carbon Tetrachloride | ND | 0.050 | 0.0490 | 0.0001 | 98% | 43-143 |
| Benzene | 0.0766 | 0.050 | 0.126 | 0.0001 | 100% | 39-150 |
| 1,2-Dichloroethane | ND | 0.050 | 0.0490 | 0.0001 | 98% | 51-147 |
| Trichloroethene | n ND | 0.050 | 0.0495 | 0.0003 | 99% | 35-146 |
| Tetrachioroethene | ND | 0.050 | 0.0495 | 0.0005 | 99% | 26-162 |
| Chlorobenzene | ND | 0.050 | 0.0495 | 0.0003 | 99% | 38-150 |
| 1,4-Dichlorobenzene | ND | 0.050 | 0.0495 | 0.0002 | 99% | 42-143 |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

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EPA METHOD 8040 PHENOLS Quality Assurance Report Laboratory Blank

| Client: | QA/QC | Project #: | N/A |
|-----------------------|------------------|---------------------|------------|
| Sample ID: | Laboratory Blank | Date Reported: | 05-09-01 |
| Laboratory Number: | 05-08-TCA | Date Sampled: | N/A |
| Sample Matrix: | 2-Propanol | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 05-08-01 |
| Condition: | N/A - | Analysis Requested: | TCLP |
| Analytical Results | | Detection | Regulatory |
| | Concentration | Limit | Limit |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| o-Cresol | ND | 0.020 | 200 |
| p,m-Cresol | ND | 0.040 | 200 |
| 2,4,6-Trichlorophenol | ND | 0.020 | 2.0 |
| 2,4,5-Trichlorophenol | ND | 0.020 | 400 |
| Pentachlorophenol | ND * · | 0.020 | 100 |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery | | | | |
|-----------------------|----------------------|------------------|------|--|--|--|
| • | | * | 144 | | | |
| · · · · | 2-fluorophenol | | 98 % | | | |
| | 2,4,6-tribromophenol | | 99 % | | | |

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments:

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Walter Review

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13/



EPA METHOD 8040 PHENOLS Quality Assurance Report

| Client: | QA/Q€ | | _Project #: | N/A |
|-----------------------|------------------|-----------|---------------------|------------|
| Sample ID: | Matrix Duplicate | | Date Reported: | 05-09-01 |
| Laboratory Number: | 19816 | | Date Sampled: | N/A |
| Sample Matrix: | Water | | Date Received: | N/A |
| Preservative: | Cool | | Date Extracted: | N/A |
| Condition: | Cool & Intact | a | Date Analyzed: | 05-08-01 |
| | , | | Analysis Requested: | TCLP |
| | | - | | |
| | Sample | Duplicate | Detection | · |
| | Result | Result | Limit | Percent |
| Parameter | (mg/L) | (mg/L) | (mg/L) | Difference |
| o-Cresol | ND | ND | 0.020 | 0.0% |
| p,m-Cresol | ND | ND | 0.040 | 0.0% |
| 2,4,6-Trichlorophenol | ND | ND | 0.020 | 0.0% |
| 2,4,5-Trichlorophenol | ND | ND | 0.020 | 0.0% |
| | | | | |

ND - Parameter not detected at the stated detection limit.

| QA/QC Accep | tance Criteria: | Parameter | Maximum Difference |
|-------------|--|---|---------------------------------|
| | | 8040 Compounds | 30.0% |
| References: | Method 1311, Toxicity Cl
Waste, SW-846, USEPA | haracteristic Leaching Procedure Test
, July 1992. | Methods for Evaluating Solid |
| • | Method 3510, Separator
Waste, SW-846, USEPA | y Funnel Liquid-Liquid Extraction, Tes
., July 1992. | t Methods for Evaluating Solid |
| | Method 8040, Phenols, 1 | Test Methods for Evaluating Solid Was | ste, ŚW-846, USEPA, Sept. 1986. |
| Note: | Regulatory Limits based | on 40 CFR part 261 subpart C section | n 261.24, July 1, 1992. |
| Comments: | QA/QC for sample | 19816. | · · · |
| Analyst | - C. apierca | | time of Wooles |

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- 9-01;10:58AM;ENVIROTECH

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ENVIRO ECH BETTER TOMORROW

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics Quality Assurance Report

| Client: | QA/QC | Project #: | N/A | |
|--------------------|------------------|---------------------|----------|---|
| Sample ID: | Laboratory Blank | Date Reported: | 05-09-01 | |
| Laboratory Number: | 05-08-TBN | Date Sampled: | N/A | - |
| Sample Matrix: | Hexane | Date Received: | N/A - | |
| Preservative: | N/A | Date Extracted: | N/A | |
| Condition: | N/A | Date Analyzed: | 05-08-01 | |
| | | Analysis Requested: | TCLP | |

| Parameter | Concentration
(mg/L) | Det.
Limit
(mg/L) | Regulatory
Limit
(mg/L) |
|---------------------|-------------------------|-------------------------|-------------------------------|
| Pyridine | ND | 0.020 | 5.0 |
| Hexachloroethane | ND | 0.020 | 3.0 |
| Nitrobenzene | ND | 0.020 | 2.0 |
| Hexachlorobutadiene | ND | 0.020 | 0.5 |
| 2,4-Dinitrotoluene | ND | 0.020 | 0.13 |
| HexachloroBenzene | ND | 0.020 | 0.13 |

ND - Parameter not detected at the stated detection limit.

Analyst

| QA/QC Acceptance Criteria | | Parameter | Percent Recovery | |
|---------------------------|--|--|--|---|
| | | 2-fluorobiphenyl | 95% | |
| References: | Method 1311, Toxicity
Method 3510, Separat
Method 8090, Nitroarc | Characteristic Leaching Procedure, Story Funnel Liquid-Liquid Extraction, Story Funnel Cyclic Ketones, SW-846, | SW-846, USEPA, July 1992.
SW-846, USEPA, July 1992.
USEPA, Sept. 1986. | |
| Note: | Regulatory Limits basi | ed on 40 CFR part 261 Subpart C see | ction 261.24, July 1, 1992. | |
| Comments: | QA/QC for sampl | e 19816. | | • |
| $\bigcap^{\mathbf{I}}$ | \frown . | | • | |

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

Review

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EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QA/QC Matrix Duplicate Report

| Client: | QAVQC | Project #: | Project #: | |
|---------------------|------------------|-----------------|------------|----------|
| Sample ID: | Matrix Duplicate | Date Reported: | | 05-09-01 |
| Laboratory Number: | 19816 | Date Sampled: | | N/A |
| Sample Matrix: | Water | Date Received: | | N/A |
| Preservative: | N/A | Date Extracted: | _ | N/A - |
| Condition: | N/A | Date Analyzed: | | 05-08-01 |
| | | Analysis Reques | sted: | TCLP " |
| | Sample | Duplicate | | Det. |
| | Result | Result | Percent | Limit |
| Parameter | (mg/L) | (mg/L) | Difference | (mg/L) |
| Pyridine | ND | ND | 0.0% | 0.020 |
| Hexachloroethane | ND | ND | 0.0% | 0.020 |
| Nitrobenzene | . ···· ND | ND | 0.0% | 0.020 |
| Hexachlorobutadiene | ND | ND | 0.0% | 0.020 |
| 2,4-Dinitrotoluene | ND | ND | 0.0% | 0.020 |
| | | | A A A / | |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | | Parameter | Maximum Difference |
|---------------------------|------------------------|--------------------------------------|------------------------------|
| | | 8090 Compounds | 30% |
| References: | Method 1311, Toxicity | Characteristic Leaching Procedure, | , SW-846, USEPA, July 1992. |
| | Method 3510, Separat | ory Funnel Liquid-Liquid Extraction, | SW-846, USEPA, July 1992. |
| | Method 8090, Nitroaro | matics and Cyclic Ketones, SW-846 | 5, USEPA, Sept. 1986. |
| Note: | Regulatory Limits base | ed on 40 CFR part 261 Subpart C se | ection 261.24, July 1, 1992. |
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Comments:

Analyst

Review

5- 9-01:10:58AM;ENVIROTECH

HACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

16/ 17

;5056321865

| | | | | • | | | |
|---------------------|---------------------------------------|-----------------|------------|----------------|-----------|-------|------------|
| Client: | QA/QC Project #: | | Project #: | | | N/A | |
| Sample ID: | | 05-08-TCM QA/QC | | Date Repo | rted: | | 05-09-01 |
| Laboratory Number: | · · · · · · · · · · · · · · · · · · · | . 19816 | | Date Samp | oled: | | N/A |
| Sample Matrix: | | Water | | Date Received: | | | N/A |
| Analysis Requested: | | TCLP Meta | Is | Date Analyzed: | | | 05-08-01 |
| Condition: | | N/A | | Date Extra | cted: | | N/A |
| Blank & Duplicate | Instrument | Method | Detection | Sample | Duplicate | % | Acceptance |
| Conc. (mg/L) | Blank | Blank | Limit | | | 0.105 | 0.107 |
| Arsenic | ND | | 0.001 | NU
0.007 | | 0.0% | 0% - 30% |
| Barium | | ND | 0.001 | 0.007 | 0.007 | 0.0% | 0% - 30% |
| Caomium | UN
ND | ND | 0.001 | | | 0.0% | 0% - 30% |
| Chromium | ND | ND | 0.001 | | ND | 0.0% | 0% - 30% |
| Lead | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% |
| Mercury | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% |
| Selenium | ND | - ND | 0.001 | ND | ND | 0.0% | _0% - 30% |
| Silver | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% |
| Spike | | Spike | Sample | Spiked | Percent | | Acceptance |
| Conc. (mg/L) | | bebbA | | Sample | Recovery | | Range |
| Arsenic | | 0.500 | ND | 0.498 | 99.6% | | 80% - 120% |
| Barium | | 0.500 | 0.007 | 0.506 | 99.8% | | 80% - 120% |
| Cadmium | | 0.500 | ND | 0.499 | 99.8% | | 80% - 120% |
| Chromium | | 0.500 | ND | 0.499 | 99.8% | | 80% - 120% |
| ead | | 0.500 | ND | 0.498 | 99.6% | | 80% - 120% |
| Mercury | | 0.050 | ND | 0.049 | 98.0% | | 80% - 120% |
| Selenium | | 0.500 | ND | 0.497 | 99.4% | | 80% - 120% |
| Silver | | 0.500 | ND | 0.498 | 99.6% | | 80% - 120% |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission, SW-846, USEPA, December 1996.

Comments:

Analyst

Review

CHAIN OF CUSTODY RECORD

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TECH

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| Client / Project Name | , | | Project Location | · <u> </u> | | | | | | | <u> </u> | | 7 | | | | | |
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| Sampler: | | | Client No. | | | | » J 3 | | | | | | Remarks | | | | | |
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| Sample No./
Identification | Sample
Date | Sample
Time | Lab Number | | Sam <mark>ple</mark>
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| Produced yole Tul | 5/2/01 | 14:40 | 19816 | L L | Jah | | 5 | ~ | | | | | | | | | | |
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| Belinguished by: (Signature) | <u></u> | <u>. </u> | | 5/3/01 | 8:30 | Receiv | /ed by: (| Signatu | $\underline{\mathcal{L}}$ (| st | n | <u> </u> | | S | 3/01 | 8 | .30 | |
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| Relinquished by: (Signature) |) | | | | | Receiv | red by: (| Signatur | re) | | | | | | | | | |
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| I South First, Artesia, NM 88210
South First, Artesia, NM 88210
OdaRio Brazos Road, Aziec, NM 87410
Strict IV
40 South Pacheco, Santa Fe, NM 87505 | Revised March 17, 1999
Submit Original
Plus 1 Copy
to Appropriate |
|---|--|
| REQUEST FOR APPROVAL TO ACCEPT | SOLID WASTE |
| RCRA Exempt: Non-Exempt: | 4. Generator
OL + G+S Equip. |
| Verbal Approval Received: Yes No | 5. Originating Site
Shop SUMP |
| Management Facility Destination KEY ENERGY DISPOSAL | 6. Transporter |
| Address of Facility Operator 4242 NA | 8. State NM |
| Location of Material (Street Address or ULSTR) FAMINETON, NM 87402 | |
| Circle One: | |
| B. All requests for approval to accept non-exempt wastes must be accompanied by ne
material is not-hazardous and the Generator's certification of origin. No waste clas
approved | cessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transp | <u>.</u> |
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District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505 State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

> > -

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1. RCRA Exempt: 🔲 Non-Exempt: 🔀 | 4. Generator
OL + G+S Equip. |
|--|---|
| Verbat Approval Received: Yes No X | 5. Originating Site
Shoo SUMP |
| 2. Management Facility Destination LEY ENCRGY Disposer | 6. Transporter
Wey |
| 3. Address of Facility Operator | 8. State NI |
| ALIECNM | |
| 7. Location of Material (Street Address or ULSTR)
TACMINGTON, NM 87402 | at and the second second second second second second second second second second second second second second se |
| 9. <u>Circle One</u> : | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste class approved | a certification of waste from the Generator:
cessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transpo | ort. |
| BRIEF DESCRIPTION OF MATERIAL: | |
| Estimated Volume <u>< 80.661.</u> cy Known Volume (to be entered by the ope
SIGNATURE <u>Waste Management Facility Authorized Agent</u> | $LAST FileD$ $Q-19-200^{\circ}$ Tator at the end of the haul) |
| TYPE OR PRINT NAME: <u>Meddal Talouich</u> Tele | PHONE NO. <u>505 - 334 - 6186</u> |
| (This space for State Use) | |
| APPROVED BY: Deny Tant TITLE: Envirol | Eng DATE: 1/1/01 |
| APPROVED BY: TITLE: | DATE: |
| | |

| Diatrict III - (\$05) 334-6178
1000 Rio Brazos Road
Artec, NM 87410
<u>District IV</u> - (\$05) 827-7131
2040 S. Pacheco
Santa Fe, NM 87505 | 2040 South Pacheco Street
Santa Fe. New Mexico 87505
(505) 827-7131 | Submit to OCD
Permitted Surface
Waste Management
Facility |
|--|---|---|
| GENERATOR | CERTIFICATE OF WASTE STAT | rus |
| 1. Waste Generator Name and Address:
$O(1 + 1)^{2} A = E A B E A$ | 2.Permit Number (if waste | generated at an OGD
permitted facility) |
| 4910 E- MARH
FARMING FOM ALTIER 81402 | | |
| 3. Description of Waste and Generating Process: | 4. Location of Waste (Stre | et address &/or ULSTR): |
| Hot bath for eleaning | SAME | · • |
| sectore oilfield produce | treat | |
| Equip. | | |
| 5. Destination (Surface Waste Management Facil | lity): 6. Transporter: | |
| KEY | KEY | |
| For NON-EXEMPT waste only, the following docu | imentation is attached (check appropriate item | s): |
| _X MSDS Information | RCRA Hazardous Waste Ana | ilysis (With Chain of Custody). |
| Other (Description) | | |
| Generator certifies that, according to the Resource
Agency's July 1988 regulatory determination, the | ce Conservation and Recovery Act (RCRA) and above described waste is: (check appropriate | I the Environmental Protection
classification) |
| EXEMPT oilfield waste | pursuant to 40 CFR Part 26
docu | vaste that is non-hazardous
1. (Attach appropriate
mentation) |
| In addition. Generator certifies that nothing has b
waste does not contain Naturally Occurring Radio
Subpart 1403. | een added to this exempt or non-exempt non-loactive Material (NORM) regulated pursuant to | nazardous waste and that this
20 NMAC 3.1 |
| Generator Signature | Date: | 29/oct/2001 |
| Print Name: Philip Chem. | £ Y | 1 1 |
| Title: | | |

Energy

District I - (505) 393-6161 1625 N. French Dr Hobbs, NM 88240 District II - (505) 748-1283 XII S. First

Artes 2, NM 88240

New Mexico Jerals and Natural Resources De, ment Oil Conservation Division 2040 South Pacheco Street

Form C-143 3/15/00

| CLEAN ACROSS A
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(800) 424-9300
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(202) 483-7616 | AND HOLIDAY
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ACUTE EFFECTS OF OVEREXPOSUR
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produce inflammation, reddening, and
burning, or destruction of tissues in t
shortness of breath. Severe overexpo-
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CHRONIC EFFECTS OF OVEREXPOSI
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Repeated or prolonged exposure to s
attacks of bronchial infection.
None of the ingredients are listed as
EST'D PEL/TLV: Not established | E:
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| would not be expected under recommare practiced.
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attacks of bronchial infection.
None of the ingredients are listed as
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produce inflammation, reddening, and
burning, or destruction of tissues in the
shortness of breath. Severe overexpo-
nausea, vomiting, and collapse, along
CHRONIC EFFECTS OF OVEREXPOSI
Repeated or prolonged contact with a
Repeated or prolonged exposure to s-
attacks of bronchial infection.
None of the ingredients are listed as
EST'D PEL/TLV: Not established
HMIS CODES: HEALTH 3; FLAM. 0
FIRST AID PROCEDURES:
SKIN: Immediately flush contaminate
immediately.
EYES: Immediately flush eyes with p-
lower lids. Get medicai attention at or
get medical attention immediately.
INGEST: If this product is swallowed
drink. Get medical attention at once | E:
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shortness of breath. Severe overexport
nausea, vomiting, and collapse, along
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Repeated or prolonged contact with the
Repeated or prolonged exposure to stattacks of bronchial infection.
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EYES: Immediately flush eyes with p
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EYE PROTECTION: Wear splash-pro
RESPIRATORY PROTECTION: If ver
respirator.
VENTILATION: If vapors are detected | E:
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Repeated or prolonged exposure to stattacks of bronchial infection.
None of the ingredients are listed as
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CTION IV - SPECIAL for
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MATERIAL SAFETY DATA SHEET

KRYLON INDUSTRIAL **31500 SOLON ROAD** BOLON, OH 44189

EMERGENCY TELEPHONE NO. (218) 292-7400 INFORMATION TELEPHONE NO. (800) 247-3266

DATE OF PREPARATION 20 - JUL - 94

@1994, The Sherwin-Williams Co.

| Pr | lmers | | | | | | | | | ч. | •] | PRIMER/KRI |
|---------------|--|---|-----------------|------------------------------|------------------------------|---------------|-------------------------|--------------|----------------|----------------|--|-------------|
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| , h h. | SECTION II
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Zino
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White | 1357
Rucidy
Brown | 1358
Gray | 1345
Vetlaw | 1346
Gireen | 1373
Sundette Filler
Surface Prime | -
-
- |
| 74-08-6 | Propane (propellent) | 1000 | PPM | 780.0 | 15 | 17 | 17 | 17 | 18 | . 16 | 16 | |
| 42-80-8 | V. M. & P. Naphilin | 300 <u>*300</u>
<400; | PPM | 12.0 | 1 | | | | | | • 4 | |
| 88-5 : | * Telune | 50 100
<150> | PPMISH | n) 22.0 | 6 | 23 | 27 | 27 | 0 | 6 | | |
| 20-7 | Xyiene | 100 100
<160> <150> | PPM | 5,9 | 10 | 1 | | | 12 | 12 | 10 | |
| 78-63-1 | 2-Meltyi-1-Propenol | 50 50 | РРМ | 8.7 | | | | | | | 2 | i. |
| 78-80-9 | Netityi Ethyi Ketone | 200 200
<300> <300> | PPM | 70.0 | 34 | · · | | | | | | |
| 17-84-1 | Asstone | 750 750
<1000> <1000> | PPM | 780.0 | | 34 | 34 | 34 | 48 | 48 | 41 | |
| 10-00-0 | Zha | Not Establishe | d | | 38 | | | | | | | |
| 7-86-6 | Talc | 2 2 | Mg/M3 | as Resp.
Dust | | 1 | | | 6 | 5 | 9 | |
| D-67-7 | Tilmilum Dickide | 10 10(5) | Mg/M3
[Resp. | as Dusi
Fractioni | | 6 | | э | | | 1 | |
| 1-04-1 | Zinc Molybeale | Not Establishe | đ | | | | | | 2 | 2 | | |
| | · · · · · · · · · · · · · · · · · · · | | | | | | 1 | | | | | |
| a Bail in the | VOC as a percent by weight p | W BAAQMD Rule | 49 | | 59 | 82 | 80 | 82 | 69 | 83 | 82 | · . |
| i ir | NFPA Code 308 Level | | | | 3 | 3 | 3 | 3 | 3 | • 3 | 3 | |
| د بېتلەرچ | HMISD Ratings (Health - Flam | mability · Reactivi | ty) | | 2-4-0 | 2-4-0 | 2.4-0 | 2-4-0 | 2.4.0 | 2-4-0 | 2-4-0 | |

Ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

→→→ MSDS Text Page Follows ・シララ . 18.

| Primers | PRIMER/KRI |
|---|--|
| Section # PHYSICAL DATA | Section VII SPILL OR LEAK PROCEDURES |
| RECOUNT MELONIT - H.A.
BYANORATION RATE - Paulor than Rither
VANOR DEMONSTY - H.A.
BOLING BANKE - 40-209 PT
NEUTING POINT - H.A.
BECKION N - FIRE AND EXPLOSION HAZARD DATA | STRES TO BE TAREN IN CASE MATABIAL IS RELEASED OF SPILED
Remove all sources of ignition. Ventilate and remove with inert absorbent.
MASTE DISPOSAL METHOD
Maste from this product may be basardows as defined under the Resource Compervation and
Recovery Act. (BCRA) 40 CPR 361. Weste must be tested for ignitability to determine the
applicable DPA hazardous wasta numbers. Mease from products containing Nethyl Schyl Notore
and/or Sino may also require testing for extractability. |
| NUMERIATY COASSIFTCATION PLANT POINT 49 "F PHCC Las. 1.0 Uar. 12.0
Numerically Flannable, Flant Deley 31 "F | Do not invintente, Depreseurize container. Dispose of in accordance with vocersi, Mace,
and Local regulations regetting pollution. |
| A STREAM PROVIDE A CONTRACT AND A CONTRACTACT A CONTRACT A CONTRACTI A CONTRACTACT A CONTRACT A CON | Section VIII PROTECTION INFORMATION |
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standard standard | PREVAINTING THE AR TARRY IN INR
Use only with standards ventilation: Avoid breathing vaper and epray mist; Avoid contects
with skin and eyes. Manh hands after using.
These contings may contain materials bissified as meissance particulates (listed 'se Dust' in
Section III, which may be present at harsform levels only during meding or shreding of the
dried film. If no specific dusts are listed in Section II, the applicable lists for missings
dusts are ACGINITY 10 mm./ml (total dust). OSNA PEL 15 mg./ml (total dust), 5 mg./ml
(respirable fraction).
VENTLATION |
| Section V HEALTH HAZARD DATA | Local wohaust preferable. General exhaust acceptable if the exposure to materials im
Bection II is minimimed below applicable exposure limits. Nefer to OSDA Standards 1910.94.
1910.107. 1910.109. |
| Re of Elfecter
byGevre may be by INHALMFICM and/or IKHF or IYE contract, depending on conditions of use.
Addeduce supervise, follow recommendations for preper use, ventilation, and personal | DESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear
a properly ditted organic vapor/particulate respirator approved by NIOSH/MSHA for protection
equipart materials in Section 11. |
| E Manth Hamada
FBF of GWRSECHORUNE
Titation of group, skin and respiratory system. Hay cause nervous system depression,
where spearse may result in uncenseloumness and possibly death.
FMD structure of OVEREPOSCES | When sandling or abrading the dried film, wear a dust/mist respirator approved by SIOSH/WSIM.
For protection spainst non-volatile materials in Section 11.
PROFERITIVE GLOVES
Home required for normal application of wererol products where minimal skin contect
is expected. For long or tupested contact, wear chemical resistant gloves. |
| Control, distinguist, newser, and loss of coordination are indications of excessive exposure
port of openy mists. | Hear stiety spectacles with unperformed sideshields. |
| The CONSTRUCT ACCREMENTS BY APPOSURE | Section IX — PRECAUTIONS |
| FRET AND FIATE ALD FRECEDURES
If INVALUE If affected, remove from exposure. Restorn breathing. Keep warm and quiet.
If on SKIM: Made affected area theroughly with soap and water.
Remove contaminated clothing and laundar before re-use.
If in DER: First must with live in moment of water for 15 invite. Cot ordion attention | DOL STOARGE CATEGORY - LA
PRECAUTIONS TO BE TANGE IN HANDLIND AND STORING
Contents are EXTREMELY PLANHABLE. Keep away (rom heat, sparks, and open flame.
Vapors will accumulate readily and may ignite explosively.
During was and with all wards are compared and compared by and the store of the |
| BULLCHERE - Get maches) actions of an entropy of an entropy of an entropy of a second of the entropy of a second of the entropy of a second of the entropy of a second of the entropy of a second of the entropy of a second of the entropy of a second of the entropy of a second of the entropy o | Bathing the sil flowes, plict to toport its your nor contracts to the analysis of the second |
| iver, orleany, blood-forming, cardiovascular, and reproductive systems,
As emposed to titanium disting dust at 350 mg./m0 developed lung cancor, however, such
are levels are mut acted moble in the workplace.
parts have see clated repeated and projonged oversyposure to solvents with permanent brain. ⁵ | container to barat. Do not take internally, Keep out of the reach of children.
DTMSR PRECAUTIONS
Totentional misuse by deliberately concentrating and inhaling the contents con be harmful
or fatel. |
| | Section X OTHER REGULATORY INFORMATION |
| Securit VI - REAUTIVITT DATA | Childenia proposition of
reversi products (sou table) contain a chamical known to the state of California to cames
cannot birth defects or other reproductive harm. |
| Tasta.
The second string products
fire: Carbon Display, Cerbon Romawide, Oxides of Ketaid in Sudtien II | |
| 285 PF5 WERTERTOR - Mill Not Decise | The above information partains to this product as cyrrently (ormalated, and is based on
the information available at this time. Addition of reducers or other enditives to this
product may substantially miter the composition and hasards of the product. Since conditions
of use are outside our control, we make no warranties, express or implied, and assume no |

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Material Safety Data Sheet

P.02

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| 11 | riethylene Glycol Reprocessed | | | | Code | 93 101 | |
| applier CC | ASTAL CHE | ASTAL CHEMICAL CO. L.L.C. | | | | Not available. | |
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8-893-3862 | A 70510 | | | Print Date | S/12/99 | |
| ynonym No | t available. | | | | la cree of | | |
| rade name No | t evalable. | | | | Emergenty | CHEMTREC 800-424-9300 | |
| luterial Uses No | t avaizbie. | F | | | | Other Information Call
Joe Hudiman
713-477-6875 | |
| lanufacturer Va | nous | | | | | •
• | |
| Section 2. Compos | ition and | Information | on ingredien | is | | | |
| ame | | CAS# | % by Weight | TI.Y/P | EL. | LCs/LDn | |
| Jiethylene alvool | and the second sec | 111-48-6 | 0-5 | Not available. | | ORAL (LDS0) mg/kg: Acute: | |
| ~ | | | | - | | 12565 (Hamster.). 14800 (Rat).
DERMAL (LD50) mg/kg: Acute:
11890 (Hamster.). 11900 | |
| friethylene Glycol | | 11227-6 | 95-100 | - | · | | |
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with a disinfect
on.
The victim to rest
ditional information | ngerous in case
of may irritate ey
CTS: Not availat
substance is tox
Repeated or prole
any contact lens
COLD water may
o the clothed por
pands and body.
such as the ham
b. Be particulerly
ed skin with an e
mant soap and co | of skin contact (irrita
es and skin upon cor
ole. MUTAGENIC El
ic to blood, kidneys
onged exposure to th
ge used. DO NOT
tion of the body, rem
Place the victim up
ds: Gently and thoroo
careful to dean fold
mollient. If irritation
over the contaminate
ed area. Seek imme | nt, permeator)
htact.
FFECTS: Not
, liver. Toxici
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use an eye oir
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ughly wash th
is, crevices, cr
persists, seek
ed skin with a
diate medical | of eye contact (Intent), of ingestion.
available, TERATOGENIC EFFECTS
by of the product to the reproductive
an produce target organs damage.
In running water for at least 15 minutes
forment. Seek medical attention.
ininated clothes as quickly as possible
shower. If the chemical touches the
e contaminated skin with running wate
eases and grain. COLD water may be
medical attention. Wash contaminated
in anti-bacterial cream. Seek medical
attention. | |

Continued on Next Page

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Triethylene Glycol Reprocessed

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Hazardous Ingestion

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DO NOT induce vomiting. Examine the lips and mouth to ascentsin whether the tiesces are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Locsen tight clothing such as a collar, tie, belt or weistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

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Page Number: 2

| Section 5. Fire and Explosion Data | | | | | | |
|--|--|--|--|--|--|--|
| Flammability of the Product | Combustible. | | | | | |
| Auto-Ignition Temperature | The lowest known value is 227.78°C (442°F) (Diethylene glycol). | | | | | |
| Flash Points | The lowest known value is CLOSED CUP: 138°C (280.4°F) OPEN CUP: 143°C (280.4°F) (Cleveland) (Diethylone glycol) | | | | | |
| Flammable Limits | The greatest known range is LOWER: 2% UPPER: 12.3% (Diethylene glycol) | | | | | |
| Products of Combustion | These products are carbon oxides (CO, CO2), | | | | | |
| Fire Hazards in Presence of
Various Substances | Very slightly to slightly temmable in presence of open flames and sparks, of heat. | | | | | |
| Explosion Hazards in Presence
of Various Substances | Risks of explosion of the product in presence of mechanical impact. Not available.
Risks of explosion of the product in presence of static discharge: Not available.
No specific information is available in our database regarding the product's risks of explosion in the presence of various materials. | | | | | |
| Fire Fighting Media 9 20 1 | SMALL FIRE: Use DRY chemicals, CO2, water spray or foam.
LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. | | | | | |
| Special Remarks on
Fire Hazards | When heated to decomposition, it emits acrid smoke and irritating fumes. (Diethylene gycal) | | | | | |
| Special Remarks on Explosion
Hazards | No additional remark. | | | | | |

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Section 6. Accidental Release Measures

| Small Spill |
Dilute with water and mop up, or absorb with an inert DRY material and place in an accorporate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. |
|-------------|--|
| Large Spill |
Combustible material.
Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Finist cleaning by spreading
water on the contaminated surface and allow to evacuate through the sanitary system. |

| Section | 7. Ha | ndling a | nd Storage |
|----------|-------|----------|---|
| Handling | · · · | | Not available. |
| Storage | · · | ••••• | Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly dosed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents: |

Section 8. Exposure Controls/Personal Protection

| Engineering Controls | Provide exhaust ve
their respective thre
station location. | initiation or other engishold limit value. En | geneering controls to keep the airborne concentrations of vapors below
isure that evewash stations and safety showers are proximal to the work- | | | |
|---|---|---|--|--|--|--|
| Personal Protection | Safety glasses. Lai | b coal. Gloves (impei | ivious). | | | |
| Porsonal Protection in Case of a
Large Spill | a Splash goggles. Full suit, Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. | | | | | |
| Chemical Name or Product Na | me | CAS# | Exposure Limits | | | |
| 2,27-Oxydiethanol
Tricthviane Glycol | ······································ | 111-46-8
112-27-6 | No: avalabia. | | | |

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| Section 9. Physical and Chemical Properties | | | | | | |
|---|--|---------------|---|--|--|--|
| Physical siste and appoarance | Liquid. | Odor | Not available. | | | |
| Molecplar Weight | Not applicable. | Taste | Not available. | | | |
| pH (1% solo/water) | Neutral | Color | Not available. | | | |
| Bolting Pulm | The lowest known value is 245,8"C (474.4"F) (Dieth | yiene giyco | N). Weighted average: 284.02°C (543.2°F) | | | |
| Aletting Poist/Pour Pains | May start to solidify at -5°C (23°F) based on data for | : Triethylen | ne Glycol. Weighted average: -5.09°C (22.8°F) | | | |
| Critical Temperature | Not available. | | | | | |
| Specific Gravity | Weighted average: 1.12 (Water = 1) | | | | | |
| Vapor Pressure | The highest known value is 0.01 mm of Hg (@ 20*C |) (Diethyler | ne glycoi), | | | |
| Vapor Density | The highest known value is 6.7 (Air = 1) (Tetraethy | iene giyœl |). Weighted average: 6.7 (Air = 1) | | | |
| Volatility | "Not available. | ···· | | | | |
| Odor Threshold | Not available. | | | | | |
| Evaporation rate | Not available | | | | | |
| Viscosity | Not available. | | | | | |
| Water/Oil Dist. Cueff. | Not avalable. | | | | | |
| funicity (in Water) | -Not available | · · · · · · · | | | | |
| Dispersion Properties | See solubility in water, methanol. diethyl elber. | | | | | |
| Solubility | Easily soluble in cold water, hot water, methanol, di | cthyl ether. | · | | | |
| Physical Chemical Comments | Not available. | | | | | |

| Section 10. Stability | and Reactivity Data | | | |
|---|---------------------------------|---------------------------------------|---------|----|
| Chemical Stability | The product is stable. | ········. | | .: |
| Conditions of Instability - | No additional remark. | | | |
| Incompatibility with various substances | Very slightly to slightly react | tive with oxidizing agenta. | | |
| Hazardous Decomposition
Products | Not available. | | | |
| Hazardous Polymerization | Not available, | · · · · · · · · · · · · · · · · · · · | · · · · | |

| Section 11. Toxicolog | Ical Information | | |
|---|---|--|---------------------------|
| Taxicity to Animals | Acute gral toxicity (LD50): > 5000 mg/l
Acute dermal toxicity (LD50): > 5000 n | (G) (Hamster.) (Calculated value for the mixture).
Inc/kg. (Hamster.) (Calculated value for the mixture). | |
| Chronic F.ffects on Humans | The substance is taxic to blood, kidney | s, liver. Toxicity of the product to the reproductive 34 | ierra Not available. |
| Other Taxic Effects on Humans | Slightly dangerous to dangerous in ca
of inhalation. | se of skin contact (irritant, permeator), of eye contact | (initiant), of ingestion, |
| Special Remarks on
Toxicity to Animals | No additional remark. | • • • • • • • • • • • • • • • • • • • | |
| Special Remarks on
Chronic Effects on Humans | No additional remark. | | |
| Special Remarks on other Toxic
Effects on Humans | Experimentally tumorigen by inhala
-glycol) | tion. Exposure can cause nausea, headache and v | amiting. (Diethylene |

Continued on Next Page

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| manyane wycork | abrocessed | | Page Number: 4 |
|---|--|--|---------------------------|
| Section 12. Ecologica | i information | | |
| Ecotoricity | Not avalable. | | |
| BOD5 and COD | Not available. | ······································ | |
| Products of Biodegradation | Possibly hazardous short term degrad
arise, | lation products are not likely. However, long term | segradation products may |
| Texicity of the Products
of Blodegratiation | The product itself and its products of d | legradation are not toxic. | |
| Special Remarks on the
Products of Biodegradation | No additional remark. | | |
| Section 13. Disposal | Considerations | * | 1 |
| Waste Disposal | | | |
| Section 14. Transpor | t Information | | |
| Propper Shipping Name | NONE | | |
| DOT Classification | Not a BOT controlled motoriol 3 letter | | |
| | | | :` |
| DOT Identification Number | Not applicable (PIN and PG). | | |
| Packing Group | NONE | | |
| Hazardous Substances | Not available. | · · · · · · · · · · · · · · · · · | |
| Special Provisions for
Transport | Not applicable. | | |
| | | | |
| Section 15. Regulate | ory Information | | |
| Federal and State
Regulations | The following product(s) is (are) liste | ed by the State of Minnesota: Diethylene glyco | 1 |
| · | n an | ····· | |
| Other Classifications | WHMIS (Canada) Not controlled | d under WHMIS (Canada). | |
| ·· | DSCI. (EEC) Not controlled | d under DSCL (Europe). | |
| Section 18 Other In | formation | | |
| Section 10. Outer little | | | Fire Statard |
| HMIS (U.S. <u>A.)</u> | | Association (U.S.A.) | |
| ····
-
 | Reactivity 0 | Health 1 | Constanting of the second |
| · · · · · · · · · · · · · · · · · · · | Personal Protection B | | ייייאנג אינגאינ |
| References Not | available. | | |
| Other Special No.
Considerations | additional remark | | |
| Validated by Joe Hudman on | 8/8/96. | Verified by Joe Hudman. | |
| Transportation Emergency C
CHEMTREC 800-424-9300
Other Information Call
Joe Hødman
713-477-6675 | all | | |

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Triethylane Glycol Reprocessed

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Notice to Reader

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Page Number: 5

TOTAL P.06

District I 1625 N. French Dr., Hobbs, NM 88240 District II E11 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South

APPROVED BY:

APPROVED BY:

State of New Mexico Energy Minerals and Natural Resour

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

DATE:

DATE:

| District IV
2040 South Pacheco, Santa Fe, NM 87505 | to Appropriate
District Office |
|--|---|
| REQUEST FOR APPROVAL TO ACCEPT | SOLID WASTE |
| 1. RCRA Exempt: Non-Exempt: | 4. Generator
Williams |
| Verbal Approval Received: Yes No | 5. Originating Site
LA MADVING PLT |
| 2. Management Facility Destination Key ENERGY DISPOSAL | 6. Transporter |
| 3. Address of Facility Operator #345 CR 3500 AZAC, NM | 8. State NM |
| 7. Location of Material (Street Address or ULSTR) 192 Col 4900; 3.8 miles on
Bloom Field NM 42 tech | |
| <u>Circle One</u>: A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste clas approved All transporters must certify the wastes delivered are only those consigned for transported | a certification of waste from the Generator;
cessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be
ort. |
| BRIEF DESCRIPTION OF MATERIAL: | |
| GAS Plant treating Fluid water +1 | Anne mix |
| S SITTE | 2001
2001 |

Estimated Volume <u>2120066/s</u>cy Known Volume (to be entered by the operator at the end of the haul)_ _су TITLE: M62 DATE: 10-15-0 SIGNATURE Waste Management Facility Authorized Agent TELEPHONE NO. 505-334-6186 TYPE OR PRINT NAME: MICHAEL TALOWICH (This space for State Use)

TITLE:

TITLE: Enviro/Ene



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CERTIFICATE OF WASTE STATUS

| 1. Generator Name and Address: | 2. Destination Name: | |
|---|---|---|
| 3.8 Miles ON C.R. 2770-Aztec | Key ENERGY DISPOSAL |
| 192 CR 4900 | |
| 3. Originating Site (name): | Location of the Waste (Street address &/or ULSTR): |
| Williams ENERGY Service | es |
| La Maguina Plant | · · · · · |
| Attach list of originating sites as appropriate | |
| Control of Waste | |
| 90% D.I. Water | |
| 5 % Amine | |
| 5% TryEThyLene G | slyco L |
| · Zing Alting | |
| 1. Druce norman | representative for: |
| Williams ENErgy Scruces | do hereby certify that, according |
| determination, the above-described waste is: (Chec | ck appropriate dassification) |
| • | |
| \checkmark | |
| EXEMPT oilfield wasteNC | ON-EXEMPT oilfield waste which is non-hazardous by characteristic values or by product identification |
| EXEMPT oilfield wasteNC an | ON-EXEMPT oilfield waste which is non-hazardous by characteristic
alysis or by product identification |
| EXEMPT oilfield wasteNC
an
and that nothing has been added to the exempt or n | ON-EXEMPT oilfield waste which is non-hazardous by characteristic
halysis or by product identification
non-exempt non-hazardous waste defined above. |
| EXEMPT oilfield wasteNC
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and that nothing has been added to the exempt or r | ON-EXEMPT oilfield waste which is non-hazardous by characteristic
halysis or by product identification
non-exempt non-hazardous waste defined above.
entation is attached (check appropriate items): |
| NC
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and that nothing has been added to the exempt or r
or NON-EXEMPT waste only the following docume
MSDS Information | ON-EXEMPT oilfield waste which is non-hazardous by characteristic
halysis or by product identification
non-exempt non-hazardous waste defined above.
entation is attached (check appropriate items): |
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and that nothing has been added to the exempt or r
 | ON-EXEMPT oilfield waste which is non-hazardous by characteristic
halysis or by product identification
non-exempt non-hazardous waste defined above.
entation is attached (check appropriate items):
Other (description): |
| | ON-EXEMPT oilfield waste which is non-hazardous by characteristic halysis or by product identification non-exempt non-hazardous waste defined above. |
| | ON-EXEMPT oilfield waste which is non-hazardous by characteristic halysis or by product identification non-exempt non-hazardous waste defined above. entation is attached (check appropriate items):Other (description): Analysis |
| | ON-EXEMPT oilfield waste which is non-hazardous by characteristic
halysis or by product identification
mon-exempt non-hazardous waste defined above.
entation is attached (check appropriate items):
Other (description): |
| | ON-EXEMPT oilfield waste which is non-hazardous by characteristic halysis or by product identification non-exempt non-hazardous waste defined above. entation is attached (check appropriate items):Other (description): Analysis |
| | ON-EXEMPT oilfield waste which is non-hazardous by characteristic halysis or by product identification non-exempt non-hazardous waste defined above. entation is attached (check appropriate items): Other (description): Analysis |
| NC | ON-EXEMPT oilfield waste which is non-hazardous by characteristic lalysis or by product identification non-exempt non-hazardous waste defined above. entation is attached (check appropriate items):Other (description): walysis |
| | ON-EXEMPT oilfield waste which is non-hazardous by characteristic halysis or by product identification non-exempt non-hazardous waste defined above. entation is attached (check appropriate items): Other (description): Analysis ∞ |
| LI South First, Artesia, NM 88210
<u>istrict III</u>
100 Rio Brazos Road, Azice, NM 87410
<u>istrict IV</u>
100 South Pacheco, Santa Fe, NM 87505 | Oil Conservation Divisio
2040 South Pacheco
Santa Fe, NM 87505 | SOUF Form C-138
Revised March 17, 1999
On Submit Original
Plus 1 Copy
to Appropriate
District Office |
|---|--|--|
| REQUEST FO | R APPROVAL TO ACCEP | T SOLID WASTE |
| RCRA Exempt: Non-Exempt:- | | 4. Generator
EL PASO Field Service |
| Verbal Approval Received: Yes | No Ø | 5. Originating Site CHALO PLANT |
| Management Facility Destination UE | Y DISPOSAL | 6. Transporter
- UEY EWERGY |
| Address of Facility Operator #345 | CR 3500 Aztec N.M | 8. State NM |
| Location of Material (Street Address or | SW/4 of Section 16;
(ULSTR) TZON, RIZUC, SAUSUN | <i>د</i> ه., |
| <u>Circle One</u> : | NW | |
| A. All requests for approval to accept of
one certificate per job.
B. All requests for approval to accept no
material is not hazardous and the Ge
anproved | ilfield exempt wastes will be accompanied
on-exempt wastes must be accompanied b
enerator's certification of origin. No waste | by a certification of waste from the Generator;
y necessary chemical analysis to PROVE the
classified hazardous by listing or testing will be |
| All transporters must certify the wastes | delivered are only those consigned for tra | nsport. |
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1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District.III 1000 Lio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe. NM 87505 Energy Minerals and Natural Resource

Oil Conservation Division 2040 South Pacheco 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus I Čopy to Appropriate District Office

| REQUEST FOR APPROVAL TO ACCEPT | SOLID WASTE |
|--|---------------------------------------|
| 1. RCRA Exempt: Non-Exempt: 🔀 | 4. Generator
EL Paso Field Service |
| Verbal Approval Received: Yes No | 5. Originating-Site
CHALO PLANT |
| 2. Management Facility Destination UEY DISPUSAL | 6. Transporter
KEY EWERGY |
| 3. Address of Facility Operator #345 CR 3500 . Aztec N. M | 8. State NM |
| 50/4 of Section 16;
7. Location of Material (Street Address or ULSTR) TZEN, RIZU, Sausum Co | · · · · · |

- 9. Circle One:
 - A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.
 - B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved
 - All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

Contact WASTE WATER FROM GAS PLANT OPERATION S Annual Renewal PERMONTH(HUG) Estimated Volume 100066/s Known Volume (to be entered by the operator at the end of the haul) TITLE: Manager DATE: 10-1-01 SIGNATURE Kal Waste Management Facility Authorized Agent TYPE OR PRINT NAME: MICHAEL TALOUICH TELEPHONE NO. 505-334-6186 (This space for State Use) TITLE: Geolog137 enst DATE: **APPROVED BY:** DATE: APPROVED BY: TITLE:



September 26, 2001

Key Energy Services, Inc. P. O. Box 900 _ Farmington, NM 87499

Dear Sirs:

Please find enclosed a Certificate of Waste Status and a current analysis for the El Paso Field Services Co. Chaco Plant contact waste water stream. If you need any additional information of documentation for this waste, please call me at (505) 599-2256.

Sincerely yours,

il Barp

David Bays, REM Principal Environmental Scientist

cc: Chaco Env. File

CERTIFICATE OF WASTE STATUS

| 1. Generator Name and Address: | 2. Destination Name: | |
|--|--|--|
| El Paso Field Services Co.
614 Reilly Avenue
Farmington, NM 87401 | Key Energy Services, Inc.
Disposal Well – 345 CR 3500
Farmington, NM | |
| 3. Originating Site (name): | Location of Waste(Street address &/or ULSTR): | |
| Chaco Plant | SW/4 of Section 16, T26N, R12W, San Juan Co., NM | |
| Attach list of originating sites as appropriate
4. Source and Description of Waste
Contact waste water from Cryogenic Plant a | nd Compressor Station operations | |
| I, <u>David Bays</u>
(Print Name)
<u>EI Paso Field Serv</u>
according to the Resource Conservation and
1988 regulatory determination, the above de | representative for:
<u>vices Co.</u>
do hereby certify that,
d Recovery Act (RCRA) and Environmental Protection Agency's July,
escribed waste is: (Check appropriate classification) | |
| EXEMPT Oilfield waste | NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification | |
| and that nothing has been added to the exer | mpt or non-hazardous waste defined above. | |
| For NON-EXEMPT waste only, the following
MSDS Information
X RCRA Hazardous Waste
Chain of Custody | g documentation is attached (check appropriate items): Other (description) Analysis | |
| Name (Original Signature): | in Bay | |
| Title: Prin | ncipal Environmental Scientist | |
| Date:Sep | otember 26, 2001 | |
| | | |



Pinnacle Lab ID number September 10, 2001

108105

AMEC EARTH & ENVIRONMENTAL 2060 AFTON PLACE FARMINGTON, NM 87401

EL PASO FIELD SERVICES 614 RIELLY STREET FARMINGTON, NM 87401

Project NameEPFS CHACO SAMPLINGProject Number1517-0000-54

Attention: ROBERT THOMPSON/DAVID BAYS

On 08/24/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 8021 analyses were performed by Pinnacle Laboratories, Inc. Albuquerque, NM.

All other analyses were performed by Severn Trent Laboratories, Inc. Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

H. Mitchell Rubenstein, Ph. D. General Manager

MR: jt

Enclosure





| | · · · · | - · | |
|--------------|------------------------------|---------------|------------|
| CLIENT | : AMEC EARTH & ENVIRONMENTAL | PINNACLE ID | : 108105 |
| PROJECT # | : 1517-0000-54 | DATE RECEIVED | : 08/24/01 |
| PROJECT NAME | : EPFS CHACO SAMPLING | REPORT DATE | : 09/10/01 |
| PINNACLE | | | DATE |
| ID # | CLIENT DESCRIPTION | MATRIX | COLLECTED |
| 108105 - 01 | CHACO CONTACT WASTE WATER | AQUEOUS | 08/23/01 |



GAS CHROMATOGRAPHY RESULTS

| TEST | 28 | EPA 8021 MOD | IFIED | | | | | | | | | |
|-----------|-------------|----------------|-------------|----------|-----------------|---------------|----------|--|--|--|--|--|
| CLIENT | • | : AMEC EARTH 8 | & ENVIRONMI | ENTAL | | PINNACLE I.D. | : 108105 | | | | | |
| PROJECT # | 1 | : 1517-0000-54 | | | | | | | | | | |
| PROJECT N | IAME | : EPFS CHACO S | SAMPLING | | . 19 4 | | | | | | | |
| SAMPLE | | | | DATE | DATE | DATE | DIL. | | | | | |
| 1D. # | CLIENT I.D. | | MATRIX | SAMPLED | EXTRACTED | ANALYZED | FACTOR | | | | | |
| 01 | CHACO CONT | ACT WASTE WAT | FAQUEOUS | 08/23/01 | NA | 08/30/01 | 5 | | | | | |
| PARAMETER | | DET. LIMIT | | UNITS | CHACO CONTACT V | VASTE WATER | | | | | | |
| BENZENE | | 0.5 | | UG/L | 180 | | | | | | | |
| TOLUENE | | 0.5 | • | UG/L | 280 | | | | | | | |
| ETHYLBEN | ZENE | 0.5 | | UG/L | 24 | | | | | | | |
| TOTAL XYL | ENES | 0.5 | | UG/L | 160 | | | | | | | |
| SURROGAT | E: | •پ | 25mg | | | | | | | | | |
| BROMOFLU | JOROBENZENE | (%) | | | 107 | | | | | | | |
| SURROGAT | E LIMITS | (80-120) | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

CHEMIST NOTES: N/A



GAS CHROMATOGRAPHY RESULTS REAGENT BLANK

| TEST
BLANK I. D.
CLIENT
PROJECT # | : EPA 8021 MODIFIED
: 083001
: AMEC EARTH & ENVIRONMENTAL
: 1517-0000-54 | PINNACLE I.D.
DATE EXTRACTED
DATE ANALYZED
SAMPLE MATRIX | : 108105
: NA
: 08/30/01
: AQUEOUS |
|--|---|---|---|
| PROJECT NAME | : EPFS CHACO SAMPLING | | ÷ |
| PARAMETER | UNITS | | |
| BENZENE | UG/L | <0.5 | |
| TOLUENE | UG/L | <0.5 | |
| ETHYLBENZENE | UG/L | <0.5 | |
| TOTAL XYLENES | UG/L | <0.5 | |
| SURROGATE:
BROMOFLUOROBENZENE (%)
SURROGATE LIMITS:
CHEMIST NOTES:
N/A | (80 - 120) | 89 | · · · |



GAS CHROMATOGRAPHY QUALITY CONTROL MSMSD

| TEST
MSMSD #
CLIENT
PROJECT #
PROJECT NAME | : EPA 8021 MC
: 108120-01
: AMEC.EART
: 1517-0000-54
: EPFS CHACC | DDIFIED
H & ENVIRC
S
D SAMPLIN | ONMENTAL | | PINNACLE I
DATE EXTR
DATE ANAL
SAMPLE MA
UNITS | .D.
ACTED
YZED
ATRIX | ·
·
·
· | 108105
NA
08/30/01
AQUEOUS
UG/L | |
|--|---|---|------------------|----------|--|-------------------------------|------------------|---|---------------|
| PARAMETER | SAMPLE
RESULT | CONC
SPIKE | SPIKED
SAMPLE | %
REC | DUP
SPIKE | DUP
% REC | RPD | REC
LIMITS | RPD
LIMITS |
| BENZENE | <0.5 | 20.0 | 17.1 | 86 | 17.3 87 | | 1 | (80 - 120) | 20 |
| TOLUENE | <0.5 | 20.0 | 20.2 | 101 | 20.1 101 | | 0 | (80 - 120) | 20 |
| ETHYLBENZENE | <0.5 | 20.0 | 20.9 | 105 | 20.8 | 104 | 0 | (80 - 120) | 20 |
| TOTAL XYLENES | <0.5 | 60.0 | 62.7 | 105 | 62.5 | 104 | 0 | (80 - 120) | 20 |

CHEMIST NOTES:

N/A

(Spike Sample Result - Sample Result)

% Recovery =

----- X 100

Spike Concentration

(Sample Result - Duplicate Result)

RPD (Relative Percent Difference) =

 -- X 100

Average Result

| Ms. Jacinta Tenorio
Pinnacle Laboratories
- 2709-D Pan American Fre
Albuquerque, NM 87107 | eeway Northeast | L
Rec
Rep | TRENT
SERVICES
STL Pensacola
OG NO: C1-08684
eived: 25 AUG 01
orted: 05 SEP 01 |
|--|---------------------------------------|-------------------|---|
| • | Proiect | : 108105.AMEC-EPF | S CHACO SAMPLING |
| | | Sa | mpled By: Client |
| | REPORT OF RESULTS | • | Code: 07551095
Page 1 |
| LOG NO SAMPLE DESCRIPTION | , LIQUID SAMPLES | DATE/
TIME SA | MPLED |
| 08684-1 CHACO CONTACT WW/10 |
B105-01 | 08-23-0 | 1/14:50 |
| ר | · · · · · · · · · · · · · · · · · · · | 0969/ 1 | |
| | | | |
| RCRA Metals (6010B) | | | |
| _ Arsenic, mg/l | ~ | 0.028 | |
| Barium, mg/1 | | 0.023 | · |
| Cadmium, mg/1 | | <0.0050 | |
| Chromium, mg/1 | | 0.73 | |
| Lead, mg/1 | | 0.013 | |
| Selenium, mg/l | | <0.010 | |
| Dilution Factor | | 20.0030 | 1 |
| Bren Date | | 10 29 01 | |
| Analysis Date | | 08 30 01 | |
| Batch ID | | PW272 | |
| Pren Method | | 3010A | |
| Analyst | | GSP | |
| Mercury (7470A), mg/l | | 0.0033 | |
| Dilution Factor | | 1 | |
| Prep Date | | 09.03.01 | |
| Analysis Date | | 09.03.01 | |
| Batch ID | | HGW068 | |
| Prep Method | | 7470A | |
| | | | |

s a part of Sevent Hent Labora



LOG NO: C1-08684 Received: 25 AUG 01 Reported: 05 SEP 01

| Ms. Jacinta Tenorio
Pinnacle Laboratori |)
Les | | | |
|--|--|---|----------------------------------|-------------------------------|
| 2709-D Pan Americar
Albuquerque, NM-87 | 1 Freeway Northeast | a a sur a sur a sur a sur a sur a sur a sur a sur a sur a sur a sur a sur a sur a sur a sur a sur a sur a sur a | na <u>i</u> maan oo oo | ت استان در در
بی تقریر است |
| nibaquerque, m. e, | | - | | |
| ~ | Project: | 108105,AM | NEC-EPFS CHAC
Sampled
Code | O SAMPLING
By: Client |
| ₽
 | REPORT OF RESULTS | | | Page 2 |
| | | | DATE/ | 5 |
| LOG NO SAMPLE DESCRIPTI | ON , QC REPORT FOR LIQUID | SAMPLES 1 | TIME SAMPLED | |
| 08684-2 - Method Blank
08684-3 Lab Control Star
08684-4 Matrix Spike % F
08684-5 Matrix Spike Dup | ndard % Recovery
Recovery
Dlicate % Recovery | | | |
| PARAMETER | 08684-2 | 08684-3 | 08684-4 | 08684-5 |
| PCRA Metals (6010B) | | | | |
| Arsenic, mg/l | <0.0050 | 97 % | 99 % | 99 % |
| Barium, mg/l | <0.010 | 101 % | 99 % | 100 3 |
| Cadmium, mg/l | <0.0050 | 100 % | 96 % | 97 % |
| Chromium, mg/l | <0.0050 | 101 % | 99 % | 99 % |
| Lead, mg/1 | <0.0050 | 100 % | 97 % | 98 % |
| Selenium, mg/l | <0.010 | 93 % | 94 % | 95 % |
| Silver, mg/l | <0.0050 | 99 % | 102 % | 103 % |
| Dilution Factor | 1 | | | |
| Prep Date | 08.29.01 | | | |
| Analysis Date | 08.30.01 | | | |
| Batch ID | PW272 | PW272 | PW272 | PW272 |
| Prep Method | 3010A | | | |
| Analyst | GSP | · | | |
| Mercury (7470A), mg/l | <0.00020 | 100 % | 81 % | 82 % |
| Dilution Factor | 1 | | | |
| Prep Date | 09.03.01 | | | |
| Analysis Date | 09.03.01 | | | |
| Batch ID | HGW068. | HGW068 | HGW068 | HGW068 |
| Prep Method | 7470A | | | |
| Analyst | JDE | | | |

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

Larson, Project Manager Lance



Data Qualifiers for Final Report

| 81 | The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND). |
|------------------------|---|
| B2 | The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples |
| B3 | The analyte was found in the associated blank as well as in the associated sample(s) (gualifier is applied to the sample not |
| | to the blank). |
| B4 | Sample results were corrected due to contaminants in Fractionation Blank |
| D | Diluted out (surrogate or spike due to sample dilution) |
| ε | Compound concentration exceeds the upper calibration range of the instrument. |
| F | The reported value is < STL Pensacola RL and ≥ the STL Pensacola MDL; therefore, the quantitation is estimation. |
| G | Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the $~$ |
| • | sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control". |
| H1 -* | Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results |
| - | exceeds the STL Reporting Limit; therefore, the results are "out of control" |
| H2 | Sample and duplicate (or MS and MSD) RPD is above control limit. |
| J (description) | The analyte was positively identified, the quantitation may be an estimation |
| J4 | (For positive results)Temperature limits exceeded ($\leq 2^{\circ}$ C or $\geq 6^{\circ}$ C), non-reportable for NDPES compliance monitoring. |
| J6 | (For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high |
| J8 | Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form. |
| 9 | (For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low |
| M1 | A matrix effect was present ('sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, 'sample and/or |
| | MS/MSD chromatogram(s) had interfering peaks, "sample result was > 4 X spike added, "metals serial dilution was |
| | performed, or "metals post spike is < 40% R) |
| M2 | The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect. |
| N/C | Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers) |
| NH | Sample and duplicate results are "out of control". The sample is nonhomogeneous. |
| NoMS | Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD) |
| Q | The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre- |
| | digestion) spike. |
| R (description) | The quantitation may be an estimation. |
| R1 | (For nondetects) Temperature limits exceeded ($\leq 2^{\circ}$ C or $\geq 6^{\circ}$ C); non-reportable for NDPES compliance monitoring |
| R2 · | Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable |
| | for NDPES compliance monitoring |
| R3 | Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPUES compliance |
| R4 | Folding une exceeded, non-reportable for NUPES compliance monitoring. |
| R5 | Sample collection requirements not met, see case narrative. |
| R6 | LCS of surrogate %R is < LCL and analyte is not detected of surrogate %R is < 10% for detects/nondetects. |
| R/ | Initernal standard area outside –50% to +100% of calibration ventication standard. |
| R8 | Initial calibration of any Calibration Verification exceeds acceptance chiena. |
| R9 | Not intered and preserved at time of onection. |
| R1U | Readspace > 1/4 in diameter in volatile vias, non-reportable for NP DES compliance monitoring |
| | Samples were incled and preserved within 4 hours of control distributions |
| R12 | The Mathed of Standard Additions (MSA) bas been performed on this sample |
| 51 | Incorrect sample amount was submitted to the laboratory for analysis |
| 52
C2 (Electropict) | This method is not designed for colids and the results may not be accepted by any regulator for such purposes. |
| 53 (Flashpoint) | This method is not designed for substant due results may not be accepted by any regulation for such perposes. |
| | The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively identified |
| ne | Composing |
| t I | The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered pext to the "U" value. |
| 0 | Value for result will never be below the MDL) |
| 10/ | Post-dipestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike |
| ** | absorbance. |
| Ø | Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis). |
| 9)
| Elevated reporting limit due to insufficient sample size |
| | The compound has been quantitated against a one point calibration. |
| * (Metals & Wet Chem) | Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis) |
| | |

STL PENSACOLA State Certifications

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL), expires 06/30/02 Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater), expires 01/12/02 Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental), expires 02/07/02 State of California, Department of Health Services, Laboratory-ID: No.-01128CA (Hazardous Waste and Wastewater), expires 03/31/02 State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (D W, H W and Wastewater), expires 09/30/01 Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL) Extension granted Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater), expires 06/30/02 Florida DEP/DOH CompQAP # 980156 Florida, Radioactive Materials License No. G0733-1, no expiration date assigned Foreign Soil Permit, Permit No. S-37599 Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste), expires 10/31/01 Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water), expires 12/31/01 State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water), expires 12/31/01 Louisiana Department of Environmental Quality, LELAP, Laboratory ID No. 02075, Agency Interest ID 30748 (Environmental, expires 6/30/02) State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida), expires 09/30/02 Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Wastewater), expires 06/30/02 State of Michigan, Bureau of E&OccH, Laboratory ID No.9912 (Drinking Water by Reciprocity with Florida), expires 06/30/02 New Hampshire DES ELAP, Laboratory ID No. 250501 (Wastewater), expires 08/16/02 State of New Jersey, Department of Env. Protection & Energy, Laboratory ID No. 49006 (Wastewater and Hazardous Waster), expires 06/30/01 New York State, Department of Health, Laboratory ID No. 11503 (WW and Solids/Hazardous Waste), expires 03/31/02 North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater), expires 12/31/01 North Dakota DH&Consol Labs, Laboratory ID No. R-108 Wastewater and Hazardous Waste by Reciprocity with Florida), expires 06/30/02 State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater), expires 08/31/02 Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water), expires 12/01/01 South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater & Solids/Hazardous Waste by Reciprocity with FL), expires 06/30/01 Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water), expires 08/03/04 Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL), expires 06/30/02 State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater), expires 09/14/01 West Virginia Division of Env., Office of Water Resources, Laboratory ID No. 136 (Haz Waste and Wastewater Reciprocity FL), expires 12/31/01 American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704, expires 04/01/04 \word\certlist\condcert.lst revised 08/22/01

| Lau | Order #:_ | <u>C108684</u> | Da | te Rec | eived: | 8 | ·2501 SERVICES | |
|---------------|---|--|--|--|--|--|--|-------------|
| 1. | Was there a | I Chain of Custody? | Yes | No⁴ | | 8. | Were samples checked for
preservative? (Check pH of all H2O
requiring preservative (STL-PN SOP
917) except VOA vials that require | N |
| 2. | Was Chain
filled out an | of Custody properly
ad relinguished? | Yes | No⁺ | | 9. | Is there sufficient volume for Yes No ⁺ | -N |
| 3. | Were samp
(Criteria: 2° | les received cold?
- 6°C: STL-SOP | Yes | No⁴ | N/A | 10. | Were samples received within Yes No ⁺
Holding Time? (REFER TO STL-SOP 1940) | |
| 4.
5. | Were all sar
labeled and
Did samples | mples properly
identified?
s require splitting or | Yes
Yes⁴ | No [*] | | 11. | Is Headspace visible > ¼ " in Yes* No (
diameter in VOA vials?* If
any headspace is evident, | N |
| 6. | Reg By: Pl
Were samp
proper cont |) ?
M Client Other*
les received in
ainers for analysis | Yes | No* | | 12. | comment in out-of-control
section.
If sent, were matrix spike Yes No*
bottles returned? | |
| 7. | requested?
Were all sar
received int | mple containers
act? | Yes | No⁺ | | 13. | Was Project Manager notified (Yes) No*
of problems? (initials: <u>DSN</u>) DMH
REAKY) | N |
| Airl | oill Numbe | r(s): <u>1X 878</u>
<u>4762</u> | 168 4 | 443 | 47 | | Shipped By: PS | |
| Cod | oler Numbe | er(s): Cler | 1+ | | | | Shipping Charges: <u>NA</u> | |
| Coo | oler Weigh | t(s): <u>410</u> | #- | | | | Cooler Temp(s) (°C): 2° | |
| 0u
ठ. | t of Contro
BA OX | P Lesled ? | pection | Comm
n Pt | nents: | £ | ECPA MULQS. DMH 8.25-01 | |
| | | | | | | | | |
| | <u> </u> | , | | ···· | . | | Use back of PSIFFOR ADDITIONAL NOTES AND COMMENTS |)G |
| | | 1 | | _ | 251 | L | paged By: LLK Date: 25-Arig | ; - |
| Ins | pected By | DMH | Date: | 8-25.0 | | _ | | |
| Ins
+
+ | pected By
Note all Ou
time sample
If Other, no
composited
All preserve | t-of-Control and/or question
es(pH, Dissolved O ₂ , Residu
the who requested the splitti
I must be done in the Volati
atives for the State of North | Date:
able events of
al CLI as out
ing or compo
ie Lab. Docum
Carolina, the | on Commen
of hold tim
of hold tim
ositing of se
ment: <u>"Vole</u>
& State of N | t Section
a, therefor
amples on
atile samp
New York, | of this form, these
the Con
le values
and oth | prm. For holding times, the enalyticl depertment will flag immediate
a samples will not be documented on this PSIF.
Inment Section of this form. All volatile samples requested to be spi
may be compromised due to sample splitting (compositing)"
er requested samples are to be recorded on the sheet provided to n | ho
Vit a |

| Pinnacle Labora | tories, l | nc. | | | | ł | nte | rlat | o Cl | hai | n o | f C | ust | od | dy Date: 8/24 Page: 1 of 1 | | | | | | | | | | | | | |
|--|---------------------------|-------------|--------------|---|----------------|-----------------|------------------|---------------------|-------|-----|----------------|---------------|----------|--------------|----------------------------|------------|-------------|------------------|----------------------|--------------------|--------------------|--------|------------------------|-----------------|-----------------|----------------|--------|--------------------|
| Network Project M | anager: | Jacin | ta A. Tenc | orio | | | | | | | | | • | AN | ALY | SIS | RE | QUE | ST | | | | | · | <u> </u> | | | |
| Pinnacle Laboratories, I
2709-D Pan American F
Albuquerque, New Mex
(505) 344-3777 Fax (505) 344-4413 | nc.
Freeway
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| SAMPLE ID | DATE | TIME | MATRIX | LABID | Σ | <u>ه</u> | Σ | Σ | | Ĕ | Ĕ | Ú | | õ | Ž | ă | ŏ | ā | Ī | ā | 8 | | B
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| PROJ. NAME: AMEC | | Chain of C | Custody Seal | s | | | ESL - | OR | | | [| Ċ | <u>M</u> | MC | M | J | M | NU | 170 | <i>J</i> 0 | | | | | | | | |
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| PINNACLE
LABORATORIES | Pinnacle Laboratorie | es Inc. |
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DATE: 8/23/01 PAGE: 1 OF ____

PLI Accession #:

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| | PROJECT MAN | IAGER: ROBERT | THOMPSON |) | | | | | | | | | | A | AL | YSI | S RI | EQL | IES' | r | | ſ | | | | | • | |
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| SARE FOR LAB USE ONLY. | COMPANY:
ADDRESS:
PHONE:
FAX:
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COMPANY:
ADDRESS: | AMEC EAR
2060 AFTO
FARMINGTON
(505) 327-
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DAVID BAY.
EL PASO FIE
6:14 REILLY
FARMINGTON | TH È ENVIE
DN PLACE
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HO1 | N7764L. | etroleum Hydrocarbons (418.1) TRPH | AOD.8015) Diesel/Direct Inject | 2410 & 72 × 8021 4 m 06.24 | 021 (BTEX)/8015 (Gasoline) MTBE | 021 (BTEX) 🗆 MTBE 🗆 TMB 🗆 PCE | 021 (TCL)
021 (EDX) | 321 (HALO) | 321 (CUST) | 04.1 EDB / DBCP | 260 (TCL) Volatile Organics | 260 (Full) Votatile Organics | 260 (CUST) Volatile Organics | 260 (Landfill) Volatile Organics | esticides /PCB (608/8081/8082) | eruicides (015/0151)
seeAbirtral/Acid Compositives 6CAAS (675,8270) | olvnuclear Aromatics (610/8310/8270-SIMS) | eneral Chemistry: | | riority Pollutant Metals (13) | CRA Metals (8) | CRA Metals by TCLP (Method 1311) | etals: | |
| X | SAM | PLE ID: 2014 | | MATRIX | | a. | Ξ | | | 8 | ∞ ∞ | ŏ | õ | 2 | 80 | 80 | 8 | 8 | | | | Ø | | <u>a F</u> | × œ | - - | 2 | |
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| 2 | BLUE ICLICE | 13.80 | 1 | <u></u> | | - | | | | | <u> </u> | | Ţ | | | | | | | | | Pir | nac | le La | bora | torie | s Inc | ·] |

11/10/98 PLI Inc.: Pinnacle Laboratories, Inc. + 2709-D Pan American Freeway, NE + Albuquerque, New Mexico 87107 • (505) 344-3777 • Fax (505) 344-4413 • E-mail: PIN_LAB@WORLDNET.ATT.NET

DISTRIBUTION: White - PLI, Canary - Originato

| District I
1625 N. French Dr., Hobbs, NM 88240
District II
81 (25 auth First, Artesia, NM 88210
District III
1000 Rio Bragos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505 | State of New Mexico
Energy Minerals and Natural Resou
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505 | Irc Form C-138
Revised March 17, 1999
Submit Original
Plus 1 Copy
to Appropriate
District Office |
|--|--|---|
| REQUEST FO | R APPROVAL TO ACCEPT | SOLID WASTE |
| I. RCRA Exempt: Non-Exempt: | X | 4. Generator GIANT RELINING |
| Verbal Approval Received: | | 5. Originating Site COOLING TOWERS |
| 2. Management Facility Destination KEY | ENERGY DISPOSAL | 6. Transporter Key |
| 3. Address of Facility Operator # 345 C | 23,500 AZIEC NM | 8. State NM |
| 7. Location of Material (Street Address or 1 | #50 CE4990
ULSTR) Bloom field NM 87413 | ······································ |
| 9. <u>Circle One</u> : | | |
| A. All requests for approval to accept oil
one certificate per job.
B. All requests for approval to accept non
material is not-hazardous and the Gen
approved | field exempt wastes will be accompanied by
n-exempt wastes must be accompanied by n
erator's certification of origin. No waste cla | a certification of waste from the Generator;
ecessary chemical analysis to PROVE the
assified hazardous by listing or testing will be |
| All transporters must certify the wastes of | delivered are only those consigned for transp | port. |
| BRIEF DESCRIPTION OF MATERIAL: | | · · · · · · · · · · · · · · · · · · · |
| AND Cooling tower
Grant San Jhan
GW-J
Estimated Volume 400-500 bbl 200 | WASTE
WASTE
SEP 2001
RECEIVE
OIL CON. DI
DIST. 3
Refinery
Known Volume (to be entered by the opt | erator at the end of the haul)cy |
| SIGNATURE Management Facility Aut | horized Agem | DATE: <u>9-25-0</u> |
| TYPE OR PRINT NAME: _ <u>MICHAR(</u> | <u>Theorich</u> Teli | EPHONE NO. <u>505-334-6486</u> |
| (This space for State Use)
APPROVED BY:
APPROVED BY:
Com | Tour TITLE: C.CO. | 09 15 DATE: 9/25/0
Chief DATE: 10/1/01 |
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| ist.l 1025 N. F i Dr., Hobbs, NM 88240 District.ll 811 (Such First, Artesia, NM 88210 Öistrict.lli 1000 Rio Bragos Road, Aztec, NM 87410 Qistrict.lv 2040 South Pacheco, Santa Fe, NM 87505 | State of New Mexico
Energy Minerals and Natural Resour
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505 | Form C-138
Rev March 17, 1999
Submit Original
Plus I Copy
to Appropriate
District Office |
|---|---|---|
| REQUEST FOR | APPROVAL TO ACCEPT S | SOLID WASTE |
| I. RCRA Exempt: 🔲 Non-Exempt: 🔀 |] | 4. Generator GIANT RELINING |
| Verbal Approval Received: Yes | N° ⊠ | 5. Originating Site Cooling Touces |
| 2. Management Facility Destination KEY E | VERBY DISPOSAL | 6. Transporter Key |
| 3. Address of Facility Operator # 345 C.2 | 3500 AZIEC NM | 8. State NM |
| 7. Location of Material (Street Address or UL | #50 CE4990
STR) Вюол Leld NM 87413 | |
| 9. <u>Circle One</u> : | | |
| B. All requests for approval to accept non-e
material is not-hazardous and the Genera
approved
All transporters must certify the wastes deli
BRIEF DESCRIPTION OF MATERIAL:
Bruez water mixero
AND Cooline tower (
Gicmt Sam Juan
Gw-1
Estimated Volume 400-500 bblycy | xempt wastes must be accompanied by nec
stor's certification of origin. No waste class
wered are only those consigned for transpo-
with VARIOUS BIO
Maste
SEP 2001
Refinery
Known Volume (to be entered by the operation | tessary chemical analysis to PROVE the
sified hazardous by listing or testing will be
rt.
$DIS PERSAN + S_1 Cleawer S$
ator at the end of the haul)cy |
| SIGNATURE Management Facility Authori | ZED Agen TITLE: MGC | DATE: <u>9-25-0</u>
HONE NO 525-334-6/86 |
| (This space for State Use)
APPROVED BY: | torul TITLE: Ceolo | 59 (ST DATE: 9/25/0/
Chif DATE: 9/25/0/ |

District 1 1625 N. French Dr., Hobbs, NM 88240 District II 811 South Giren, Artesia, NM 88210 District III 1000 Rice grazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505

:

State of New Mexico Energy Minerals and Natural Resource

> Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

| REQUEST F | OR APPROVAL | TO ACCEPT | SOLID WASTE |
|-----------|-------------|------------------|-------------|
| | | | |

| 1. RCRA Exempt: 🔲 Non-Exempt: 💢 | 4. Generator GIANT REFINING |
|--|--|
| Verbal Approval Received: Yes No | 5. Originating Site COOLING TOWERS |
| 2. Management Facility Destination KEY ENERGY DISPOSAL | 6. Transporter Key |
| 3. Address of Facility Operator #345 CR3500 AZHEC NM | 8. State NM |
| 7. Location of Material (Street Address or ULSTR) # 50 CR4990
Bloom field NM 87413 | |
| 9. <u>Circle One</u> : | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste cla approved | a certification of waste from the Generator;
ccessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transp | ort. |
| BRIEF DESCRIPTION OF MATERIAL: | • |
| River water mixer with VARIOUS BIG | DISPERSANTS CLEANERS |
| Giant SanJuan Refmetry
Gw-1 | 232-33
FP 2003
CEIVED
LOON. DM
DMST. S |
| Estimated Volume 400-500 6 50 Known Volume (to be entered by the ope | erator at the end of the haul) cv |
| | |
| SIGNATURE Mulae Jacoure TITLE: MGR
Waste Management Facility Authorized Agent | DATE: 9-25-01 |
| TYPE OR PRINT NAME: MICHARL THLOUICH TELE | EPHONE NO. <u>505 - 334 - 61 86</u> |
| (This space for State Use) | |
| APPROVED BY: Demy tem TITLE: Geolo | <u>Gist</u> DATE: <u>9/25/0/</u> |
| APPROVED BY: TITLE: | DATE: |

CERTIFICATE OF WASTE STATUS

| 1. Generator Name and Address: | 2. Destination Name: |
|--|--|
| Giant Refining Company | Ney Energy Systems
Dispaced Systems |
| #50 CR 4990 | Disposer Systems |
| Bloomfield, NM 87413 | Lrouch Mesa |
| | New Mexico |
| 3. Originating Site (name): | Location of the Waste (Street address &/or ULSTR); |
| Giant Refining Company | #50 CR 4990 |
| #50 CR 4990 | Bloomfield, NM 8/413 |
| Bloomfield, NM 87413 | |
| | |
| Attach list of originating sites as appropriate | |
| 4. Source and Description of Waste | |
| | |
| Cooling Tower Water from cleaning tower | r during Shutdown for repairs. |
| Couring tower water from creating conc. | Lat the state of t |
| | |
| | |
| | |
| | |
| | |
| | |
| Barry Holman | representative for: |
| (Print Name) | · · · · · · · · · · · · · · · · · · · |
| Giant Refining | do hereby certify that, |
| according to the Resource Conservation and Recov | very Act (RCRA) and Environmental Protection Agency's July, |
| 1988, regulatory determination, the above describe | d waste is: (Check appropriate classification) |
| | · · · |
| EXEMPT oilfield waste XX NON-EX | EMPT oilfield waste which is non-hazardous by characteristic |
| analysis | or by product identification |
| · | · · |
| and that nothing has been added to the exempt or | non-exempt non-hazardous waste defined above. |
| | |
| For NON-EXEMPT waste only the following doe | umentation is attached (check appropriate items): |
| | Other (description) |
| XX MSUS Information | Uther (description): |
| RCRA Hazardous Waste Analysis | |
| Chain of Custody | |
| · · · · | |
| | |
| $\langle \rangle \langle \rangle \langle \rangle$ | |
| Name (Original Signature): A M th | ter . |
| | |
| Title: Environmental Manager | |
| EIVITUNIEncal nanager | |

Date: _____ 9/25/01

| Manufacturer : NALCO
Revision Date : 01-23-1996 | | | | Internal ID : 000096
File Name : 000096 |
|---|-------------------------------------|--|-----------------------------------|--|
| NALCO | | | | |
| MATERIAL SAFETY DATA SHEET | | | | |
| PRODUCT: NALCO 71-D5 ANTIFOAM | | | | |
| EMERGENCY TELEPHONE NUMBER:
MEDICAL (800) 462-5378 (24 HOURS
(800) I-M-ALERT
SECTION | 5). | TDENTIFICATIO | N | |
| TRADE NAME: NALCO 71-D5 ANTIF | DAM | | #*
 | • |
| DESCRIPTION:
A BLEND OF FATTY ACIDS, POLYGLY | COLS, POL | YGLYCOL ESTERS, | IN HYDROCARBON | I OIL, |
| NFPA 704M/HMIS RATING:
1/1 HEALTH
1/1 FLAMMABILITY
0/0 REACTIVITY
0 OTHER | | | ~ |
 |
| 0=INSIGNIFICANT
1=SLIGHT
2=MODERATE
3=HIGH
4=EXTREME | | | · | |
| SECTION | 2 HAZAF | DOUS INGREDIENT | S | |
| OUR HAZARD EVALUATION HAS IDENT
AS HAZARDOUS UNDER OSHA'S HAZAR
CONSULT SECTION 14 FOR THE NATU | IFIED THE
D COMMUNI
RE OF THE | E FOLLOWING CHEM
CCATION RULE, 29
C HAZARD(S). | ICAL INGREDIENT
CFR 1910.1200. | ?(S) |
| INGREDIENT (S) | | CAS # | APPROX .8 | |
| KEROSENE | - | 8008-20-6 | 10-20 | |

PARAFFIN WAX

STRAIGHT RUN MIDDLE DISTILLATES

SECTION 3 PRECAUTIONARY LABEL INFORMATION

8002-74-2

64741-44-2

1-5

40-70

CAUTION:

-

MAY CAUSE IRRITATION TO SKIN AND EYES. AVOID CONTACT WITH SKIN, EYES, AND CLOTHING. AVOID PROLONGED OR REPEATED BREATHING OF VAPOR. USE WITH ADEQUATE VENTILATION. DO NOT TAKE INTERNALLY.

EMPTY CONTAINERS MAY CONTAIN RESIDUAL PRODUCT. DO NOT REUSE CONTAINER

| Common Name : 71-D5 ANTIFOAM
Manufacturer : NALCO
Revision Date : 01-23-1996 |
|--|
| UNLESS PROPERLY RECONDITIONED. |
| SECTION 4 FIRST AID INFORMATION |
| EYES: FLUSH WITH WATER FOR 15 MINUTES. CALL A PHYSICIAN. |
| WASH THOROUGHLY WITH SOAP AND RINSE WITH WATER. CALL A PHYSICIAN. |
| INGESTION: DO NOT INDUCE VOMITING. GIVE WATER. CALL A PHYSICIAN. |
| INHALATION: REMOVE TO FRESH HIR. TREAT SYMPTOMS. CALL A PHYSICIAN. |
| NOTE TO PHYSICIAN:
BASED ON THE INDIVIDUAL REACTIONS OF THE PATIENT, THE PHYSICIAN'S JUDGMENT
SHOULD BE USED TO CONTROL SYMPTOMS AND CLINICAL CONDITION. |
| CAUTION:
IF UNCONSCIOUS, HAVING TROUBLE BREATHING OR IN CONVULSIONS, DO NOT INDUCE
VOMITING OR GIVE WATER. |
| SECTION 5. HEALTH FFFECTS INFORMATION |
| PRIMARY ROUTE(S) OF EXPOSURE: EYE, SKIN, INHALATION |
| EYE CONTACT: CAN CAUSE MILD, SHORT-LASTING IRRITATION. |

SKIN CONTACT: CAN CAUSE MILD, SHORT-LASTING IRRITATION.

INHALATION: PROLONGED INHALATION OF VAPOR MAY BE HARMFUL.

SYMPTOMS OF EXPOSURE:

ACUTE:

INHALATION OF HIGH CONCENTRATIONS OF PRODUCT CAN CAUSE NAUSEA, DIZZINESS, VOMITING, STUPOR OR UNCONSCIOUSNESS.

CHRONIC:

PROLONGED SKIN CONTACT WITH PRODUCT CAN CAUSE DRY SKIN AND DEFATTING RESULTING IN IRRITATION AND DERMATITIS.

AGGRAVATION OF EXISTING CONDITIONS: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY WORSENING OF EXISTING CONDITIONS.

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: ACUTE TOXICITY STUDIES HAVE BEEN CONDUCTED ON THIS PRODUCT. THE RESULTS ARE SHOWN BELOW.

| Manufacturer : NALCO
Revision Date : 01-23-1996
File Name | : 000096 |
|--|----------|
| ACUTE ORAL TOXICITY (ALBINO RATS): LD50 = GREATER THAN 15,380 MG/KG | |
| ACUTE DERMAL TOXICITY (ALBINO RABBITS): LD50 = GREATER THAN 3,038 MG/KG | |
| PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):
SKIN IRRITATION INDEX DRAIZE RATING: 3.1/8.0 MODERATELY IRRITATING | |
| PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):
EYE IRRITATION INDEX DRALZE RATING: 6.0/110.0 MINIMAL IRRITATION | |
| HUMAN HAZARD CHARACTERIZATION: BASED ON OUR HAZARD CHARACTERIZATION,
THE POTENTIAL HUMAN HAZARD IS: LOW | • |
| SECTION STOLYSTOL AND CHEMICAT PRODEDTIC | |
| COLOR: PALE STRAM | · 14* |
| FORM: LIQUID | |
| ODOR: FAINTLY HYDROCARBON | |
| DENSITY: 6.9-7.5 LBS/GAL. | |
| SOLUBILITY IN WATER: INSOLUBLE | |
| SPECIFIC GRAVITY: 0.83-0.90 @ 77 DEGREES F ASTM D-1298 | |
| VISCOSITY: 13.8 CPS @ 80 DEGREES F ASTM D-2983 | |
| FREEZE POINT: 45 DEGREES F ASTM D-1177 | |
| POUR POINT: 45 DEGREES F ASTM D-97 | |
| FLASH POINT: 260 DEGREES F (PMCC) ASTM D-93 | |
| VAPOR PRESSURE:
0.6 MM HG @ 68 DEGREES F
1.3.MM HG @ 100 DEGREES F
4.4 MM HG @ 150 DEGREES F ASTM D-323 | |
| NOTE: THESE PHYSICAL PROPERTIES ARE TYPICAL VALUES FOR THIS PRODUCT. | |
| SECTION 8 FURE AND EXPLOSION INFORMATION | |
| ETACH DOINT - 260 DECREES E (DECC) ASTM D-93 | |

EXTINGUISHING MEDIA:

BASED ON THE NFPA GUIDE, USE DRY CHEMICAL, FOAM, CARBON DIOXIDE OR OTHER EXTINGUISHING AGENT SUITABLE FOR CLASS B FIRES. USE WATER TO COOL CONTAINERS EXPOSED TO FIRE. FOR LARGE FIRES, USE WATER SPRAY OR FOG, THOROUGHLY DRENCHING THE BURNING MATERIAL.

Common Name : 71-D5 ANTIFOAM Manufacturer : NALCO Internal ID: 000096 Revision Date : 01-23-1996 File Name : 000096 UNUSUAL FIRE AND EXPLOSION HAZARD: CONTAINERS EXPOSED IN A FIRE SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP LEADING TO A RUPTURE. SECTION 9 REACTIVITY INFORMATION INCOMPATIBILITY: AVOID CONTACT WITH STRONG OXIDIZERS (EG. CHLORINE, PEROXIDES, CHROMATES, NITRIC ACID, PERCHLORATES, CONCENTRATED OXYGEN, PERMANGANATES) WHICH CAN GENERATE HEAT, FIRES, EXPLOSIONS AND THE RELEASE OF TOXIC FUMES. **•STORAGE**: PRODUCT SHOULD BE STORED AT TEMPERATURES ABOVE 65 DEGREES F. IF SOLIDIFIED, WARM SLOWLY (DO NOT USE LIVE STEAM) TO 70-100 DEGREES F. FREEZING DOES NOT REDUCE THE EFFICIENCY OF THE PRODUCT WHEN PROPERLY RELIOUIFIED. THERMAL DECOMPOSITION PRODUCTS: IN THE EVENT OF COMBUSTION CO, CO2 MAY BE FORMED. DO NOT BREATHE SMOKE OR FUMES. WEAR SUITABLE PROTECTIVE EOUIPMENT. SECTION 10 PERSONAL PROTECTION EQUIPMENT **RESPIRATORY PROTECTION:** RESPIRATORY PROTECTION IS NOT NORMALLY NEEDED SINCE THE VOLATILITY AND TOXICITY ARE LÓW. IF SIGNIFICANT VAPORS, MISTS OR AEROSOLS ARE GENERATED, WEAR A NIOSH APPROVED OR EOUIVALENT RESPIRATOR. FOR LARGE SPILLS, ENTRY INTO LARGE TANKS, VESSELS OR ENCLOSED SMALL SPACES WITH INADEQUATE VENTILATION, A POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS IS RECOMMENDED. VENTILATION: GENERAL VENTILATION IS RECOMMENDED. **PROTECTIVE EQUIPMENT:** USE IMPERMEABLE GLOVES AND CHEMICAL SPLASH GOGGLES WHEN ATTACHING FEEDING EOUIPMENT OR DOING MAINTENANCE. THE AVAILABILITY OF AN EYE WASH FOUNTAIN AND SAFETY SHOWER IS RECOMMENDED. IF CLOTHING IS CONTAMINATED, REMOVE CLOTHING AND THOROUGHLY WASH THE AFFECTED AREA. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. HUMAN EXPOSURE CHARACTERIZATION: BASED ON NALCO'S RECOMMENDED PRODUCT APPLICATION AND OUR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT, THE POTENTIAL HUMAN EXPOSURE IS: MODERATE. SECTION 11 SPILL AND DISPOSAL INFORMATION IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE

Page 4

NUMBER (800) I-M-ALERT OR (800) 462-5378.

Common Name : 71-D5 ANTIFOAM Manufacturer : NALCO Internal ID : 000096 File Name : 000096 Revision Date : 01-23-1996 96 HOUR STATIC ACUTE LC50 TO FATHEAD MINNOW = 190 MG/L 96 HOUR NO OBSERVED EFFECT CONCENTRATION IS LESS THAN 100 MG/L BASED ON NO MORTALITY OR ABNORMAL EFFECTS. TOXICITY RATING: SLIGHTLY TOXIC IF RELEASED-INTO THE ENVIRONMENT, SEE CERCLA IN SECTION 14 ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION: BASED ON OUR HAZARD CHARACTERIZATION, THE POTENTIAL ENVIRONMENTAL HAZARD IS: - LOW. 'BASED ON NALCO'S RECOMMENDED PRODUCT APPLICATION AND THE PRODUCT'S CHARACTERISTICS, THE POTENTIAL ENVIRONMENTAL EXPOSURE IS: HIGH. SECTION 13 TRANSPORTATION INFORMATION PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE: ALL TRANSPORTATION MODES: PRODUCT IS NOT REGULATED DURING TRANSPORTATION SECTION 14 REGULATORY INFORMATION THE FOLLOWING REGULATIONS APPLY TO THIS PRODUCT. FEDERAL REGULATIONS: OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200: BASED ON OUR HAZARD EVALUATION, THE FOLLOWING INGREDIENTS IN THIS PRODUCT ARE HAZARDOUS AND THE REASONS ARE SHOWN BELOW. KEROSENE - SKIN IRRITANT STRAIGHT RUN MIDDLE DISTILLATES - SKIN IRRITANT ACGIH/TLV KEROSENE (OIL MIST) = TWA 5 MG/M3, STEL 10 MG/M3 PARAFFIN WAX (FUME) = TWA 2 MG/M3 ACGIH/TLV STRAIGHT RUN MIDDLE DISTILLATES (OIL MIST) = TWA 5 MG/M3, STEL 10 MG/M3 ACGIH/TLV KEROSENE (OIL MIST) = TWA 5 MG/M3 OSHA/PEL STRAIGHT RUN MIDDLE DISTILLATES (OIL MIST) = TWA 5 MG/M3 OSHA/PEL KEROSENE = TWA 100 PPM TLV MANUFACTURER'S RECOMMENDATION CERCLA, 40 CFR 117, 302: NOTIFICATION OF SPILLS OF THIS PRODUCT IS NOT REQUIRED. SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312 AND 313:

Common Name : 71-D5 ANTIFOAM Manufacturer : NALCO Internal ID : 000096 Revision Date : 01-23-1996 File Name : 000096 SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): THIS PRODUCT DOES NOT CONTAIN INGREDIENTS LISTED- IN APPENDIX A AND B AS AN EXTREMELY HAZARDOUS SUBSTANCE. SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370): OUR HAZARD EVALUATION HAS FOUND THIS PRODUCT TO BE HAZARDOUS. THE PRODUCT SHOULD BE REPORTED UNDER THE FOLLOWING EPA HAZARD CATEGORIES: XX. IMMEDIATE (ACUTE) HEALTH HAZARD -- DELAYED (CHRONIC) HEALTH HASARD. -- FIRE HAZARD -- SUDDEN RELEASE OF PRESSURE HAZARD --- REACTIVE HAZARD UNDER SARA 311 AND 312, THE EPA HAS ESTABLISHED THRESHOLD QUANTITIES FOR THE REPORTING OF HAZARDOUS CHEMICALS. THE CURRENT THRESHOLDS ARE: 500 POUNDS OR THE THRESHOLD PLANNING QUANTITY (TPQ), WHICHEVER IS LOWER, FOR EXTREMELY HAZARDOUS SUBSTANCES AND 10,000 POUNDS FOR ALL OTHER HAZARDOUS CHEMICALS. SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372): THIS PRODUCT DOES NOT CONTRIN INGREDIENTS ON THE LIST OF TOXIC CHEMICALS. TOXIC SUBSTANCES CONTROL ACT (TECA): THE CHEMICAL INGREDIENTS IN THIS PRODUCT ARE ON THE 8(B) INVENTORY LIST (40 CFR 710). FOOD AND DRUG ADMINISTRATIONS (FDA) FEDERAL FOOD, DRUG AND COSMETIC ACT: WHEN USE SITUATIONS NECESSITATE COMPLIANCE WITH FDA REGULATIONS, THIS PRODUCT IS ACCEPTABLE UNDER 21 JFR 176.210 DEFOAMING AGENTS USED IN THE MANUFACTURE OF PAPER AND FAPERESARD. RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D: CONSULT SECTION 11 FOR ROFA CLASSIFICATION. FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (FORMERLY SEC. 307), 40 CFR 116 (FORMERLY SEC. 311): NONE OF THE INGREDIENTS ARE SPECIFICALLY LISTED. CLEAN AIR ACT, SEC. 111 (40 CFR 60), SEC. 112 40 CFR 61, 1990 AMENDMENTS), SEC. 611 (40 CFR 82, CLASS I AND II OZONE DEPLETING SUBSTANCES): THIS PRODUCT CONTAINS THE FOLLS ING INGREDIENTS COVERED BY THE CLEAN AIR ACT: POLYPROPYLENE GLYCCL - SECTION 111

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

350

| Common Name : 71-D5 ANTIFOAM
Manufacturer : NALCO
Revision Date : 01-23-1996 | Internal ID : 000096
File Name : 000096 |
|---|--|
| THIS PRODUCT DOES NOT CONTAIN AN
CALIFORNIA PROPOSITION 65. | MY CHEMICALS WHICH REQUIRE WARNING UNDER |
| MICHIGAN CRITICAL MATERIALS:
THIS PRODUCT DOES NOT CONTAIN IN
MATERIALS REGISTER. | GREDIENTS LISTED ON THE MICHIGAN CRITICAL |
| -STATE RIGHT TO KNOW LAWS:
THE FOLLOWING INGREDIENT(S) ARE
TO KNOW LAWS: | DISCLOSED FOR COMPLIANCE WITH STATE RIGHT- |
| KEROSENE - | 8008-20-6 |
| OXYALKYLATE | TRADE SECRET |
| PARAFFIN WAX | 8002-74-2 |
| POLYGLYCOL | TRADE SECRET |
| POLYGLYCOL ACID ESTER | TRADE SECRET |
| STRAIGHT RUN MIDDLE DISTILLATE | 64741-44-2 |

INTERNATIONAL REGULATIONS:

THIS IS A WHMIS CONTROLLED PRODUCT UNDER THE HOUSE OF COMMONS OF CANADA BILL C-70 (CLASS D2E). THE PRODUCT CONTAINS THE FOLLOWING SUBSTANCE(S), FROM THE INGREDIENT DISCLOSURE LIST OR HAS BEEN EVALUATED BASED ON ITS TOXICOLOGICAL PROPERTIES, TO CONTAIN THE FOLLOWING HAZARDOUS INGREDIENT(S):

| CHEMICAL NAME | CAS # | & CONCENTRATION RANGE |
|---------------------------------|------------|-----------------------|
| KEROSENE | 8008-20-6 | 10-20 |
| PARAFFIN WAX | 8002-74-2 | 1-5 |
| STRAIGHT RUN MIDDLE DISTILLATES | 64741-44-2 | 40-70 |

SECTION 15 ADDITIONAL INFORMATION

NONE

SECTION 16 RISK CHARACTERIZATION

DUE TO OUR COMMITMENT TO PRODUCT STEWARDSHIP, WE HAVE EVALUATED THE HUMAN AND ENVIRONMENTAL HAZARDS AND ENPOSURES OF THIS PRODUCT. BASED ON OUR RECOMMENDED USE OF THIS PRODUCT, WE HAVE CHARACTERIZED THE PRODUCT'S GENERAL RISK. THIS INFORMATION SHOULD PROVIDE ASSISTANCE FOR YOUR OWN RISK MANAGEMENT PRACTICES. WE HAVE EVALUATED OUR PRODUCT'S RISK AS FOLLOWS:

* THE HUMAN RISK IS: LOW.

5

. THE ENVIRONMENTAL RISK IS: LOW.

ANY USE INCONSISTENT WITH NALCO'S RECOMMENDATIONS MAY AFFECT OUR RISK CHARACTERIZATION. OUR SALES REPRESENTATIVE WILL ASSIST YOU TO DETERMINE IF YOUR PRODUCT APPLICATION IS CONSISTENT WITH OUR RECOMMENDATIONS. TOGETHER WE CAN IMPLEMENT AN APPROPRIATE RISK MANAGEMENT PROCESS.

THIS PRODUCT MATERIAL SAFETY DATA SHEET-PROVIDES HEALTH AND SAFETY INFORMATION. THE PRODUCT IS TO BE USED IN APPLICATIONS CONSISTENT WITH OUR PRODUCT LITERATURE. INDIVIDUALS HANDLING THIS PRODUCT SHOULD BE INFORMED OF THE RECOMMENDED SAFETY PRECAUTIONS AND SHOULD HAVE ACCESS TO THIS INFORMATION. FOR ANY OTHER USES, EXPOSURES SHOULD BE EVALUATED SO THAT APPROPRIATE HANDLING PRACTICES AND TRAINING FROGRAMS CAN BE ESTABLISHED TO INSURE SAFE WORKPLACE OPERATIONS. PLEASE CONSULT YOUR LOCAL SALES REPRESENTATIVE FOR ANY FURTHER INFORMATION.

SECTION 17 BIBLIOGRAPHY

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TITLE 29 CODE OF FEDERAL REGULATIONS PART 1910, SUBPART Z, TOXIC AND HAZARDOUS SUBSTANCES, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, CH.

INFORMATION ON THIS MSDS HAS CHANGED. THE CHANGES ARE INDICATED BY ASTERISKS ON THE RIGHT SIDE OF ONLY THE CHANGED SECTIONS. THIS IS AN UPDATED MSDS AS

| Common Name : 71-D5 ANTIFOAM
Manufacturer : NALCO
Revision Date : 01-23-1996 | Internal ID
File Name | 000096
000096 |
|--|--------------------------|------------------|
| REQUIRED BY OSHA'S HAZARE COMMUNICATION RULE 29 CFR 1910.1200. | | |
| PRÉPARED BY: WILLIAM S. UTLEY, PHD., DABT, MANAGER, PRODUCT SAFETY | | |
| DATE CHANGED: 01/23/96
DATE PRINTED: 07/04/96 | | · |
| NALCO CHEMICAL COMPANY
ONE NALCO CENTER
NAPERVILLE, ILLINOIS 60523-1198
AREA 708-305-1000 | | |
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| nimon ame 58 Manufacturer : NALCO Internal ID : 900005 Revision Date : 01-22-1996 File Name : 900005 |
|--|
| NALCO |
| MATERIAL SAFETY DATA SHEET |
| PRODUCT: TRASAR 23268 COOLING WTR TRMT |
| EMERGENCY TELEPHONE NUMBER:
MEDICAL (800) 462-5378 (24 HOURS)
(800) I-M-ALERT |
| |
| SECTION 1 PRODUCT IDENTIFICATION |
| TRADE NAME: TRASAR 23268 COOLING "WTR TRMT |
| DESCRIPTION:
AN AQUEOUS SOLUTION OF A SUBSTITUTED TRIAZOLE AND AN ACRYLIC POLYMER with
a tracer |
| NFPA 704M/HMIS RATING:
1/2 HEALTH
1/1 FLAMMABILITY
0/0 REACTIVITY
0 OTHER |
| 0=INSIGNIFICANT 1=SLIGHT 2=MODERATE 3=HIGH 4=EXTREME |
| SECTION 2 HAZARDOUS INGREDIENTS |
| OUR HAZARD EVALUATION HAS IDENTIFIED THE FOLLOWING CHEMICAL INGREDIENT(S)
AS HAZARDOUS UNDER OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200.
CONSULT SECTION 14 FOR THE NATURE OF THE HAZARD(S). |

| INGREDIENT(S) | | | CAS # | APPROX.8 |
|----------------------|---|---|---------------------|----------|
| SODIUM TOLYLTRIAZOLE | - | - | 64665 - 57-2 | 1-5 |

SECTION 3 PRECAUTIONARY LABEL INFORMATION

WARNING:

CAUSES IRRITATION TO SKIN AND EYES. DO NOT GET IN EYES, ON SKIN OR ON CLOTHING. WEAR GOGGLES AND FACE SHIELD WHEN HANDLING. DO NOT TAKE INTERNALLY.

EMPTY CONTAINERS MAY CONTAIN RESIDUAL PRODUCT. DO NOT REUSE CONTAINER UNLESS PROPERLY RECONDITIONED.

SECTION 4 FIRST AID INFORMATION

EYES:

| Common Name : TRASAR 23268 Internal ID : 900005 Manufacturer : NALCO Internal ID : 900005 Revision Date : 01-22-1996 File Name : 900005 |
|--|
| IMMEDIATELY FLUSH WITH WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. CALL A PHYSICIAN AT ONCE. |
| SKIN: FLUSH WITH WATER FOR 15 MINUTES. |
| INGESTION: DO NOT INDUCE VOMITING. GIVE WATER. CALL A PHYSICIAN. |
| INHALATION: REMOVE TO FRESH AIR. TREAT SYMPTOMS. CALL A PHYSICIAN. |
| NOTE TO PHYSICIAN:
BASED ON THE INDIVIDUAL REACTIONS OF THE PATIENT, THE PHYSICIAN'S JUDGMENT
SHOULD BE USED TO CONTROL SYMPTOMS AND CLINICAL CONDITION. |
| CAUTION:
IF UNCONSCIOUS, HAVING TROUBLE BREATHING OR IN CONVULSIONS, DO NOT INDUCE
VOMITING OR GIVE WATER. |
| SECTION 5 HEALTH EFFECTS INFORMATION |
| PRIMARY ROUTE(S) OF EXPOSURE: EYE, SKIN |
| EYE CONTACT: CAN CAUSE MODERATE IRRITATION. |
| SKIN CONTACT: CAN CAUSE MILD, SHORT-LASTING IRRITATION. |
| SYMPTOMS OF EXPOSURE:
A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY SYMPTOMS FROM EXPOSURE NOT
PREVIOUSLY MENTIONED. |
| AGGRAVATION OF EXISTING CONDITIONS:
A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY WORSENING OF EXISTING
CONDITIONS. |
| SECTION 6 TOXICOLOGY INFORMATION |
| ACUTE TOXICITY STUDIES:
ACUTE TOXICITY STUDIES HAVE NOT BEEN CONDUCTED ON THIS PRODUCT, BUT ACUTE
STUDIES HAVE BEEN CONDUCTED ON A SIMILAR PRODUCT. THE RESULTS ARE SHOWN BELOW. |
| ACUTE ORAL TOXICITY (ALBINO RATS): LD50 = GREATER THAN 5,000 MG/KG |
| PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):
SKIN IRRITATION INDEX DRAIZE RATING: 1.28/8.0 SLIGHTLY IRRITATING |
| COMMENTS:
SWELLING DISAPPEARED AFTER 24 HOURS AND THE REDNESS DISAPPEARED TWO WEEKS AFTER
EXPOSURE. |
| PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):
EYE IRRITATION INDEX DRAIZE RATING: 23.0/110.0 MODERATELY IRRITATING |
| COMMENTS: |

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| Common Name : TRASAR 23268 | | |
|----------------------------|---|----------------------|
| Manufacturer : NALCO | | Internal ID · 900005 |
| Revision Date : 01-22-1996 | · | File Name 900005 |

AFTER ONE HOUR CONTACT REDNESS, SWELLING AND DISCHARGE OCCURRED. AFTER 24 HOURS THERE WAS SLIGHT CORNEAL OPACITY WHICH DISAPPEARED AFTER FOUR DAYS AT WHICH TIME ALL EYES WERE NORMAL.

| SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES | | | | |
|--|----------------------|---------------------------------------|--|--|
| COLOR: | CLEAR YELLOW | | | |
| FORM: | LIQUID | • • • • • • • • • • • • • • • • • • • | | |
| DENSITY: | 9.3 LBS/GAL. | | | |
| SOLUBILITY IN WATER: | COMPLETELY | | | |
| SPECIFIC GRAVITY: | 1.11 @ 77 DEGREES F | ASTM D-1298. | | |
| PH (NEAT) = | PH (AT 1%) = 11.4 | ASTM E-70 | | |
| VISCOSITY: | 7 CPS @ 74 DEGREES F | ASTM D-2983 | | |
| FREEZE POINT: | 25 DEGREES F | ASTM D-1177 | | |
| BOILING POINT: | not given | ASTM D-86 | | |
| FLASH POINT: | NONE (PMCC) | ASTM D-93 | | |
| NOTE: THESE PHYSICAL PROPERTIES ARE TYPICAL VALUES FOR THIS PRODUCT. | | | | |

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SECTION 8 FIRE AND EXPLOSION INFORMATION

NONE (PMCC) ASTM D-93 FLASH POINT:

EXTINGUISHING MEDIA:

THIS PRODUCT WOULD NOT BE EXPECTED TO BURN UNLESS ALL THE WATER IS BOILED AWAY. THE REMAINING ORGANICS MAY BE IGNITABLE. USE WATER TO COOL CONTAINERS EXPOSED TO FIRE.

UNUSUAL FIRE AND EXPLOSION HAZARD: MAY EVOLVE NOX OR SOX UNDER FIRE CONDITIONS.

SECTION:9 REACTIVITY INFORMATION

INCOMPATIBILITY: NONE KNOWN

THERMAL DECOMPOSITION PRODUCTS: IN THE EVENT OF COMBUSTION NOX, SOX MAY BE FORMED. DO NOT BREATHE SMOKE OR FUMES. WEAR SUITABLE PROTECTIVE EQUIPMENT.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

| Common Name : TRASAR 23268
Manufacturer : NALCO
Revision Date : 01-22-1996
File Name : 900005 |
|--|
| RESPIRATORY PROTECTION:
RESPIRATORY PROTECTION IS NOT NORMALLY NEEDED SINCE THE VOLATILITY AND TOXICITY
ARE LOW. IF SIGNIFICANT MISTS OR AEROSOLS ARE GENERATED, WEAR A NIOSH APPROVED
OR EQUIVALENT RESPIRATOR. |
| FOR LARGE SPILLS, ENTRY INTO LARGE TANKS, VESSELS OR ENCLOSED SMALL SPACES WITH
INADEQUATE VENTILATION, A POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS
IS RECOMMENDED. |
| VENTILATION: GENERAL VENTILATION IS RECOMMENDED. |
| PROTECTIVE EQUIPMENT:
USE IMPERMEABLE GLOVES AND CHEMICAL SPLASH GOGGLES WHEN ATTACHING FEEDING
EQUIPMENT, DOING MAINTENANCE OR HANDLING PRODUCT. EXAMPLES OF IMPERMEABLE
GLOVES AVAILABLE ON THE MARKET ARE NEOPRENE, NITRILE, PVC, NATURAL RUBBER,
VITON AND BUTYL (COMPATIBILITY STUDIES HAVE NOT BEEN PERFORMED). |
| THE AVAILABILITY OF AN EYE WASH FOUNTAIN AND SAFETY SHOWER IS RECOMMENDED. |
| IF CLOTHING IS CONTAMINATED, REMOVE CLOTHING AND THOROUGHLY WASH THE AFFECTED AREA. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. |
| SECTION 11 SOLUTIOND DISPOSAL INFORMATION |
| IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR
TELEPHONE NUMBER (800) I-M-ALERT OR (800)462-5378. |
| SPILL CONTROL AND RECOVERY: |
| SMALL LIQUID SPILLS:
CONTAIN WITH ABSORBENT MATERIAL, SUCH AS CLAY, SOIL OR ANY COMMERCIALLY
AVAILABLE ABSORBENT. SHOVEL RECLAIMED LIQUID AND ABSORBENT INTO RECOVERY OR
SALVAGE DRUMS FOR DISPOSAL. REFER TO CERCLA IN SECTION 14. |
| LARGE LIQUID SPILLS:
DIKE TO PREVENT FURTHER MOVEMENT AND RECLAIM INTO RECOVERY OR SALVAGE DRUMS OR
TANK TRUCK FOR DISPOSAL. REFER TO CERCLA IN SECTION 14. |
| DISPOSAL:
IF THIS PRODUCT BECOMES A WASTE, IT MEETS THE CRITERIA OF A HAZARDOUS WASTE AS
DEFINED UNDER THE RESOURCES CONSERVATION AND RECOVERY ACT (RCRA) 40 CFR 261.
HAZARDOUS WASTE D002. |
| AS A HAZARDOUS LIQUID WASTE, IT MUST BE SOLIDIFIED WITH STABILIZING AGENTS
(SUCH AS SAND, FLY ASH, OR CEMENT) SO THAT NO FREE LIQUID REMAINS BEFORE
DISPOSAL TO A LICENSED INDUSTRIAL WASTE LANDFILL (HAZARDOUS WASTE TREATMENT,
STORAGE AND DISPOSAL FACILITY . A HAZARDOUS LIQUID WASTE CAN ALSO BE DEEP-WELL
INJECTED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. |
| |
| SECTION 12 ENVIRONMENTAL INFORMATION |
| BIOLOGICAL OXYGEN DEMAND (5-DAY BOD) . 6.600 PPM |

Common Name : TRASAR 23268 Manufacturer : NALCO Revision Date : 01-22-1996

CHEMICAL OXYGEN DEMAND (COD): 260,000 PPM

TOTAL ORGANIC CARBON (TOC): 85,000

AQUATIC DATA:

RESULTS BELOW ARE BASED ON THE_PRODUCT.

96 HOUR STATIC ACUTE LC50 TO FATHEAD MINNOW = 418 MG/L

TOXICITY RATING: SLIGHTLY TOXIC

48 HOUR STATIC ACUTE LC50 TO CERIODEPHNIA DUBIA = 1,581 MG/L

TOXICITY RATING: ESSENTIALLY NON-TOXIC

RESULTS BELOW BASED ON A SIMILAR PRODUCT.

96 HOUR STATIC ACUTE LC50 TO BLUEGILL SUNFISH = GREATER THAN 1,000 MG/L

96 HOUR NO OBSERVED EFFECT CONCENTRATION IS 1,000 MG/L BASED ON NO MORTALITY OR ABNORMAL EFFECTS.

TOXICITY RATING: ESSENTIALLY NON-TOXIC

96 HOUR STATIC ACUTE LC50 TO RAINBOW TROUT = 710 MG/L

96 HOUR NO OBSERVED EFFECT CONCENTRATION IS 125 MG/L BASED ON NO MORTALITY OR ABNORMAL EFFECTS.

TOXICITY RATING: SLIGHTLY TOXIC

48 HOUR STATIC ACUTE LC50 TO CAPHNIA MAGNA = GREATER THAN 1,000 MG/L

48 HOUR NO OBSERVED EFFECT CONCENTRATION IS 1,000 MG/L BASED ON NO MORTALITY OR ABNORMAL EFFECTS.

TOXICITY RATING: ESSENTIALLY NON-TOXIC

IF RELEASED INTO THE ENVIRONMENT, SEE CERCLA IN SECTION 14.

SECTION 13 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES: CORROSIVE LIQUID, N.O.S.

UN/ID NO: UN 3267

HAZARD CLASS - PRIMARY: 8 - CORROSIVE

| Common Name : TRASAR 23268
Manufacturer : NALCO
Revision Date : 01-22-1996 | | | Internal ID : 900005
File Name : 900005 |
|--|----------------------------|----------|--|
| | | | - |
| PACKING GROUP: | | | _ |
| IMDG PAGE NO: | 8147-1 | | |
| IATA PACKING INSTRUCTION: | CARGO: 820 | | |
| IATA CARGO AIRCRAFT LIMIT: | 60 L (MAX NET QUANTITY PER | PACKAGE) | |
| FLASH POINT: | NCNE | | - |
| HAZARDOUS COMPONENT(S): | SODIUM TOLYLTRIAZOLE _ | - | |
| RQ LBS (PER PACKAGE): | NONE | ب | |
| RQ COMPONENT(S) | NCNE | | · |

SECTION 14 REGULATORY INFORMATION

THE FOLLOWING REGULATIONS APPLY TO THIS PRODUCT.

FEDERAL REGULATIONS:

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200: BASED ON OUR HAZARD EVALUATION, THE FOLLOWING INGREDIENT IN THIS PRODUCT IS HAZARDOUS AND THE REASON IS SHOWN BELOW.

SODIUM TOLYLTRIAZOLE - EYE IRRITANT

CERCLA/SUPERFUND, 40 CFR 117, 302: NOTIFICATION OF SPILLS OF THIS PRODUCT IS NOT REQUIRED.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): THIS PRODUCT DOES NOT CONTAIN INGREDIENTS LISTED IN APPENDIX A AND B AS AN EXTREMELY HAZARDOUS SUBSTANCE.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370): OUR HAZARD EVALUATION HAS FOUND THIS PRODUCT TO BE HAZARDOUS. THE PRODUCT SHOULD BE REPORTED UNDER THE FOLLOWING EPA HAZARD CATEGORIES:

XX IMMEDIATE (ACUTE) HEALTH HAZARD -- DELAYED (CHRONIC) HEALTH HAZARD

- -- FIRE HAZARD
- -- SUDDEN RELEASE OF PRESSURE HAZARD
- -- REACTIVE HAZARD

UNDER SARA 311 AND 312, THE EPA HAS ESTABLISHED THRESHOLD QUANTITIES FOR THE REPORTING OF HAZARDOUS CHEMICALS. THE CURRENT THRESHOLDS ARE: 500 POUNDS OR THE THRESHOLD PLANNING QUANTITY (TPQ), WHICHEVER IS LOWER, FOR EXTREMELY HAZARDOUS

Common Name : TRASAR 23268 Manufacturer : NALCO Internal ID : 900005 Revision Date : 01-22-1996 File Name : 900005 SUBSTANCES AND 10,000 POUNDS FOR ALL OTHER HAZARDOUS CHEMICALS. SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372): THIS PRODUCT DOES NOT CONTAIN INGREDIENTS ON THE LIST OF TOXIC CHEMICALS. TOXIC SUBSTANCES CONTROL ACT (TSCA) : THE CHEMICAL INGREDIENTS IN THIS PRODUCT ARE ON THE 8(B) INVENTORY LIST _(40 CFR 710). -----:-<u>--------</u>____ RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D: CONSULT SECTION 11 FOR RCRA CLASSIFICATION. FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15/ FORMERLY SEC. 307, "40 CFR 116/FORMERLY SEC. 311: THIS PRODUCT CONTAINS THE FOLLOWING INGREDIENTS COVERED BY THE CLEAN WATER ACT: NONE OF THE INGREDIENTS ARE SPECIFICALLY LISTED. CLEAN AIR ACT, SEC. 111 (40 CFR 60), SEC. 112 (40 CFR 61, 1990 AMENDMENTS), SEC. 611 (40 CFR 82, CLASS I AND II OZONE DEPLETING SUBSTANCES): THIS PRODUCT DOES NOT CONTAIN INGREDIENTS COVERED BY THE CLEAN AIR ACT. STATE REGULATIONS: CALIFORNIA PROPOSITION 65: THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS WHICH REQUIRE WARNING UNDER CALIFORNIA PROPOSITION 65. MICHIGAN CRITICAL MATERIALS: THIS PRODUCT DOES NOT CONTAIN INGREDIENTS LISTED ON THE MICHIGAN CRITICAL MATERIALS REGISTER: STATE RIGHT TO KNOW LAWS: THE FOLLOWING INGREDIENT(S) ARE DISCLOSED FOR COMPLIANCE WITH STATE RIGHT TO KNOW LAWS: TRADE SECRET ACRYLIC POLYMER SODIUM TOLYLTRIAZOLE 64655-57-2 7731-18-5 WATER INTERNATIONAL REGULATIONS: THIS IS A WHMIS CONTROLLED PRODUCT UNDER THE HOUSE OF COMMONS OF CANADA BILL C-70 (CLASS D2B). THE PRODUCT CONTAINS THE FOLLOWING SUBSTANCE(S), FROM THE INGREDIENT DISCLOSURE LIST OR HAS BEEN EVALUATED BASED ON ITS TOXICOLOGICAL PROPERTIES, TO CONTAIN THE FOLLOWING HAZARDOUS INGREDIENT(S): CRS # % CONCENTRATION RANGE CHEMICAL NAME SODIUM TOLYLTRIAZOLE 64665-57-2 1 - 5

Page 7
Common Name : TRASAR 23268 Manufacturer : NALCO Revision Date : 01-22-1996

Internal ID : 900005 File Name : 900005

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SECTION

ECTION 15 ADDITIONAL INFORMATION

NONE

SECTION 16 USER S RESPONSIBILITY

THIS PRODUCT MATERIAL SAFETY DATA SHEET PROVIDES HEALTH AND SAFETY INFORMATION. THE PRODUCT IS TO BE USED IN APPLICATIONS CONSISTENT WITH OUR PRODUCT LITERATURE: INDIVIDUALS HANDLING THIS PRODUCT SHOULD BE INFORMED OF THE RECOMMENDED SAFETY PRECAUTIONS AND SHOULD HAVE ACCESS TO THIS INFORMATION. FOR ANY OTHER USES, EXPOSURES SHOULD BE EVALUATED SO THAT APPROPRIATE HANDLING PRACTICES AND TRAINING PROGRAMS CAN BE ESTABLISHED TO ENSURE SAFE WORKPLACE OPERATIONS. PLEASE CONSULT YOUR LOCAL SALES REPRESENTATIVE FOR ANY FURTHER INFORMATION.

SECTION 17 BIBLIOGRAPHY

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TITLE 29 CODE OF FEDERAL REGULATIONS PART 1910, SUBPART Z, TOXIC AND HAZARDOUS SUBSTANCES, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, OH.

Common Name : TRASAR 23268 Manufacturer : NALCO Revision Date : 01-22-1996 Internal ID : 900005 File Name : 900005 PREPARED BY: William S. Utley, PHD., DABT, Manager, Product Safety 01/22/96 DATE PRINTED: 04/04/98 DATE CHANGED: NALCO CHEMICAL COMPANY ONE NALCO CENTER NAPERVILLE, ILLINOIS 60563-11%-AREA 630-305-1000

| Common Name : A+Z+LITE 7356 |
|-----------------------------|
| Manufacturer : NALCO |
| Revision Date +08-17-1993 |

Internal ID : 000159 File Name : 000159

NALCO

MATERIAL SAFETY DATA SHEET

PRODUCT: NALCO A+Z+LITE 7356

EMERGENCY TELEPHONE NUMBER: MEDICAL (800) 462-5378 (24 HOURS) (800) I-M-ALERT

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO A+Z+LITE 7356

DESCRIPTION: AN AQUEOUS SOLUTION OF A ZINC SALT, A SUBSTITUTED CARBOXYLIC ACID AND PHOSPHORIC ACID

NFPA 704M/HMIS RATING: 1/1 HEALTH 0/0 FLAMMABILITY 0/0 REACTIVITY

0 OTHER

0=INSIGNIFICANT 1=SLIGHT 2=MODERATE 3=HIGH 4=EXTREME

SECTION 2 HAZARDOUS INGREDIENTS

OUR HAZARD EVALUATION HAS IDENTIFIED THE FOLLOWING CHEMICAL INGREDIENT(S) AS HAZARDOUS UNDER OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200. CONSULT SECTION 14 FOR THE NATURE OF THE HAZARD(S).

| INGREDIENT (S) | CAS # | APPROX.8 |
|-----------------|-----------|----------|
| PHOSPHORIC ACID | 7664-38-2 | 5-10 |
| ZINC CHLORIDE | 7646-85-7 | 1-5 |

SECTION 3 PRECAUTIONARY LABEL INFORMATION

WARNING:

CAUSES IRRITATION TO SKIN AND EYES. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING. WEAR GOGGLES AND FACE SHIELD WHEN HANDLING. AVOID PROLONGED OR REPEATED BREATHING OF VAPOR. USE WITH ADEQUATE VENTILATION. DO NOT TAKE INTERNALLY. KEEP CONTAINER CLOSED WHEN NOT IN USE.

EMPTY CONTAINERS MAY CONTAIN RESIDUAL PRODUCT. DO NOT REUSE CONTAINER UNLESS PROPERLY RECONDITIONED.

SECTION 4 FIRST AID INFORMATION

EYES: FLUSH WITH WATER FOR 15 MINUTES. CALL A PHYSICIAN.

SKIN: FLUSH WITH WATER FOR 15 MINUTES.

INGESTION: DO NOT INDUCE VOMITING. GIVE WATER. CALL A PHYSICIAN.

INHALATION: REMOVE TO FRESH AIR. TREAT SYMPTOMS. CALL A PHYSICIAN.

NOTE TO PHYSICIAN:

BASED ON THE INDIVIDUAL REACTIONS OF THE PATIENT, THE PHYSICIAN'S JUDGMENT SHOULD BE USED TO CONTROL SYMPTOMS AND CLINICAL CONDITION.

CAUTION:

IF UNCONSCIOUS, HAVING TROUBLE BREATHING OR IN CONVULSIONS, DO NOT INDUCE VOMITING OR GIVE WATER.

SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: EYE, SKIN

EYE CONTACT: CAN CAUSE MILD, SHORT-LASTING IRRITATION.

SKIN CONTACT: CAN CAUSE MILD, SHORT-LASTING IRRITATION.

SYMPTOMS OF EXPOSURE: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY SYMPTOMS FROM EXPOSURE NOT PREVIOUSLY MENTIONED.

AGGRAVATION OF EXISTING CONDITIONS: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY WORSENING OF EXISTING CONDITIONS.

SECTION 6 TOXICOLOGY INFORMATION

TOXICITY STUDIES: TOXICITY STUDIES HAVE BEEN CONDUCTED ON THIS PRODUCT. THE RESULTS ARE SHOWN BELOW.

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS): SKIN IRRITATION INDEX DRAIZE RATING: 1.6/8.0 MINIMALLY IRRITATING

COMMENTS: REDNESS AND SWELLING WERE NOTED IMMEDIATELY UPON REMOVAL OF THE OCCLUSIVE DRESSING. AT 24 HOURS, THREE OF THE SIX RABBITS STILL EXHIBITED REDNESS. THIS REDNESS SLOWLY SUBSIDED SO THAT BY DAY SEVEN ALL RABBITS HAD RETURNED TO NORMAL.

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS): EYE IRRITATION INDEX DRAIZE RATING: 13/110.0 MINIMALLY IRRITATING

| Common Name : A+Z+LITE 7356
Manufacturer : NALCO
Revision Date - 08-17-1993 | Internal ID : (| Internal ID : 000159 |
|---|-----------------|----------------------|
| | | File Name : 000159 |
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COMMENTS:

NO CORNEAL OPACITY WAS NOTED AT ANY SCORING INTERVAL. SLIGHT IRITIS WAS OBSERVED ON DAYS 1, 2 AND 3 IN TWO OF SIX ANIMALS. THIS CLEARED BY DAY SEVEN. MODERATE TO SEVERE CONJUNCTIVAL IRRITATION WAS NOTED AMONG ALL SIX RABBITS. BY DAY SEVEN ALL BUT ONE RABBIT HAD RETURNED TO NORMAL.

| SECT | ION 7 PHYSICAL AND CHEMICAL PROPERT | ES |
|----------------------|-------------------------------------|-------------|
| COLOR: | CLEAR COLORLESS TO LIGHT YELLOW | |
| FORM: | LIQUID | |
| ODOR: | NONE | |
| DENSITY: | 9.2-9.4 LBS/GAL. | |
| SOLUBILITY IN WATER: | COMPLETELY | |
| SPECIFIC GRAVITY: | 1.10-1.13 @ 60 DEGREES F | ASTM D-1298 |
| PH (NEAT) = | 0.2-0.8 | ASTM E-70 |
| VISCOSITY: | 4 CPS @ 60 DEGREES F | ASTM D-2983 |
| FREEZE POINT: | 20 DEGREES F | ASTM D-1177 |
| BOILING POINT: | 210 DEGREES F @ 760 MM HG | ASTM D-86 |
| FLASH POINT: | NONE (PMCC) | ASTM D-93 |
| | | |

NOTE: THESE PHYSICAL PROPERTIES ARE TYPICAL VALUES FOR THIS PRODUCT.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: NONE (PMCC) ASTM D-93

EXTINGUISHING MEDIA: NOT APPLICABLE

UNUSUAL FIRE AND EXPLOSION HAZARD: CONTACT WITH REACTIVE METALS (EG. ALUMINUM) MAY RESULT IN THE GENERATION OF FLAMMABLE HYDROGEN GAS.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY:

AVOID ALKALINE MATERIALS (EG. AMMONIA AND ITS SOLUTIONS, CARBONATES, SODIUM HYDROXIDE (CAUSTIC), POTASSIUM HYDROXIDE, CALCIUM HYDROXIDE (LIME), CYANIDES, SULFIDES, HYPOCHLORITES, CHLORITES) WHICH CAN GENERATE HEAT WITH SPLATTERING OR BOILING AND THE RELEASE OF TOXIC FUMES. Common Name : A+Z+LITE 7356 Manufacturer : NALCO Revision Date ->08-17-1993

AVOID CONTACT WITH ALUMINUM. CORROSIVE TO ALUMINUM.

THERMAL DECOMPOSITION PRODUCTS:

IN THE EVENT OF COMBUSTION CO, CO2 MAY BE FORMED. DO NOT BREATHE SMOKE OR FUMES. WEAR SUITABLE PROTECTIVE EQUIPMENT.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION:

IF IT IS POSSIBLE TO GENERATE SIGNIFICANT LEVELS OF VAPORS OR MISTS, A NIOSH APPROVED OR EQUIVALENT ACID GAS CARTRIDGE RESPIRATOR IS RECOMMENDED.

FOR LARGE SPILLS, ENTRY INTO LARGE TANKS, VESSELS OR ENCLOSED SMALL SPACES WITH INADEQUATE VENTILATION, A POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS IS RECOMMENDED.

VENTILATION: GENERAL VENTILATION IS RECOMMENDED.

PROTECTIVE EQUIPMENT:

USE IMPERMEABLE GLOVES AND CHEMICAL SPLASH GOGGLES WHEN ATTACHING FEEDING EQUIPMENT, DOING MAINTENANCE OR HANDLING PRODUCT. EXAMPLES OF IMPERMEABLE GLOVES AVAILABLE ON THE MARKET ARE NEOPRENE, NITRILE, PVC, NATURAL RUBBER, VITON AND BUTYL (COMPATIBILITY STUDIES HAVE NOT BEEN PERFORMED).

THE AVAILABILITY OF AN EYE WASH FOUNTAIN AND SAFETY SHOWER IS RECOMMENDED.

IF CLOTHING IS CONTAMINATED, REMOVE CLOTHING AND THOROUGHLY WASH THE AFFECTED AREA. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (800) I-M-ALERT OR (800) 462-5378.

SPILL CONTROL AND RECOVERY:

SMALL LIQUID SPILLS: CONTAIN WITH ABSORBENT MATERIAL, SUCH AS CLAY, SOIL OR ANY COMMERCIALLY AVAILABLE ABSORBENT. SHOVEL RECLAIMED LIQUID AND ABSORBENT INTO RECOVERY OR SALVAGE DRUMS FOR DISPOSAL. REFER TO CERCLA IN SECTION 14.

LARGE LIQUID SPILLS: DIKE TO PREVENT FURTHER MOVEMENT AND RECLAIM INTO RECOVERY OR SALVAGE DRUMS OR TANK TRUCK FOR DISPOSAL. REFER TO CERCLA IN SECTION 14.

FOR LARGE INDOOR SPILLS, EVACUATE EMPLOYEES AND VENTILATE AREA. THOSE RESPONSIBLE FOR CONTROL AND RECOVERY SHOULD WEAR THE PROTECTIVE EQUIPMENT SPECIFIED IN SECTION 10.

DISPOSAL: IF THIS PRODUCT BECOMES A WASTE, IT MEETS THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED UNDER THE RESOURCES CONSERVATION AND RECOVERY ACT (RCRA) 40 CFR 261.

| Common Name : A+Z+LITE 7356 | Internal ID : 000150 |
|---|---------------------------------------|
| Revision Date: 08-17-1993 | File Name : 000159 |
| HAZARDOUS WASTE DO02. | |
| AS A HAZARDOUS LIQUID WASTE, IT SHOULD BE SOLIDIFIED WITH STABILIZING
(SUCH AS SAND, FLY ASH, OR CEMENT) SO THAT NO FREE LIQUID REMAINS BEFO
DISPOSAL TO AN INDUSTRIAL WASTE LANDFILL. A HAZARDOUS LIQUID WASTE CAN
DEEP-WELL INJECTED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULA | AGENTS
DRE
N ALSO BE
ATIONS. |
| SECTION 12 ENVIRONMENTAL INFORMATION | |
| AQUATIC DATA: | |
| 96 HOUR STATIC ACUTE LC50 TO BLUEGILL SUNFISH = 700 MG/L | |
| 96 HOUR NO OBSERVED EFFECT CONCENTRATION IS 180 MG/L BASED ON NO MORTA
ABNORMAL EFFECTS. | ALITY OR |
| TOXICITY RATING: SLIGHTLY TOXIC | |
| 96 HOUR STATIC ACUTE LC50 TO RAINBOW TROUT = 8.7 MG/L | |
| 96 HOUR NO OBSERVED EFFECT CONCENTRATION IS 2.5 MG/L BASED ON NO MORTA
ABNORMAL EFFECTS. | ALITY OR |
| TOXICITY RATING: TOXIC | |
| 96 HOUR STATIC ACUTE LC50 TO MYSID SHRIMP = 26.9 MG/L | |
| 96 HOUR NOEC = 15 Mg/L | |
| TOXICITY RATING: MODERATELY TOXIC | |
| IF RELEASED INTO THE ENVIRONMENT, SEE CERCLA IN SECTION 14. | |

SECTION 13 TRANSPORTATION INFORMATION

| PROPER SHIPPING NAME/HAZA | ARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE |
|---------------------------|---|
| OF TRANSPORTATION. TYPICA | AL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE: |
| ALL TRANSPORTATION MODES: | CORROSIVE LIQUID, N.O.S. |
| UN/ID NO: | UN 1760 |
| HAZARD CLASS - PRIMARY: | 8 - CORROSIVE |
| PACKING GROUP: | III |
| IMDG PAGE NO: | 8147 |
| IATA NOTE: | P:818 C:820 |
| IATA LIMIT: | C: 60 L |
| | |
| | Page 5 |
| | |

| Common Name : A+Z+LITE 7356
Manufacturer : NALCO
Revision Date : 08-17-1993 | Internal ID : 000159
File Name : 000159 |
|--|---|
| FLASH POINT: | NONE |
| HAŻARDOUS COMPONENT(S): | PHOSPHORIC ACID, ZINC CHLORIDE |
| RQ LBS (PER PACKAGE): | 24,000 |
| RQ COMPONENT(S) | ZINC CHLORIDE |
| CTT C | |
| SEC. | TION 14 REGULATORY INFORMATION |
| THE FOLLOWING REGULATIONS | APPLY TO THIS PRODUCT. |
| FEDERAL REGULATIONS: | |
| OSHA HAZARD COMMUNICATION
BASED ON OUR HAZARD EVALUA
ARE HAZARDOUS AND THE REAS | RULE, 29 CFR 1910.1200:
TION, THE FOLLOWING INGREDIENTS IN THIS PRODUCT
ONS ARE SHOWN BELOW. |
| PHOSPHORIC ACID = TWA
ZINC CHLORIDE (FUME) = TWA | 1 MG/M3, STEL 3 MG/M3 ACGIH/TLV
1 MG/M3, STEL 2 MG/M3 ACGIH/TLV |
| PHOS PHORIC ACID = TWA
ZINC CHLORIDE (FUME) = TWA | 1 MG/M3, STEL 3 MG/M3 OSHA/PEL
1 MG/M3, STEL 2 MG/M3 OSHA/PEL |
| CERCLA/SUPERFUND, 40 CFR 1
THIS PRODUCT CONTAINS ZINC
24,000 POUNDS OF PRODUCT A
RESPONSE CENTER, WASHINGTO | 17, 302:
CHLORIDE A REPORTABLE QUANTITY (RQ) SUBSTANCE AND IF
RE RELEASED, IT REQUIRES NOTIFICATION TO THE NATIONAL
N, D.C. (1-800-424-8802). |
| SARA/SUPERFUND AMENDMENTS
(TITLE III) - SECTIONS 302 | AND REAUTHORIZATION ACT OF 1986
, 311, 312 AND 313: |
| SECTION 302 - EXTREMELY HA
THIS PRODUCT DOES NOT CONT
EXTREMELY HAZARDOUS SUBSTA | ZARDOUS SUBSTANCES (40 CFR 355):
AIN INGREDIENTS LISTED IN APPENDIX A AND B AS AN
NCE. |
| SECTIONS 311 AND 312 - MAT
370):
OUR HAZARD EVALUATION HAS
SHOULD BE REPORTED UNDER T | ERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR
FOUND THIS PRODUCT TO BE HAZARDOUS. THE PRODUCT
HE FOLLOWING EPA HAZARD CATEGORIES: |
| XX IMMEDIATE (ACUTE) HEALT
DELAYED (CHRONIC) HEALT
FIRE HAZARD
SUDDEN RELEASE OF PRESS
REACTIVE HAZARD | H HAZARD
H HAZARD
URE HAZARD |
| UNDER SARA 311 AND 312, TH
REPORTING OF HAZARDOUS CHE
THRESHOLD PLANNING QUANTIT | E EPA HAS ESTABLISHED THRESHOLD QUANTITIES FOR THE
MICALS. THE CURRENT THRESHOLDS ARE: 500 POUNDS OR THE
Y (TPQ), WHICHEVER IS LOWER, FOR EXTREMELY HAZARDOUS |

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

SUBSTANCES AND 10,000 POUNDS FOR ALL OTHER HAZARDOUS CHEMICALS.

| Common Name : A+Z+LITE 7356 Internal ID : 000159 Manufacturer : NALCO Internal ID : 000159 Revision Date :: 08-17-1993 File Name : 000159 |
|--|
| THIS PRODUCT CONTAINS THE FOLLOWING INGREDIENT(S), (WITH CAS # AND % RANGE)
WHICH APPEAR(S) ON THE LIST OF TOXIC CHEMICALS. |
| PHOSPHORIC ACID 7664-38-2 5-10 ZINC CHLORIDE 7646-85-7 1-5 |
| TOXIC SUBSTANCES CONTROL ACT (TSCA):
THE CHEMICAL INGREDIENTS IN THIS PRODUCT ARE ON THE 8(B) INVENTORY LIST
(40 CFR 710). |
| U.S. DEPARTMENT OF AGRICULTURE (USDA):
USDA INSPECTION AND GRADING PROGRAMS - FOOD SAFETY AND INSPECTION SERVICE:
THIS PRODUCT IS AUTHORIZED BY USDA FOR USE IN FEDERALLY INSPECTED MEAT AND
POULTRY PLANTS. AUTHORIZED USE IS UNDER CATEGORY G5, FOR TREATMENT OF COOLING
AND RETORT WATER; AND G7, TREATING BOILERS, STEAM LINES, AND/OR COOLING
SYSTEMS. THE FOLLOWING LIMITATIONS APPLY FOR G7: NO CONTACT WITH EDIBLE
PRODUCTS. |
| RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
CONSULT SECTION 11 FOR RCRA CLASSIFICATION. |
| FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15
(FORMERLY SEC. 307), 40 CFR 116/FORMERLY SEC. 311:
THIS PRODUCT CONTAINS THE FOLLOWING INGREDIENTS COVERED BY THE CLEAN WATER
ACT: |
| ZINC CHLORIDE - SECTION 307, 311
PHOSPHORIC ACID - SECTION 311 |
| CLEAN AIR ACT, SEC. 111 (40 CFR 60), SEC. 112 (40 CFR 61, 1990 AMENDMENTS),
SEC. 611 (40 CFR 82, CLASS I AND II OZONE DEPLETING SUBSTANCES):
THIS PRODUCT DOES NOT CONTAIN INGREDIENTS COVERED BY THE CLEAN AIR ACT. |
| STATE REGULATIONS: |
| CALIFORNIA PROPOSITION 65:
THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS WHICH REQUIRE WARNING UNDER
CALIFORNIA PROPOSITION 65. |
| MICHIGAN CRITICAL MATERIALS:
THIS PRODUCT CONTAINS THE FOLLOWING SUBSTANCE(S) IDENTIFIED ON THE MICHIGAN
CRITICAL MATERIALS REGISTER:
ZINC CHLORIDE |
| STATE RIGHT TO KNOW LAWS: |
| REGULATED IN THOSE STATE USING THE TLV FOR ZINC CHLORIDE, PHOSPHORIC ACID AS A CRITERIA FOR LISTING. |

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| Manufacturer : NALCO
Revision Date - 08-17-1993 | | Internal ID : 000159
File Name : 000159 |
|--|--|--|
| INTERNATIONAL REGULATIONS:
THIS IS A WHMIS CONTROLLED P
70: THE PRODUCT CONTAINS THE
DISCLOSURE LIST OR HAS BEEN
CONTAIN THE FOLLOWING HAZARD | RODUCT UNDER THE H
FOLLOWING SUBSTAN
EVALUATED BASED ON
OUS INGREDIENT(S): | HOUSE OF COMMONS OF CANADA BILL C-
ICE(S), FROM THE INGREDIENT
I ITS TOXICOLOGICAL PROPERTIES, TO |
| CHEMICAL NAME | CAS # | % CONCENTRATION RANGE |
| PHOSPHORIC ACID
ZINC CHLORIDE | 7664-38-2
7646-85-7 | 5-10
1-5 |
| SECTI | ON 15 ADDITIONAL I | NFORMATION |
| NONE | | |
| SECT | ION 16 USER'S RESE | ONSIBILITY |
| THIS PRODUCT MATERIAL SAFETY
THE PRODUCT IS TO BE USED IN
LITERATURE. INDIVIDUALS HAND
RECOMMENDED SAFETY PRECAUTION
ANY OTHER USES, EXPOSURES SHO
PRACTICES AND TRAINING PROGR | DATA SHEET PROVID
APPLICATIONS CONS
LING THIS PRODUCT
NS AND SHOULD HAVE
OULD BE EVALUATED
AMS CAN BE ESTABLI | DES HEALTH AND SAFETY INFORMATION.
SISTENT WITH OUR PRODUCT
SHOULD BE INFORMED OF THE
CACCESS TO THIS INFORMATION. FOR
SO THAT APPROPRIATE HANDLING
SHED TO ENSURE SAFE WORKPLACE |

SECTION 17 BIBLIOGRAPHY

INFORMATION.

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PATTY'S INDUSTRIAL HYGIENE AND TOXICOLOGY, CLAYTON, G. D., CLAYTON, F. E., EDS., JOHN WILEY AND SONS, N. Y., 3RD EDITION, VOL. 2 A-C, 1981.

REGISTRY OF TOXIC EFFECTS ON CHEMICAL SUBSTANCES, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, PUBLIC HEALTH SERVICE, CENTER FOR DISEASE CONTROL, NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH, 1983

Common Name : A+Z+LITE 7356 Manufacturer : NALCO Internal ID: 000159 Revision Date + 08-17-1993 File Name : 000159 SUPPLEMENT OF 1981-1982 EDITION, VOL. 1-3, OH, 1984. . 4 TITLE 29 CODE OF FEDERAL REGULATIONS PART 1910, SUBPART Z, TOXIC AND HAZARDOUS SUBSTANCES, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, OH. RICKY A. STACKHOUSE PHD., TOXICOLOGIST PREPARED BY: 08/17/93 DATE CHANGED: DATE PRINTED: 11/18/95 NALCO CHEMICAL COMPANY ONE NALCO CENTER NAPERVILLE, ILLINOIS 60563-1198 AREA 708-305-1000

Common Name : NALSPERSE 7348 BIODISPERSANT Manufacturer : NALCO Internal ID : 000097 File Name : 000097 Revision / ate : 09-06-1996 F NALCO MATERIAL SAFETY DATA SHEET PRODUCT NALSPERSE 7348 BIODISPERSANT EMERGENCY TELEPHONE NUMBER MEDICAL (708) 920-1510 (24 HOURS) SECTION 1 PRODUCT IDENTIFICATION TRADE NAME: NALSPERSE 7348 BIODISPERSANT DESCRIPTION: A POLYGLYCOL NFPA 704M/HMIS RATING: 0/1 HEALTH 1/1 FLAMMABILITY 0/0 REACTIVITY **OTHER** 0 0=INSIGNIFICANT 1=SLIGHT 2=MODERATE 3=HIĠH 4=EXTREME SECTION 2 HAZARDOUS INGREDIENTS

OUR HAZARD EVALUATION OF THE INGREDIENT(S) UNDER OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 HAS FOUND NONE OF THE INGREDIENT(S) HAZARDOUS.

SECTION 3 PRECAUTIONARY LABEL INFORMATION

CAUTION:

MAY ¢AUSE IRRITATION TO SKIN AND EYES. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. DO NOT TAKE INTERNALLY.

EMPTY CONTAINERS MAY CONTAIN RESIDUAL PRODUCT. DO NOT REUSE CONTAINER UNLESS PROPERLY RECONDITIONED.

SECTION 4 FIRST AID INFORMATION

EYES: FLUSH WITH WATER FOR 15 MINUTES. CALL A PHYSICIAN.

SKIN: FLUSH WITH WATER FOR 15 MINUTES.

INGESTION: DO NOT INDUCE VOMITING. GIVE WATER. CALL A PHYSICIAN.

Common Name : NALSPERSE 7348 BIODISPERSANT Manufacturer : NALCO Revision Date : 09-06-1996 Internal ID: 000097 File Name : 000097 INHAL'ATION: REMOVE TO FRESH AIR. TREAT SYMPTOMS. CALL A PHYSICIAN. • • NOTE TO PHYSICIAN: BASED ON THE INDIVIDUAL REACTIONS OF THE PATIENT, THE PHYSICIAN'S JUDGMENT SHOULD BE USED TO CONTROL SYMPTOMS AND CLINICAL CONDITION. CAUTION: IF UNCONSCIOUS, HAVING TROUBLE BREATHING OR IN CONVULSIONS, DO NOT INDUCE VOMITING OR GIVE WATER. SECTION 5 HEALTH EFFECTS INFORMATION PRIMARY ROUTE(S) OF EXPOSURE: EYE, SKIN MAY CAUSE IRRITATION WITH PROLONGED CONTACT. EYE CONTACT: SKIN CONTACT: MAY CAUSE IRRITATION WITH PROLONGED CONTACT. SYMPTOMS OF EXPOSURE: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY SYMPTOMS FROM EXPOSURE NOT PREVIOUSLY MENTIONED. AGGRAVATION OF EXISTING CONDITIONS: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY WORSENING OF EXISTING CONDITIONS. 1 SECTION 6 TOXICOLOGY INFORMATION ACUTE TOXICITY STUDIES: ACUTE TOXICITY STUDIES HAVE BEEN CONDUCTED ON THIS PRODUCT. THE RESULTS ARE SHOWN BELOW. ACUTE ORAL TOXICITY (ALBINO RATS): LD50 = 2,229 MG/KG 95% CONFIDENCE LIMIT = 1,400 - 3,085 MG/KG TOXICITY RATING: MODERATELY TOXIC COMMENTS: PHARMOCOTOXIC SIGNS NOTED FOLLOWING PRODUCT ADMINISTRATION INCLUDED ANOREXIA, DIARRHEA, DECREASED ACTIVITY, SALIVATION, AND ATAXIA. ALL SURVIVING ANIMALS APPEARED NORMAL 72-HOURS POST DOSING. DEATHS OCCURRED 24-48 HOURS AFTER ADMINISTRATION OF THE TEST ARTICLE. PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS): SKIN IRRITATION INDEX DRAIZE RATING: 0.57/8.0 SLIGHTLY IRRITATING COMMENTS: APPLICATION OF 0.5 ML TO A 6 CM2 SITE ON THE SHAVEN BACK OF EACH OF A GROUP OF SIX ALBINO RABBITS (4-HOUR OCCLUDED CONTACT) RESULTED IN VERY MILD REDNESS AND NO SWELLING. AT THE END OF 72-HOURS, ALL SITES HAD RETURNED TO NORMAL.

| Common Name : NALSPERSE 7348 BIODISPERSANT
Manufacturer : NALCO
Revision Date : 09-06-1996 | Internal ID : 000097
File Name : 000097 |
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| · · · | |
| PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):
EYE IRRITATION INDEX DRAIZE RATING: 2.7/110.0 M | INIMALLY IRRITATING |
| COMMENTS:
INSTILLATION OF 0.1 ML INTO THE CONJUNCTIVAL SAC
OF SIX ALBINO RABBITS PRODUCED VERY SLIGHT REDNES
BY THE END OF 24-HOURS, ALL EYES HAD ESSENTIALLY | OF ONE EYE OF EACH OF A GROUP
S ONE HOUR AFTER INSTILLATION.
RETURNED TO NORMAL. |
| HUMAN HAZARD CHARACTERIZATION:
BASED ON OUR HAZARD CHARACTERIZATION, THE POTENTI | AL HUMAN HAZARD IS: LOW |
| SECTION 7 PHYSICAL AND CHEMICA | L PROPERTIES |
| COLOR: CLEAR | |
| FORM: LIQUID | |
| ODOR: NONE | |
| DENSITY: 8.5 LBS/GAL. | |
| SOLUBILITY IN WATER: INSOLUBLE | |
| SPECIFIC GRAVITY: 1.00-1.04 @ 68 DEGREES F | ASTM D-1298 |
| PH $(AT 2.5\%) = 5.0 - 7.5$ | ASTM E-70 |
| VISCOSITY: 273 CPS @ 78 DEGREES F A | STM D-2983 |
| FREEZE POINT: NONE | ASTM D-1177 |
| FLASH POINT: GREATER THAN 200 DEGREES F (PMCC) | ASTM D-93 |
| VAPOR PRESSURE: LESS THAN 0.01MM HG @ 68 DEGREES | F ASTM D-323 |
| VOLATILE ORGANIC
COMPOUND (VOC): 0.06 LBS/GAL. | EPA METHOD 24 |
| NOTE: THESE PHYSICAL PROPERTIES ARE TYPICAL VALU | ES FOR THIS PRODUCT. |
| SECTION 8 FIRE AND EXPLOSION | INFORMATION |
| FLASH POINT: GREATER THAN 200 DEGREES F (PMCC) A | .STM D-93 |
| EXTINGUISHING MEDIA: | |

BASED ON THE NFPA GUIDE, USE DRY CHEMICAL, FOAM, CARBON DIOXIDE OR OTHER EXTINGUISHING AGENT SUITABLE FOR CLASS B FIRES. USE WATER TO COOL CONTAINERS EXPOSED TO FIRE. FOR LARGE FIRES, USE WATER SPRAY OR FOG, THOROUGHLY DRENCHING THE BURNING MATERIAL.

UNUSUAL FIRE AND EXPLOSION HAZARD: NONE

Common Name : NALSPERSE 7348 BIODISPERSANT Manufacturer : NALCO Revision Date : 09-06-1996

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY:

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AVOID CONTACT WITH STRONG OXIDIZERS (EG. CHLORINE, PEROXIDES, CHROMATES, NITRIC ACID, PERCHLORATES, CONCENTRATED OXYGEN, PERMANGANATES) WHICH CAN GENERATE HEAT, FIRES, EXPLOSIONS AND THE RELEASE OF TOXIC FUMES.

THERMAL DECOMPOSITION PRODUCTS: IN THE EVENT OF COMBUSTION CO, CO2 MAY BE FORMED. DO NOT BREATHE SMOKE OR FUMES. WEAR SUITABLE PROTECTIVE EQUIPMENT.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION:

RESPIRATORY PROTECTION IS NOT NORMALLY NEEDED SINCE THE VOLATILITY AND TOXICITY ARE LOW. IF SIGNIFICANT VAPORS, MISTS OR AEROSOLS ARE GENERATED, WEAR A NIOSH APPROVED OR EQUIVALENT RESPIRATOR.

FOR LARGE SPILLS, ENTRY INTO LARGE TANKS, VESSELS OR ENCLOSED SMALL SPACES WITH INADEQUATE VENTILATION, A POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS IS RECOMMENDED.

VENTILATION:

GENERAL VENTILATION IS RECOMMENDED. ADDITIONALLY, LOCAL EXHAUST VENTILATION IS RECOMMENDED WHERE VAPORS, MISTS OR AEROSOLS MAY BE RELEASED.

PROTECTIVE EQUIPMENT:

USE IMPERMEABLE GLOVES AND CHEMICAL SPLASH GOGGLES WHEN ATTACHING FEEDING EQUIPMENT, DOING MAINTENANCE OR HANDLING PRODUCT. EXAMPLES OF IMPERMEABLE GLOVES AVAILABLE ON THE MARKET ARE NEOPRENE, NITRILE, PVC, NATURAL RUBBER, VITON, AND BUTYL (COMPATIBILITY STUDIES HAVE NOT BEEN PERFORMED).

THE AVAILABILITY OF AN EYE WASH FOUNTAIN AND SAFETY SHOWER IS RECOMMENDED.

IF ¢LOTHING IS CONTAMINATED, REMOVE CLOTHING AND THOROUGHLY WASH THE AFFECTED AREA. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

HUMAN EXPOSURE CHARACTERIZATION: BASED ON NALCO'S RECOMMENDED PRODUCT APPLICATION AND OUR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT, THE POTENTIAL HUMAN EXPOSURE IS: MODERATE.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (800) I-M-ALERT OR (800) 462-5378.

SPILL CONTROL AND RECOVERY:

SMALL LIQUID SPILLS: CONTAIN WITH ABSORBENT MATERIAL, SUCH AS CLAY, SOIL OR ANY COMMERCIALLY

Common Name : NALSPERSE 7348 BIODISPERSANT Manufacturer : NALCO Internal ID: 000097 Revision Date : 09-06-1996 File Name : 000097 AVAILABLE ABSORBENT. SHOVEL RECLAIMED LIQUID AND ABSORBENT INTO RECOVERY OR SALVAGE DRUMS FOR DISPOSAL. REFER TO CERCLA IN SECTION 14. LARGE LIQUID SPILLS: DIKE TO PREVENT FURTHER MOVEMENT AND RECLAIM INTO RECOVERY OR SALVAGE DRUMS OR TANK TRUCK FOR DISPOSAL. REFER TO CERCLA IN SECTION 14. DISPOSAL: IF THIS PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE AS DEFINED UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) 40 CFR 261, SINCE IT DOES NOT HAVE THE CHARACTERISTICS OF SUBPART C, NOR IS IT LISTED UNDER SUBPART D. AS A NON-HAZARDOUS LIQUID WASTE, IT SHOULD BE SOLIDIFIED WITH STABILIZING AGENTS (SUCH AS SAND, FLY ASH, OR CEMENT) SO THAT NO FREE LIQUID REMAINS BEFORE DISPOSAL TO AN INDUSTRIAL WASTE LANDFILL. A NON-HAZARDOUS LIQUID WASTE CAN ALSO BE INCINERATED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. SECTION 12 ENVIRONMENTAL INFORMATION CHEMICAL OXYGEN DEMAND (COD): 2,000,000 MG/L TOTAL ORGANIC CARBON (TOC): 540,000 MG/L AQUATIC DATA: 96 HOUR STATIC ACUTE LC50 TO BLUEGILL SUNFISH = GREATER THAN 1,000 PPM 96 HOUR STATIC ACUTE LC50 TO RAINBOW TROUT = GREATER THAN 1,000 MG/L 96 HOUR NO OBSERVED EFFECT CONCENTRATION IS 320 MG/L BASED ON NO MORTALITY OR ABNORMAL EFFECTS. TOXICITY RATING: ESSENTIALLY NON-TOXIC 48 HOUR STATIC ACUTE LC50 TO DAPHNIA MAGNA = GREATER THAN 1,000 MG/L 48 HOUR NO OBSERVED EFFECT CONCENTRATION IS 180 MG/L BASED ON NO MORTALITY OR ABNORMAL EFFECTS. TOXICITY RATING: ESSENTIALLY NON-TOXIC 96 HOUR STATIC ACUTE LC50 TO CHANNEL CATFISH, LARGEMOUTH BASS, GRASS SHRIMP, SHORE CRABS = GREATER THAN 1,000 PPM 96 HOUR STATIC ACUTE LC50 TO EASTERN OYSTERS = 307 PPM 96 HOUR STATIC ACUTE LC50 TO QUAHOG CLAMS = 567 PPM 48 HOUR EC50 TO CERIODAPHNIA DUBIA = 240 MG/L 48 HOUR NO OBSERVED EFFECT CONCENTRATION IS 130 MG/L BASED ON NO MORTALITY OR ABNORMAL EFFECTS. 7-DAY CHRONIC REPRODUCTIVE IC25 AND IC25 TO

Common Name : NALSPERSE 7348 BIODISPERSA Manufacturer : NALCO Internal ID: 000097 Revision Date : 09-06-1996 File Name : 000097 CERIODOPHNIA DUBIA IS 17 MG/L AND 13 MG/L, RESPECTIVELY THE 7-DAY NOEL BASED ON REPRODUCTION IS 12.5 MG/L THE 7-DAY LOEL BASED ON REPRODUCTION IS 25 MG/L IF RELEASED INTO THE ENVIRONMENT, SEE CERCLA IN SECTION 14. ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION: BASED ON OUR HAZARD CHARACTERIZATION, THE POTENTIAL ENVIRONMENTAL HAZARD IS: LOW. BASED ON NALCO'S RECOMMENDED PRODUCT APPLICATION AND THE PRODUCT'S CHARACTERISTICS, THE POTENTIAL ENVIRONMENTAL EXPOSURE IS: HIGH. SECTION 13 TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES: PRODUCT IS NOT REGULATED DURING TRANSPORTATION

SECTION 14 REGULATORY INFORMATION

THE FOLLOWING REGULATIONS APPLY TO THIS PRODUCT.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200: BASED ON OUR HAZARD EVALUATION, THIS PRODUCT IS NOT HAZARDOUS.

CERCLA, 40 CFR 117, 302: NOTIFICATION OF SPILLS OF THIS PRODUCT IS NOT REQUIRED.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): THIS PRODUCT DOES NOT CONTAIN INGREDIENTS LISTED IN APPENDIX A AND B AS AN EXTREMELY HAZARDOUS SUBSTANCE.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370): OUR HAZARD EVALUATION HAS FOUND THAT THIS PRODUCT IS NOT HAZARDOUS UNDER 29 CFR 1910.1200.

UNDER SARA 311 AND 312, THE EPA HAS ESTABLISHED THRESHOLD QUANTITIES FOR THE REPORTING OF HAZARDOUS CHEMICALS. THE CURRENT THRESHOLDS ARE: 500 POUNDS OR THE THRESHOLD PLANNING QUANTITY (TPQ), WHICHEVER IS LOWER, FOR EXTREMELY HAZARDOUS SUBSTANCES AND 10,000 POUNDS FOR ALL OTHER HAZARDOUS CHEMICALS.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372): THIS PRODUCT DOES NOT CONTAIN INGREDIENTS ON THE LIST OF TOXIC CHEMICALS.

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| TOXIC SUBSTANCES CONTROL ACT (TSCA):
THE CHEMICAL INGREDIENTS IN THIS PRODUCT ARE ON THE 8(B) INVENTORY LIST
(40 CFR 710). |
| FOOD AND DRUG ADMINISTRATION (FDA) FEDERAL FOOD, DRUG AND COSMETIC ACT:
WHEN USE SITUATIONS NECESSITATE COMPLIANCE WITH FDA REGULATIONS, THIS
PRODUCT IS ACCEPTABLE UNDER 21 CFR 176.180 - COMPONENTS OF PAPER AND
PAPERBOARD IN CONTACT WITH DRY FOOD. |
| U. S. DEPARTMENT OF AGRICULTURE (USDA):
USDA INSPECTION AND GRADING PROGRAMS - FOOD SAFETY AND INSPECTION SERVICE:
THIS PRODUCT IS AUTHORIZED BY USDA FOR USE IN FEDERALLY INSPECTED
MEAT AND POULTRY PLANTS. AUTHORIZED USES ARE UNDER CATEGORY G5, G7. |
| RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
CONSULT SECTION 11 FOR RCRA CLASSIFICATION. |
| FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15
(FORMERLY SEC. 307), 40 CFR 116 (FORMERLY SEC. 311):
NONE OF THE INGREDIENTS ARE SPECIFICALLY LISTED. |
| CLEAN AIR ACT, SEC. 111 (40 CFR 60), SEC. 112 (40 CFR 61, 1990 AMENDMENTS),
SEC. 611 (40 CFR 82, CLASS I AND II OZONE DEPLETING SUBSTANCES):
THIS PRODUCT DOES NOT CONTAIN INGREDIENTS COVERED BY THE CLEAN AIR ACT. |
| STATE REGULATIONS: |
| CALIFORNIA PROPOSITION 65:
THIS PRODUCT CONTAINS ETHYLENE OXIDE, KNOWN TO THE STATE OF CALIFORNIA TO
CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE EFFECTS, AS AN IMPURITY
OR RESIDUE. |
| MICHIGAN CRITICAL MATERIALS:
THIS PRODUCT DOES NOT CONTAIN INGREDIENTS LISTED ON THE MICHIGAN CRITICAL
MATERIALS REGISTER. |
| STATE RIGHT TO KNOW LAWS:
THE FOLLOWING INGREDIENT(S) ARE DISCLOSED FOR COMPLIANCE WITH STATE RIGHT
TO KNOW LAWS: |
| POLYGLYCOL TRADE SECRET |
| INTERNATIONAL REGULATIONS: |
| THIS IS NOT A WHMIS CONTROLLED PRODUCT UNDER THE HOUSE OF COMMONS OF CANADA BILL C-70. |
| SECTION 15 ADDITIONAL INFORMATION. |

NALCO INTERNAL NUMBER 308644

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SECTION 16 RISK CHARACTERIZATION

DUÈ TO OUR COMMITMENT TO PRODUCT STEWARDSHIP, WE HAVE EVALUATED THE HUMAN AND ENVIRONMENTAL HAZARDS AND EXPOSURES OF THIS PRODUCT. BASED ON OUR RECOMMENDED USE OF THIS PRODUCT, WE HAVE CHARACTERIZED THE PRODUCT'S GENERAL RISK. THIS INFORMATION SHOULD PROVIDE ASSISTANCE FOR YOUR OWN RISK MANAGEMENT PRACTICES. WE HAVE EVALUATED OUR PRODUCT'S RISK AS FOLLOWS:

* THE HUMAN RISK IS: LOW.

* THE ENVIRONMENTAL RISK IS: LOW.

ANY USE INCONSISTENT WITH NALCO'S RECOMMENDATIONS MAY AFFECT OUR RISK CHARACTERIZATION. OUR SALES REPRESENTATIVE WILL ASSIST YOU TO DETERMINE IF YOUR PRODUCT APPLICATION IS CONSISTENT WITH OUR RECOMMENDATIONS. TOGETHER WE CAN IMPLEMENT AN APPROPRIATE RISK MANAGEMENT PROCESS.

THIS PRODUCT MATERIAL SAFETY DATA SHEET PROVIDES HEALTH AND SAFETY INFORMATION. THE PRODUCT IS TO BE USED IN APPLICATIONS CONSISTENT WITH OUR PRODUCT LITERATURE. INDIVIDUALS HANDLING THIS PRODUCT SHOULD BE INFORMED OF THE RECOMMENDED SAFETY PRECAUTIONS AND SHOULD HAVE ACCESS TO THIS INFORMATION. FOR ANY OTHER USES, EXPOSURES SHOULD BE EVALUATED SO THAT APPROPRIATE HANDLING PRACTICES AND TRAINING PROGRAMS CAN BE ESTABLISHED TO ENSURE SAFE WORKPLACE OPERATIONS. PLEASE CONSULT YOUR LOCAL SALES REPRESENTATIVE FOR ANY FURTHER INFORMATION.

SECTION 17 BIBLIOGRAPHY

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| THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE
WORKROOM ENVIRONMENT WITH INTENDED CHANGES, AMERICAN CONFERENCE OF
GOVERNMENTAL INDUSTRIAL HYGIENISTS, OH. |
| PREPARED BY: WILLIAM S. UTLEY, PhD., DABT, MANAGER, PRODUCT SAFETY |
| DATE CHANGED: 09/06/96 |
| DATE PRINTED: 10/14/96 |
| NALCO CHEMICAL COMPANY
ONE NALCO CENTER
NAPERVILLE, ILLINOIS 60563-1198
AREA 708-305-1000 |

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| material is not-hazardous and the G | ion-exempt wastes must-be accompanied by nec
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Revised March 17, 1999
Submit Original
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| | REQUEST FOR APPROVAL TO ACCEPT | SOLID WASTE |
| 1. | RCRA Exempt: 🔲 Non-Exempt: 🏹 | 4. Generator
COASTAL CHEMICAL |
| | Vērbal Approval Received: Yes No | 5. Originating Site |
| 2. | Management Facility Destination KEY ENERGY Disposed | 6. Transporter Key |
| 3. | Address of Facility Operator | 8. State NM |
| 7. | Location of Material (Street Address or ULSTR) HOO MADISON LANCE | 197 ²⁶ |
| 9. | Circle One: | |
| | All transporters must certify the wastes delivered are only those consigned for transp | ecessary chemical analysis to PROVE the
assified hazardous by listing or testing will be
port. |
| | LAST Filed 6-12-01 | |
| | Please Refer to MSDS INFO WERLOODE
Dated 1-16-01 | 8 Approvit L |
| E | Please Refer to MSDS IN The WELSOOD
D.oted 1-16-01
Stimated Volume $\leq 200bbls cy$ Known Volume (to be entered by the open
t = 0 | erator at the end of the haul) |
| E | PLEASE Refer to MISDS IN THE MORE | erator at the end of the haul) cy
DATE: $Q = \frac{10}{2}$ |
| E
S | Plense Refer to MISDS IN TO SERVICE
Dated 1-16-01
Stimated Volume <u>Zoobbls</u> cy Known Volume (to be entered by the opening)
IGNATURE <u>Millellelle</u> TITLE: <u>MGC</u>
Waste Management Facility Authorized Agent
TYPE OR PRINT NAME: <u>MICHARI TALOUICH</u> TELI | erator at the end of the haul) cy
DATE: $Q - 10 -$
EPHONE NO. $505 - 334 - 6186$ |
| E
S | Please Refer to MISDS IN THE English
DoteD 1-16-01
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Stimated Volume $\leq 2cobbls cy$ TITLE: <u>MGC</u>
TITLE: <u>MGC</u>
TITLE: <u>This space for State Use</u>
Approved BY: <u>NewMarth</u> TITLE: <u>Figure</u> | erator at the end of the haul) cy
DATE: $Q - 10 - $
EPHONE NO. $505 - 334 - 6186$
EATE: $9/13/0$ |

| 1625 N. Presch Dr | New Mexico |) | Form C-143 |
|--|----------------------------|--|--|
| Robbi, NM #1240
Detect II - (101) 248-1283 Energy | nerals and Natural Re | esources Defitment | 3/15/00 |
| All S. First | Oil Conservation | Division | |
| Artel 11 . (404) 334.4178 | | | " Cubruit Con |
| 1000 Rio Brazos Roed | 2040 South Pacheco | | Submit to OCD |
| Aztoc, NM 87410 | Santa Fe, New Mexico | 87505 | Permitted Surface |
| <u>Natrict IV</u> - (303) 827-7131
2040 S. Pacheco | (505) 827-7131 | | Waste Management |
| Santa Fe, NM 87505 | | | Facility |
| | | | |
| GENERAT | OR CERTIFICATE | OF WASTE STATUS | |
| 1. Waste Generator Name and Address: | 2-5 | ermit Number (if waste gene | rated at an OCD |
| | | Derm | itted facility) |
| COATSAL CHEMICAL CO. LLC. | | P • • • • • | ······································ |
| 1130 MADISON LANE | - | ~ | |
| FARMINGTON, NM. 87401 | - | • | |
| | • | | |
| Description of Waste and Generating Proc | cess: 4. | Location of Waste (Street ad | dress &/or ULSTR): |
| | | COASTAL CHEmical | CO. LLC |
| RINSE WATER FROM PUMP, HOS | ES,AND | | |
| TANKS USED TO DELIVER CHEM | ICAL. | ENDMINICTION NM | 87401 |
| ALL CHEMICALS RINSED OUT A | RE VIRGIN | PARMINGION, NH. | 07401 |
| UNÚSED CHEMICALS. CHEMICAL | S MAY INCLUDE | | |
| ALKANOLAMINE,GLYCOL (TEG & | EG . | | |
| ANTIFREEZE. | | | |
| | - | م | .= |
| | | | |
| | | | |
| Destination (Surface Waste Management | Facility): 6. | Transporter; | |
| 1/2 aren Disposed | | Key ENER | 64 |
| KEY ENOUP OUTPOINT | | | l |
| • | . . | | |
| 7. Estimated Volume cy/bbis | | | |
| | | | |
| | | | |
| For NON-EXEMPT waste only, the following | documentation is attached | (check appropriate items): | |
| | | | |
| | | A Hazardous Waste Analysis | (With Chain of Custody). |
| | | | |
| Other (Deparintion) | | | |
| | | | |
| | | ······································ | |
| Generator certifies that, according to the Re | source Conservation and F | Recovery Act (RCRA) and the | Environmental Protection |
| Agency's July 1988 regulatory determination | , the above described was | te is: (check appropriate class | sification) |
| ······································ | | | |
| | | | |
| EXEMPT oilfield was | ste. XX | NON-EXEMPT oilfield wast | e that is non-hazardous |
| | | suant to 40 CFR Part 261. (A | ttach appropriate |
| | рч.
* | documen | tation) |
| | | Goodmenn | |
| In addition, Generator certifies that nothing | has been added to this exe | mpt or non-exempt non-haza | rdous waste and that this |
| waste does not contain Naturally Occurring | Radioactive Material (NOR | M) regulated pursuant to 20 ! | NMAC 3.1 |
| Subpart 1403. | | , , , , , , , , , , , | |
| | | | 0 |
| Generator Signature: Rolut | · Runnalde | Date | 9 - 10 - 01 |
| | | 5000 | |
| Print Name: ROBERT BURNSIDE | | | |
| | | | |
| FACILITY MANAGER | | • | |
| I IIIe: | | · · · · · · · · · · · · · · · · · · · | |
| | | | |
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| .: | - | • | |
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| 7 | 1625 N. French Dr., Hobbs, NM 88240 |
|-----|---------------------------------------|
| ' | District II |
| | 811 South First, Artesia, NM 88210 |
| _ • | District III |
| | 1000 Rio Brazos Road, Aztec, NM 87410 |
| | District IV |

2040 South Pacheco, Santa Fe, NM 87505

Energy incrais and Natural Resor

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Submit Original Plus I Copy to Appropriate District Office

| | REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE | | | |
|--------------|--|--|--|--|
| 1. | RCRA Exempt: Non-Exempt: | 4. Generator Hallibuctor | | |
| | Verbal Approval Received: Yes No | 5. Originating Site YARD TANK | | |
| 2. | Management Facility Destination KEY ENCREGY DISDOSAL | 6. Transporter UEY ELCRGY | | |
| 3. | Address of Facility Operator #345 CR35001 AZtec NM
CROUCHMESA | 8. State NM | | |
| 7. | Location of Material (Street Address or ULSTR) 4/D9 E. MARN JT.
FARMINGTON, NM 87402 | - | | |
| 9. | Circle One: | | | |
| (| A. All requests for approval to accept oilfield exempt wastes will be accompanied by a one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by nec material is not-hazardous and the Generator's certification of origin. No waste class approved | a certification of waste from the Generator;
ressary chemical analysis to PROVE the
sified hazardous by listing or testing will be | | |
| | All transporters must certify the wastes delivered are only those consigned for transpo | rt. | | |
| BI | RIEF DESCRIPTION OF MATERIAL: | ~ ~ | | |
| | Returned unused Gel water that w | AS STORED | | |
| | IN YARD "JUNK TANK" AND WAS SAMPLE | d 7-9-2001 | | |
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| SI | GNATURE Mase Management Facility Authorized Agent | DATE: <u>B-1-01</u>
334 - 6186 | | |
| T | YPE OR PRINT NAME: MICHAEL TALOUICH TELEP | HONE NO. 505-702000 | | |
| | | | | |
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A
A | This space for State Use) PPROVED BY: Demy Form TITLE: GEO/OG PPROVED BY: Demo | 13 DATE: 8/03/01
Chin DATE: 8/7/01 | | |
| | | | | |

| District I | | |
|-------------------------|-----------------------------|-----|
| 1625-N. | French Dr., Hobbs, NM 88240 |) |
| District I | 1 | |
| .811 50-1 | h First, Artesia, NM 88210 | |
| District [*] I | 11 | |
| 1000 Rio | Brazos Road, Aztec, NM 874 | 410 |

State of New Mexico Energy Minerals and Natural Resou

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505 Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

District IV 2040 South Pacheco, Santa Fe, NM 87505

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| i | | ······ |
|----------|--|--|
| 1. | RCRA Exempt: Non-Exempt: | 4. Generator Hall, bucton |
| | Verbal Approval Received: Yes No | 5. Originating Site YARD TANK |
| -2. | Management Facility Destination KEy ENCLOY DISPESAL | 6. Transporter LEY EARGY |
| 3. | Address of Facility Operator #345 CR35001 AZtec NM | 8. State NM |
| 7. | Location of Material (Street Address or ULSTR) 4109 E. MARIN JT.
FARMINGTON, NM 87402 | - |
| 9. | <u>Circle One</u> : | |
| | A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste class approved | a certification of waste from the Generator;
cessary chemical analysis to PROVE the
sified hazardous by listing or testing will be |
| <u> </u> | All transporters must certify the wastes delivered are only those consigned for transpo | on. |
| В | RIEF DESCRIPTION OF MATERIAL: | |
| | Returned unised Gel water that u | JAS STUREN |
| · E | IN YARD "JUNK TANK" AND WAS SAMPLE
Stimated Volume 143 6615 cy Known Volume (to be entered by the ope | rator at the end of the haul)cy |
| S | IGNATURE | DATE: <u>B-/-0/</u>
334 - 6186 |
| 1 | YPE OR PRINT NAME: MICHAELTALOUICH TELE | PHONE NO. <u>305 - 18 211 A 1013</u> |
| | | |
| - | | |
| 1 | This space for State Use) | |
| | APPROVED BY: Demy Fort TITLE: Gedog | 15 DATE: 8/03/01 |
| | APPROVED BY: TITLE: | DATE: |
| ÷ | | |

Internet (100) 393-010) IG25 N. French Dr Hobre, NM 88240 District II - (505) 748-1283 Artest Roy 88240 District III - (505) 334-6178 1000 Rio Brazos Road Azter, NM 87410 <u>Matrict IV</u> - (505) 827-7131 3040 S. Pacheco Sana Fe. NM 87505 New Mexico Ene. ____ Minerals and Natural Resources Department Oil Conservation Division 2040 South Pacheco Street Sauta Fe, New Mexico 87505 (505) 827-7131 Form C-143 3/15/00

Submit to OCD Permitted Surface Waste Management Facility

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address: 2.Permit Number (if waste-generated at an OCD permitted facility) Halibution Energy Services 4109 E. Main Studt Farmington, NM 87402 3. Description of Weste and Generating Process: 4. Location of Waste (Street address &/or ULSTR): Halliburton Energy Services 4109 E Main Strut betting frac fluids that were stored in what is ruperred to as a junk Farmington, NM 87402 Was sampled in 7/9/2001. 5. Destination (Surface Waste Management Facility): 6. Transporter: Key Enirgy Schices Keythersy Services 7. Estimated Volume 143 cy/bbis or NON-EXEMPT waste only, the following documentation is attached (check appropriate items): MSDS Information RCRA Hazardous Waste Analysis (With Chain of Custody). Other (Description) enerator certifies that, according to the Resource Conservation and Recovery Act (RCRA) and the Environmental Protection gency's July 1988 regulatory determination, the above described waste is: (check appropriate classification)

EXEMPT oilfield waste.

NON-EXEMPT oilfield waste that is non-hazardous pursuant to 40 CFR Part 261. (Attach appropriate documentation)

addition, Generator certifies that nothing has been added to this exempt or non-exempt non-hazardous waste and that this ste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1

bpart 1403. Date: 8-1-01 nerator Signature: nt Name: llarvin CUNTRO

ENVIROTECHPLABS

SUSPECTED HAZARDOUS WASTE ANALYSIS

| | | _ | |
|---|---|--|-----------|
| Client: | Halliburton Energy Services | Project #: | 92132-001 |
| Sample ID: | Junk Water Tank | Date Reported: | 07-10-01 |
| Lab ID#: | 20231 | Date Sampled: | 07-09-01 |
| Sample Matrix: | Water | Date Received: | 07-09-01 |
| Preservative: | Cool | Date Analyzed: | 07-09-01 |
| Condition: | Cool and Intact | Chain of Custody: | 9306 |
| Parameter | Result | | |
| · · · · · · · · · · · · · · · · · · · | · · · · | | |
| IGNITABILITY: | Negative | | |
| CORROSIVITY: | Negative | pH = 7.30 | |
| REACTIVITY: | Negative | | |
| RCRA Hazardous Waste Criteria | | | |
| Parameter | Hazardous Waste Criterion | | |
| IGNITABILITY: | Characteristic of Ignitability as c (i.e. Sample ignition upon direct | defined by 40 CFR, Subpart C, Sec. 261.21.
t contact with flame or flash point < 60° C.) | |
| CORROSIVITY: Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22.
(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5) | | | |
| REACTIVITY: | Characteristic of Reactivity as o
(i.e. Violent reaction with water,
of Sulfide or Cyanide gase | defined by 40 CFR, Subpart C, Sec. 261.23.
strong base, strong acid, or the generation
as at STP with pH between 2.0 and 12.5) | |
| Reference: | 40 CFR.part 261 Subpart C sec | ctions 261.21 - 261.23, July 1, 1992. | |
| | | | |

L. Cel Analyst

Jaeter Review



EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

| Client: | Halliburton Energy Services | Project #: | 92132-001 |
|----------------------|-----------------------------|-----------------------|------------|
| Sample ID: | Junk Water Tank | Date Reported: | 07-10-01 |
| Laboratory Number: | 20231 | Date Sampled: | 07-09-01 |
| Chain of Custody: | 9306 | Date Received: | 07-09-01 |
| Sample Matrix: | Water | Date Extracted: | N/A |
| Preservative: | Cool | Date Analyzed: | 07-10-01 |
| Condition: | Cool & Intact | - Analysis Requested: | TCLP |
| | <u> </u> | Detection | Regulatory |
| | Concentration | Limit | Limits |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| Vinyl Chloride | ND | 0.0001 | 0.2 |
| 1,1-Dichloroethene | ND | 0.0001 | 0.7 |
| 2-Butanone (MEK) | 0.0761 | 0.0001 | 200 |
| Chloroform | ND | 0.0001 | 6.0 |
| Carbon Tetrachloride | ND | 0.0001 | 0.5 |
| Benzene | 0.0381 | 0.0001 | 0.5 |
| 1,2-Dichloroethane | ND | 0.0001 | 0.5 |
| Trichloroethene | 0.125 | 0.0003 | 0.5 |
| Tetrachloroethene | ND | 0.0005 | · 0.7 |
| Chlorobenzene | ND | 0.0003 | 100 |
| 1,4-Dichlorobenzene | ND | 0.0002 | 7.5 |

ND - Parameter not detected at the stated detection limit.

| | Fluorobenzene | 100% |
|--|---|--|
| | | 10070 |
| | 1,4-difluorobenzene | 100% |
| | 4-bromochlorobenzene | 100% |
| ethod 1311, Toxicity Charact | eristic Leaching Procedure, SW-8 | 46, USEPA, July 1992. |
| Method 5030, Purge-and-Trap, SW-640, USEPA, July 1992. | | |
| ethod 8020, Aromatic Volatil | e Organics, SW-846, USEPA, Sep | t. 1994. |
| egulatory Limits based on 40 | CFR part 261 Subpart C section | 261.24, July 1, 1992. |
| 109 E. Main St., Farmir | igton. | |
| | ethod 1311, Toxicity Charact
ethod 5030, Purge-and-Trap
ethod 8010, Halogenated Vo
ethod 8020, Aromatic Volatil
egulatory Limits based on 40
109 E. Main St., Farmir | 4-bromochlorobenzene
ethod 1311, Toxicity Characteristic Leaching Procedure, SW-8
ethod 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
ethod 8010, Halogenated Volatile Organic, SW-846, USEPA, S
ethod 8020, Aromatic Volatile Organics, SW-846, USEPA, Sep
egulatory Limits based on 40 CFR part 261 Subpart C section 3
109 E. Main St., Farmington. |

L. (لم AnaTyst

Mister m Walters Review

ENVIROTECHALABS

EPA METHOD 8040 PHENOLS

| Client: | Halliburton Energy Services | Project #: | 92132-001 |
|--------------------|-----------------------------|---------------------|------------------|
| Sample ID: | Junk Water Tank | Date Reported: | 07-10-01 |
| Laboratory Number: | 20231 | Date Sampled: | 07-09-01 |
| Chain of Custody: | 9306 | Date Received: | 07-09-01 |
| Sample Matrix: | Water | Date Extracted: | [*] N/A |
| Preservative: | Cool | Date Analyzed: | 07-10-01 |
| Condition: | , Cool & Intact | Analysis Requested: | TCLP |

| Parameter | Concentration
(mg/L) | Detection
Limit
(mg/L) | Regulatory
Limit
(mg/L) |
|-----------------------|-------------------------|------------------------------|-------------------------------|
| o-Cresol | ND | 0.020 | 200 |
| p,m-Cresol | 0.166 | 0.040 | 200 |
| 2,4,6-Trichlorophenol | 0.058 | 0.020 | 2.0 |
| 2,4,5-Trichlorophenol | 0.147 | 0.020 | 400 |
| Pentachlorophenol | 0.093 | 0.020 | 100 |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|----------------------|------------------|
| | 2-Fluorophenol | 98% |
| | 2,4,6-Tribromophenol | 99% |

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments:

4109 E. Main St., Farmington.

Analyst

m Walter



EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics

| | | Concentration | Det. | Regulatory |
|--------------------|---|-----------------------------|---------------------|------------|
| Condition: | * | Cool and Intact | Analysis Requested: | TCLP |
| Preservative:_ | | Cool | Date Analyzed: | 07-10-01 |
| Sample Matrix: | | Water | Date Extracted: | N/A |
| Chain of Custody: | | 9306 | Date Received: | 07-09-01 |
| Laboratory Number: | | 20231 | Date Sampled: | 07-09-01 |
| Sample ID: | | Junk Water Tank | Date Reported: | |
| Client: | | Halliburton Energy Services | Project #: | 92132-001 |

| | Concentration | Limit | Limit | |
|---------------------|---------------|--------|--------|--|
| Parameter | (mg/L) | (mg/L) | (mg/L) | |
| Pyridine | ND | 0.020 | 5.0 | |
| Hexachloroethane | ND | 0.020 | 3.0 | |
| Nitrobenzene | 0.670 | 0.020 | 2.0 | |
| Hexachlorobutadiene | ND | 0.020 | 0.5 | |
| 2,4-Dinitrotoluene | 0.039 | 0.020 | 0.13 | |
| HexachloroBenzene | ND | 0.020 | 0.13 | |

ND - Parameter not detected at the stated detection limit.

T

Analyst

| QA/QC Accept | ance Criteria | Parameter | Percent Recovery |
|--------------|---|--|--|
| | | 2-fluorobiphenyl | 97% |
| References: | Method 1311, Toxicity
Method 3510, Separate
Method 8090, Nitroaro | Characteristic Leaching Procedure, S
pry Funnel Liquid-Liquid Extraction, S
matics and Cyclic Ketones, SW-846, L | W-846, USEPA, July 1992.
W-846, USEPA, July 1992 <i>.</i>
JSEPA, Sept. 1986. |
| Note: | Regulatory Limits base | d on 40 CFR part 261 Subpart C sect | ion 261.24, July 1, 1992. |
| Comments: | 4109 E. Main St., I | Farmington. | |
| | C. Gluisse | - Chai | the m Westers |

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

Review

TOV RO ECHLABS

EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

| Olioph | Halliburtan Enargy Can Jana | Ducto at the | |
|--------------------|-----------------------------|------------------|-------------------|
| | | | 92132-001 |
| Sample ID: | Junk Water Lank | Date Reported: | 07 - 09-01 |
| Laboratory Number: | 20231 | Date Sampled: | 07-09-01 |
| Chain of Custody: | 9306 | Date Received: | 07-09-01 |
| Sample Matrix: | ~ Water | Date Analyzed: | 07-09-01 |
| Preservative: | Cool | Date Extracted: | N/A |
| Condition: | Cool & Intact | Analysis Needed: | TCLP metals |
| | | Det. | Regulatory |
| | Concentration | Limit | Level |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| | | | |
| Arsenic | ND | 0.001 | 5.0 |
| Barium | 0.089 | 0.001 | 100 |
| <u> Č</u> admium | ND | 0.001 | 1.0 |
| Chromium | 0.297 | 0.001 | 5.0 |
| Lead | 0.371 | 0.001 | 5.0 |
| Mercurv | ND | 0.001 | 0.2 |
| Selenium | ND | 0.001 | 1.0 |
| Silver | ND | 0.001 | 5.0 |
| | | | |

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

4109 E. Main St., Farmington.

Analyst

> Walters. Review



QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

ENVIROTECHPLABS

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

| Client: | QA/QC | Project #: | N/A |
|----------------------|------------------|---------------------|------------|
| Sample ID: | Laboratory Blank | Date Reported: | 07-10-01 |
| Laboratory Number: | 07-10-TCV | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 07-10-01 |
| Condition: | N/A | Analysis Requested: | TCLP |
| •
 | | Detection | Regulatory |
| | Concentration | Limit | Limits |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| Vinyl Chloride | ND | 0.0001 | 0.2 |
| 1,1-Dichloroethene | ND | 0.0001 | 0.7 |
| 2-Butanone (MEK) | ND | 0.0001 | 200 |
| Chloroform | ND | 0.0001 | 6.0 |
| Carbon Tetrachloride | ND | 0.0001 | 0.5 |
| Benzene | ND | 0.0001 | 0.5 |
| 1,2-Dichloroethane | ND | 0.0001 | 0.5 |
| Trichloroethene | ND | 0.0003 | 0.5 |
| Tetrachloroethene | ND S | 0.0005 | 0.7 |
| Chlorobenzene | ND | 0.0003 | 100 |
| 1,4-Dichlorobenzene | ND | 0.0002 | 7.5 |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | | Parameter | Percent Recovery | |
|---------------------------|--|------------------------------------|-----------------------|--|
| | | Fluorobenzene | 100% | |
| | | 1,4-difluorobenzene | 100% | |
| | | 4-bromochlorobenzene | 100% | |
| References: | es: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. | | | |
| | Method 5030, Purge-and-1 | rap, SVV-846, USEPA, July 1992. | Part 1001 | |
| | Method 8010, Halogenated | Volatile Organic, SW-646, USEPA, S | Sept. 1994. | |
| | Method 8020, Aromatic Vol | atile Organics, SW-846, USEPA, Sej | pt. 1994. | |
| Note: | Regulatory Limits based on | 40 CFR part 261 Subpart C section | 261.24, July 1, 1992. | |
| Comments: | QA/QC for sample 20 | 231. | | |
| | · | | | |

Analyst

<u>/ husting m Walles</u> Boview



EPA METHODS 8010/8020 AROMÄTIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

| Client: | QA/QC | | Project #: | N/A |
|----------------------|---------------|-----------|-----------------|------------|
| Sample ID: | Matrix Duplic | cate | Date Reported: | |
| Laboratory Number: | 20231 | | Date Sampled: | N/A |
| Sample Matrix: | Water | | Date Received: | N/A |
| Analysis Requested: | TCLP | | Date Analyzed: | 07-10-01 |
| Condition: | N/A | | Date Extracted: | N/A |
| * | | Duplicate | | |
| | Sample | Sample | Detection | |
| | Result | Result | Limits 🚽 | Percent |
| Parameter - | (mg/L) | (mg/L) | (mg/L) | Difference |
| Vinyl Chloride | ND | ND | 0.0001 | 0.0% |
| 1,1-Dichloroethene | ND | ND | 0.0001 | 0.0% |
| 2-Butanone (MEK) | 0.0761 | 0.0761 | 0.0001 | 0.0% |
| Chloroform | ND | ND | 0.0001 | 0.0% |
| Carbon Tetrachloride | ND | ND | 0.0001 | 0.0% |
| Benzene | 0.0381 | 0.0381 | 0.0001 | 0.0% |
| 1,2-Dichloroethane | ND | ND | 0.0001 | 0.0% |
| Trichloroethene | 0.125 | 0.125 | 0.0003 | 0.0% |
| Tetrachloroethene | ND | ND | 0.0005 | 0.0% |
| Chlorobenzene | ND | ND | 0.0003 | 0.0% |
| 1,4-Dichlorobenzene | ND | ND | 0.0002 | 0.0% |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxlcity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments: QA/QC for sample 20231.

Christin n Walters Review

ENVIROTECHALABS

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

| Client: | QA/QC | Project #: | N/A |
|---------------------|--------------------|-----------------|----------|
| Sample ID: | Matrix Spike | Date Reported: | 07-10-01 |
| Laboratory Number: | 20231 | Date Sampled: | N/A |
| Sample Matrix: | [^] Water | Date Received: | N/A |
| Analysis Requested: | TCLP | Date Analyzed: | 07-10-01 |
| Condition: | N/A | Date Extracted: | N/A |

| Parameter | Sample
Result
(mg/L) | Spike
Added
(mg/L) | Spiked
Sample
Result
(mg/L) | Det.
Limit
(mg/L) | Percent
Recovery | SW-846
% Rec.
Accept.
Range |
|----------------------|----------------------------|--------------------------|--------------------------------------|-------------------------|---------------------|--------------------------------------|
| Vinyl Chloride | ND | 0.050 | 0.0495 | 0.0001 | 99% | 28-163 |
| 1,1-Dichloroethene | ND | 0.050 | 0.0494 | 0.0001 | 99% | 43-143 |
| 2-Butanone (MEK) | 0.0761 | 0.050 | 0.1251 | 0.0001 | 99% | 47-132 |
| Chloroform | ND | 0.050 | 0.0500 | 0.0001 | 100% | 49-133 |
| Carbon Tetrachloride | ND | 0.050 | 0.0490 | 0.0001 | 98% | 43-143 |
| Benzene | 0,0381 | 0.050 | 0.0876 | 0.0001 | 99% | 39-150 |
| 1,2-Dichloroethane | ND | 0.050 | 0.0490 | 0.0001 | - 98% | 51-147 |
| Trichloroethene | 0.125 | 0.050 | 0.175 | 0.0003 | 100% | 35-146 |
| Tetrachloroethene | ND | 0.050 | 0.0495 | 0.0005 | 99% | 26-162 |
| Chlorobenzene | ND | 0.050 | 0.0495 | 0.0003 | 99% | 38-150 |
| 1,4-Dichlorobenzene | ND | 0.050 | 0.0495 | 0.0002 | 99% | 42-143 |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for sample 20231.

Jaeter Review

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040 PHENOLS **Quality Assurance Report** Laboratory Blank

| , | | |
|------------------|---|--|
| QA/QC | Project #: | N/A |
| Laboratory Blank | Date Reported: | 07-10-01 |
| 07-10-TCA | Date Sampled: | N/A |
| 2-Propanol | Date Received: | N/A |
| N/A | Date Analyzed: | 07-10-01 |
| N/A | -Analysis Requested: | TCLP |
| ,
 | Detection | Regulatory |
| Concentration | Limit | Limit |
| (mg/L) | (mg/L) | (mg/L) |
| ND | 0.020 | 200 |
| ND | 0.040 | 200 |
| ND | 0.020 | 2.0 |
| ND | 0 0 2 0 | 400 |
| | V.VZV | |
| | QA/QC
Laboratory Blank
07-10-TCA
2-Propanol
N/A
N/A
Concentration
(mg/L)
ND
ND
ND | QA/QC Project #:
Laboratory Blank Date Reported:
07-10-TCA Date Sampled:
2-Propanol Date Received:
N/A Date Analyzed:
N/A -Analysis Requested:
Detection
Concentration Limit
(mg/L) (mg/L)
ND 0.020
ND 0.020
ND 0.020
ND 0.020 |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | | Parameter | Percent Recovery |
|-----------------------|---|--|---------------------------------------|
| | | 2-fluorophenol
2,4,6-tribromophenol | 98 %
99 % |
| References: | nces: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating S
Waste, SW-846, USEPA, July 1992. | | |
| | Method 35
Waste, SW | 10, Separatory Funnel Liquid-Liquid Extractio
-846, USEPA, July 1992. | on, Test Methods for Evaluating Solid |
| | Method 80 | 10, Phenols, Test Methods for Evaluating So | lid Waste, SW-846, USEPA, Sept. 1986. |
| Note: | Regulatory | Limits based on 40 CFR part 261 subpart C | section 261.24, July 1, 1992. |

QA/QC for sample 20231. Comments:

Analyst

n Walter Review


EPA METHOD 8040 PHENOLS Quality Assurance Report

| Client: | QA/QC | Project #: | N/A |
|--------------------|---------------|---------------------|----------|
| Sample ID: | Method Blank | Date Reported: | 07-10-01 |
| Laboratory Number: | 07-09-TCA | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | Cool | Date Extracted: | N/A ··· |
| Condition: | Cool & Intact | Date Analyzed: | 07-10-01 |
| - 7 | | Analysis Requested: | TCLP |

| Parameter | Concentration
(mg/L) | Det.
Llmit
(mg/L) | Regulatory
Limit
(mg/L) |
|-----------------------|-------------------------|-------------------------|-------------------------------|
| o-Cresol | ND | 0.020 | 200 |
| p,m-Cresol | ND | 0.040 | 200 |
| 2,4,6-Trichlorophenol | ND | 0.020 | 2.0 |
| 2,4,5-Trichlorophenol | ND | 0.020 | 400 |
| Pentachlorophenol | ND | 0.020 | 100 |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recov | Surrogate Recoveries: | | | Percent Recovery |
|-----------------|--------------------------|---|--------------------------------|-----------------------------------|
| | | 2-Fluorophe
2,4,6-Tribro | enol
mophenol | 98%
99% |
| References: | Method 131
Waste, SW- | 1, Toxicity Characteris
846, USEPA, July 199 | tic Leaching Procedure | Test Methods for Evaluating Solid |
| | Method 351
Waste, SW- | 0, Separatory Funnel I
846, USEPA, July 199 | Iquid-Liquid Extraction,
2. | Test Methods for Evaluating Solid |
| | Method 804 | 0, Phenols, Test Meth | ods for Evaluating Solid | Waste, SW-846, USEPA, Sept. 1986. |
| Note: | Regulatory | Limits based on 40 CF | R part 261 subpart C se | action 261.24, July 1, 1992. |
| Comments: | QA/QC fo | or sample 20231. | · | |
| Analyst | L. Qel | - | Review | istri og Walter |

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EPA METHOD 8040 PHENOLS Quality Assurance Report

| | | | ···· | - |
|-----------------------|------------------|-----------|---------------------|------------|
| Client: | QA/QC | | Project #: | N/A |
| Sample ID: | Matrix Duplicate | | Date Reported: | 07-10-01 |
| Laboratory Number: | 20231 | | Date Sampled: | N/A |
| Sample Matrix: | Water | | Date Received: | N/A |
| Preservative: | Cool | | Date Extracted: | N/A |
| Condition: | Cool & Intact | | Date Analyzed: | 07-10-01 |
| | | | Analysis Requested: | TCLP |
| | Sample | Duplicate | Detection | |
| | Result | Result | Limit | Percent |
| Parameter | (mg/L) | (mg/L) | (mg/L) | Difference |
| o-Cresol | ND | ND | 0.020 | 0.0% |
| p,m-Cresol | 0.166 | 0.163 | 0.040 | 2.0% |
| 2,4,6-Trichlorophenol | 0.058 | 0.057 | 0.020 | 1.0% |
| 2,4,5-Trichlorophenol | 0.147 | 0.145 | 0.020 | 1.1% |
| Pentachlorophenol | 0.093 | 0.092 | 0.020 | 0.8% |

| QA/QC Accepta | ance Criteria: | Parameter | Maximum Difference |
|---------------|---|---|---------------------------------|
| | | 8040 Compounds | 30.0% |
| References: | Method 1311, Toxicity Char
Waste, SW-846, USEPA, J | racteristic Leaching Procedure Tes
uly 1992. | t Methods for Evaluating Solid |
| | Method 3510, Separatory F
Waste, SW-846, USEPA, J | unnel Liquid-Liquid Extraction, Tes | t Methods for Evaluating Solid |
| | Method 8040, Phenols, Tes | st Methods for Evaluating Solid Wa | ste, SW-846, USEPA, Sept. 1986. |
| Note: | Regulatory Limits based or | 1 40 CFR part 261 subpart C sectio | n 261.24, July 1, 1992. |
| Comments: | QA/QC for sample 20 | 231. | |
| Analyst | L. Office | Review | tin og Walter |
| | | | |

ENVIROTECHLABS

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics Quality Assurance Report

| The second second second second second second second second second second second second second second second se | | | |
|---|------------------|------------------------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Laboratory Blank | Date Reported: | 07-10-01 |
| Laboratory Number: | 07-10-TBN | Date Sampled: | N/A |
| Sample Matrix: | Hexane | Date Received: | N/A |
| Preservative: | N/A | Date Extracted: | N/A |
| Condition: | N/A | Date Analyzed: | 07-10-01 |
| | | Analysis Requested: | TCLP |

| Parameter | Concentration
(mg/L) | Det.
Limit
(mg/L) | Regulatory
Limit
(mg/L) |
|---------------------|-------------------------|-------------------------|-------------------------------|
| Pyridine | ND | 0.020 | 5.0 |
| Hexachloroethane | ND | 0.020 | 3.0 |
| Nitrobenzene | ND | 0.020 | 2.0 |
| Hexachlorobutadiene | ND | 0.020 | 0.5 |
| 2,4-Dinitrotoluene | ND | 0.020 | 0.13 |
| HexachloroBenzene | ND | 0.020 | 0.13 |

| QA/QC Accept | tance Criteria | Parameter | Percent Recovery |
|--------------|---|--|--|
| | | 2-fluorobiphenyl | 101% |
| References: | Method 1311, Toxicity
Method 3510, Separat | Characteristic Leaching Procedure, Story Funnel Liquid-Liquid Extraction, Story Funnel Liquid - Liquid Extraction, Store and S | SW-846, USEPA, July 1992.
SW-846, USEPA, July 1992. |
| Note: | Regulatory Limits base | ed on 40 CFR part 261 Subpart C set | ction 261.24, July 1, 1992. |
| Comments: | QA/QC for sampl | e 20231. | |
| | | | |
| <u>.</u> | P Qu | Aba | int i on consta |

Analyst V

Review



EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QUALITY ASSURANCE REPORT

400

| Client: | QA/QC | Project #: | N/A |
|--------------------|-----------------|---------------------|----------|
| Sample ID: | Method Blank | Date Reported: | 07-10-01 |
| Laboratory Number: | 07-09-TBN | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | Cool – | Date Extracted: | N/A |
| Condition: | Cool and Intact | Date Analyzed: | 07-10-01 |
| | | Analysis Requested: | TCLP |

| Parameter | Concentration
(mg/L) | Det.
Limit
(mg/L) | Regulatory
Limit
(mg/L) |
|---------------------|-------------------------|-------------------------|-------------------------------|
| Pyridine | ND | 0.020 | 5.0 |
| Hexachloroethane | ND | 0.020 | 3.0 |
| Nitrobenzene | ND | 0.020 | 2.0 |
| Hexachlorobutadiene | ND | 0.020 | 0.5 |
| 2,4-Dinitrotoluene | ND | 0.020 | 0.13 |
| HexachloroBenzene | ND | 0.020 | 0.13 |

| QA/QC Accepta | nce Criteria | Parameter | Percent Recovery |
|---------------|--|--|--|
| | | 2-fluorobiphenyl | 96% |
| References: | Method 1311, Toxicity Ch
Method 3510, Separatory
Method 8090, Nitroaroma | naracteristic Leaching Procedure, S
Funnel Liquid-Liquid Extraction, S
ntics and Cyclic Ketones, SW-846, I | W-846, USEPA, July 1992.
W-846, USEPA, July 1992.
USEPA, Sept. 1986. |
| Note: | Regulatory Limits based of | on 40 CFR part 261 Subpart C sect | tion 261.24, July 1, 1992. |
| Comments: | -
QA/QC for sample 2 | 20231. | |
| Analyst | L. Que |
(Review) | this of Walter |



EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QA/QC Matrix Duplicate Report

| Client: | QA/QC | Project #: | ÷ _ | N/A |
|---------------------|------------------|-----------------|------------|----------|
| Sample ID: | Matrix Duplicate | Date Reported: | - | 07-10-01 |
| Laboratory Number: | 20231 | Date Sampled: | | N/A |
| Sample Matrix: | Water | Date Received: | | N/A |
| Preservative: | N/A | Date Extracted: | | N/A_ |
| Condition: | N/A | Date Analyzed: | | 07-10-01 |
| | | Analysis Reque | sted: | TCLP |
| | Sample | Duplicate | | Det. |
| - | Result | Result | Percent | Limit |
| Parameter | (mg/L) | (mg/L) | Difference | (mg/L) |
| Pyridine | ND | ND | 0.0% | 0.020 |
| Hexachioroethane | ND | ND | 0.0% | 0.020 |
| Nitrobenzene | 0.670 | 0.664 | 0.9% | 0.020 |
| Hexachlorobutadiene | ND | ND | 0.0% | 0.020 |
| 2,4-Dinitrotoluene | 0.039 | 0.039 | 0.0% | 0.020 |
| HexachloroBenzene | ND | ND | 0.0% | 0.020 |

| QA/QC Acceptance Criterla | | Parameter | Maximum Difference |
|---------------------------|--|--|--|
| | | 8090 Compounds | 30% |
| References: | Method 1311, Toxicity
Method 3510, Separat
Method 8090, Nitroaro | Characteristic Leaching Procedure, SV
ory Funnel Liquid-Liquid Extraction, SV
matics and Cyclic Ketones, SW-846, U | N-846, USEPA, July 1992.
N-846, USEPA, July 1992.
JSEPA, Sept. 1986. |
| Note: | Regulatory Limits base | ed on 40 CFR part 261 Subpart C secti | ion 261.24, July 1, 1992. |
| Comments: | QA/QC for sample | e 20231. | - |
| Analyst | - C. Ofter | Review | stui m Wasters |

ENVIROTECH LABS

EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

| Client: | | QA/QC | | Project #: | | | N/A | |
|---------------------|------------|-----------|----------|------------|-----------|------------|------------|--------------|
| Sample ID: | | 07-09-TCN | | Date Rep | orted: | · . | 07-09-01 | |
| Laboratory Number: | | 20231 | | Date Sam | pled: | | N/A | |
| Sample Matrix: | · | Water | | Date Rec | eived: | | N/A | |
| Analysis Requested: | | TCLP Meta | als | Date Anal | vzed: | | 07-09-01 | • |
| Condition: | ~ | N/A | | Date Extra | acted: | | N/A | |
| Blank & Duplicate | Instrument | Method | Detectio | n Sample | Duplicate | % | Acceptance | - |
| Conc. (mg/L) | Blank | Blank | Limit | | | Difference | Range | |
| Arsenic | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% | 3 9 * |
| Barium | ND | ND | 0.001 | 0.089 | 0,087 | 2.2% | 0% - 30% | |
| Cadmium | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% | |
| Chromium | ND | ND | 0.001 | 0.297 | 0.295 | 0.7% | 0% - 30% | |
| Lead | ND | ND | 0.001 | 0.371 | 0.368 | 0.8% | 0% - 30% | |
| Mercury | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% | |
| Selenium | ŇD | ND | 0.001 | ND | ND | - 0.0% | 0% - 30% | |
| Silver | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% | |
| Spike | | Spike | Sample | Solker | Percent | | Acceptance | |
| Conte (mg/t) | | Added | | Sample | Recovery | | Range | |
| Arsenic | | 0.500 | ND | 0.499 | 99.8% | | 80% - 120% | |
| Barium | | 0.500 | 0.089 | 0.586 | 99.5% | | 80% - 120% | |
| Cadmium | | 0.500 | ND | 0.499 | 99.8% | | 80% - 120% | |
| Chromium | | 0.500 | 0.297 | 0.796 | 99.9% | | 80% - 120% | |
| Lead | | 0.500 | 0.371 | 0.867 | 99.5% | | 80% - 120% | |
| Mercury | | 0.050 | ND | 0.049 | 98.0% | | 80% - 120% | |
| Selenium | | 0.500 | ND | 0.501 | 100.2% | | 80% - 120% | |
| Silver | | 0.500 | ND | 0.498 | 99.6% | | 80% - 120% | |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission, SW-846, USEPA, December 1996.

Comments:

QA/QC for sample 20231.

Analyst

m Waller Winto

09306

CHAIN OF CUSTODY RECORD

| Client / Project Name | | | Project Location | | | | | | | | | | | | | | |
|---------------------------------------|----------------|-----------------|-------------------|------------|------------------------------|-----------|----------------|------------|-------|---------------|----------|----------|----------|--------------|---------|----------|-----|
| Harrisurow E | waye. | Sorryice | \$ 4109 E | Hom | .st. Fo | mi. | ation | | | P | INALYS | IS / PAP | IAMEIE | 85 | | | |
| Sampler:
Herlen M. Br | au a | | Client No.
921 | 32- | - 361 | | . of
ainers | J. | | | | | | 1 | lemark | S | - |
| Sample No./
Identification | Sample
Date | Sample
Time | Lab Number | | Sampl e
Matrix | | No
Conta | 123 | | | | | | | | | |
| Junk Wither Took | 7.9.01 | 9.40 | 20231 | | Water | 1 | 5 | ~ | | | | | | | | | |
| | | <u> </u> | | | | | | | | | | | ļ | | | | |
| | | | | | | | | | | - | | | | | | <u> </u> | |
| | | | | | | | | | | | | | | <u>.</u> | | | |
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| | - | | | | | | <u> </u> | | | | | | | | | | |
| Aelinquished by: (Signatur | | $ \rightarrow $ | | Date | Time | Receiv | ed by: (| Signature |) 0 | \mathcal{I} | | | <u> </u> | | Date | Т | ime |
| Relinquished by: (Signature | e) | | | | 10, 13 | Receiv | red by: (| Signature | | er' | <u>e</u> | <u></u> | . | | -7 -0 | 10 | 41 |
| Relinquished by: (Signature | e) | | | | | Receiv | ed by: (| Signature | 2) | | | | <u> </u> | | | <u> </u> | |
| | | | l | FOV | | FF | 74 | INC |
} | | | | | Sample F | leceipt |] | |
| | | | | | | | | | | | | | | | Y | N | N/A |
| ·, | | | | 5
Farmi | 796 U.S | . High | way 6
exico | 4
87401 | | | | | Rece | ived Intact | e | - | |
| A
2 | | | | | (50,5) | 632-0 | 615 | 57701 | | | | | Cool - | Ice/Blue Ice | 2 | / | |

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District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resourc

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505 Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| I. RCRA Exempt: Non-Exempt: | 4. Generator NATCO |
|--|---|
| Verbal Approval Received: Yes No | 5. Originating Site SARD SUMPS |
| 2. Management Facility Destination Key Everby D15 poss | 6. Transporter Key- |
| 3. Address of Facility Operator #345 CR 3500
Azter Nom | 8. State NM |
| 7. Location of Material (Street Address or ULSTR) Rd, form worth Nr. | |
| 9. <u>Circie One</u> : 8740] | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste class approved | a certification of waste from the Generator:
cessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transport | ort. |
| BRIEF DESCRIPTION OF MATERIAL: | |
| Estimated Volume <u>5006615</u> of Known Volume (to be entered by the ope | rator at the end of the have |
| SIGNATURE Multiple Authorized Agent TITLE: MGR | DATE: 8-1-01 |
| TYPE OR PRINT NAME: MICHAELTALOUICH TELE | PHONE NO. 505-334-6186 |
| | |
| APPROVED BY: 1 Low Perry TITLE. C.P. M. | ats T DATE \$103/01 |
| APPROVED BY: | DATE: 8-3-1 |

•

District I - (505) 393-6161 New Mexico Form C-143 1625 N. French Dr 3/15/00 Hobbs, NM 88240 Energy initials and Natural Resources Department District II - (505) 748-1283 \$11 S. First • / Oil Conservation Division Artesia, NAT 88210 Submit to OCD 2040 South Pacheco Street District III - (505) 334-6178 1000 Rio Brazos Road Santa Fe. New Mexico 87505 Permitted Surface Aztec, NM 87410 (505) 827-7131 Waste Management District IV - (505) 827-7131 2040 S. Pacheco Facility Santa Fe, NM 87505 GENERATOR CERTIFICATE OF WASTE STATUS 1. Waste Generator Name and Address: 2.Permit Number (if waste generated at an OCD permitted facility) NAteo. 2855 Southside firm Rd. Farminghed Nm 3. Description of Waste and Generating Process: 4. Location of Waste (Street address &/or ULSTR): City water & loguedes out OF Frensyled NM 2855 Southside Roun Rd. But to GAS productions units But washed out, For Repairs Only city water used For washing. 5. Destination (Surface Waste Management Facility): 6. Transporter: Key Iningy Disposal Key Energy 7. Estimated Volume 500 cy/bbls pin month For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items): RCRA Hazardous Waste Analysis (With Chain of Custody). MSDS Information Other (Description) Generator certifies that, according to the Resource Conservation and Recovery Act (RCRA) and the Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (check appropriate classification) EXEMPT oilfield waste. NON-EXEMPT oilfield waste that is non-hazardous pursuant to 40 CFR Part 261. (Attach appropriate documentation) In addition, Generator certifies that nothing has been added to this exempt or non-exempt non-hazardous waste and that this waste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403: _____ Generator Signature: Lichal Land Date: 8-1-01 Print Name: Kichard Lumband. Title: Shop Superv. Sol.

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505

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State of New Mexico Energy Minerals and Natural Resour

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

-

Submit Original Plus 1 Copy to Appropriate District Office

| REQUEST FOR APPROVAL TO ACCEPT | SOLID WASTE |
|---|--|
| REQUEST FOR ATTROVAL TO ACCELT | SOLID WASTE |
| RCRA Exempt: 🕅 Non-Exempt: | 4. Generator
Williams |
| Verbal Approval Received: Yes No D | 5. Originating Site
LA MAQUINA Plan |
| Management Facility Destination KEY ENERGY DISPOSAC | 6. Transporter Key |
| #345 C2 3500 A2tec NM | 8. State NM |
| Location of Material (Street Address or ULSTR) Bloomfield Aztec | > |
| Circle One: | |
| one certificate per job.
B. All requests for approval to accept non-exempt wastes must be accompanied by ne
material is not-hazardous and the Generator's certification of origin. No waste cla
approved | ecessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transp | юп |
| BRIEF DESCRIPTION OF MATERIAL: | |
| of thring + IEG | JUL 2001
FILCEIVED IN
OILCON DIV SU
DIST. 3
DIST. 3 |
| Istimated Volume 1500 bb15 cy Known Volume (to be entered by the ope | rator at the end of the haul |
| SIGNATURE Management Facility Authorized Agent TITLE: MG2 | DATE: 2.26-0 |
| TYPE OR PRINT NAME: <u>MICHAEL TALOVICA</u> TELE | PHONE NO. 505-334-6186 |
| | |
| This space for State Use) | twissedor DATE 7/30/01 |
| $APPROVEDBY:IOII\mathcal{O}IOIOIOIOIOIOIOIOIOIOOIOIOOOIOOOOOOOOOO$ | |





CERTIFICATE OF WASTE STATUS

| 1. Generator Name and Address: | 2. Destination Name: |
|---|---|
| WILLIAMS ENERGY SERVICES | KEY ENERGY DISPOSAL |
| 3,8 Miles ON C.R. 2770 - AZTEC | · |
| 192 CR 4400
BLOOMFIELD, N.M. B7413 | |
| 3. Originating Site (name): | Location of the Waste (Street address &/or ULSTR): |
| Williams ENERGY SERVICES | |
| LAMAQUINA PLANT | |
| Attach list of originating sites as appropriate | · · · · · · · · · · · · · · · · · · · |
| 4. Source and Description of Waste | |
| 90% D.I. WatER | |
| 5% Amine | |
| 5% TRYETHYLENE Glycol | |
| | - · · · · |
| | |
| 1. BRuce Altman | representative for: |
| Williams Energy Selvices | |
| to the Resource Conservation and Recovery Act (Re | CRA) and Environmental Protection Agency's July, 1998, regulatory |
| determination, the above-described waste is: (Check | k appropriate classification) |
| EXEMPT oilfield wasteNO | N-EXEMPT oilfield waste which is non-hazardous by characteristic |
| ana | alysis or by product identification |
| and that nothing has been added to the exempt or n | on-exempt non-hazardous waste defined above. |
| or NON-EXEMPT waste only the following docume | entation is attached (check appropriate items): |
| MSDS Information | Other (description): |
| RCRA Hazardous Waste A | nalysis |
| Chain of Custody | |
| Name (Original Signature): Buill altimen | |
| OP | |
| Title: UPERATOR JUL | · · · · · · · · · · · · · · · · · · · |

1 81 1023 N. Fröher Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesis, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

Oil Conservation Division

1220 South St. Francis Dr. Santa Fe, NM 87505 Submit Original Plus 1 Copy to Appropriate District Office

| DEOLIEST | FOD ADDOUAT | TO ACCEPT SOL ID | WA CTT |
|----------|---------------------|------------------|--------|
| REQUEST | FUR AFFRUVAL | IU ACCEPT SULID | WADIE |

| 4. Generator COASTAL CHEMICAL CO. |
|--|
| UVerbal Approval Received: Yes No No S. Originating Site WASH WATER TANK |
| 2. Management Facility Destination KEY ENERGY DISPOSAL RECEIVED CAL Transporter KEY ENERGY |
| 3. Address of Facility Operator #345 C.R. 3500, AZTEC NNT. DIST. 3 State NM |
| 7. Location of Material (Street Address or ULSTR) 1130 MADISON (LANE) 110
FARMINGTON NM 87401 |
| 9. <u>Circle One</u> : |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; |
| One certificate per job.
B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the
material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be
approved |
| All transporters must certify the wastes delivered are only those consigned for transport. |
| BRIEF DESCRIPTION OF MATERIAL:
RINSE WATER FROM HOSES AND TANKS THAT CONTAINED OR HELD VIRGIN UNUSED TREATING CHEMICALS. |
| UAST Filed 6-11) I myer
M.T. ON File |
| Estimated Volume _250BBLS cy Known Volume (to be entered by the operator at the end of the haul) cy |
| SIGNATURE Waste Management Facility Authorized Agent TITLE: MANAGER DATE: _12-05-02 |
| TYPE OR PRINT NAME:MICHAEL TALOVICH TELEPHONE NO505-334-6416 |
| (This space for State Use) |

TITLE: Environmental Geologist

DATE: 12

'0Z

unt

APPROVED BY:

APPROVED BY:

District I 1622 N. Free ch Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1. RCRA Exempt: D Non-Exempt: D | 3 × 56789 4 | Generator COASTAL CHEMICAL CO. |
|---|--|--|
| □Verbal Approval Received: Yes | No DEC 2002 | Originating Site WASH WATER TANK |
| 2. Management Facility Destination KEY ENE | RGY DISPOSAL OF CONS. DIV. | Transporter KEY ENERGY |
| 3. Address of Facility Operator #345 C.R. 350 | 0, AZTEC NM C 3-352777 R. 18. | State NM |
| 7. Location of Material (Street Address or ULS)
FARMINGTON NM 87401 | IR) 1130 MADISON LANE, | |
| 9. <u>Circle One</u>: A. All requests for approval to accept oilfield one certificate per job. B. All requests for approval to accept non-exe material is not-hazardous and the Generato approved All transporters must certify the wastes delivered | exempt wastes will be accompanied by a c
empt wastes must be accompanied by neces
or's certification of origin. No waste classif | certification of waste from the Generator;
ssary chemical analysis to PROVE the
fied hazardous by listing or testing will be |
| BRIEF DESCRIPTION OF MATERIAL: | | |
| RINSE WATER FROM HOSES AND TANKS II | HAT CONTAINED OR HELD VIRGIN C | JNUSED TREATING CHEMICALS. |
| | MSI
Las | 75 INFO
T Filed 6-17-02
M.T. |
| Estimated Volume _250BBLS c | y Known Volume (to be entered by the op | perator at the end of the haul) cy |
| SIGNATURE Management Facility Authorized | TITLE: MANAGER | DATE: _12-05-02 |
| TYPE OR PRINT NAME:MICHAEL TALC | OVICH TELEPHONE NO | 505-334-6416 |
| (This space for State Use) | | |
| APPROVED BY: Demy 70 | TITLE: EnvirolE | DATE: 12/06/07 |
| APPROVED BY: | | DATE: |

| GENERAT | | | | Permitted Surface
Waste Management
Facility |
|--|--|---|---|---|
| | OR CERTIFICA | TE OF WASTE | STATUS | |
| iste Generator Name and Address: | | 2 Permit Number (if | waste generate | ed at an OCD |
| Coastal Chemical (| C.O. LLC | | permined | |
| Farmington NM 8740 | 01 | - | -
• | |
| scription of Waste and Generating Pro | ocess: | 4. Location of Wast | e (Street addre | ess &/or ULSTR): |
| ed to deliver chemical.
nsed out are virgin unu
emicals may include Alk | All Chemicals
sed chemicals
anolamine, Gly | Coastal Chem
1130 Madisor
Col Farmingod | nical Co L
Lane
NM 8 740 | |
| eg & Eg) Antifreeze. | | | | |
| | - | , .
, . | | - · · |
| estination (Surface Waste Managemer | nt Facility): | 6. Transporter: | | |
| Key Energy Dispos | al | | | |
| stimated Volume cy/bbls | | | Ţ | |
| ION-EXEMPT waste only the followin | g documentation is att | ached (check appropria | te items): | |
| MSDS Information | | RCRA Hazardous Wa | ste Analysis (W | /ith Chain of Custody). |
| Other (Description) | | | | . * |
| erator certifies that, according to the R
hcy's July 1988 regulatory determination | esource Conservation
on, the above described | and Recovery Act (RC
d waste is: (check appr | RA) and the En
opriate classific | vironmenta: Protection
ation) |
| EXEMPT oilfield wa | aste, ' | NON-EXEMPT | oilfield waste th
Part 261. (Attac
documentatio | at is non-hazardous
h appropriate
ni |
| idition, Generator certifies that nothing
endoes not contain Naturally Occumin
part 1403 | has been added to th
Radioactive Material | is exempt or non-exem
(NORM) regulated pure | pt non-hazardo
Suant to 20 NM | us waste and that this
AC 3.1 |
| erator Signature: Mike | Jani - | | Date: 13 | -3-02 |
| Name: Kille Fami | | | | |
| Facility Manna | ¢ | | | |

~

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1 RCRA Exempt: 1 Non-Exempt: | 4. Generator
WILLIAMS FIELD SERVICE |
|--|--|
| □Verbal Approval Received: Yes No | 5. Originating Site
KUTZ PLANT |
| 2. Management Facility Destination KEY ENERGY DISPOSAL | 6. Transporter
KEY ENERGY |
| 3. Address of Facility Operator #345 CR 3500 | 8. State NM |
| 7. Location of Material (Street Address or ULSTR) 190 CR4980, BLOOMFIELD | |
| 9. <u>Circle One</u> : | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste cla approved | a certification of waste from the Generator;
ecessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transp | port. |
| Estimated Volume1000 bblscy Known Volume (to be entered by the oper | OCT 2002
OCT 20 |
| SIGNATURE Management Facility Authorized Agent TITLE: MANAGER | DATE: _10-02-2002 |
| TYPE OR PRINT NAME:MICHAEL TALOVICH TELEPHONE NO50 | 5-334-6416 |
| (This space for State Use)
APPROVED BY: Dryftent TITLE: <u>Enviro</u>
APPROVED BY: <u>APPROVED BY:</u> <u>Jed</u> | <u>Engr</u> DATE: <u>10/07/02</u>
109151 DATE: <u>10/8/02</u> |

| IexicoForm C-143ral Resourcespartmenttion Division3/15/00acheco StreetSubmit to OCDMexico 87505Permitted Surface.7-7131Waste ManagementFacility |
|---|
| ATE OF WASTE STATUS |
| 2.Permit Number (if waste generated at an OCD permitted facility) |
| 4. Location of Waste (Street address &/or ULSTR): |
| 190 CR 4980
BLOOMFIELD, NM 87413
6. Transporter:
KEY ENERGY OR OTHER DESIGNATED
OCD APPROVED HAULING COMPANIES
AND ADDING COMPANIES
AND ADDING COMPANIES
AND ADDING COMPANIES |
| |
| and Recovery Act (RCRA) and the Environmental Protection
waste is: (check appropriate classification)
NON-EXEMPT oilfield waste that is non-hazardous
pursuant to 40 CFR Part 261. (Attach appropriate
documentation) |
| exempt or non-exempt non-hazardous waste and that this NORM) regulated pursuant to 20 NMAC 3.1 |
| |

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1. RCRA Exempt: 🕅 Non-Exempt: 🗖 | 4. Generator WILLIAMS ENERGY
SERVICES | |
|---|--|--|
| □Verbal Approval Received: Yes [2] No [] | 5. Originating Site LAMAQUINA PLANT | |
| 2. Management Facility Destination KEY ENERGY SERVICES DISPOSAL | 6. Transporter KEY ENERGY | |
| 3. Address of Facility Operator # 345 C.R. 3500 AZTEC, NM | 8. State NM | |
| 7. Location of Material (Street Address or ULSTR) 3.8 MILES ON C.R. 2770-
AZTEC,NM | | |
| | | |

9. <u>Circle One</u>:

- A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.
- B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved
- All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL: D.I. WATER MIXED WITH AMINE AND TEG



| Estimated Volume < 1000bbls cy Known | Volume (to be entered by the operator at the en | nd of the haul)cy |
|---|--|---|
| SIGNATURE Maste Management Facility Authorized Agent | TITLE:MANAGER | DATE:9-16-02 |
| TYPE OR PRINT NAME: _MICHAEL TALOVICH | TELEPHONE NO. 505-334 ^f -6416 | |
| (This space for State Use)
APPROVED BY: Deny Tem
APPROVED BY: AMAGENT | TITLE: <u>Frivo/Engr</u>
TITLE: <u>geologis</u> T | date: <u>9/16/02</u>
date: <u>9-16-2</u> |

| the second second second second second second second second second second second second second second second s | |
|---|--|
| CERTIFICAT | E OF WASTE STATUS |
| 1. Generator Name and Address: | 2. Destination Name: |
| WILLIAMS ENERGY SERVICES
3.8 MILES ON CR 2770 - AZTEC, N.M. | KEY ENERGY DISPOSAL |
| 192 CR. 4900, BLOOMFIELD, N.M. 87413 | |
| 3. Originating Site (name): | Location of the Waste (Street address &/or ULSTR): |
| LAMAQUINA PLA | NT |
| Attach list of originating sites as appropriate | |
| | |
| 90% D.L WATER | |
| 5% AMINE | |
| 5% TRYETHYLENE GIVC | ol . |
| I. BRUCE ALIMAN
WILLIAMS ENERGY SERVICE
to the Resource Conservation and Recovery Act (Re
determination, the above-described waste is: (Chec
 | representative for:
<u>S</u> |
| T NON-EXEMPT waste only the following docume | entation is attached (check appropriate items): |
| MSDS Information | Other (description): |
| RCRA Hazardous Waste A | nalysis |
| Chain of Custody | |
| Name (Original Signature): Trull altrian | |
| Trile: UPI /TECH / | |
| Sate: <u>9-12-02</u> | |

District 1 1625 N. French Dr., Hobbs, NM 88240 District II 1354 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| | 4. Generator HALLIBURTON |
|---|---|
| I. RCRA Exempt; Non-Exempt; Urbal Approval Received: Yes | 5. Originating Site
YARD STORAGE TANK |
| 2. Management Facility Destination KEY ENERGY DISPOSAL | 6. Transporter
KEY ENERGY |
| 3. Address of Facility Operator # 345 C.R. 3500 AZTEC NM | 8. State
NM |
| 7. Location of Matcrial (Street Address or ULSTR)4109 E MAIN, FARMINGTON
NM | |
| 9. <u>Circle One</u> : | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. All requests for approval to accept non-exempt wastes must be accompanied by no material is not-hazardous and the Generator's certification of origin. No waste cla approved | a certification of waste from the Generator;
eccessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transp | iort. |
| BRIEF DESCRIPTION OF MATERIAL:
VARIOUS UNSED FRAC FLUIDS STORED IN THEIR YARD "JUNK WATER TAN | K" |
| LAST FILED 01-04-02 | |
| SEE ANALYTICAE DATED 10-26-01
SEP 2002
COL COL
DICE
DICE
DICE
DICE
DICE
DICE
DICE
DICE | y the operator at the end of the baul) |
| Estimated Volume250BBLS cy Known Volume (to be entered byCy | y the operator at the end of the hail) |
| SIGNATURE | DATE 08-04-02 9/4/02 |
| TYPE OR PRINT NAME:MICHAEL TALOVICH TELEPHONE N | NO505-334-6416 |
| (This space for State Use) Evivino | Engr |
| APPROVED BY: Denny toum TITLE: Ueologi | 51 DATE: <u>9/6/02</u> |
| APPROVED BY: Martyn glig TITLE: Environmen | La Cocologist DATE: 9/9/02 |
| V | |

District I 1625 N. Frènch Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1 RCRA Exempt: Non-Exempt: X | 4. Generator HALLIBURTON |
|--|---|
| | YARD STORAGE TANK |
| 2. Management Facility Destination KEY ENERGY DISPOSAL | 6. Transporter
KEY ENERGY |
| 3. Address of Facility Operator # 345 C.R. 3500 AZTEC NM | 8. State
NM |
| 7. Location of Material (Street Address or ULSTR)4109 E MAIN, FARMINGTON
NM | |
| 9. <u>Circle One</u> : | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. All requests for approval to accept non-exempt wastes must be accompanied by n material is not-hazardous and the Generator's certification of origin. No waste cla approved | ecessary chemical analysis to PROVE the
assified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transporters | xort |
| BRIEF DESCRIPTION OF MATERIAL:
VARIOUS UNSED FRAC FLUIDS STORED IN THEIR YARD "JUNK WATER TAN | K" |
| LAST FILED 01-04-02 | |
| SEE ANALYTICAL DATED 10-26-01 | |
| E C 22 12 UL Ministration | |
| Estimated Volume250BBLScy Known Volume (to be entered bycy | y the operator at the end of the haul) |
| SIGNATURE Management Facility Authorized Agent TITLE: MGR | DATE: _08-04-02 |
| TYPE OR PRINT NAME:MICHAEL TALOVICH TELEPHONE 1 | NO505-334-6416 |
| (This space for State Use) | · / |
| APPROVED BY: Deny Teem TITLE: EMVin | of Engt DATE: 9/6/02 |
| APPROVED BY: TITLE: | DATE: |

1625 N. French Dr Hobbs, NM 88240 3/15/00 Energ_ inerals and Natural Resources artment District II ~ (505) 748-1283 811 S. First Oil Conservation Division Artesta, NM 88210 District III - (505) 334-6178 Submit to OCD 2040 South Pacheco Street 1000 Rio Brazos Road Santa Fe, New Mexico 87505 Permitted Surface Aziec, NM 87410 Waste Management District IV - (505) 827-7131 (505) 827-7131 2040 S Pacheco Facility Santa Fe, NM 87505 **GENERATOR CERTIFICATE OF WASTE STATUS** 1. Waste Generator Name and Address: 2.Permit Number (if waste generated at an OCD Hallichaton Energy Sarries permitted facility) 4109 E Main Farmington Non 87402 3. Description of Waste and Generating Process: 4. Location of Waste (Street address &/or ULSTR): Helliberton Energy Services 4109 E Main St Farming ten NM 87402 Returned Free Fluids that were stored in what is referred to 05 Junk Water tank sampletan 10/06/01 5. Destination (Surface Waste Management Facility): 6. Transporter: Key Energy Services Key Energy 7. Estimated Volume <u><u>B</u>_____ cy/bbls</u> For NON-EXEMPT waste only, the following documentation is attached (check appropriate items): RCRA Hazardous Waste Analysis (With Chain of Custody). MSDS Information Other (Description) Knowledge of Process & Filed provinces ly refer to Analytical #3 Senerator certifies that, according to the Resource Conservation and Recovery Act (RCRA) and the Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (check appropriate classification) **NON-EXEMPT** oilfield waste that is non-hazardous pursuant to 40 CFR Part 261. (Attach appropriate **EXEMPT** oilfield waste. documentation) n addition, Generator certifies that nothing has been added to this exempt or non-exempt non-hazardous waste and that this raste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403. Date: 7-4-02 **Jenerator Signature:** 'rint Name: SUPERVISOR FACI Title:

New Mexico

THEREFT - (202) 282-0101

Form C-143



SUSPECTED HAZARDOUS WASTE ANALYSIS

| Client: | Halliburton Energy Services | Project #: | 92132-001 |
|-------------------------------|--|---------------------------------------|-----------|
| Sample ID: | Junk Water | Date Reported: | 11-01-01 |
| Lab ID#: | 21344 | Date Sampled: | 10-26-01 |
| Sample Matrix: | Water | Date Received: | 10-26-01 |
| Preservative: | Cool | Date Analyzed: | 11-01-01 |
| Condition: | Cool and Intact | Chain of Custody: | 9627 |
| | | | • |
| Parameter | Result | | |
| | | | |
| IGNITABILITY: | Negative | | |
| CORROSIVITY: | Negative | pH = 6.91 | |
| REACTIVITY: | Negative | · | |
| RCRA Hazardous Waste Criteria | | | |
| Parameter | Hazardous Waste Criterion | | |
| IGNITABILITY: | Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21.
(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.) | | |
| CORROSIVITY: | Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22.
(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5) | | |
| REACTIVITY: | Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23.
(i.e. Violent reaction with water, strong base, strong acid, or the generation
of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5) | | |
| Reference: | 40 CFR part 261 Subpart C sec | ctions 261.21 - 261.23, July 1, 1992. | |
| Comments: | 4109 E. Main St. | | |

Analyst

Review

ENVIROTECA LABS

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

| Client: | Halliburton Energy Services | Project #: | 92132-001 |
|--------------------|-----------------------------|---------------------|-----------|
| Sample ID: | Junk Water | Date Reported: | 10-30-01 |
| Laboratory Number: | 21344 | Date Sampled: | 10-26-01 |
| Chain of Custody: | · 9627 | Date Received: | 10-26-01 |
| Sample Matrix: | Water | Date Extracted: | N/A |
| Preservative: | Cool | Date Analyzed: | 10-30-01 |
| Condition: | Cool & Intact | Analysis Requested: | TCLP |

| | ,
, | Detection | Regulatory |
|----------------------|---------------|-----------|------------|
| | Concentration | Limit | Limits |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| Vinyl Chloride | ND | 0.0001 | 0.2 |
| 1,1-Dichloroethene | ND | 0.0001 | 0.7 |
| 2-Butanone (MEK) | 0.0235 | 0.0001 | 200 |
| Chloroform | ND | 0.0001 | 6.0 |
| Carbon Tetrachloride | ND | 0.0001 | 0.5 |
| Benzene | 0.0225 | 0.0001 | 0.5 |
| 1,2-Dichloroethane | ND | 0.0001 | 0.5 |
| Trichloroethene | ND _ | 0.0003 | 0.5 |
| Tetrachloroethene | ND | 0.0005 | 0.7 |
| Chlorobenzene | ND - | 0.0003 | 100 |
| 1,4-Dichlorobenzene | ND | 0.0002 | 7.5 |

ND - Parameter not detected at the stated detection limit.

| Parameter | Percent Recovery |
|----------------------|--|
| Fluorobenzene | 100% |
| 1,4-difluorobenzene | 100% |
| 4-bromochlorobenzene | 100% |
| | Fluorobenzene
1,4-difluorobenzene
4-bromochlorobenzene |

| References: | Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. |
|-------------|--|
| | Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. |
| | Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. |
| | Method 8020, Aromatic Volatile Organics, SW-846, UŠEPA, Sept. 1994. |
| | |
| Note: | Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992. |

Comments:

4109 E. Main St.

Analyst

Review

ENVIROTEC LABS



| Client: | Halliburton Energy Services | Project #: | 92132-001 |
|--------------------|-----------------------------|---------------------|-------------------|
| Sample ID: | Junk Water | Date Reported: | 11-01-01 |
| Laboratory Number: | 21344 | Date Sampled: | 10-26-01 |
| Chain of Custody: | 9627 | Date Received: | 10-26-01 |
| Sample Matrix: | Water | Date Extracted: | N/A |
| Preservative: | Cool | Date Analyzed: | 11-0 1- 01 |
| Condition: | Cool & Intact. | Analysis Requested: | TCLP |

| Parameter | Concentration
(mg/L) | Detection
Limit
(mg/L) | Regulatory
Limit
(mg/L) |
|-----------------------|-------------------------|------------------------------|-------------------------------|
| o-Cresol | ND | 0.020 | 200 |
| p,m-Cresol | ND | 0.040 | 200 |
| 2,4,6-Trichlorophenol | ND | 0.020 | 2.0 |
| 2,4,5-Trichlorophenol | ND | 0.020 | 400 |
| Pentachlorophenol | ND | 0.020 | 100 |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|----------------------|------------------|
| | 2-Fluorophenol | 98% |
| | 2,4,6-Tribromophenol | 99% |

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments:

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ENVIROTECE LABS

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics

| Client: | Halliburton Energy Services | Project #: | 92132-001 |
|--------------------|-----------------------------|---------------------|-----------|
| Sample ID: | Junk Water | Date Reported: | 11-01-01 |
| Laboratory Number: | 21344 | Date Sampled: | 10-26-01 |
| Chain of Custody: | 962 7 | Date Received: | 10-26-01 |
| Sample Matrix: | Water | Date Extracted: | N/A |
| Preservative: | Cool | Date Analyzed: | 11-01-01 |
| Condition: | Cool and Intact | Analysis Requested: | TCLP |

| Parameter | Concentration
(mg/L) | Det.
Limit
(mg/L) | Regulatory
Limit
(mg/L) |
|---------------------|-------------------------|-------------------------|-------------------------------|
| Pyridine | ND | 0.020 | 5.0 |
| Hexachloroethane | ND | 0.020 | 3.0 |
| Nitrobenzene | 0.090 | 0.020 | 2.0 |
| Hexachlorobutadiene | ND | 0.020 | 0.5 |
| 2,4-Dinitrotoluene | ND | 0.020 | 0.13 |
| HexachloroBenzene | ND | 0.020 | 0.13 |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter | Percent Recovery |
|---------------------------|-----------|------------------|
| | | |

2-fluorobiphenyl

97%

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: 4109 E. Main St.

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EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

| Client: | Halliburton Energy Services | Project #: | 92132-001 |
|--------------------|-----------------------------|------------------|-------------|
| Sample ID: | Junk Water | Date Reported: | 10-30-01 |
| Laboratory Number: | 21344 | Date Sampled: | 10-26-01 |
| Chain of Custody: | 9627 | Date Received: | 10-26-01 |
| Sample Matrix: | Water | Date Analyzed: | 10-30-01 |
| Preservative: | Cool | Date Extracted: | N/A |
| Condition: | Cool & Intact | Analysis Needed: | TCLP metals |

| | | Det. | Regulatory |
|-----------|---------------|--------|------------|
| | Concentration | Limit | Level |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| | | | s . |
| Arsenic | ND | 0.001 | 5.0 |
| Barium | 0.048 | 0.001 | 100 |
| Cadmium | ND | 0.001 | 1.0 |
| Chromium | 0.002 | 0.001 | 5.0 |
| Lead | 0.001 | 0.001 | 5.0 |
| Mercury | ND | 0.001 | 0.2 |
| Selenium | ND | 0.001 | 1.0 |
| Silver | ND | 0.001 | 5.0 |

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

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QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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ENVIROTECH LABS

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

| Client | 04/00 | Project # | N//A |
|----------------------|------------------|---------------------|------------|
| Client. | Laborator: Blook | Project #. | N/A |
| Sample ID. | Laboratory Blank | Date Reported: | 10-30-01 |
| Laboratory Number: | 10-30-TCV | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 10-30-01 |
| Condition: | N/A | Analysis Requested: | TCLP |
| | | Detection | Regulatory |
| | Concentration | Limit | Limits |
| Parameter | (mg/L) | (mg/L) | (mġ/L) |
| | | | |
| Vinyl Chloride | ND | 0.0001 | 0.2 |
| 1,1-Dichloroethene | ND | 0.0001 | 0.7 |
| 2-Butanone (MEK) | ND | 0.0001 | 200 |
| Chloroform | ND | 0.0001 | 6.0 |
| Carbon Tetrachloride | ND | 0.0001 | 0.5 |
| Benzene | ND | 0.0001 | 0.5 |
| 1,2-Dichloroethane | ND | 0.0001 | 0.5 |
| Trichloroethene | ND | 0.0003 | 0.5 |
| Tetrachioroethene | ND | 0.0005 | Ű.7 |
| Chlorobenzene | ND | 0.0003 | 100 |
| 1,4-Dichlorobenzene | NÐ | 0.0002 | 7.5 |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acce | ptance Criteria | Parameter | Percent Recovery | |
|-------------|-------------------------|---|-----------------------|--|
| | | Fluorobenzene | 100% | |
| | | 1,4-difluorobenzene | 100% | |
| | | 4-bromochlorobenzene | 100% | |
| References: | Method 1311, Toxicity (| Characteristic Leaching Procedure, SW-8 | 46, USEPA, July 1992. | |
| | Method 5030, Purge-ar | d-Trap, SW-846, USEPA, July 1992. | - | |
| | Method 8010, Halogena | ated Volatile Organic, SW-846, USEPA, S | Sept. 1994. | |
| 12 | Method 8020, Aromatic | Volatile Organics, SW-846, USEPA, Sep | it. 1994. | |

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

| Client: | QA/QC | | Project #: | N/A |
|----------------------|---------------|-----------|-----------------|------------|
| Sample ID: | Matrix Duplic | ate | Date Reported: | 10-30-01 |
| Laboratory Number: | 21344 | | Date Sampled: | N/A |
| Sample Matrix: | Water | | Date Received: | N/A |
| Analysis Requested: | TCLP | | Date Analyzed: | 10-30-01 |
| Condition: | N/A | | Date Extracted: | N/A |
| | | Duplicate | | • |
| ĺ | Sample | Sample | Detection | |
| | Result | Result | Limits | Percent |
| Parameter | (mg/L) | (mg/L) | (mg/L) | Difference |
| Vinyl Chloride | ND | ND | 0.0001 | 0.0% |
| 1,1-Dichloroethene | ND | ND | 0.0001 | 0.0% |
| 2-Butanone (MEK) | 0.0235 | 0.0235 | 0.0001 | 0.0% |
| Chloroform | ND | ND | 0.0001 | 0.0% |
| Carbon Tetrachloride | ND | ND | 0.0001 | 0.0% |
| Benzene | 0.0225 | 0.0225 | 0.0001 | 0.0% |
| 1,2-Dichloroethane | ND _ | ND | 0.0001 | 0.0% |
| Trichloroethene | ND | ND | 0.0003 | 0.0% |
| Tetrachloroethene | ND · ~ | ND | 0.0005 | 0.0% |
| Chlorobenzene | ND | ND | 0.0003 | . 0.0% |
| 1,4-Dichlorobenzene | ND | ND | 0.0002 | 0.0% |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

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ENVIROTECH LABS

L. A METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

| Client: | QA/QC | | | Project #: | | N/A |
|----------------------|--------------|--------|--------|---------------|-------------|-----------------|
| Sample ID: | Matrix Spike | | · | Date Reporte | d: | 10-30-01 |
| Laboratory Number: | 21344 | | | Date Sample | d: | N/A |
| Sample Matrix: | Water | | | Date Receive | ed: | N/A |
| Analysis Requested: | TCLP | | | Date Analyze | d: | 10-30-01 |
| Condition: | N/A | | | Date Extracte | ed: | N/A |
| · | | | Spiked | •••• ••• •• | | SW-846 |
| | Sample | Spike | Sample | Det. | | % Rec. |
| ļ | Result | Added | Result | Limit | Percent | Accept. |
| Parameter | (mg/L) | (mg/L) | (mg/L) | (mg/L) | Recovery | Range |
| Vinyl Chloride | ND | 0.050 | 0.0495 | 0.0001 | 99% | 28-163 |
| 1,1-Dichloroethene | ND | 0.050 | 0.0494 | 0.0001 | 99% | 43-143 |
| 2-Butanone (MEK) | 0.0235 | 0.050 | 0.0725 | 0.0001 | 99% | 47-132 |
| Chloroform | ND | 0.050 | 0.0500 | 0.0001 | 100% | 49-133 |
| Carbon Tetrachloride | ND | 0.050 | 0.0490 | 0.0001 | 98% | 43-143 |
| Benzene | 0.0225 | 0.050 | 0.0720 | 0.0001 | 99% | 39-150 |
| 1,2-Dichloroethane | ND | 0.050 | 0.0490 | 0.0001 | 98% | 51 -14 7 |
| Trichloroethene | ND | 0.050 | 0.0495 | 0.0003 | 99% | 35-146 |
| Tetrachloroethene | ND | 0.050 | 0.0495 | 0.0005 | 9 9% | 26-162 |
| Chlorobenzene | ND | 0.050 | 0.0495 | 0.0003 | 99% | 38-150 |
| 1,4-Dichlorobenzene | ND | 0.050 | 0.0495 | 0.0002 | 99% | 42-143 |

ND - Parameter not detected at the stated detection limit.

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

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ENVIROTECH LABS

CPA METHOD 8040 PHENOLS Quality Assurance Report Laboratory Blank

| Client: | QA/QC | Project #: | N/A |
|-----------------------|------------------|---------------------|------------------|
| Sample ID: | Laboratory Blank | Date Reported: | 11-01-01 |
| Laboratory Number: | 11-01-TCA | Date Sampled: | N/A |
| Sample Matrix: | 2-Propanol | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 11- 01-01 |
| Condition: | N/A | Analysis Requested: | TCLP |
| Analytical Results | | Detection | Regulatory |
| | Concentration | Limit | Limit |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| o-Cresol | ND | 0.020 | 200 |
| p,m-Cresol | ND | 0.040 | 200 |
| 2,4,6-Trichlorophenol | ND | 0.020 | 2.0 |
| 2,4,5-Trichlorophenol | ND | 0.020 | 400 |
| | | | |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|----------------------|------------------|
| | | |
| | 2-fluorophenol | 98, % |
| | 2,4,6-tribromophenol | 99 % |

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: QA/QC for sample 21344.

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EPA METHOD 8040 PHENOLS Quality Assurance Report

| Client: | QA/QC | Project #: | N/A |
|--------------------|------------------|---------------------|-------------------|
| Sample ID: | Matrix Duplicate | Date Reported: | 11-01-01 |
| Laboratory Number: | 21344 | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | Cool | Date Extracted: | N/A |
| Condition: | Cool & Intact | Date Analyzed: | 11-0 1- 01 |
| | | Analysis Requested: | TCLP |

| Parameter | Sample
Result
(mg/L) | Duplicate
Result
(mg/L) | Detection
Limit
(mg/L) | Percent
Difference |
|-----------------------|----------------------------|-------------------------------|------------------------------|-----------------------|
| o-Cresol | ND | ND | 0.020 | 0.0% |
| p,m-Cresol | ND | ND | 0.040 | 0.0% |
| 2,4,6-Trichlorophenol | ND | ND | 0.020 | 0.0% |
| 2,4,5-Trichlorophenol | ND | ND | 0.020 | 0.0% |
| Pentachiorophenol | ND | ND | 0.020 | 0.0% |

| QA/QC Acceptance Criteria: | | Parameter | Maximum Difference |
|----------------------------|---|---|--------------------------------|
| | | 8040 Compounds | 30.0% |
| References: | Method 1311, Toxicity C
Waste, SW-846, USEPA | Characteristic Leaching Procedure Test
A, July 1992. | Methods for Evaluating Solid |
| 17 | Method 3510, Separato
Waste, SW-846, USEP/ | ry Funnel Liquid-Liquid Extraction, Test
A, July 1992. | Methods for Evaluating Solid |
| | Method 8040, Phenols, | Test Methods for Evaluating Solid Was | te, SW-846, USEPA, Sept. 1986. |
| Note: | Regulatory Limits based | d on 40 CFR part 261 subpart C section | 261.24, July 1, 1992. |
| Comments: | QA/QC for sample | 21344. | |
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EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics Quality Assurance Report

| Client: | QA/QC | Project #: | N/A |
|--------------------|------------------|---------------------|----------|
| Sample ID: | Laboratory Blank | Date Reported: | 11-01-01 |
| Laboratory Number: | 11-01-TBN | Date Sampled: | N/A |
| Sample Matrix: | Hexane | Date Received: | N/A |
| Preservative: | N/A | Date Extracted: | N/A |
| Condition: | N/A | Date Analyzed: | 11-01-01 |
| | | Analysis Requested: | TCLP |

| Parameter | Concentration
(mg/L) | Det.
Limit
(mg/L) | Regulatory
Limit
(mg/L) |
|---------------------|-------------------------|-------------------------|-------------------------------|
| Pyridine | ND | 0.020 | 5.0 |
| Hexachloroethane | ND | 0.020 | 3.0 |
| Nitrobenzene | ND | 0.020 | 2.0 |
| Hexachlorobutadiene | ND | 0.020 | 0.5 |
| 2,4-Dinitrotoluene | ND | 0.020 | 0.13 |
| HexachloroBenzene | [®] ND | 0.020 | 0.13 |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter | Percent Recovery |
|---------------------------|------------------|------------------|
| | 2-fluorobiphenyl | 96% |
| | | |

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

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PHACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QA/QC Matrix Duplicate Report

| Client: | QA/QC | Project #: | N/A |
|--------------------|------------------|---------------------|----------|
| Sample ID: | Matrix Duplicate | Date Reported: | 11-01-01 |
| Laboratory Number: | 21344 | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | N/A | Date Extracted: | N/A |
| Condition: | N/A | Date Analyzed: | 11-01-01 |
| | | Analysis Requested: | TCLP |

| Parameter | Sample
Result
(mg/L) | Duplicate
Result
(mg/L) | Percent
Difference | Det.
Limit
(mg/L) | |
|---------------------|----------------------------|-------------------------------|-----------------------|-------------------------|--|
| De sul altra a | ND | | 0.00/ | | |
| Pyriaine | NU | ND | 0.0% | 0.020 | |
| Hexachloroethane | ND | ND | 0.0% | 0.020 | |
| Nitrobenzene | 0.090 | 0.089 | 0.9% | 0.020 | |
| Hexachlorobutadiene | ND | ND | 0.0% | 0.020 | |
| 2,4-Dinitrotoluene | ND | ND | 0.0% | 0.020 | |
| HexachloroBenzene | ND | ND | 0.0% | 0.020 | |

ND - Parameter not detected at the stated detection limit.

| QA/QC Accep | tance Criteria | Parameter | Maximum Difference |
|-------------|-------------------------|--|----------------------------------|
| | | 8090 Compounds | 30% |
| References: | Method 1311, Toxicity (| Characteristic Leaching Procedure, SV | <i>N-</i> 846, USEPA, July 1992. |
| | Method 3510, Separato | ry Funnel Liquid-Liquid Extraction, SV | N-846, USEPA, July 1992. |
| | Method 8090, Nitroaron | natics and Cyclic Ketones, SW-846, L | JSEPA, Sept. 1986. |
| Note: | Regulatory Limits base | d on 40 CFR part 261 Subpart C secti | on 261.24, July 1, 1992. |

Comments:

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Analyst

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ENVIROTECH LABS

EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

Acceptance

Range

| Client: | | QAVQC | | Project #: | : | | N/A |
|----------------------|---------------------|-----------------|-------------------|------------|-----------|-------------------|---------------------|
| Sample iD: | | 10-30-TCN | 1 QA/QC | Date Rep | orted: | | 10-30-01 |
| Laboratory Number: , | | 21344 | | Date San | npled: | | N/A |
| Sample Matrix: | • | Water | | Date Rec | eived: | | N/A |
| Analysis Requested: | | TCLP Meta | ais | Date Ana | lyzed: | | 10-30-01 |
| Condition: | | N/A | | Date Extr | acted: | N/A | |
| Blank & Duplicate | Instrument
Blank | Method
Blank | Detectic
Limit | an Sample | Duplicati | e %
Difference | Acceptance
Range |
| Arsenic | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% |
| Barium | ND | ND | 0.001 | 0.048 | 0.047 | 2.1% | 0% - 30% |
| Cadmium | ND | ŇD | 0.001 | ND | ND | 0.0% | 0% - 30% |
| Chromium | ND | ND | 0.001 | 0.002 | 0.002 | 0.0% | 0% - 30% |
| Lead | ND | ND | 0.001 | 0.001 | 0.001 | 0.0% | 0% - 30% |
| Mercury | ND | NĎ | 0.001 | ND | ND | 0.0% | 0% - 30% |
| Selenium | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% |
| Silver | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% |
| | | | | | | | |

Spike Spike Sample Spiked Percent Conc. (mg/L); Added Added Sample Sample Recovery

| Areania | 0.500 | ND | 0.400 | 00.00/ | 000/ 1000/ |
|----------|-------|-------|-------|--------|-------------------------|
| Arsenic | 0.500 | ND | 0.499 | 99.8% | 80% - 120% |
| Barium | 0.500 | 0.048 | 0.547 | 99.8% | [°] 80% - 120% |
| Cadmium | 0.500 | ND | 0.498 | 99.6% | 80% - 120% |
| Chromium | 0.500 | 0.002 | 0.501 | 99.8% | 80% - 120% |
| Lead | 0.500 | 0.001 | 0.500 | 99.8% | 80% - 120% |
| Mercury | 0.050 | ND | 0.049 | 98.0% | 80% - 120% |
| Selenium | 0.500 | ND | 0.498 | 99.6% | 80% - 120% |
| Silver | 0.500 | ND | 0.499 | 99.8% | 80% - 120% |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission, SW-846, USEPA, December 1996.

Comments:

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Review

District I TO25 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1. RCRA Exempt: Non-Exempt: X | 4. Generator COASTAL CHEMICAL CO. |
|--|--|
| □Verbal Approval Received: Yes □ No 🕅 | 5. Originating Site FARMINGTON YARD |
| 2. Management Facility Destination KEY ENERGY DISPOSAL | 6. Transporter KEY ENERGY |
| 3. Address of Facility Operator # 345 C.R. 3500 AZTEC NM | 8. State NM |
| 7. Location of Material (Street Address or ULSTR) 1130 MADISON LANE
FARMINGTON NM 87401 | |
| 9. <u>Circle One</u>: A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. | a certification of waste from the Generator; |
| B. All requests for approval to accept non-exempt wastes must be accompanied by n
material is not-hazardous and the Generator's certification of origin. No waste cla
approved | ecessary chemical analysis to PROVE the assified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transport | port. |
| BRIEF DESCRIPTION OF MATERIAL:
CITY WATER MIXED WITH SMALL AM | OUNTS OF UNUSED TREATING FLUIDS |
| See C-138 and MSDS info filed and approved 6-24-02 | |
| | |
| | |
| | |
| Estimated Volume <200 bbls cy Known Volume (to be sourced b | y the operator at the end of the haul) |
| SIGNATURE | DATE: _08-27-02 |
| TYPE OR PRINT NAME: MICHAEL TALOVICH | _ TELEPHONE NO. 505-334-6416 |
| | |
| (This space for State Use)
APPROVED BY: Deny Tout TITLE: Envir | 0/Eust DATE: 8/27/02 |
| APPROVED BY: Manty Sile | acologiest DATE: \$/3/02 |
| District I |
|---|
| 7.625 N. French Dr., Hobbs, NM 88240 |
| Distric 11 |
| 1301 W. Grand Avenue, Artesia, NM 88210 |
| District III |
| 1000 Rio Brazos Road, Aztec, NM 87410 |
| District IV |
| 1220 S. St. Francis Dr., Santa Fe, NM 87505 |

State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1 BCRA Evempt: 🗍 Non-Evempt: 🕅 | 4. Generator COASTAL CHEMICAL CO. | | |
|--|--|--|--|
| □Verbal Approval Received: Yes □ No 🛛 | 5. Originating Site FARMINGTON YARD | | |
| 2. Management Facility Destination KEY ENERGY DISPOSAL | 6. Transporter KEY ENERGY | | |
| 3. Address of Facility Operator # 345 C.R. 3500 AZTEC NM | 8. State NM | | |
| 7. Location of Material (Street Address or ULSTR) 1130 MADISON LANE
FARMINGTON NM 87401 | ······································ | | |
| 9. <u>Circle One</u> : | | | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanie | ed by a certification of waste from the Generator; | | |

one certificate per job.

B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

All transporters must certify the wastes delivered are only those consigned for transport.

cv

BRIEF DESCRIPTION OF MATERIAL:

CITY WATER MIXED WITH SMALL AMOUNTS OF UNUSED TREATING FLUIDS

See C-138 and MSDS info filed and approved 6-24-02



DATE:

APPROVED BY:

Known Volume (to be entered by the operator at the end of the haul)

SIGNATURE TITLE: MANAGER _ DATE: 08-27-02_ Waste Management Facility Authonized Agent TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416 (This space for State Use) TITLE: Enviro, tEUNI **APPROVED BY:** DATE:

TITLE:

| 1625 N. French Dr
Hobbs, NM 88240,
District II - (505) 748-1283
811-S. First -
Artester, rivot 52510
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131
2040 S. Pacheco
Santa Fe, NM 87505 | Energ inerals
Oil
Sa | New Mexico
and Natural Resources 1
Conservation Division
2040 South Pacheco Street
anta Fe, New Mexico 87505
(505) 827-7131 | Form C-143
3/15/00
Submit to OCD
Permitted Surface
Waste Management
Facility |
|---|--|--|---|
| | GENERATOR CE | ERTIFICATE OF WASTE | STATUS |
| 1. Waste Generator Name | and Address: | 2 Permit Number | (if waste generated at an OCD |
| CASTAC CHETH
1130 MADISON
FARMINGTON | LAL CO. LLC
LANE -
CIN 87401 | • | permited racinty) |
| 3. Description of Waste and | nd Generating Process: | 4. Location of Wa | aste (Street address &/or ULSTR): |
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DISLA LARE
N. NIN 37401 |
| Destination (Surface W
KEY ENERG 4 Estimated Volume | aste Management Facility)
 | 6. Transporter: | INERCIC/ |
| For NON-EXEMPT waste | only, the following docume | ntation is attached (check appropr | riate items): |
| Other (Descri | ation
otion) | RCRA Hazardous W | aste Analysis (With Chain of Custody). |
| Generator certifies that, a
Agency's July 1988 regula | ccording to the Resource C
tory determination, the abo | Conservation and Recovery Act (Recovery Act (Recovery Act (Recover)) and the service of the serv | CRA) and the Environmental Protection
propriate classification) - |
| E) | EMPT oilfield waste. | <u>X X</u> NON-EXEMPT
pursuant to 40 CFF | r oilfield waste that is non-hazardous
R Part 261. (Attach appropriate
documentation) |
| In addition, Generator cer
waste does not contain N
Subpart 1403. | tifies that nothing has been
aturally Occurring Radioact | n added to this exempt or non-exer
tive Material (NORM) regulated pu | mpt non-hazardous waste and that this
rsuant to 20 NMAC 3.1 |
| Generator Signature: _ | | | Date: 8-23-02 |
| Print Name: <u></u> | MESOLOR
MANHOR | · | |
| | | | |

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|---|---|---|
| • A | | Marine Kard |
| District I
1625 N. French Dr., Hobbs, NM 88240
District II
En | State of New Mexico
ergy Minerals and Natural Resource | Form C-138
Ces Revised March 17, 1999 |
| 1301 W. Grand Avenue, Artesia, NM 88210
<u>District III</u>
1000 Rio Brazos Road, Aztec, NM 87410 | Oil Conservation Division | Submit Original
Plus 1 Copy |
| 1220 S. St. Francis Dr., Santa Fe, NM 87505 | Santa Fe, NM 87505 | to Appropriate
District Office |
| REQUEST FOR A | APPROVAL TO ACCEPT | Г SOLID WASTE |
| 1 RCRA Exempt: Non-Exempt: M | | 4. Generator OIL AND GAS EQUIPMENT |
| UVerbal Approval Received: Yes | No \$2. | 5. Originating Site SHOP SUMP |
| 2. Management Facility Destination KEY ENER | RGY DISPOSAL | 6. Transporter KEY ENERGY |
| 3. Address of Facility Operator # 345 CR 3500 | AZTEC NEW MEXICO | 8. State NM |
| 7. Location of Material (Street Address or ULSTF | x) 4910 E. MAIN, FARMINGTON | |
| B. All requests for approval to accept non-exem
material is not-hazardous and the Generator's
approved
All transporters must certify the wastes delivered
BRIEF DESCRIPTION OF MATERIAL:
CITY WATER MIXED WITH CLEANING AGEN | pt wastes must be accompanied by ne
s certification of origin. No waste class
ed are only those consigned for transport
TS AND NEUTRALIZER | cessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be
ort. |
| Estimated Volume cy | Known Volume (to be entered by the | e operator at the end of the haul)cy |
| SIGNATURE Waste Management Facility Authorized Ag | TITLE: MANAGER | DATE: 7/23/02 |
| TYPE OR PRINT NAME:MICHAEL TALOVIO | CH | TELEPHONE NO |
| (This space for State Use)
APPROVED BY: Wert Kerr
APPROVED BY: Martin J. 74/2 | TITLE: Environme | 0/ Engr DATE: 07/25/02
H/Geologist DATE: 7/30/02 |

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District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico **Energy Minerals and Natural Resources**

> **Oil Conservation Division** 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus I Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1. RCRA Exempt: Non-Exempt: | 4. Generator OIL AND GAS EQUIPMENT |
|--|---|
| □Verbal Approval Received: Yes □ No 🔂 | 5. Originating Site SHOP SUMP |
| 2. Management Facility Destination KEY ENERGY DISPOSAL | 6. Transporter KEY ENERGY |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NEW MEXICO | 8. State NM |
| 7. Location of Material (Street Address or ULSTR) 4910 E. MAIN, FARMINGTON | |
| 9. <u>Circle One</u> : | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. | a certification of waste from the Generator; |
| B.)All requests for approval to accept non-exempt wastes must be accompanied by n
material is not-hazardous and the Generator's certification of origin. No waste cla
approved | ecessary chemical analysis to PROVE the
assified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transp | port. |

BRIEF DESCRIPTION OF MATERIAL:

CITY WATER MIXED WITH CLEANING AGENTS AND NEUTRALIZER



Estimated Volume 80 bbls

cy

Known Volume (to be entered by the operator at the end of the haul) cy

UN SIGNATURE Waste Management Facility Authorized Agent

TITLE: ________ DATE: 7/23/02____

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. SS 33 4-64/L

| (This space for State Use) | | |
|----------------------------|----------------------|----------------|
| APPROVED BY: Deny Keny | TITLE: En Var O/Engr | DATE: 07/25/02 |
| APPROVED BY: | 7 7 7 TITLE: | DATE: |

| District 1 (505) 393-6161 N 625 N. French Dr Abbbs, NM 88240 Energ, inerals and District 11 (505) 748-1283 Energ, inerals and | New Mexico
I Natural Resources L | Form C-143
3/15/00 |
|--|--|--|
| United Street Oil Con National Street 2040 ODD Rio Brazos Road 2040 Azrec, NM 87410 Santa F Native LV - (505) \$27-7131 2040 Santa Fe, NM 87505 Santa Fe, NM 87505 | ISERVATION DIVISION
South Pacheco Street
Fe, New Mexico 87505
(505) 827-7131 | Submit to OCD
Permitted Surface
Waste Management
Facility |
| GENERATOR CERT | IFICATE OF WASTE STATUS | |
| I. Waste Generator Name and Address:
O(1 + Gas Eguid) | 2.Permit Number (if waste gene
permi | rated at an OCD
itted facility) |
| 4910 E. Main
For 11 M 87407 | | . |
| B. Description of Waste and Generating Process: | 4. Location of Waste (Street ac | dress &/or ULSTR): |
| Hor Bark for Cleaning
Glycol pumps + Values
Used an Oil field production | SAME | |
| Equip. | | - |
| 5. Destination (Surface Waste Management Facility): | 6. Transporter: | |
| kεy
7. Estimated Volume <u>80</u> cy/bbls | " KELJ | ,, |
| For NON-EXEMPT waste only, the following documentation | on is attached (check appropriate items): | |
| MSDS Information | RCRA Hazardous Waste Analysis | (With Chain of Custody). |
| Other (Description) | | |
| Generator certifies that, according to the Resource Conse
Agency's July 1988 regulatory determination, the above d | ervation and Recovery Act (RCRA) and the
lescribed waste is: (check appropriate class | Environmental Protection
ification) |
| EXEMPT oilfield waste. | NON-EXEMPT oilfield waste
pursuant to 40 CFR Part 261. (At
documenta | that is non-hazardous
tach appropriate
ation) |
| In addition, Generator certifies that nothing has been add
waste does not contain Naturally Occurring Radioactive M
Subpart 1403. | led to this exempt or non-exempt non-hazar
raterial (NORM) regulated pursuant to 20 N | dous waste and that this IMAC 3.1 |
| Generator Signature: Det Tollal | Date: | 22-02 |
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DISTRICT OF COLUMBIA
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n 1 1 OT IDENITYCATION

KRYLON INDUSTRIAL 31500 SOLON ROAD BOLON, OH 44189

EMERGENCY TELEPHONE NO. (218) 292-7400 INFORMATION TELEPHONE NO. (800) 247-3286

DATE OF PREPARATION 20 - JUL - 94

@1994, The Sherwin-Williams Co.

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| -80-0 | Nethyl Ethyl Ketone | 200 200 PPM 70. | D 34 | | | | | | | |
| -84-1 | Austone | 750 750
<1000> <1000> PPM 780 | 0 | .34 | 34 | 34 | 48 | 48 | 41 | |
| | Zha | Not Established | 38 | 2 | | | | | 1 | • |
| | Tato | 2 2 Mg/M3 as Resp | | | | | 5 | 6 | 9 | |
| -67-7 | Tilenium Dickles | 10 10(5) Mg/M3 as Dusi
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| -04-1 | Zine Molybeble | Not Established | | | | | 2 | 2 | | |
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| ь. | VOC as a percent by weight p | er BAAQMD Rule 49 | 69 | 62 | 80 | . 82 | 89 | 83 | 82 | |
| | INFPA Code 308 Level | | 3 | 3 | з | J | 3 | Э | 3 | |
| .* | HARSO Ratings (Haath - Flam | mability · Pescilvity) | 2.4-0 | 2-4-0 | 2.4-0 | 2.4.0 | 2.4.0 | 2-4-0 | 2-4-0 | |

Ingradiant subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.85 C

18

Primers

PROPERT NEIGHT - H.A.

TT IN MATER - N.A.

COART FTOAT I ON

matter clockds, bry chenical, fem POR AND ENTERSION HERAFTE

TIM PROVIDE PROCEDORES

"Los when encoded to extreme heat,

Flammable, Flash below 28 *F

BRETTIC CRIMITT - I.A. 30 FLIND NUME - 41-209 "T

JOINT HEDRA

PRIMER/KRI Section H -- PHYSICAL DATA Section VII -- SPILL OR LEAK PROCEDURES SVAPORATION RATE - PARLAE LINN BINGE STRES TO BE TAKEN IN CASE MATERIAL IS RELEASED ON SPILLED VAPOR DEMETTY - Heavier then Air Remove all sources of ignition. Ventilate and remove with inert sheetbend. NEUTING POINT - N.A. WASTE DISPOSAL METHOD Haste from this product may be basardows as defined under the Resource Commervation and Recovery Act (RCRA) 40 CPR 261. Muste must be tested for ignitability to determine the applicable WPA hazardous waste numbers. Neste from products containing Netbyl Stigi Setore Section N -- FIRE AND EXPLOSION HAZARD DATA and/or Bino may also regains testing for extractability. Do not invinerate. Depressurice container. Dispose of in accordance with vederal, state, 40 *P PHCC LEEL 1.0 URL 12.9 and Local regulations regarding pollution. Section VIII --- PROTECTION INFORMATION (ful post, startylas) evelytion, sparks, and apon flams, () as at entry himses may PREVAILTIONS TO BE TAKEN IN USE Use only while adopting ventilation. Avoid breathing vapor and openy mist. Avoid contact append to extern heat of Application to interveness engular special pressitions. entryingy conditions overexperies to decomposition products may cause a health haaned. with shin and eves. Mash hands after using. These coatings may contain materials classified as mulsance particulates ()isted "as Dust" in way not be immediately apparent. Obtain medical attention. section III which may be present at hererdous levels only dering sending or sbreding of the dered tikm. If no specific ducto are listed in mection II, the applicable limits for mission FAIL presentive ageigment Lockeding self-contained breathing apparature should be used. opray may be ineffective. If water 14 used, for maxies are preferable. Water may be dists are DCG11 TLV 10 mm /ml (total dust), DSHA PRL 15 mm /mD (tetal chart), 5 mm /ml to cool algood containers to prevent pressure build up and possible autoionition or (respirable fraction). VINTELATION local exhaust proferable. General exhaust acomptable if the exponent to materials in paction JI is minisined below applicable exposure limits. Befor to OMDA Standards 1910.94. Section V — HEALTH HAZARD DATA 1910.107. \$910.100. DESPIRATORY PROTECTION if personal exposure cannor be controlled below applicable limits by ventilation, wear a property ditted organic vapor/particulate respirator approved by #105H/HSHA for protection enainet materials in Section IT When sandling or abtading the dried film, wear a dust/mist respirator approved by BIOSH/NSIM for protection against non-volatile materials in Section (). PROTECTIVE GLOVES Home required for normal application of warerol products where minimal shin contact is expected. For long or superted contact, wer chemical refletant gloves. SYS PROTECTION Hear safety spectacles with unperformed sideshields. Section IX --- PRECAUTIONS DOL STORAGE CATEGORY - 1A PRECAUTIONS TO BE TAKEN IN HANOLING AND STURING Contents are EXTREMELY PLANMABLE. Keep away from heat, sparks, and open flowe. Vapors will accumitate readily and may ignite explosively. During we and until all vepore are gone: Keep area ventilated - D) not such -Extengulate all Clamma, pilot Rights, and testare - Turn off stover, electric Louis sext appliannes, and any other sources of lonition. Commits HTPA Code. Ves approved Bending and Grounding procedures. Contents under pressure. Do not pinoture, inclnerate, or empose to temperature above 120 "F. Heat from sunlight, radiators, steves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children. OTHER PRECAUTIONS Intentional misuse by deliberately concentrating and johaling the contents con be harmful or (atel. Section X --- OTHER REGULATORY INFORMATION CALIFORNIA PROPOSITION 65 reversi products (sou table) contain a chemical known to the state of California to came eancer, birth defects or other reproductive harm. The above information partains to this product as corrently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and heards of the product. Since conditions 1 of use are outside our control, we make no warranties, express or implied, and assume no

Elability in connection with any use of this information.

all Different

-n

may be by INHALATION and/or IKIF or I's centact, depending on conditions of use. ministe expresses, fellew recommendations for preper new, ventilation, and personal stattive equipment. Handlik Hannah

ion of even, shis and respiratory system. Hay cause nervous system depropries. murespoore may result in unconsciousness and possibly death.

HAD STRETTING OF OVERLINGSING

distingues, masses, must loss of coordination are indications of excessive exposure or serey slats.

and itabling or burning connection may indicate ove or excession skin exposure. CONSTITUES ACCREVATED BY EXPOSURE

generally recognized.

T AND FTAST AND INDUCTIONED

- If INSUARD If affected, remove from exposure. Restore breathing. Keep warm and quist. .If on Milm. Made affected area theroughly with soap and water.
 - Recove contaminated clothing and launder before re-use.

FLART POINT

if in press fluch eyes with large anevate of water for 15 minutes. Get medical attention, TI BRALDARDe Get medical actometon.

HICKIC Health Hacards

to impredient in these products is an IARC, HTP or OSDA listed astolnogen.

by the start for any increase the nervous system effects of other solvents.

segand overseparates to solvent ingradients in Section II may cause advorse effects to

, orinary, blood-forming, cardiovascular, and reproductive systems.

emposed to titenium disside dust at 250 mg./mJ developed lung cancer, however, such to lovels are not attainable in the workplace.

separts have seaselated repeated and prolonged oversyposure to solvents with personnt brain if norveus system damage.

Section VI — REACTIVITY DATA

htty - Stable 10.07

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BECOMPOSITION PRODUCTS

Dr fires Carbon Divalde, Carbon Homowide, Duides of Netals in Section II SECURICIES POLYMER FEATTOR - H131 Not Dress

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TOTAL

Material Safety Data Sheet

| omnog vans 1 | | | | | | |
|---|---|--|---|--|--|--|
| | riethylen | e Glycol R | Reprocess | ed | Code | \$3101 |
| upplier C | COASTAL CHEMICAL CO.LL.C. | | MSDS# | Not svalable. | | |
| | 20 Veterans Memorial Drive
BBEVILLE, LA 70510 | | | Validation D
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\$/12/99 | |
| ynonym h | lot available. | · | | | | |
| rade name N | lot avaiable. | avalable. | | | Emeryean. | Transportation Emergency Call
CHEMTREC 800-424-9300 |
| Autorial Uses N | lot available. | • | * | | | Joe Hudman |
| fanulacturer V | /arious | | | · | _ _ | |
| Section 2. Compo | sition and | Information | on lagredier | 212 | | |
| *ame | | CAS# | % by Weight | TI.V/ | PEL | LConDn |
| Diethylene Clycol | <u> </u> | 111-48-8 | 0-5 | Not available. | | ORAL (LD50) mg/kg: Acute:
12565 (Hamster.). 14800 (Rat)
DERMAL (LD50) mg/kg: Acute:
11890 (Hamster.). 11900 |
| Triethylene Glycol | | 1;227-6 | 95-100 | - | · · · · · · · · · · · · · · · · · · · | |
| Contina 3 Lines | | | | | | |
| | MAY CA | USE EYE IRRI | TATION, MAY | CAUSE SKIN IRRI | ТАПОN, | · · · · · · · · · · · · · · · · · · · |
| Routes of Entry | Eye cont | act. Ingestion. | Skin contact. In | halation. | | |
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Triethylene Glycol Reprocessed

Page Number: 2

Hazardous ingestion

DO NOT induce vomiting. Examine the lips and mouth to Escentein whether the tiesans are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a coder, tie, belt or weistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

| Section 5. Fire and Ex | plosion Data |
|--|--|
| Flammability of the Product | Combustible. |
| Auto-Ignition Temperature | The lowest known value is 227.78°C (442°F) (Digthylene glycol). |
| Flash Points | The lowest known value is CLOSED CUP: 138°C (280.4°F) OPEN CUP: 143°C (280.4°F) (Cleveland) (Diethylone glycol) |
| Flammable Limits | The greatest known range is LOWER: 2% UPPER: 12.3% (Diethylene glycol) |
| Products of Combustian | These products are carbon oxides (CO, CO2), |
| Fire Hazards in Presence of
Various Substances | Very slightly to slightly flammable in presence of open flames and sparks, of heat. |
| Explosion Hazards in Presence
of Various Substances | Risks of explosion of the product in presence of mechanical impact. Not available,
Risks of explosion of the product in presence of static discharge: Not available,
No specific information is available in our database regarding the products risks of explosion in the presence of
various materials. |
| Fire Fighting Media 3 30 33 | SMALL FIRE: Use DRY chemicals, CO2, water spray or foam.
LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet |
| Special Remarks on
Fire Hazards | When heated to decomposition, it emits actid smoke and irritating fumes. (Diethylene gran) |
| Special Remarks on Explosion
Hazards | No additional remark. |

| Section | 6: Accidental | Release Measures | | | · · · · · · · · · · · · · · · · · · · | · · · |
|-------------|---------------|--|--|---|---|--|
| Small Spill | | Diluta with water and mop
container. Finish cleaning
regional authority requirem | up, or absorb with an inert [
by spreading water on the co
ents. | DRY material and
ontaminated surface | place in an anappriative and dispose of according | e waste disposal
roing to local and |
| Large Spill | | Combustible material.
Keep away from heat. Kee
water on the contaminated | ep away from sources of igniti
surface and allow to evacuat | ion. Stop leak if wi | ithout risk. Finist dear
tary system. | ing by spreading |

Section 7. Handling and Storage

| Handling |
••• | Not available. |
|----------|-----------|---|
| Storage |
···. | Keep container dry, Keep in a cool place. Ground all equipment containing material. Keep container tightly |
| | | dosed. Keep in a cool, well-ventilated place. Combustible materials should be stored away form extreme hear |
| |
• • • | and away from strong oxidizing agents. |

Section 8. Exposure Controls/Personal Protection

| Engineering Controls | Provide exhaust ventilation or other engeneering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that evewash stations and safety showers are provinal to the work-station location. | | |
|---|--|---------------------------------|--|
| Personal Protection | Salety glasses. Lat | coat. Gloves | (impervious). |
| Porsonal Protection in Case of a
Large Spill | Splash goggles. F
specialist BEFORE | ull suil. Boots handling this p | . Gloves. Suggested protective clothing might not be sufficient; consult a roduct. |
| Chemical Name or Product Na | me | CÀ5 # | Exposure Limits |
| 2,2"-Oxydiethenol
Tricthylene Glycol | ************************************** | 111-46-8
112-27-6_ | No: avalable. |

Continued on Next Page



| Triethylene Glycol Reprocessed Page Number: 3 | | | | | | |
|---|--|--------------|---------------------------------------|--|--|--|
| Section 9. Physical and Chemical Properties | | | | | | |
| Physical state and appearance | Liquid. | Odor | Not available. | | | |
| Molecular Weight | Not applicable. Taste Not available. | | | | | |
| pH (1% solu/water) | Neutral. Color Not available. | | | | | |
| Bolling Pulm | The lowest known value is 245.8"C (474.4"F) (Dieth | yiene glyco | N). Weighted average: 284.02 | °C (543.2°F) | | |
| Matting Point/Pour Point | May start to solidify at -5°C (23°F) based on data for | - Triethylen | e Glycol. Weighted average: | -5.09°C (22.8°F) | | |
| Critical Temperature | Not available. | | | | | |
| Specific Gravity | Weighted avarage: 1.12 (Water = 1) | _ | 7- | · | | |
| Vapor Pressure | The highest known value is 0.01 mm of Hg (@ 20°C |) (Diethyler | ne głycol), | | | |
| Vapor Density | The highest known value is 5.7 (Air = 1) (Tetraethy | riene glycof |). Weighted average: 6.7 (A | r = 1) | | |
| Volatility | Not available. | | | | | |
| Odor Threshold | Not available. | | | | | |
| Evaporation rate | Not available | ء
د _دسے | | · · | | |
| Viscosity | Not avaiable. | | · · · · · · · · · · · · · · · · · · · | ······································ | | |
| Water/Oil Dist. Cueff. | Not avaiable. | | | | | |
| lunicity (in Water) | -Not-avalable | | | | | |
| Dispersion Properties | See solubility in water, methanol, diethyl ether. | | | ··· | | |
| Solubility | Easily soluble in cold water, hot water, methanol, di | cityl ether. | | · · · | | |
| Physical Chemical Comments | Not available. | | | | | |

| Section 10. Stability | and Reactivity Data | en con en co | |
|---|---------------------------------|----------------------------|--|
| Chemical Stability | -The product is stable. | 41 | |
| Conditions of Instability - | No additional remark. | | |
| Incompatibility with various substances | Very slightly to slightly react | ive with exidizing agenta. | |
| Hazardous Deenmposition
Products | Not available. | | |
| Hazardous Polymerization | Not available. | | |

| Section 11. Toxicolog | Ical Information | | | |
|---|--|--|--|--|
| Taxicity to Animals | Acute gral toxicity (LD50): > 5000 mg/kg: (Hamster.) (Calculated value for the mixture).
Acute dermal toxicity (LD50): > 5000 mg/kg: (Hamster.) (Calculated value for the mixture). | | | |
| Chronic Effects on Humans | The substance is taxic to blood, kidneys, liver. Toxicity of the product to the reproductive system: Not available. | | | |
| Other Taxic Effects on Humans | Slightly dangerous to dangerous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation. | | | |
| Special Remarks on
Toxicity to Animals | No additional remark. | | | |
| Special Remarks on
Chronic Effects on Humans | No additional remark. | | | |
| Special Remarks on other Toxic
Effects on Humans | Experimentally tumorigen by initialation. Exposure can cause nausea, headache and somiting. (Diethylene glycol) | | | |

Continued on Next Page

09:38

100-23-1999 89138 PTAL CHITICA' &U

Triethylane Glycol Reprocessed

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Page Number: 4

P.85

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| colosieky | |
|--|---|
| | Not avaiable. |
| KOD5 and COD | Not avalable. |
| roducts of Biodegradation | Possibly hazardous short term degradation products are not likely. However, long term degradation products ma |
| szicity of the Products
f Blodegradiation | The product liself and its products of degradation are not toxic. |
| pecial Remarks on the
reducts of Blodegradation | No additional remark. |
| Section 13. Disposal | Considerations |
| Vaste Disposal | |
| Section 14. Transpol | t information |
| Propper Shipping Name | NONE |
| DOT Classification | Not a DOT controlled material (United States). |
| DOT Identification Number | Not applicable (PIN and PG). |
| Packing Group | NONE |
| Hazardous Substances | Not avaitable. |
| Special Provisions for
Transport | Not applicable, |
| | on Information |
| Federal and State
Regulations | The following product(s) is (are) listed by the State of Minnesota: Diethylene glycol |
| Gecuor 13. Regulati
Federal and State
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Federal and State
Regulations | Dry Information The following product(s) is (are) listed by the State of Minnesota: Diethylene glycol WHMIS (Canada) Not controlled under WHMIS (Canada). DSCT. (EEC) Not controlled under DSCL (Europe). |
| Section 15. Regulations | Dry Information The following product(s) is (are) listed by the State of Minnesota: Diethylene glycol WHMIS (Canada) Not controlled under WHMIS (Canada). DSCT. (EEC) Not controlled under DSCL (Europe). |
| Section 16. Other In
HMIS (U.S.A.) | Dry Information The following product(s) is (are) listed by the State of Minnesota: Diethylene glycol WHMIS (Canada) WHMIS (Canada) Not controlled under WHMIS (Canada). DSC1. (EEC) Not controlled under DSCL (Europe). Iformation Iformation Pre Hzand I Rasctivity 0 Personal Protection B |
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Page Number: 5

Triethylene Glycol Reprocessed

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Sales to Reader

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TOTAL P. 06

1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1. RCRA Exempt: Non-Exempt: | 4. Generator WILLIAMS ENERGY
SERVICES | |
|--|--|--|
| □Verbal Approval Received: Yes □ No ⊠ | 5. Originating Site LaMAQUINA PLANT | |
| 2. Management Facility Destination KEY ENERGY DISPOSAL | 6. Transporter KEY | |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM | 8. State NM | |
| 7. Location of Material (Street Address or ULSTR) 3.8 MILES ON CR 2770
AZTEC NM | | |
| 9. Circle One: | | |

- A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.
- B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved
- All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

CONTACT WATER MIXED WITH AMOUNTS OF TRYETHYLENE GLYCOL, AMINE AND DEIONIZED WATER

| Estimated Volume _< 1000bbls_cy Known Volume (to be entered by the operator-at the end of the haul)cy |
|---|
| SIGNATURE Management Facility Authorized Agent TITLE: Manager DATE:7-11-02 |
| TYPE OR PRINT NAME:Michael Talovich TELEPHONE NO505-334-6416 |
| (This space for State Use)
APPROVED BY: DEMY TOM TITLE: ENVIRONENT DATE: 7/11/02
APPROVED BY: And TITLE: Realogist DATE: 7-11-2 |

CERTIFICATE OF WASTE STATUS

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| 1. Generator Name and Address: | 2. Destination Name: |
|---|--|
| WILLIAMS ENERGY SERVICES
3.8 MILES ON CR 2770 - AZTEC, N.M. | KEY ENERGY DISPOSAL |
| 192 CR. 4900, BLOOMFIELD, N.M. 87413 | |
| 3. Originating Site (name): | Location of the Waste (Street address &/or ULSTR): |
| WILLIAMS ENERG
LA MAQUINA PLA
Attach list of originating sites as appropriate
4. Source and Description of Waste | NT SERVICES |
| 90% D.I WATER
5% AMINE | · |
| 5% TRYETHYLENE GIVE | oL |
| BRUCE ALTMAN | representative for: |
| WILLIAMS ENERGY SERVICE | |
| to the Resource Conservation and Recovery Act (Redetermination, the above-described waste is: (Check | CRA) and Environmental Protection Agency's July, 1998, regulatory k appropriate classification) |
| to the Resource Conservation and Recovery Act (Red
determination, the above-described waste is: (Check
 | CRA) and Environmental Protection Agency's July, 1998, regulatory
k appropriate classification)
N-EXEMPT oilfield waste which is non-hazardous by characteristic
alysis or by product identification |
| to the Resource Conservation and Recovery Act (Red
determination, the above-described waste is: (Check
 | CRA) and Environmental Protection Agency's July, 1998, regulatory k appropriate classification)
N-EXEMPT oilfield waste which is non-hazardous by characteristic alysis or by product identification con-exempt non-hazardous waste defined above. |
| to the Resource Conservation and Recovery Act (Red
determination, the above-described waste is: (Check
 | CRA) and Environmental Protection Agency's July, 1998, regulatory
k appropriate classification)
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non-exempt non-hazardous waste defined above. |
| to the Resource Conservation and Recovery Act (Red
determination, the above-described waste is: (Check
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| to the Resource Conservation and Recovery Act (Red
determination, the above-described waste is: (Check
 | CRA) and Environmental Protection Agency's July, 1998, regulatory k appropriate classification) N-EXEMPT oilfield waste which is non-hazardous by characteristic alysis or by product identification ion-exempt non-hazardous waste defined above. entation is attached (check appropriate items): Other (description): nalysis |
| to the Resource Conservation and Recovery Act (Redetermination, the above-described waste is: (Check | Onereby certify that, according CRA) and Environmental Protection Agency's July, 1998, regulatory k appropriate classification) N-EXEMPT oilfield waste which is non-hazardous by characteristic alysis or by product identification eon-exempt non-hazardous waste defined above. entation is attached (check appropriate items): Other (description): nalysis |
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| to the Resource Conservation and Recovery Act (Redetermination, the above-described waste is: (Check | |

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| State of New Mexico Eargy Minerals and Natural Resources RECEIVED Review Mexico Site of New Mexico RECUEST FOR APPROVAL TO ACCEPT SOLID WASTE Request New Mexico REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE Request New Mexico Request New Mexico Request New Mexico Request New Mexico Solid Chemical | | martyne Kieling |
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| | District 1
1625 N. Fronch Dr., Hobbs, NM 88240
District II
2301 W. Grand Amazon Attain Mittana and Natural Resources
1301 W. Grand Amazon Attain Mittana and Mittana and Mittana Attain Att | Form C-138
rces RECEIVED Revised March 17, 1995 |
| REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE 1. RCRA Exempt: Non-Exempt: OVerbal Approval Received: Yes Non-Exempt: Non-Exempt: OVerbal Approval Received: Yes Non-Exempt: Non-Exempt: OVerbal Approval Received: Yes Yes Non-Exempt: Address of Facility Destination Key Energy Services 3. Address of Facility Operator F345 CR 3500 Arace New Meridoo 7. Location of Material (Street Address or ULSTR) 1130 Madison Ln., Farmington 9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. (B) A requests for approval to accept non-exempt wastes must be accompanied by a certification of waste from the Generator; one certificate per job. (B) All requests for approval to accept non-exempt wastes must be accompanied by a certification of waste from the Generator; and on-thurandous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved All requests for approval to accept non-exempt wastes must be accompanied by a certification of waste from the Generator; and on-thurandous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved <t< th=""><th>District III Oil Conservation Division 1000 Rio Brazos Road, Aziec, NM 87410 Oil Conservation Division District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 Santa Fe, NM 87505 Santa Fe, NM 87505</th><th>JUN 2 4 2002
Environmental Bureau
Otto Commental Bureau</th></t<> | District III Oil Conservation Division 1000 Rio Brazos Road, Aziec, NM 87410 Oil Conservation Division District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 Santa Fe, NM 87505 Santa Fe, NM 87505 | JUN 2 4 2002
Environmental Bureau
Otto Commental Bureau |
| | REQUEST FOR APPROVAL TO ACCEP | T SOLID WASTE |
| | | 4. Generator |
| | 1. RCRA Exempt: Non-Exempt: K
Uverbal Approval Received: Yes No K | 5. Originating Site
Farmington Yard |
| Address of Facility Operator #345 CR 3500 Azice New Mexico 8. State Incation of Material (Street Address or ULSTR) 1130 Madison Ln., Farmington IM Increde One: A All reposts for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator, one certificate per job. In requests for approval to accept non-exempt wastes must be accompanied by a certification of waste from the Generator, one certification of origin. No waste classified hazardous by listing or testing will be approved All transporters must certify the wastes delivered are only those consigned for transport. RIEF DESCRIPTION OF MATERIAL: ity water mixed with amounts of unused treating chemicals. See MSDS information water mixed with amounts of unused treating chemicals. See MSDS information Water mixed with amounts of unused treating chemicals. See MSDS information Water Management Picling Automotion Water Management Picling Automotion TITLE: | . Management Facility Destination Key Energy Disposal | 6. Transporter
Key Energy Services |
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NM |
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| District]
1623 N. Dr., Hobbs, NM 88240
District II
1201100 Grand Amount Adding NM 68240 | State of New Mexico
Energy Minerals and Natural Resour | Form C-138
Received March 17, 1999 |
| District III | Oil Conservation Division | Submit Original |
| District IV | 1220 South St. Francis Dr. | JUN 2 4 2002 Plus I Copy
to Appropriate |
| 1220 S. O. FIRING DI., SHIRE FC, IMI 07505 | Santa Fe, NM 87505 | Od Conservation Distance Od Conservation Distance |
| REQUEST FO | R APPROVAL TO ACCEP | T SOLID WASTE |
| | | 4. Generator |
| 1. RCRA Exempt: Non-Exempt: | | Coastal Chemical |
| | | 5. Originating Site
Farmington Vard |
| | | |
| 2. Management Facility Destination Key | Energy Disposal | Key Energy Services |
| 3 Address of Facility Operator #345 CP 35 | 500 Artes New Mexico | 8. State |
| S. Thanks of Fairly Operator #545 Cit 3. | | NM |
| 7. Location of Material (Street Address or U) | LSTR) 1130 Madison Ln., Farmington | |
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| 9. <u>Circle Onc</u> : | | |
| A. All requests for approval to accept oilfi | eld exempt wastes will be accompanied by | a certification of waste from the Generator, |
| B. All requests for approval to accept non- | exempt wastes must be accompanied by n | ecessary chemical analysis to PROVE the |
| material is not-hazardous and the General approved | rator's certification of origin. No waste cla | ssified hazardous by listing or testing will be |
| All transporters must certify the wastes de | elivered are only those consigned for transp | DORT, |
| BRIEF DESCRIPTION OF MATERIAL: | | |
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| City water mixed with amounts of unused treat | ing chemicals. See MSDS information | A CONTRACTOR OFTA CONTRACTOR O |
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| Estimated Volume < 200_bbls Known V | Volume (to be entered by the operator at th | e end of the haul)cy |
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| SIGNATURE Waste Management Pacifity Authority | TITLE:Manager | DATE: _06-17-02 |
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| TYPE OR PRINT NAME:Michael Talovic | h | TELEPHONE NO. 505-334-6186 م
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| APPROVED BY: | $\frac{1}{1} \qquad \text{TITLE: } \frac{1}{2} | <u>DATE: 06/18/01</u> |
| APPROVED BY: Montines 3 the | TTTLE: Environment | m#/ 6 -000 DATE: 06/24/02 |

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Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| | 4. Generator |
|---|--|
| 1. RCRA Exempt: Non-Exempt: | Coastal Chemical |
| □Verbal Approval Received: Yes □ No [2] | 5. Originating Site
Farmington Yard |
| 2. Management Facility Destination Key Energy Disposal | 6. Transporter
Key Energy Services |
| 3. Address of Facility Operator #345 CR 3500 Aztec New Mexico | 8. State
NM |
| 7. Location of Material (Street Address or ULSTR) 1130 Madison Ln., Farmington NM | |
| 9 Circle One: | |

- A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; _____ one certificate per job.
- B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved
- All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

City water mixed with amounts of unused treating chemicals. See MSDS information



| Estimated Volume < 200_bbls Known Volume (to | be entered by the operator at the | end of the haul)cy |
|--|-----------------------------------|----------------------------|
| SIGNATURE Management Pacifity Authorized Agent | /
TITLE:Manager | DATE: _06-17-02 |
| TYPE OR PRINT NAME:Michael Talovich | | TELEPHONE NO. 505-334-6186 |
| (This space for State Use)
APPROVED BY: Dem Hom | TITLE: Env MO | Engr DATE: 06/18/02 |

| 1025 N. FICIUNIDI |
|-------------------------------|
| Habbs, NM 88240 |
| District II - (505) 748-1283 |
| 811 S. First |
| Artesta, Mol 88240 |
| District III - (505) 334-6178 |
| 1000 Rio Brazos Rand |
| Aztec. NM 87410 |
| District/IV - (505) 827-7131 |
| 2040 S. Pacheco |
| Santa Fe, NM 87505 |
| |

New Mexico Energy perals and Natural Resources De ment Oil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131 Form C-143 3/15/00

Submit to OCD Permitted Surface Waste Management Facility

GENERATOR CERTIFICATE OF WASTE STATUS

| 1. Waste Generator Name and Address: | 2 Permit Number (if waste generated at an OCD |
|---|---|
| Coastal Chemical C.o. LLC | permitted facility) |
| 1130 Madison Ln.
Farmington NM 87401. | • |
| 3. Description of Waste and Generating Process:
Rinse water from pump, hoses and tanks
used to deliver chemical. All Chemicals
rinsed out are virgin unused chemicals
Chemicals may include Alkanolamine, Glyce
(Teg & Eg) Antifreeze. | 4. Location of Waste (Street address &/or ULSTR):
Coastal Chemical Co LLC
1130 Madison Lane
Farmingoon NM \$7401 |
| | |
| 5. Destination (Surface Waste Management Facility): | 6. Transporter: |
| Key Energy Disposal
7. Estimated Volume <u>160</u> cy/bbls | |
| For NON-EXEMPT waste only, the following documentation is attac | hed (check appropriate items): |
| MSDS Information R | CRA Hazardous Waste Analysis (With Chain of Custody). |
| Other (Description) | |
| Generator certifies that, according to the Resource Conservation ar
Agency's July 1988 regulatory determination, the above described v | nd Recovery Act (RCRA) and the Environmental Protection vaste is: (check appropriate classification) |
| EXEMPT oilfield waste | XX NON-EXEMPT oilfield waste that is non-hazardous pursuant to 40 CFR Part 261. (Attach appropriate documentation) |
| In addition, Generator certifies that nothing has been added to this waste does not contain Naturally Occurring Radioactive Material (N | exempt or non-exempt non-hazardous waste and that this ORM) regulated pursuant to 20 NMAC 3.1 |
| Print Name: JOHN MESSENGER | Date: 6-17-02 |
| itle: WAREHWISHING | |

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

24-HOUR EMERGENCY PHONE NUMBER: 1-866-865-4767

Product: GAS/SPEC (R) CS-2000 GAS TREATING SOLVENT ADDITIVE

Product Code: 60643

Effective Date: 10/27/99 Date Printed: 12/04/00 MSD: 006132

INEOS, Limited Liability Company, Plaquimine, LA 70764

Customer Information Center: 1-866-865-4767

2. COMPOSITION/INFORMATION ON INGREDIENTS

Proprietary ingredient Water

CAS# 007732-18-5

<14 %

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

* Colorless to light yellow liquid. Slight amine odor. Causes eye

burns. Causes skin irritation. Toxic fumes are released in fire

situations.

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause severe eye irritation with corneal injury which may result in permanent impairment of vision, even blindness. Vapors or mists may cause eye irritation.

SKIN: Short single exposure may cause moderate skin irritation. Prolonged or repeated exposure may cause severe skin irritation. A single prolonged exposure is not likely to result in the material being absorbed in harmful amounts.

INGESTION: Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. Ingestion may cause irritation of the mouth, throat, and gastrointestinal tract.

INHALATION: If material is heated or aerosol/mist is produced, concentrations may be attained that are sufficient to cause respiratory irritation.

'Continued on Page 2)
' or (R) Indicates a Trademark of INEOS, Limited Liability Company

PAGE: 2

Product Name: GAS/SPEC (R) CS-2000 GAS TREATING SOLVENT ADDITIVE Product Code: 60643

Effective Date: 10/27/99 Date Printed: 12/04/00 MSD: 006132

4. FIRST AID

EYE: Immediate and continuous irrigation with flowing water for at least 30 minutes is imperative. Prompt medical consultation is essential.

SKIN: Wash off in flowing water or shower.

INGESTION: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

-- FLAMMABLE PROPERTIES FLASH POINT: >300F METHOD USED: SETAFlash CC

FLAMMABILITY LIMITS

LFL: Not determined. UFL: Not determined. AUTOIGNITION TEMPERATURE: Not determined.

- HAZARDOUS COMBUSTION PRODUCTS: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to nitrogen oxides, carbon monoxide, carbon dioxide.
- OTHER FLAMMABILITY INFORMATION: This material will not burn until the water has evaporated. Residue can burn. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

EXTINGUISHING MEDIA: To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.

(Continued on Page 3)
* or (R) Indicates a Trademark of INEOS, Limited Liability Company

Product Name: GAS/SPEC (R) CS-2000 GAS TREATING SOLVENT ADDITIVE Product Code: 60643

Effective Date: 10/27/99 Date Printed: 12/04/00 MSD: 006132

5. FIRE FIGHTING MEASURES (CONTINUED)

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical, or foam.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant clothing with SCBA. This will not provide sufficient fire protection. Consider fighting fire from a remote location. For protective equipment in post-fire or non-fire clean up situations, refer to the relevant sections.

- 6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)
 - PROTECT PEOPLE: Isolate area. May be a slipping hazard. See MSDS, Section 10, for information on stability and reactivity.
 - PROTECT THE ENVIRONMENT: Contain liquid to prevent contamination of soil, surface water or ground water.
 - CLEANUP: Clean up with absorbent material. Avoid materials such as sawdust. Collect material in suitable and properly labeled containers.

7. HANDLING AND STORAGE

- HANDLING: Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.
- STORAGE: Keep containers tightly closed when not in use. Recommended storage in a cool, dry place away from high temperatures, hot pipes, and direct sunlight. Do not store in aluminum, brass, copper, copper alloys.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

(Continued on Page 4)
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 | ffective Date: 10/27/99 Date Printed: 12/04/00 MSD: 006132 |
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| | EXPOSURE_CONTROLS/PERSONAL PROTECTION (CONTINUED) |
| | |
| ÷ | EYE/FACE PROTECTIVE EQUIPMENT
EYE/FACE PROTECTION: Use chemical goggles. Eye wash fountain
should be located in immediate work area. If vapor exposure
causes eye discomfort, use a full-face respirator. |
| | SKIN PROTECTION: Use gloves impervious to this material.
When prolonged or frequently repeated contact could occur,
use protective clothing impervious to this material. Selection
of specific items such as faceshield, gloves, boots, apron, or
full-body suit will depend on operation. |
| | RESPIRATORY PROTECTION: For most conditions, no respiratory
protection should be needed; however, if material is heated or
sprayed, use an approved air-purifying respirator. |
| | EXPOSURE GUIDELINES: None established. |
| Ċ | . PHYSICAL AND CHEMICAL PROPERTIES |
| | APPEARANCE: Colorless to light yellow liquid.
ODOR: Slight amine.
BOILING POINT: 233.8F, 112.1C
VAPOR PRESSURE: 0.2 mmHg @ 20 C
VAPOR DENSITY: >1.0
SOLUBILITY IN WATER: Complete
SPECIFIC GRAVITY: 0.94 @ 20/20C
FREEZING POINT: -28F (-33C) |
| | 10. STABILITY AND REACTIVITY |
| | CHEMICAL STABILITY: Stable under recommended storage conditions.
See Storage, Section 7. |
| | CONDITIONS TO AVOID: Product can decompose at elevated temperatures. |
| | INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with
halogenated hydrocarbons, nitrites, strong acid. Avoid
contact with oxidizing materials. Heating above 60C in the |
| | presence of aluminum can result in corrosion and generation of flammable hydrogen gas. Product may potentially react |

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| | MATERIAL SAFETY DATA SHEET PAGE: 5 |
|---|--|
| | Product Name: GAS/SPEC (R) CS-2000 GAS TREATING SOLVENT ADDITIVE
Product Code: 60643 |
| | Effective Date: 10/27/99 Date Printed: 12/04/00 MSD: 006132 |
| | |
| | 10STABILITY_AND_REACTIVITY_(CONTINUED) |
| | HAZARDOUS DECOMPOSITION: Hazardous decomposition products depend
upon temperature, air supply and the presence of other materials. |
| | HAZARDOUS POLYMERIZATION: Will not occur. |
| | 11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health
Effects. For detailed toxicological_data, write or call the
address or non-emergency number shown in Section 1) |
| | SKIN: The dermal LD50 has not been determined. |
| | INGESTION: The oral LD50 for rats is 1360 mg/kg. |
| | MUTAGENICITY: No relevant information found. |
| | 12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call
the address or non-emergency number shown in Section 1) |
| | ENVIRONMENTAL FATE
MOVEMENT & PARTITIONING: Based largely or completely on data
for major component(s). Bioconcentration potential is
low (BCF less than 100 or Log Pow less than 3). Potential
for mobility in soil is very high (Koc between 0 and 50). |
| | DEGRADATION & PERSISTENCE: Based largely or completely on
data for major component(s). Biodegradation may occur
under aerobic conditions (in the presence of oxygen). |
| - | ECOTOXICITY: Based largely or completely on data for
major component(s). Material is practically non-toxic to
fish on an acute basis (LC50 > 100 mg/L). Acute LC50 in
golden orfe (Leuciscus idus) is 270 mg/L. Toxicity
EC50 in microorganisms is 270 mg/L. |
| | 13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information) |
| | DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY
BODY OF WATER. All disposal methods must be in compliance with
all Federal, State/provincial and local laws and regulations. |
| | izations and compliance with applicable laws are the responsi-
bility solely of the waste generator. INEOS, LIMITED LIABILITY |
| | HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING
PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE
INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS |

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(Continued on Page 6) * or (R) Indicates a Trademark of INEOS, Limited Liability Company

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MATERIAL SAFETY DATA SHEET

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Product Name: GAS/SPEC (R) CS-2000 GAS TREATING SOLVENT ADDITIVE Product Code: 60643

Effective Date: 10/27/99 Date Printed: 12/04/00 MSD: 006132

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

SHIPPED IN ITS_INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: incinerator or other thermal destruction device.

As a service to its customers, INEOS can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone INEOS's Customer Information Center at 866-865-4767 for further details.

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (D.O.T.): For D.O.T. regulatory information, if required, consult transportation regulations, product shipping papers, or your INEOS representative.

CANADIAN TDG INFORMATION For TDG regulatory information, if required, consult transportation regulations, product shipping papers, or your INEOS representative.

15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

(Continued on Page 7)
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MATERIAL SAFETY DATA SHEET

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Product Name: GAS/SPEC (R) CS-2000 GAS TREATING SOLVENT ADDITIVE Product Code: 60643

Effective Date: 10/27/99 Date Printed: 12/04/00 MSD: 006132

REGULATORY INFORMATION: (CONTINUED)

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME CAS NUMBER LIST PROPRIETARY INGREDIENT PROPRIETARY PA1

PAl=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT

(Continued on Page 8) * or (R) Indicates a Trademark of INEOS, Limited Liability Company MATERIAL SAFETY DATA SHEET

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Product Name: GAS/SPEC (R) CS-2000 GAS TREATING SOLVENT ADDITIVE Product Code: 60643

Effective Date: 10/27/99 Date Printed: 12/04/00

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REGULATORY INFORMATION: (CONTINUED)

(CERCLA, or SUPERFUND):

To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA.

16. OTHER INFORMATION

PRODUCT USE: Solvent for selective extraction and dissolution.

REVISION INDICATOR: Revised Sections 2, 3, 5, 9, 10 and 15.

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1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

24-HOUR EMERGENCY PHONE NUMBER: 1-866-865-4767

Product: GAS/SPEC* CS-PLUS SOLVENT ADDITIVE

| Product Code: 29451 | | | |
|--|---|--|-----------------------------------|
| Effective Date: 10/18/00 Da | te Printed: 12/04/00 | MSD: 002850 | |
| INEOS, Limited Liability Compa | ny, Plaquimine,LA 70764 | T | • |
| Customer Information Center: 1 | -866-865-4767 | 18 | |
| 2. COMPOSITION/INFORMATION ON INGRE | DIENTS | | |
| Proprietary alkylamine
Water | CAS# 007732-18-5 | 90 to 100%
Max. 4% | 2 |
| 3. HAZARDS IDENTIFICATION | | | |
| EMERGENCY O | VERVIEW | ~ | |
| Colorless liquid. Amine odor. burns. Causes skin burns. To situations. | Combustible. Causes se
xic fumes are released in | evere eye * | |
| ****** | ******* | ******** | وللمعيوم الديامية ماريكي مساورتهم |
| POTENTIAL HEALTH EFFECTS (See Se | ection 11 for toxicologica | al data.) | |
| EYE: May cause severe irrita
result in permanent impairm | tion with corneal injury
Ment of vision, even blind | which may
lness. | |
| SKIN: Short single exposure
exposure may cause severe s
corrosive. A single prolor
material being absorbed in | may cause skin burns. Pr
skin burns. DOT Classific
nged exposure may result i
harmful amounts. | rolonged
cation:
in the | |
| INGESTION: Single dose oral
Small amounts swallowed inc | toxicity is considered to
cidental to normal handlin | o be low.
ng | |
| operations are not likely t
larger than that may cause
gastrointestinal irritation
burns of the mouth and thro
liver and kidney effects. | to cause injury; swallowin
injury. Ingestion may ca
n or ulceration. Ingestion
pat. Observations in anim | ng amounts
ause
on may cause
mals include | |
| INHALATION: At room temperat
physical properties; highe:
levels sufficient to cause | ture, vapors are minimal o
r temperatures may genera
adverse effects. | due to
te vapor | |
| SYSTEMIC (OTHER TARGET ORGAN
found. |) EFFECTS: No relevant i | nformation | |
| (Continued on Page 2) | | | |

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| MATERIAL SAFETY, DATA SHEET PAGE: 2 | | |
|---|---|---------|
| Product Name: GAS/SPEC* CS-PLUS SOLVENT ADDITIVE
Product Code: 29451 | | |
| Effective Date: 10/18/00 Date Printed: 12/04/00 MSD: 002850 | | |
| | | |
| 3. HAZARDS IDENTIFICATION (CONTINUED) | | |
| | | · |
| <pre>TERATOLOGY (BIRTH DEFECTS): Birth defects are unlikely.
Exposures having no adverse effects on the mother should have no
effect on the fetus.</pre> 4. FIRST AID | • | |
| EYE: Immediate and continuous irrigation with flowing water for
at least 30 minutes is imperative. Prompt medical consultation
is essential. | | <i></i> |
| SKIN: In case of contact, immediately flush skin with plenty of
water for at least 15 minutes while removing contaminated
clothing and shoes. Call a physician if irritation persists.
Wash clothing before reuse. Destroy contaminated shoes. | | |
| INGESTION: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel. | | |
| INHALATION: Remove to fresh air if effects occur. Consult a physician. | | |
| NOTE TO DIVETOTANT. New reverse to reverse the section land the to | | |

NOTE TO PHYSICIAN: May cause tissue destruction leading to stricture. If lavage is preformed, suggest endotracheal and/or esophageal control. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES FLASH POINT: 160F, 71C. METHOD USED: PMCC.

FLAMMABILITY LIMITS LFL: 1.6% UFL: 19.6% AUTOIGNITION TEMPERATURE: 1224 F (662 C)

HAZARDOUS COMBUSTION PRODUCTS: During a fire smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to: nitrogen oxides, carbon monoxide, carbon dioxide.

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MATERIAL SAFETY DATA SHEET

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Product Name: GAS/SPEC* CS-PLUS SOLVENT ADDITIVE Product Code: 29451

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5. FIRE FIGHTING MEASURES (CONTINUED)

OTHER FLAMMABILITY INFORMATION: Violent steam generation or eruption may occur upon application of direct water stream.

EXTINGUISHING MEDIA: Water fog or fine spray, carbon dioxide, dry chemical, foam. Alcohol resistant foams are preferred if available. General purpose synthetic foams or protein foams may function, but much less effectively.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Contain fire water run-off if possible. Fire water run-off, if not contained may cause environmental damage. Review the "Protect the Environment" section under "Accidental Release Measures" of this MSDS to determine if material should be allowed to burn out or be extinguished. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant clothing with SCBA. This will not provide sufficient fire protection, consider fighting fire from a remote location. For protective equipment in post-fire or non-fire clean up situations, refer to the relevant sections.

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6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Isolate area. May be a slipping hazard.

PROTECT THE ENVIRONMENT: Contain liquid to prevent contamination of soil, surface water or ground water.

CLEANUP: Clean up with absorbent material. Avoid materials such as sawdust. Collect material in suitable and properly labeled containers.

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7. HANDLING AND STORAGE

HANDLING:

Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperature possibly resulting in spontaneous combustion.

Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancercausing nitrosamines could be formed.

Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

STORAGE:

Store in a tightly closed container, away from sunlight, in a cool, dry and well ventilated area. Keep away from strong acids and oxidizing materials.

Recommended material of construction of storage facility is 316 ----- stainless steel.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use chemical goggles. Eye wash fountain should be located in immediate work area.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as faceshield, gloves, boots, apron, or full-body suit will depend on operation. Butyl rubber, neoprene, viton or PVC materials offer superior breakthrough resistance. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse. Contaminated leather items, such as shoes, belts and watchbands, should be removed and destroyed.

RESPIRATORY PROTECTION: For most conditions, no respiratory protection should be needed; however, if handling at elevated

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| | MATERIAL SAFETY DATA SHEET PAGE: 5 |
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| | Product Name: GAS/SPEC* CS-PLUS SOLVENT ADDITIVE
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| منعد ما بود بر بر میشارد. | 8. EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED) |
| | temperatures without sufficient ventilation, use an approved air-purifying respirator. |
| | EXPOSURE GUIDELINES: None established. |
| | 9. PHYSICAL AND CHEMICAL PROPERTIES |
| | APPEARANCE: Colorless liquid
ODOR: Amine
BOILING POINT: 306-324F, 152-162C |
| | VAPOR PRESSURE: <2.5 mmHg @ 20C
VAPOR DENSITY: 2.6
SOLUBILITY IN WATER: Complete
SPECIFIC GRAVITY: 0.93-0.94 @ 20/20C |
| | FREEZING POINT: -4.5C, 24F |
| | CUENICAL STABILITY. Stable |
| . | CONDITIONS TO AVOID: Product can decompose at elevated
temperatures. Avoid direct sunlight. |
| | INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with oxidizing materials. Avoid contact with acids, strong oxidizers. |
| | HAZARDOUS DECOMPOSITION: Hazardous decomposition products depend
upon temperature, air supply and the presence of other materials. |
| | HAZARDOUS POLYMERIZATION: Will not occur. |
| | 11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health
Effects. For detailed toxicological data, write or call the
address or non-emergency number shown in Section 1) |
| | SKIN: The LD50 for skin absorption in male rabbits is
1880 mg/kg. The LD50 for skin absorption in female rabbits
is 1006 mg/kg. |
| | INGESTION: The oral LD50 for rats is between 1000 and 2340 mg/kg. |
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Product Name: GAS/SPEC* CS-PLUS SOLVENT ADDITIVE Product Code: 29451

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12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE MOVEMENT & PARTITIONING: No data available at MSDS⁻effective date.

DEGRADATION & PERSISTANCE: No data available at MSDS effective date.

ECOTOXICOLOGY: No data available at MSDS effective date.

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. INEOS, LIMITED LIABILITY

COMPANY

HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: incinerator or other thermal destruction device.

As a service to its customers, INEOS can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone INEOS's Customer Information Center at 866-865-4767 for further details.

14. TRANSPORT INFORMATION

UNITED STATES DOT INFORMATION

For DOT regulatory information, if required, consult transportation regulations, product shipping papers, or your INEOS representative.

CANADIAN TDG INFORMATION

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14. TRANSPORT INFORMATION (CONTINUED)

For TDG regulatory information, if required, consult transportation regulations, product shipping papers, or your INEOS representative.

15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The followingspecific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

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SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

A fire hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

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| ۲ | MATERIAL SAFETY DATA SHEET PAGE: 8 | |
| ` | Product Name: GAS/SPEC* CS-PLUS SOLVENT ADDITIVE
Product Code: 29451 | |
| | Effective Date: 10/18/00 Date Printed: 12/04/00 MSD: 002850 | |
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| | | |
| * | REGULATORI INFORMATION: (CONTINUED) | |
| | STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS. | |
| e 1997 | CHEMICAL NAME CAS NUMBER LIST | ·e· |
| | PROPRIETARY INGREDIENT PROPRIETARY PA1 | |
| | PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%). | |
| | | |
| | OSHA HAZARD COMMUNICATION STANDARD: | |
| | This product is a "Hazardous Chemical" as defined by the OSHA Hazard
Communication Standard, 29 CFR 1910.1200. | · · · · · |
| | COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND):
To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA. | |
| | CANADIAN REGULATIONS | |
| • | WHMIS INFORMATION: The Canadian Workplace Hazardous Materials
Information System (WHMIS) Classification for this product is: | . . |
| | B3 - combustible liquid with a flash point between 37.8C and 93.3C E - corrosive to metal or skin Refer elsewhere in the MSDS for specific warnings and
safe handling information. Refer to the employer's | |
| | workplace education program. | |
| | CPR STATEMENT: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR. | |
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| Product Name: GAS/SPEC* | CS-PLUS SOLVENT ADDITIVE | | |
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| EGULATORY INFORMATION: | (CONTINUED) | | · · |
| | • | | |
| | | | |
| AZARDOUS PRODUCTS ACT | INFORMATION: This product | contains the following | * |
|)isclosure List (Canadi | an HPA section 13 and 14): | on the ingredient | |
| COMPONENTS: | CAS # | AMOUNT (%w/w) | |
| Proprietary alkylam | ine | 90-100% | ÷ |
| | | | |
| | | | |
| MIRA INFORMATION: A cl | aim for exemption from ing | redient disclosure has | |
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registry number, and da
Claim Registry Number:
16. OTHER INFORMATION
PRODUCT USE: Dev | aim for exemption from ing
Hazardous Materials Infor
Is Materials Information Re
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relopmental solvent for sel | redient disclosure has
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16. OTHER INFORMATION
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| Section 1. Che | mical Pro | duct and Co | ompany Id | entification | | | | |
|---|---|--------------------------------|--------------------------|--|------------------------|--|--|--|
| Common Name | Coastalguard 100 | | | | Code | 37252 | | |
| Summer | | | | · | MSDS# Not available. | | | |
| | 3520-Veterai | 2014 terans Memorial Drive | | | Validation Date 8/8/96 | | | |
| , <u>1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997</u> | ABBEVILLE | , LA 70510 | | a a finan air na ann an an an an an ann an ann ann a | Print Date | 6/2/99 | | |
| | 318-893- 3 86 | 2 | | | | | | |
| Synonym | Not.available. | | | | | | | |
| Trade name | Not available. | | * | | Emergency | Transportation Emergency
Call | | |
| Material Uses | Industrial app | lications: Coola | nt and antifre | eze. | t | CHEMTREC 800-424-9300 | | |
| | | | | | | Other Information Call | | |
| | | | <u>ب</u> | | | 713-477-6675 | | |
| Section 2. Con | 3520 Veteran
Abbeville, La.
nposition a | s Memorial Driv
and Informa | tion on In | gredients | <u></u> | | | |
| Name | | CAS# | % by
Weight | TLV/PEL | | LC_{50}/LD_{50} | | |
| Ethylene Glycol | | 107-21-1 | 95 | CEIL: 39.4 (ppr
(mg/m ³) | m) CEIL: 100 | ORAL (LD50) mg/kg: Acute:
4700 (Rat). DERMAL
(LD50) mg/kg: Acute: 9530
(Rabbit.). | | |
| Section 3. Haz | ards Ident | tification | | | | | | |
| -
Emorgancy Overview | • . | | | | | | | |
| Jureigency Overview | 5 - 2 A A
1973#0 | de la MaAta
en or prolong- | EC. HARMi
ed exposure | AH HESWALL.
AG ODE OD GAR | 1. 1978 C | n tab
Muur to tabe | | |
| Routes of Entry | Ingestio | n. | | | | | | |
| Potential Acute Health
Effects | th Very dangerous in case of ingestion. Very slightly to slightly dangerous in case of skin contact (irritant, sensitizer, permeator), of eye contact (irritant), of inhalation. This product may irritate eyes and skin upon contact. | | | | | | | |
| Potential Chronic Hea
Effects | alth CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available. The substance is toxic to kidneys, the nervous
system, the reproductive system, liver. Repeated or prolonged exposure to the substance can
produce target organs damage. | | | | | | | |
| Section 4. Firs | st Aid Mea | sures | | | | ······ | | |

| Eye Contact | IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open.
COLD water may be used. |
|--------------|--|
| Skin Contact | If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing. |

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Continued on Next Page

| Coastalguard 10 |) Page Number: 2 |
|------------------------|---|
| Hazardous Skin Contact | No additional information. |
| Inhalation | Allow the victim to rest in a well ventilated area. Seek immediate medical attention. |
| Hazardous Inhalation | No additional information. |
| Ingestion | DO-NOT induce vomiting. Have conscious person drink several glasses of water or milk. Seek |
| Hazardous Ingestion | DO NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention. |

| Section 5. Fire and | l Explosion Data |
|---|---|
| Flammability of the
Product | Combustible. |
| Auto-Ignition Temperature | The lowest known value is 398°C (748.4°F) (Ethylene Glycol). |
| Flash Points | The lowest known value is CLOSED CUP: 116°C (240.8°F) OPEN CUP: 232°C (240.8°F) (Cleveland) (Ethylene Glycol) |
| Flammable Limits | The greatest known range is LOWER: 3.2% UPPER: 15.3% (Ethylene Glycol) |
| Products of Combustion | These products are carbon oxides (CO, CO2). |
| Fire Hazards in Presence of
Various Substances | Very slightly to slightly flammable in presence of open flames and sparks, of heat. |
| Explosion Hazards in
Presence of Various
Substances | Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.
No specific information is available in our database regarding the product's risks of explosion in
the presence of various materials. |
| Fire Fighting Media
and Instructions | SMALL FIRE: Use DRY chemicals, CO2, water spray or foam.
LARGE FIRE: Use water spray, fog or foam. DO NGT use water jet. |
| Special Remarks on
Fire Hazards | When heated to decomposition, it emits acrid smoke and irritating fumes. (Ethylene Glycol) |
| Special Remarks on
Explosion Hazards | No additional remark. |

Section 6. Accidental Release Measures

| Small Spill | Dilute with water and mop up, or absorb with an inert DRY material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. |
|-------------|--|
| Large Spill | Combustible material.
Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Finish
cleaning by spreading water on the contaminated surface and allow to evacuate through the
sanitary system. |

| Section 7. H | Section 7. Handling and Storage | | | | |
|--------------|--|--|--|--|--|
| Handling | Not available. | | | | |
| Storage | Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents. | | | | |

Coastalguard 100

Page Number: 3

| Section 8. Exposu | re Controls/Personal Prote | ction | | | |
|-------------------------------|--|--|--|--|--|
| Engineering Controls | Provide exhaust ventilation or other engeneering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location. | | | | |
| Personal Protection | Safety glasses. Lab coat. Gloves (impervious). Wear appropriate respirator when ventilation is inadequate. | | | | |
| Personal Protection in Case | Splash goggles. Full suit. Boots. | Gloves. Suggested protective clothing might not be sufficient; | | | |
| of a Large Spill | consult a specialist BEFORE hand | ing this product. | | | |
| Chemical Name or Product | Name CAS # | Exposure Limits | | | |
| 1,2-Ethanediol | 107-21-1 | CEIL: 39.4 (ppm) CEIL: 100 (mg/m ³) ~ | | | |
| Section 9. Physica | l and Chemical Properties | | | | |
| Physical state and appearance | Liquid. | Odor Not.available. | | | |
| Molecular Weight | Not applicable. | Taste Not available. | | | |
| pH (1% soln/water) | 8 to 10 [Basic.] | Color Green. (Dark.) | | | |
| Boiling Point | The lowest known value is 198°C (| 388.4°F) (Ethylene Glycol). | | | |
| Melting Point/Pour Point | May-start to solidify at -13.5°C (7.7 | °F) based on data for: Ethylene Glyeol. | | | |
| Critical Temperature | Not available. | | | | |
| Specific Gravity | The only known value is 1.12 (Water = 1) (Ethylene Glycol). | | | | |
| Vapor Pressure | The highest known value is 0.05 mm of Hg (@ 20°C) (Ethylene Glycol). | | | | |
| Vapor Density | The highest known value is 2.1 (A | ir = 1) (Ethylene Glycol). | | | |
| Volatility | Not available. | | | | |
| Odor Threshold | Not available. | | | | |
| Evaporation rate | Not available. | | | | |
| Viscosity | Not available. | | | | |
| Water/Oil Dist. Coeff. | The product is much more soluble in water. | | | | |
| Ionicity (in Water) | Not available. | | | | |
| Dispersion Properties | See solubility in water, methanol, d | iethyl ether. | | | |

 Solubility
 Easily soluble in cold water, hot water, methanol, diethyl ether.

 Very slightly soluble in n-octanol.

 Physical Chemical

•••

 Comments

 Section 10. Stability and Reactivity Data

 Chemical Stability
 The product is stable.

 Conditions of Instability
 No additional remark.

 Incompatibility with various substances
 Slightly reactive to reactive with oxidizing agents, alkalis.

 Hazardous Decomposition Products
 Not available.

 Hazardous Polymerization
 Not available.

| · Coastalguard 100 | Page Number: 4 |
|---|--|
| Section 11. Toxico | logical Information |
| Toxicity to Animats | Acute oral toxicity (LD50): 4700 mg/kg (Rat)
Acute dermal toxicity (LD50): > 5000 mg/kg (Rabbit.) |
| Chronic Effects on Humans | The substance is toxic to kidneys, the nervous system, the reproductive system, liver. |
| Other Toxic Effects on
Humans | Very dangerous in case of ingestion.
Very-slightly-to-slightly-dangerous-in-case-of-skin-contact-(irritant,-sensitizer,-permeator), of-eye-
contact (irritant), of inhalation. |
| Special-Remarks on
Toxicity to Animals | Toxic for humans or animal life. (Ethylene Glycol) |
| Special Remarks on
Chronic Effects on Humans | No additional remark. |
| Special Remarks on other
Toxic Effects on Humans | Exposure can cause nausea, headache and vomiting. (Ethylene Glycol) |

| Section 12. Ecological Information | | | | | | |
|--|---|--|--|--|--|--|
| Ecotoxicity | Not available. | | | | | |
| BOD5 and COD | Not available. | | | | | |
| Products of Biodegradation | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. | | | | | |
| Toxicity of the Products of Biodegradation | The products of degradation are less toxic than the product itself. | | | | | |
| Special Remarks on the | No additional remark. | | | | | |

Products of Biodegradation

Section 13. Disposal Considerations

Waste Disposal

ŝ

Section 14. Transport Information

| Propper Shipping Name | Drums - Not Regulated
Bulk (> 535 gals.) - Regulated
Other Regulated Substances, liquid, n.o.s. | |
|--|---|------|
| DOT Classification | DOT CLASS 9: Miscellaneous hazardous material. | |
| DOT Identification
Number | NA3082 |
 |
| Packing Group | III | 1 |
| Hazardous Substances
Reportable Quantity (kg) | 5000 | 1 |
| Special Provisions for
Transport | No additional remark. | |

| " (| ` ^ | ac | tal | cui | ar | h | 10 | 0 |
|-----|------------|-----|-----|-----|----|---|----|---|
| L. | 0 | 2.2 | Lai | yu | ar | u | 10 | v |

| Section 15. Reg | ulatory Information | ٦ | | | |
|--|--|---|--|--|--|
| Federal and StateThe following product(s) is (are) listed on SARA 313: | | | | | |
| Other Classifications | WHMIS (Canada) - WHMIS CLASS D-2A: Material causing other toxic effects (VERY TOXIC) | _ | | | |
| | DSCL (EEC) Not controlled under DSCL (Europe). | | | | |

| Section 16. Ot | her Information | | | | |
|--|---|--|--|--|--|
| HMIS (U.S.A.) | Implification×2NInclusion1PReactivity0APersonal ProtectionB | ational Firc
rotection
ssociation (U.S.A.) | Health Health Fire Hazard *
Reactivity
Specific hazard | | |
| References | Not available. | | | | |
| Other Special
Considerations | No additional remark. | | | | |
| Validated by Joe Hudi | nan on 8/8/96. | Verified by Joe Hudman. | | | |
| | | Printed 6/2/99. | | | |
| Transportation Emerg
CHEMTREC 800-424
Other Information Ca
Joe Hudman
713-477-6675 | gency Call
-9300
II | | - · · | | |
| Notice to Reader
Tu the best of our knowledge, the inj
of the information contained herein,
certain hazards are described herein, | formation contained herein is accurate. However, neither the abo
Final determination of suitability of any material is the sole res
we cannot guarantee that these are the only hazards that exist. | we named supplier nor any of its subsidi
ponsibility of the user. All materials may | iries assumes any liability whatsoever for the accuracy or completeness
present unknown hazards and should be used with caution. Although | | |

PAGE: 1

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

24-HOUR EMERGENCY PHONE NUMBER: 1-866-865-4767

Product: GAS/SPEC* SS SELECTIVE SOLVENT VARIABLE FF

Product Code: 38377

| A MARKET OF THE REPORT OF THE | | | | |
|---|---------|---------------|----------|-------------|
| ffective Date: 0 | 3/15/99 | Date Printed: | 12/04/00 | MSD: 003135 |

INEOS, Limited Liability Company, Plaquimine, LA 70764

Customer Information Center: 1-866-865-4767

2. COMPOSITION/INFORMATION ON INGREDIENTS

| -Methyldiethanolamine | CAS# | 000105-59-9 | 25-50% |
|-----------------------|--------|-------------|--------|
| Water, demineralized | - CAS# | 007732-18-5 | 50-75% |
| Proprietary additive | | | <18 |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

| * * | ***** | ***** | ****** | ******* | ****** | * * * * * * | * * * * * * * * | ***** | * * * * * | * * * * * * * * * * | **** | * * |
|-----|-------|--------|---------|---------|--------|-------------|-----------------|-------|-----------|---------------------|------|------|
| * | Pale | straw | colored | liquid, | amine | odor. | Toxic | fumes | are | rleased | in | * |
| * | fire | situat | ions. | | | | | | | | | * |
| * | | | | | | | | | | موريده الدرو | | .* . |

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause slight irritation with corneal injury.

- SKIN: Prolonged contact is essentially nonirritating to skin. Repeated exposure may cause skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.
- INGESTION: Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

INHALATION: Excessive exposure may cause irritation to upper respiratory tract.

4. FIRST AID

EYE: Flush eyes with plenty of water.

SKIN: Wash off in flowing water or shower.

(Continued on Page 2) * or (R) Indicates a Trademark of INEOS, Limited Liability Company

| Effect | ive Date: 03/15/99 | Date Printed: 12/04/00 | MSD: 003135 | |
|---------|--|--|---|---|
| | | | | |
| 4. FIRS | TAID (CONTINUED) | | | · · · · · · · · · · · · · · · · · · · |
| | and a second second second second second second second second second second second second second second second | | | ۱۰۰۰ کی داندان پر میں اور میں میں بین میں میں میں میں میں میں میں میں میں میں |
| • Ł | INGESTION: If swallow
vomiting unless dire | ed, seek medical attention.
ected to do so by medical per | Do not induce
csonnel. | |
| : | INHALATION: Remove to physician. | o fresh air if affects occur. | . Consult a | |
|]
 | NOTE TO PHYSICIAN: No
Treatment based on j
to reactions of the | specific antidote. Support
udgment of the physician in
patient. | ive care.
response | |
| 5. FIR | E FIGHTING MEASURES | | | |
| 1 | FLAMMABLE PROPERTIES | | | |
| | FLASH POINT: >200F | ~ | | |
| | METHOD USED: PMCC
AUTOIGNITION TEMPERA | ATURE: Not applicable. | | |
| | היא אשא א די דייע | | | |
| | LFL: Not determined
UFL: Not determined | 1.
1 | n an anna an an | • • • • • |
| : | HAZARDOUS COMBUSTION E
decompose. The smok
compositions in addi
compounds. | PRODUCTS: Under fire condit
se may contain polymer fragm
ition to unidentified toxic | ions polymers
ents of varying
and/or irritating | |
| | OTHER FLAMMABILITY IN
until the water has | FORMATION: This material wi
evaporated. Resídue can bu | ll not burn
rn. | |
| | EXTINGUISHING MEDIA:
dry chemical, or for
(including AFFF type | Water fog or fine spray, ca
am, General purpose synthet
e) or protein foams are pref | rbon dioxide,
ic foams
erred if | |
| · | availabile. Alcono. | r resistant roams (Art type) | may function. | |
| | FIRE FIGHTING INSTRUC
area and deny unnec
if possible. Fire w | TIONS: Keep people away. I
essary entry. Contain fire
water run-off, if not conta | solate fire
water run-off
ined | |
| | may cause environmen | ntal damage. Review the "Pr | otect the | |
| | of this MSDS to det | ermine if material should be | allowed | |
| | to burn out or be e | xtinguished. | | |
| | PROTECTIVE EQUIPMENT | FOR FIRE FIGHTERS: Wear pos | itive-pressure, | |
| | self-contained brea | thing apparatus (SCBA) and p | protective fire | |
| (Conti | nued on Page 3) | ark of INFOS limited liabil | ity Company | |

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| Ef | fective Date: 03/15/99 Date Printed: 12/04/00 MSD: 003135 |
|----|---|
| | |
| 5. | FIRE FIGHTING MEASURES (CONTINUED) |
| | fighting clothing (includes fire fighting belmet, coat, papts |
| | boots and gloves). If protective equipment is not available
or not used, fight fire from a protected location or safe
distance. |
| 6. | ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory
Information) |
| | PROTECT PEOPLE: Clear non-emergency personnel from area. |
| | PROTECT THE ENVIRONMENT: Keep out of sewers, storm drains, surface waters and soil. |
| | CLEANUP: Contain spill if possible. Clean up with absorbant materials. |
| 7. | HANDLING AND STORAGE |
| | HANDLING: Containers, even those that have been emptied, can
contain vapors. Do not cut, drill, grind, weld or perform
similar operation on or near empty containers. |
| | STORAGE: Keep containers closed when not in use. Store in cool
dry place with adequate ventilation. Do not store near heat
or open flames. |
| 8. | EXPOSURE CONTROLS/PERSONAL PROTECTION |
| | ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations. |
| | PERSONAL PROTECTIVE EQUIPMENT
EYE/FACE PROTECTION: Use chemical goggles. |
| | SKIN PROTECTION: Use gloves impervious to this material when |
| | RESPIRATORY PROTECTION: If respiratory irritation is experienced, use an approved air-purifying repirator. |
| - | EXPOSURE GUIDELINE(S): None established. |
| | |

MATERIAL SAFETY DATA SHEET

PAGE: 4

| Product | Name: | GAS/SPEC* | SS | SELECTIVE | SOLVENT | VARIABLE | FF |
|---------|-------|-----------|----|-----------|---------|----------|----|
| Product | Code: | 38377 | | | | | |

Effective Date: 03/15/99 Date Printed: 12/04/00 MSD: 003135

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Pale straw liquid. ODOR: Amine odor. VAPOR PRESSURE: <20 mmHg @ 25C VAPOR DENSITY: 4 BOILING POINT: 104C SOLUBILITY IN WATER: Complete SPECIFIC GRAVITY: 1.03-1.04

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Thermally stable at typical use temperatures.

CONDITIONS TO AVOID: Active ingredient decomposes at elevated temperatures. Product can decompose at elevated temperatures.

INCOMPATABILITY WITH OTHER MATERIALS: Avoid contact with strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition products depend upon temperature, air supply and the presence

of other materials. Hazardous decomposition products may include and are not limited to: carbon monoxide, nitrogen oxides.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

INGESTION: The oral LD50 for rats is expected to be >2000 mg/kg.

12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE MOVEMENT & PARTITIONING: Based on information for methydiethanolamine. Bioconcentration potential is low (BCF less than 100 or Log Pow less than 3).

DEGRADATION & PERSISTENCE: Based on information for methyldiethanolamine. Biodegradation under aerobic static

(Continued on Page 5)
* or (R) Indicates a Trademark of INEOS, Limited Liability Company

SKIN: The LD50 for skin absorption in rabbits is expected to be >6000 mg/kg.

| • M A | TERIAL SAFETY | DATA SHEET | PAGE: 5 | |
|--|---|---|--|------|
| • Prod
Prod | uct Name: GAS/SPEC* SS SELH
uct Code: 38377 | ECTIVE SOLVENT VARIABLE F | FF - | · ny |
| Effe | ctive Date: 03/15/99 I | Date Printed: 12/04/00 | MSD: 003135 | |
| | | | | |
| 12. | ECOLOGICAL INFORMATION (FO | r_detailed_Ecological_dat | a, write or call | |
| and the spectra with the spectrum spectrum shared base | laboratory conditions
than 40%). Biodegrad
water with acclimatio | s is high (BOD20 or BOD28
dation rate may increase
on. | B/ThOD greater
in soil and/or | |
| | ECOTOXICITY: Based on in
Material is practically
acute basis (LC50 great
species). | nformation for methydieth
y noñ-toxic to aquatic or
ter than 100 mg/L in most | nanolamine.
rganisms on an
sensitive | |
| 13. | DISPOSAL CONSIDERATIONS (S | ee Section 15 for Regulat | tory Information) | |
| COM | DISPOSAL: DO NOT DUMP I
BODY OF WATER. All dis
all Federal, State/Pro-
Regulations may vary in
izations and compliance
bility solely of the wa | NTO ANY SEWERS, ON THE GR
posal methods must be in
vincial and local laws ar
n different locations. W
e with applicable laws ar
aste generator. INEOS, I | ROUND OR INTO ANY
compliance with
nd regulations.
Waste character-
re the responsi-
LIMITED LIABILITY | ~ |
| | HAS NO CONTROL OVER TH
PROCESSES OF PARTIES H
INFORMATION PRESENTED
SHIPPED IN ITS INTENDE
(Composition/Information) | E MANAGEMENT PRACTICES OF
ANDLING OR USING THIS MAT
HERE PERTAINS ONLY TO THE
D CONDITION AS DESCRIBED
on On Ingredients). | R MANUFACTURING
TERIAL. THE
E PRODUCT AS
IN MSDS SECTION 2 | |
| | FOR UNUSED & UNCONTAMI
clude sending to a lic
incinerator or other t | NATED PRODUCT, the preferences of the preferences of the presence of the preference | rred options in-
ler, reclaimer,
e. | |
| | As a service to its cu
information resources
companies and other fa
manage chemicals or pl
Telephone INEOS's Cust
866-865-4767 for furth | stomers, INEOS can provid
to help identify waste ma
cilities which recycle, p
astics, and that manage w
omer Information Center a
mer details. | de names of
anagement
reprocess or
used drums.
at | |
| 14. | TRANSPORT INFORMATION | | | |
| DEPA
by I | RTMENT OF TRANSPORTATION (
0.0.T. when shipped domesti | D.O.T.): This product is cally by land. | s not regulated | |
| | CANADIAN TDG INFORMATION:
For TDG regulatory informa
regulations, product shipp | ation, if required, consu
bing papers, or your INEO | lt transportation
S representative. | |
| | tinued on Page 6) | | | |

(Continued on Page 6) * or (R) Indicates a Trademark of INEOS, Limited Liability Company MATERIAL SAFETY DATA SHEET PAGE: 6
Product Name: GAS/SPEC* SS SELECTIVE SOLVENT VARIABLE FF
Product Code: 38377
Effective Date: 03/15/99 Date Printed: 12/04/00 MSD: 003135

15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

-محدور المحاج والمستحمين الماري الم

Not to have met any hazard category

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of

New Jersey Pennsylvania

(Continued on Page 7) * or (R) Indicates a Trademark of INEOS, Limited Liability Company

| | MATERIAL SAFETY DATA SHEET PAGE: 7 |
|---------|---|
| | Product Name: GAS/SPEC* SS SELECTIVE SOLVENT VARIABLE FF
Product Code: 38377 |
| | Effective Date: 03/15/99 Date Printed: 12/04/00 MSD: 003135 |
| | |
| | -REGULATORY-INFORMATION + (CONTINUED) |
| | ~ |
| | CANADIAN REGULATIONS |
| | WHMIS INFORMATION: The Canadian Workplace Hazardous Materials
Information System (WHMIS) Classification for this product is: |
| 1.
1 | This product is not a "Controlled Product" under WHMIS. |
| | 16. OTHER INFORMATION |
| | MSDS STATUS: Revised Section 13, Disposal. |
| | |
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* or (R) Indicates a Trademark of INEOS, Limited Liability Company The Information Herein Is Given In Good Faith, But No Warranty, Express Or Implied, Is Made. Consult INEOS, Limited Liability Company For Further Information.

Material Safety Data Sheet

| Section 1. Chemica | al Product | and Compan | y Identifica | tion | • | |
|-------------------------------------|---|--|------------------|--------------------------------------|---------------------|---|
| Common Name E | Ethylene glycol | | | Code | Not available | |
| Napplier CC
35
AE
31 | DASTAL CHEMICAL CO.,L.L.C.
20 Veterans Memorial Drive
3BEVILLE, LA 70510
8-893-3862 | | | MSDS#
Validation Da
Print Date | Not available | |
| Synonym Gly | /col | | | ÷ | | |
| frade name No | t available. | | | | Energency | 1-800-424-9300 (Chemtrec) |
| Material Uses Co
Inc
Pe
Te | atings: Manuf
lustrial applica
trochemical ir
xtile industry: | ngs: Manufacture of asphalt-emulsion paints.
strial applications: Coolant and antifreeze.
schemical industry: Manufacture of brakes fluid. | | | | |
| Nanufacturer Va | rious | | | | | |
| Section 2. Compos | sition and | Information e | on Ingredie | nts | | |
| Name | | CAS# | % by Weight | TLV/PEL | | LC sn/LD so |
| 1) Ethylene glycoł | | 107-21-1 | 100 | CEIL: 39.4 (pp
(mg/m³) | m) CEIL: 100 | ORAL (LD50) mg/kg: Acute:
4700 (Rat). DERMAL (LD50)
mg/kg: Acute: 9530 (Rabbit.). |
| Section 3. Hazards | s Identifica | ation | | | | |
| Emergency Overview | CAUTION!
HARMFUL IF INHALED. HARMFUL IF SWALLOWED. MAY CAUSE EYE IRRITATION. Repeated or
prolonged exposure to the substance can produce kidney damage. | | | | | |
| Routes of Entry | Ingestion. | | | | ····· | |
| Potential Acute Health Effe | cts Very dan
permeato
inhaled o | Very dangerous in case of ingestion. Very slightly to slightly dangerous in case of skin contact (irritant, sensitizer, permeator), of eye contact (irritant), of inhalation. Severe over-exposure can result in death. Can be fatal if inhaled or ingested. This product may irritate eyes and skin upon contact. | | | | |
| Potential Chronic Health
Effects | CARCINOGENIC EFFECTS: Classified A5 (Not suspected for human.) by ACGIH. MUTAGENIC EFFECTS:
Not available. TERATOGENIC EFFECTS: Not available. The substance is toxic to kidneys, the nervous
system, the reproductive system, liver. Repeated or prolonged exposure to the substance can produce target
organs damage. Repeated exposure to an highly toxic material may produce general deterioration of health by an
accumulation in one or many human organs. | | | | | |
| Section 4. First A | id Measur | 95 | | | | |
| Eye Contact | IMMED | ATELY flush eyes | s with running w | vater for at least 1 | 5 minutes, keeping | g eyelids open. COLD water may be |

 Skin Contact
 If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

 Hazardous Skin Contact
 No additional information.

Continued on Next Page

| e | |
|----------------------|--|
| Ethylene glycol | Page Number: 2 |
| Inhalation | Allow the victim to rest in a well ventilated area. Seek immediate medical attention. |
| Hazardous Inhalation | Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention. |
| Ingestion | DO NOT induce vomiting. Have conscious person drink several glasses of water or milk. Seek-immediate medical attention. |
| Hazardous Ingestion | DO NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention. |

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| Section 5. Fire and Explosion Data | | | | | | |
|--|---|--|--|--|--|--|
| Elammability of the Product | Combustible. | | | | | |
| Auto-Ignition Temperature | 398°C (748.4°F) | | | | | |
| Flash Points | CLOSED CUP: 116°C (240.8°F) OPEN CUP: 232°C (449.6°F) (Cleveland) | | | | | |
| Flammable Limits | LOWER: 3.2% UPPER: 15.3% | | | | | |
| Products of Combustion | These products are carbon oxides (CO, CO2). | | | | | |
| Fire Hazards in Presence of
Various Substances | Very slightly to slightly flammable in presence of open flames and sparks, of heat. | | | | | |
| Explosion Hazards in Presence
of Various Substances | Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.
No specific information is available in our database regarding the product's risks of explosion in the presence of
various materials. | | | | | |
| Fire Fighting Media
and Instructions | SMALL FIRE: Use DRY chemicals, CO2, water spray or foam.
LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. | | | | | |
| Npecial Remarks on
Fire Hazards | When heated to decomposition, it emits acrid smoke and irritating fumes. | | | | | |
| Npecial Remarks on Explosion
Hazards | No additional remark. | | | | | |

| Section 6. Acc | idental Release Measures |
|----------------|--|
| small Spill | Dilute with water and mop up, or absorb with an inert DRY material and place in an appropriate waste disposal container. |
| Large Spill | Combustible material. Poisonous liquid.
Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. DO NOT get water inside
container. DO NOT touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers,
basements or confined areas; dike if needed. Eliminate all sources of ignition. Call for assistance on disposal. |
| Section 7. Ha | ndling and Storage |
| -Handling | Not-available. |
| Storage | Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly |

closed. Keep in a cool, well-ventilated place. Highly toxic or infectious materials should be stored in a separate locked safety storage cabinet or room.

| ` | | | · | _ |
|---|---|----------------------------|---|----|
| Ethylene glycol | - | | Page Number: 3 |] |
| Section 8. Exposure | Controls/Personal Protection | | | Ī |
| Engineering Controls | Provide exhaust ventilation or other engeneering c
respective threshold limit value. Ensure that
work-station location. | ontrols to ke
eyewash s | eep the airborne concentrations of vapors below their stations and safety showers are proximal to the | |
| Personal Protection | Safety glasses. Lab coat. Gloves. Wear appropr | iate respirat | tor when ventilation is inadequate. | 1 |
| Personal Protection in Case of
a Large Spill | Splash goggles. Full suit. Boots. Gloves. Su specialist BEFORE handling this product. | ggested pr | otective clothing might not be sufficient; consult a | |
| Chemical Name or Product Na | ime CAS# Exposur | e Limits | | 1 |
| 1) 1,2-Ethanediol | 107-21-1 CEIL: 39. | 4 (ppm) CEI | L: 100 (mg/m³) ** | |
| Section 9. Physical a | nd Chemical Properties | | | ĺ |
| Physical state and appearance | Liquid. (Clear viscous liquid.) | Odor | Odorless. (Slight.) | ╡ |
| Molecular Weight | 62.07g/mole | Taste | Sweet. | 7 |
| pH (1% soln/water) | 7 | Color | Clear, colorless, syrupy liquid; hygroscopic
(absorbs moisture from the (Light.) | ; |
| Boiling Point | 198°C (388.4°F) | | | Ţ |
| Melting Point/Pour Point | -13.5°C (7.7°F) | • | | 1 |
| Critical Temperature | Not available. | | | 1 |
| Specific Gravity | - 1.12 (Water = 1) | · · · _• · | ····· | 1. |
| \ apor Pressure | 0.05 mm of Hg (@ 20°C) | | | 1 |
| Vapor Density | 2.1 (Air = 1) | | | |
| Volatility | Not available. | | · · · · · · · · · · · · · · · · · · · | |
| Odor Threshold | Not available. | | | |
| Evaporation rate | Not available. | | | |
| Viscosity | Not available. | | | |
| Water/Oil Dist. Coeff. | The product is much more soluble in water. | | |] |
| fonicity (in Water) | Not available. | | | |
| Dispersion Properties | See solubility in water, methanol, diethyl ether. | | | |
| Solubility | Easily soluble in cold water, hot water, methanol,
Very slightly soluble in n-octanol. | diethyl ethe | э. | |
| Physical Chemical Comments | Not available. | | | |
| Section 10. Stability | and Reactivity Data | | | ٦ |
| Chemical Stability | The product is stable. | | · · · · · · · · · · · · · · · · · · · | 7 |
| Conditions of Instability | No additional remark. | | | ┭ |
| Incompatibility with various substances | Slightly reactive to reactive with oxidizing agents, | , alkalis. | | |
| Hazardous Decomposition
Products | Not available. | | · · · · · · · · · · · · · · · · · · · | |
| Hazardous Polymerization | Not available. | | | |

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Continued on Next Page

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Ethylene glycol

Page Number: 4

| Section 11. Toxicolo | ogical Information |] |
|---|---|---|
| Foxicity to Animals | Acute oral toxicity (LD50): 4700 mg/kg (Rat).
Acute dermal toxicity (LD50): 9530 mg/kg (Rabbit.). | |
| Chronic Effects on Humans | CARCINOGENIC EFFECTS: Classified A5 (Not suspected for human) by ACGIH.
The substance is toxic to kidneys, the nervous system, the reproductive system, liver. | |
| Other Toxic Effects on
Humans | Very dangerous in case of ingestion.
Very slightly to slightly dangerous in case of skin contact (irritant, sensitizer, permeator), of eye contact (irritant),
of inhalation. | |
| Special Remarks on
Foxicity to Animals | Toxic for humans or animal life. | |
| Special Remarks on
Chronic Effects on Humans | No additional remark. | |
| Special Remarks on other
Foxic Effects on Humans | Exposure can cause nausea, headache and vomiting. | |

| Section 12. Ecologic | al Information |
|--|---|
| Ecotoxicity | Not available. |
| BOD5 and COD | Not available. |
| l'roducts of Biodegradation | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. |
| Foxicity of the Products | - The products of degradation are more toxic. |
| Special Remarks on the
Products of Biodegradation | No additional remark. |

Section 13. Disposal Considerations

Waste Disposal

Follow local, state, and federal guidelines.

| Section 14. Transpo | rt Information |
|--|---|
| Propper Shipping Name | Drums - Not Regulated
Bulk (> 535 gals.) - Regulated
Other Regulated Substances, liquid, n.o.s.,(ethylene Glycol) |
| DOT Classification | DOT CLASS 9: Miscellaneous hazardous material. |
| DOT Identification Number | NA3082 |
| Packing Group | 111 |
| Hazardous Substances
Reportable Quantity (kg) | 2268 |
| Special Provisions for
Fransport | No additional remark. |

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| Ethylene glycol | | Page Number: 5 | ٦ |
|----------------------------------|--|--|---|
| Section 15. Regu | atory Information | | 7 |
| Federal and State
Regulations | The following product(
The following product(| s) is (are) listed on SARA 313: , Ethylene glycol
s) is (are) listed by the State of Massachusetts: Ethylene glycol | 1 |
| | The following product(| s) is (are) listed on TSCA: Ethylene glycol | |
| | The following product(| s) is (are) listed on TSCA: Ethylene glycol | |
| Other Classifications | The following product(| s) is (are) listed on TSCA: Ethylene glycol
WHMIS CLASS D-2A: Material causing other toxic effects (VERY TOXIC). | |

| HMIS (U.S.A.) | Fire Hazard 1 Reactivity 0 Personal Protection B | National Fire Protection
Association (U.S.A.) | Health | | Fire Hazard
Reactivity
Specific hazard |
|---------------------------------|---|--|-----------------------|-------------------------------------|--|
| References | -SAX, N.I. Dangerous Properties of Ind
-Hawley, G.G The Condensed Chemica
-The Sigma-Aldrich Library of Chemica | utrial Materials. Toronto, Van Nost
cal Dictionary, 11e ed., New York
I Safety Data, Edition II. | rand Rei
N.Y., Var | nold, 6e ed. 198
n Nostrand Rein | 4.
ołd, 1987. |
| Other Special
Considerations | No additional remark. | · · · · · · · · · · · · · · · · · · · | | | |
| Validated by Joe Hue | iman on 08/08/1996. | Verified by Joe Hudman. | | | · · · · · · · · · · · · · · · · · · · |
| · - · | · · · · · · · · · · · · · · · · · · · | Printed 12/14/1999. | | | |
| 1-800-424-9300 (Ch | emtrec) | | | | |

Notice to Reader

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To the best for knowledge, the information contained herein is occurate. However, neither the above named supplier nor any of its subsidiaries assumes any lability whatsoever for the occuracy or completeness of the information contained herein. Final determination of subability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only basards that exist.

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| R | READ ÂND I | UND | ERSTAND MATER
DISP | IAL SAFETY DATA SHEET BEFORE HANDLING O
QSING OF PRODUCT | R | |
|--|------------|-----|----------------------------------|---|----|--|
| PRODUCT CODE AND I
DATE ISSUED
DATE PRINTED | NAME | | DEALFG
1/29/2002
3/14/2002 | DIETHANOLAMINE LFG-85% | | |
| 1_CHEMICAL PRODUC | TAND | CC | DMPANY IDE | NTIFICATION | | |
| MATERIAL IDENTITY
- PRODUCT CODE AND NA
DEAL | me
FG | D | IETHANOI | AMINE LFG-85% | .7 | |

Chemical Name and/or Family or Description:

Alkanolamine

COMPANY INFORMATION

Huntsman Petrochemical Corporation P.O. Box 27707 Houston, TX 77227-7707

TELEPHONE NUMBERS Transportation Emergency Company: (409) 727-0831 CHEMTREC: (800) 424-9300 Medical Emergency: (409) 722-9673 (24 Hour) General MSDS Assistance: (713) 235-6432 Technical Information: (512) 459-6543

2. COMPOSITION AND INFORMATION ON INGREDIENTS

THE CRITERIA FOR LISTING COMPONENTS IN THE COMPOSITION SECTION ARE AS FOLLOWS: CARCINOGENS ARE LISTED WHEN PRESENT AT 0.1 % OR GREATER; COMPONENTS WHICH ARE OTHERWISE HAZARDOUS ACCORDING TO OSHA ARE LISTED WHEN PRESENT AT 1.0 % OR GREATER; NON-HAZARDOUS COMPONENTS ARE LISTED AT 3.0 % OR GREATER. THIS IS NOT INTENDED TO BE COMPLETE COMPOSITIONAL DISCLOSURE. REFER TO SECTION 14 FOR APPLICABLE STATES' RIGHT TO KNOW AND OTHER REGULATORY INFORMATION. Product and/or Component(s) Carcinogenic According to:

OSHA____ IARC____ NTP___ OTHER___ NONE_X__

| Composition: | | | |
|-------------------------------------|--------------|--------------------------|---------------|
| Chemical Name | CAS Number | Exposure Limits | Range in % |
| Ethanol, 2,2'-iminobis- | 111-42-2 | 2 mg/m³ TWA-ACGIH (SKIN) | 80.00 - 94.99 |
| (Common name - Diethanolamine) | | | |
| Water | 7732-18-5 | | 10.00 - 19.99 |
| THIS PRODUCT IS CONSIDERED HAZARDOL | JS ACCORDING | G TO OSHA (1910.1200). | |

| DATE PRINTED
COMPANY | : 1/29/2002
: 3/14/2002
: HUNTSMAN |
|--|---|
| 3. HAZARD IDENTIFIC | ATION |
| EMERGENCY OVERVIEW | |
| Appearance: | |
| Light pale liquid | |
| Odor: | |
| Ammonia-like | |
| | WARNING STATEMENT |
| WARNING ! | CAUSES EYE IRRITATION |
| <u>.</u> . | MAY CAUSE SKIN IRRITATION |
| | BASED ON ANIMAL DATA |
| | DO NOT ADD NITRITES - |
| | MAY FORM SUSPECTED CANCER CAUSING NITROSAMINES |
| | |
| Hazardous Material
Information System
(United States) | Image: State of the state o |
| POTENTIAL HEALTH EFFE(| Reactivity (0) NFPA (United States) Specific danger |
| POTENTIAL HEALTH EFFE(
Primary Route of Exposure
Eye_X_ Skin_X_
Effects of Overexposure | Reactivity 0 NFPA (United States) Personal protection Specific danger CTS Inhalation_X_ Ingestion |
| POTENTIAL HEALTH EFFEC
Primary Route of Exposure
Eye X Skin X
Effects of Overexposure
Acute: | Reactivity 0 NFPA (United States) Personal protection Specific danger CTS Inhalation_X_ Ingestion |
| POTENTIAL HEALTH EFFEC
Primary Route of Exposure
Eye X Skin X
Effects of Overexposure
Acute:
Eyes: | Reactivity 0 NFPA (United States) Specific danger Personal protection Specific danger Specific danger CTS Inhalation_X Ingestion Causes irritation, experienced as pain, with excess blinking and tear production, and seen as marked excess redness and swelling of the eye with injury to the cornea. |
| POTENTIAL HEALTH EFFEC
Primary Route of Exposure
Eye X Skin X
Effects of Overexposure
Acute:
Eyes:
Skin: | Reactivity 0 NFPA (United States) Nem Yestiget Personal protection Specific danger CTS Inhalation_X_ Ingestion Causes irritation, experienced as pain, with excess blinking and tear production, and seen as marked excess redness and swelling of the eye with injury to the cornea. May cause irritation with discomfort, and seen as local redness and possible swelling. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact see other effects, below, and Section 11 for information regarding potential long term effects. |
| POTENTIAL HEALTH EFFEC
Primary Route of Exposure
Eye_X_ Skin_X_
Effects of Overexposure
Acute:
Eyes:
Skin:
Inhalation: | Reactivity (0) INFPA (United States) Personal protection Specific danger CTS Inhalation_X_ Ingestion Causes irritation, experienced as pain, with excess blinking and tear production, and seen as marked excess redness and swelling of the eye with injury to the cornea. May cause irritation with discomfort, and seen as local redness and possible swelling. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact see other effects, below, and Section 11 for information regarding potential long term effects. Vapors or mist, in excess of permissible concentrations, or in unusually high |
| POTENTIAL HEALTH EFFE(
Primary Route of Exposure
Eye_X_Skin_X_
Effects of Overexposure
Acute:
Eyes:
Skin:
Inhalation: | Reactivity 0 INFPA (United States) Specific danger Personal protection Specific danger Specific danger CTS Inhalation_X Ingestion Specific danger Causes irritation, experienced as pain, with excess blinking and tear production, and seen as marked excess redness and swelling of the eye with injury to the cornea. May cause irritation with discomfort, and seen as local redness and possible swelling. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact see other effects, below, and Section 11 for information regarding potential long term effects. Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness. Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material. |
| POTENTIAL HEALTH EFFEC
Primary Route of Exposure
Eye X Skin X
Effects of Overexposure
Acute:
Eyes:
Skin:
Inhalation: | Reactivity 0 INFPA (United States) Specific danger Personal protection Specific danger Specific danger CTS Inhalation_X_ Ingestion Inhalation_x_ Ingestion Specific danger Causes irritation, experienced as pain, with excess blinking and tear production, and seen as marked excess redness and swelling of the eye with injury to the cornea. May cause irritation with discomfort, and seen as local redness and possible swelling. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact see other effects, below, and Section 11 for information regarding potential long term effects. Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness. Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material. Moderately toxic. May cause abdominal discomfort, nausea, vomiting, and diarrhea. |
| POTENTIAL HEALTH EFFEC
Primary Route of Exposure
Eye_X_Skin_X_
Effects of Overexposure
Acute:
Eyes:
Skin:
Inhalation:
Ingestion:
Sensitization Proper | Reactivity 0 INPPA (United States) Personal protection Specific danger CTS Inhalation_X_ Ingestion Causes irritation, experienced as pain, with excess blinking and tear production, and seen as marked excess redness and swelling of the eye with injury to the cornea. May cause irritation with discomfort, and seen as local redness and possible swelling. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact see other effects, below, and Section 11 for information regarding potential long term effects. Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness. Prolonged or repeated overexposure area may result in the absorption of potentially harmful amounts of material. Moderately toxic. May cause abdominal discomfort, nausea, vomiting, and diarrhea. |

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PRODUCT CODE AND NAME DATE ISSUED DATE PRINTED COMPANY

: DEALFG : 1/29/2002 : 3/14/2002 : HUNTSMAN

DIETHANOLAMINE LFG-85%

Medical Conditions Aggravated by Exposure:

Because of its irritating properties, repeated skin contact may aggravate an existing dermatitis (skin condition). Repeated overexposure may aggravate existing liver or kidney disease.

Other Remarks:

This product contains one or more amines which may produce temporary and reversible hazy or blurred vision. Symptoms disappear when exposure is terminated.

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4. FIRST AID MEASURES

Eyes:

Immediately flush eyes with large amounts of running water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Do not attempt to neutralize with chemical agents. Obtain medical attention immediately. Continue flushing for an additional 15 minutes if medical attention is not immediately available.

Skin:

Wash skin with plenty of soap and water until all traces of material are removed. Remove and clean contaminated clothing and shoes. Get medical attention if skin irritation persists or skin contact has been prolonged.

Ingestion:

If patient is conscious and can swallow, give two glasses of water (16 oz.). Induce vomiting as directed or medical personnel. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.

Inhalation:

If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.

Other Instructions:

None

5. FIRE-FIGHTING MEASURES

Ignition Temperature - AIT (degrees C):

Not determined.

Flash Point (degrees C):

148.9 (300°F) (PMCC)

Flammable Limits % (Lower-Upper):

```
Lower: ~1
```

Upper: ~10

Recommended Fire Extinguishing Agents And Special Procedures:

Use water spray, dry chemical, foam or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers. Water or foam may cause frothing.

Unusual or Explosive Hazards:

None

Special Protective Equipment for Firefighters:

Wear full protective clothing and positive pressure breathing apparatus. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

PRODUCT CODE AND NAME DATE ISSUED DATE PRINTED COMPANY

DIETHANOLAMINE LFG-85%

: 3/14/2002

: HUNTSMAN

DEALFG

1/29/2002

6. ACCIDENTAL RELEASE MEASURES (Transportation Spills: CHEMTREC (800)424-9300)

_Procedures in-Case of Accidental-Release, Breakage or Leakage:-

Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

7. HANDLING AND STORAGE

Precautions to be Taken in

Handling:

Minimum feasible handling temperatures should be maintained. Eye wash and safety shower should be available nearby when this product is handled or used.

-

Storage:

Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Equipment (Type)

Eye/Face Protection:

Avoid eye contact. Chemical type goggles with face shield must be worn. Do not wear contact lenses.

Skin Protection:

Protective clothing such as coveralls or lab coats should be worn. Launder or dry-clean when soiled. Gloves resistant to chemicals and petroleum distillates should be worn. Exposed workers should wash exposed skin several times daily with soap and water.

Respiratory Protection:

Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air supplied respirators should always be worn when airborne concentration of the contaminant or oxygen content is unknown.

Ventilation:

Adequate to meet component occupational exposure limits (see Section 2).

Exposure Limit for the Total Product:

None established for product; refer to Section 2 for component exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Light pale liquid

Odor:

Ammonia-like

Boiling Point (degrees C):

Not determined.

Melting/Freezing Point (degrees C):

| PRODUCT CODE AND NAME
DATE ISSUED
DATE PRINTED
COMPANY | : DEALFG
: 1/29/2002
: 3/14/2002
: HUNTSMAN | DIETHANOLAMINE LFG-85% | |
|---|--|---|--|
| 0 (32°F) | | | |
| Specific Gravity (water=1): | | | |
| 1.09 | | | |
| pll: | n an | | and the second sec |
| 11.8 [Basic] | | * | |
| Vapor Pressure: | | | |
| Not determined. | | | а |
| Viscosity: | | | |
| Not determined. | | 194 | |
| VOC Content: | | | |
| Not determined. | | | |
| Vapor Density (Air=1): | | | |
| Not determined. | | | |
| Solubility in Water (%): | , an - | | * |
| >10 [Soluble] | | | |
| Other: | | | |
| None | an an ' an an ' | | · · · · · · · · · · · · · · · · · · · |
| 10. STABILITY AND REACTIVIT | Ŷ | | |
| This Material Reacts Violently With: | | | |
| Air Water Heat S | strong Oxidizers_ | Others_X None of these | _ |
| Comments: | | | |
| This material reacts violently with ac
corrosive to copper, zinc, aluminum a
INFORMATION. | ids. This material
and thier alloys. [| is incompatible with strong oxidizing age
Do not add or formulate with nitrites. See | ents. This material a
Section 16, OTHER |
| Products Evolved When Subjected to Heat of | r Combustion: | | |
| Toxic levels of ammonia, combustion ketones may be formed on burning in | n products of nitrog
a limited air supply | gen, carbon monoxide, carbon dioxide, irr | itating aldehydes and |
| Hazardous Polymerizations: | | | |
| DO NOT OCCUR | | | |
| 11. TOXICOLOGICAL INFORMA | TION | · · · · · · · · · · · · · · · · · · · | |
| TONICOLOGICAL INFORMATION (ANI | MAL TOXICITY B | ATA) | ······································ |
| Oral: | | , | |
| LD50 Similar product 1.41 g/kg (rat) n
Inhalation: | noderately toxic | | |

,

÷

Not determined.

Dermal:

LD50 Similar product >5.00 g/kg (rabbit) practically non-toxic

IRRITATION INDEX, ESTIMATION OF IRRITATION (SPECIES)

| PRODUCT CODE AND NAME
DATE ISSUED
DATE PRINTED
COMPANY | : DEALFG DIETHANOLAMINE LFG-859
: 1/29/2002
: 3/14/2002
: HUNTSMAN | 6 |
|--|--|--|
| Skin:
(Draize) Believed to be > 3.00 - 5.0
Eves: | 0 /8.0 (rabbit) moderately irritating | |
| (Draize) Believed to be 50.00 - 80.1 | 00 /110 (rabbit) severely irritating | |
| Sensitization:
Not determined | · · · · · · · · · · · · · · · · · · · | |
| -Other: | | ~ |
| In a chronic (two year) exposure studermally exposed to Diethanolamin
tumors, and male mice showed an i
any increased incidence of tumors.
evidence" of cancer in male and fer
evidence" of liver cancer in female | idy, sponsored by the National Toxicology Program (NTP), rate (DEA). Both male and female mice showed an increased in
ncreased incidence of kidney tumors. In contrast, male and for
NTP concluded, using their standard classification scheme, to
nale rats, and "clear evidence" of liver and kidney cancer in no
mice. | its and mice were
ncidence of liver
emale rats did not show
hat there is "no
nale mice, and "clear |
| The American Chemistry Council (A
conduct of this study and concluded
areas. In addition, the results of the
carcinogenic potential of DEA. The
results with other studies, have results
in humans from exposures to DEA. | ACC) Alkanolamines Panel, with the cooperation of the NTP,
I that the experimental design of the study was seriously flaw
NTP study are not consistent with other scientific studies inv
flawed experimental design, as well as the inconsistency of
ulted in questions over the relevance of the NTP study to esta | investigated the
red in a number of
estigating the
the NTP mouse study
ablish the risk of carrie |
| The ACC Alkanolamines Panel is c
non-genotoxic mechanisms of carc
research program indicate that mic
levels of choline and phosphocholir
resulting in a choline/phosphocholir
metabolism between rodents and h
depletion than humans. Although a
program indicate that the tumors of
humans. | arrently sponsoring mechanistic research on DEA, investigat
inogenicity as applied to the DEA exposures in the NTP stud-
e administered DEA via dermal (and oral) routes of exposure
he. Other research has shown that rodents chronically fed ch
he deficiency, develop liver tumors. In addition, due to the known
umans, rodents are expected to be far more sensitive to the
dditional research in this area is still underway, the results to
pserved in the NTP mouse study resulted from a mechanism | ng the role of
y. Results from this
had significantly lower
oline deficient diets,
own differences in
effects of choline
date of our research
that is not relevant to |
| Diethanolamine Developmental a
Laboratory animal studies investiga
oral (gavage) or dermal, do not res
delays were observed in rat derma
exposure to relatively high levels o | nd Reproductive Toxicity:
ating the developmental toxicity of DEA have indicated that D
ult in any specific developmental toxicity. Although some min
exposure studies, these effects were secondary to extreme
DEA. | EA exposures, either
for developmental
maternal toxicity fread |
| 12. DISPOSAL CONSIDERAT | IONS: | |
| Waste Disposal Methods: | | |
| This product has been evaluated
discarded in its purchased form. | for RCRA characteristics and does not meet the criteria
Inder RCRA, it is the responsibility of the user of the product | of a hazardous waste of
to determine at the time |
| of disposal, whether the produ-
transformations, mixtures, process | ct meets RCRA criteria for hazardous waste. This is less, etc. may render the resulting materials hazardous. | pecause product uses, |

14 3 T ...

Remarks:

None

: DEALFG : 1/29/2002 : 3/14/2002 : HUNTSMAN DIETHANCLAMINE LFG-85%

13. TRANSPORT INFORMATION

Transportation

DOT: Proper Shipping Name:

Environmentally hazardous substances, liquid, n.o.s. (Diethanolamine)

Hazard Class:

9

Identification Number: UN3082

Packing Group: III

Label Required:

Class 9

Depending on container size, spills of this product may require reporting under SARA 304 and/or CERCLA 102(A) regulations. Please refer to Sections 2 and 14 of MSDS for composition and component RQ information.

IMDG

Proper Shipping Name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (diethanolamine)

- Hazard Class

9

Identification Number UN3082

Packing Group

Label Required Class 9

ICAO

Proper Shipping Name:

Environmentally hazardous substances, liquid, n.o.s. (Diethanolamine)

Hazard Class 9

Identification Number UN3082

Packing Group

Label Required Class 9

TDG

Proper Shipping Name: Not regulated.

Hazard Class: Not regulated.

| PRODUCT CODE AND NAME
DATE ISSUED
DATE PRINTED
COMPANY | : DEALFG
: 1/29/2002
: 3/14/2002
: HUNTSMAN | DIETHANOLAMIN | E LFG-85% | |
|--|--|---|---|---|
| Identification Number:
Not regulated. | | ······································ | | |
| - Label Required:
Not regulated | | | ۵۳٬۵۶۹ - ۲۰۰۵ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰
۲۰۰۶ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ - ۲۰۰۹ | ۵۳ - ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲ |
| 14. REGULATORY INFORMAT | ION - | | | |
| Federal Regulations: | | · · · · · · · · · · · · · · · · · · · | | |
| SARA Title III: | | | | |
| Section 302/304 Extremely Hazardous S
Chemical Name
None. | ubstances
CAS | S Number Range in | % TPQ | RQ |
| Section 311 Hazardous Categorization:
Acute X Chronic X Fire | Pressure | Reactive N/A | | |
| Section 313 Toxic Chemical | | · . | | |
| Chemical Name
Ethanol, 2,2'-iminobis- (Common name | e - Diethanolamine) | | CAS Number
111-42-2 | Concentration
80.00-94.99 |
| CERCLA 102(a)/DOT Hazardous Substa
Chemical Name
Ethanol, 2,2'-iminobis- (Common name | nces:
e - Diethanolamine) | CAS Nun
111-42-2 | 1ber Range in %
80.00-94.9 | RQ
9 100 |
| States Right-to-Know Regulations: | | | | |
| Chemical Name
Ethanol, 2,2'-iminobis- (Common name | e - Diethanolamine) | Str
C | ate Right-to-know
Г, FL, IL, MA, NJ, | PA, RI |
| State list: CT (Connecticut), FL (Fk
(Massachusetts), NJ (New | orida), IL (Illinois), MI
v Jersey), PA (Pennsylv | (Michigan), LA (Louisia
ania), RI (Rhode Island) | na), MA | |
| California Prop. 65:
The following detectable components
to the State of California to cause car | s of this product are
acer and/or reproduc | substances, or belong
tive toxicity. | to classes of su | bstances, known |
| Chemical Name
None. | | CA | S Number | |
| INTERNATIONAL REGULATIONS: | | | | |
| TSCA Inventory Status:
This product, or its components, are
Substance Inventory. | listed on or are exer | mpt from the Toxic Sub | stance Control Act | t (TSCA) Chemica |
| WHMIS Classification:
Class D, Div 2, Subdiv B: Irritant | | | | |
| Canadian Inventory Status:
This product, or its components, are I | isted on or are exemp | t from the Canadian Don | nestic Substance L | ist (DSL). |
| EINECS Inventory Status:
This product, or its components, a
Substances (EINECS) or the Europea | are listed on or are e
an List of Notified Che | exempt from the Europ
mical Substances (ELIN | ean Inventory of
CS) | Existing Chemica |
| Australian Inventory Status: | | | • | |

PRODUCT CODE AND NAME DATE ISSUED DATE PRINTED COMPANY

DIETHANOLAMINE LFG-85%

: 3/14/2002

DEALFG

1/29/2002

: HUNTSMAN

This product, or its components, are listed on or are exempt from the Australian Inventory of Chemical Substances (AICS).

Japan Inventory Status:

This product, or its components; are listed on or are exempt from the Japan Ministry of International Trade and Industry (MITI) inventory.

15. ENVIRONMENTAL INFORMATION

Aquatic Toxicity:

DEA is expected to have low toxicity to aquatic species.

Mobility: -

DEA is not expected to selectively partition and absorb to soil or sediments.

Persistence and Biodegradability:

DEA is readily biodegradable and is not expected to persist in the environment.

Potential to Bioaccumulate:

DEA is not expected to bioaccumulate (log $K_{ow} = -1.43$).

Remarks:

None

16. OTHER INFORMATION 1/29/2002

Do not add nitrites. This product contains amines which can combine with nitrites or other nitrosating agents to form nitrosamines. Many nitrosamines have been found to cause cancer in laboratory animals.

A component of this product carries "SKIN" notation in Section 2 as part of its exposure limit. "SKIN" notation indicates possible adverse health effects as a result of absorption through the skin, mucous membranes, and eyes, by contact with vapor, mist, spray, or liquid. Appropriate measures should be taken to minimize contact.

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT FOR PURPOSE OF HAZARD COMMUNICATION AS PART OF HUNTSMAN'S PRODUCT SAFETY PROGRAM. IT IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OR THE INFORMATION CONTAINED HEREIN. DATA SHEETS ARE AVAILABLE FOR ALL HUNTSMAN PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL HUNTSMAN PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE AND YOU ARE ENCOURAGED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

TO DETERMINE APPLICABILITY OR EFFECTS OF ANY LAW OR REGULATION WITH RESPECT TO THE <u>PRODUCT, USER SHOULD CONSULT HIS LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY.</u> HUNTSMAN DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

Supercedes: 8/8/2000

The following sections have been revised: 2, 3, 8, 9, 10, 11, 13, 14

Date Issued: 1/29/2002.

Inquiries regarding MSDS should be directed to: HUNTSMAN Coordinator, Product Safety P.O. Box 27707 Houston, TX 77227-7707 District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resour

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505 Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

2.0

| REQUEST FOR APPROVAL TO | ACCEPT SOLID WASTE |
|--------------------------------|--------------------|
| | |

| 1. RCRA Exempt: | 4. Generator
Williams Ebergy Seev. |
|---|--|
| Verbal Approval Received: Yes No | 5. Originating Site |
| 2. Management Facility Destination Key Disposed | 6. Transporter |
| 3. Address of Facility Operator #345 (23500 AZtec, NM | 8. State NM |
| 7. Location of Material (Street Address or ULSTR) Azlec NM | |
| 9. <u>Circle One</u> : | · . |
| (A.)All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste cla approved | a certification of waste from the Generator;
ecessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transp | ort. |
| Mont was TE water Renoves Anon | Powd
MAR 2002
RECEIVED
ON OW
DWT. 8
St. S. Z. LULIUM |
| Estimated volume /000000 xy Known volume (to be entered by the ope | |
| SIGNATURE Management Facility Authorized Agent TITLE: MGC | DATE: <u>3-14-02</u> |
| TYPE OR PRINT NAME: MICHAEL TALOUICH TELE | PHONE NO. 505 334 6186 |
| (This space for State Use)
APPROVED BY: Demy Juny TITLE: Envire
APPROVED BY: Challet TITLE: Defory of | 226 in steer, DATE: 03/19/02 |

CERTIFICATE OF WASTE STATUS

| 1. Generator Name and Address: 2. Destination Name: Williams ENERGY SERVICES XEY ENERGY D'SPOSAL 3. Originating Site (name): Location of the Waste (Street address &/or ULSTR): Williams ENERGY SERVICES La Maquina Plant Attach list of originating sites as appropriate A loguina Plant 4. Source and Description of Waste 90.70 90.70 D. I. Watel 570 TRYETHYLENE GIVEL 1. BRuce Altman Image: Altman representative for: 1. BRuce Altman Image: Altman representative for: 1. BRuce Altman Joint Steeled waste Check appropriate dassification) X EXEMPT oitfield waste MON-EXEMPT oitfield waste only the following documentation is attached (check appropriate items): | | | | |
|---|--|--|--|--|
| Williams ENERGY SERvices
38 Hiles on CR 2770-Artec NM
92 CR 4900, BloomField NM 87413 KEY ENERGY Disposal 3. Originating Site (name): Location of the Waste (Street address &/or ULSTR):
Williams ENERGY SERVices
La Maquina Plant Attach list of originating sites as appropriate A source and Description of Waste 90.70 D. J. WateR
570 Freyersentative for:
Williams ENERGY SERVices 1. Bruce Attach list of originating sites as appropriate 4. Source and Description of Waste 90.70 D. J. WateR
570 570 TRYETHYLene Glycel 1 1. Bruce Altman representative for: 1 Williams ENERGY Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification) X EXEMPT oilfield waste | | | | |
| 3B Ulices ON CR 2770 - Artec NM
92 CR 4900, BloomField NM 87413 3. Originating Site (name): Location of the Waste (Street address &/or ULSTR):
Williams ENERGY SERVICES
La Maguina Plant Attach list of originating sites as appropriate 4. Source and Description of Waste 90 70 D. I. Water 570 TRYETHYLENE GIYLEL I. BRUCE Attach list of originating sites as appropriate 4. Source and Description of Waste 90 70 90 70 D. I. Water 570 TRYETHYLENE GIYLEL I. BRUCE Attach list of originating sites as appropriate I. BRUCE Attach list of conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate dassification) X_EXEMPT oilfield waste | | | | |
| 92 CR 4900, Dicontinue id, NM 87413 3. Originating Site (name): Location of the Waste (Street address &/or ULSTR): Williams ENERGY SERVICES La Maquina Plant Attach list of originating sites as appropriate 4. Source and Description of Waste 90 70 D. I : Water 570 TryEThylene Glycel I. Bruce Altman representative for: Williams ENERGY Sciences do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above described waste is: (Check appropriate dassification) XEXEMPT oilfield waste | | | | |
| 3. Originating Site (name): Location of the Waste (Street address &/or ULSTR):
Williams ENERGY SERVICES
La Maquina Plant
Attach list of originating sites as appropriate
4. Source and Description of Waste
90.70 D.I. Water
570 Amine
570 TRYETHYLENE GIYLEL
I. BRUC Altman representative for:
<u>Williams ENERGY Services</u> do hereby certify that, according
to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory
determination, the above-described waste is: (Check appropriate dassification)
X_EXEMPT oilfield wasteNON-EXEMPT oilfield waste which is non-hazardous by characteristic
analysis or by product Identification
and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above.
MSDS InformationOther (description): | | | | |
| Williams ENERGY SERvices La Maquina Plant Attach list of originating sites as appropriate 4. Source and Description of Waste 90.70 D. I. Water 570 Amine 570 TRYETHYLENE GIYLEL I. Bruce Altman representative for: Implementation Implementation Service S do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate dassification) MON-EXEMPT oilfield waste MON-EXEMPT oilfield waste NON-EXEMPT oilfield waste defined above. The NON-EXEMPT waste only the following documentation is attached (check appropriate items): MSDS Information Other (description): | | | | |
| La Maguina, Plant Atach list of originating sites as appropriate 4. Source and Description of Waste 90.70 D. J. I. Water 570 Amine 570 TRYETHYLENE GIYLEL | | | | |
| Attach list of originating sites as appropriate 4. Source and Description of Waste 9070 D. J. I. WateR 570 Amine 570 TRYETHYLene GIYLeL I. Bruce Altman representative for: Image: Altman I. Bruce Altman representative for: Image: Altman Image: Altman representative for: Image: Altman representat | | | | |
| 4. Source and Description of Waste 90% D. I. i. WateR 5% Amine 5% TryEThylene Glycel I. Bruce Altman representative for: Williams ENERGY Services do hereby cartify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification) X EXEMPT cliffield waste NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product Identification and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above. NSDS Information Other (description): | | | | |
| 90% D. I. WateR 5% Amine 5% TRYETHYLENE GIYLEL I. BRUC Altman representative for: Williams ENERGY Services do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification) X EXEMPT oilfield waste analysis or by product Identification and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above. *r NON-EXEMPT waste only the following documentation is attached (check appropriate items): MSDS Information Other (description): | | | | |
| 570 Amine. 570 TRYETHYLENE GIYCEL I. Bruce Altman | | | | |
| 5'70 TRYETHYLENE GIYLEL I. BRUC Altman representative for: IIIIIams ENERGY Scruces do hereby certify that, according to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification) X_EXEMPT oilfield waste | | | | |
| I. BRUCE Altman | | | | |
| I. BRUC Altman | | | | |
| With Market State | | | | |
| Location of the resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification) Location Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification) Location Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification) Location Conservation (Check appropriate classification) Location Conservation (Check appropriate classification) Location Conservation (Check appropriate classification) Action Conservation (Check appropriate classification) Act | | | | |
| determination, the above-described waste is: (Check appropriate classification) | | | | |
| | | | | |
| and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above. | | | | |
| and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above. | | | | |
| NON-EXEMPT waste only the following documentation is attached (check appropriate items): MSDS Information | | | | |
| NON-EXEMPT waste only the following documentation is attached (check appropriate items): MSDS Information Other (description): | | | | |
| MSDS InformationOther (description): | | | | |
| | | | | |
| RCRA Hazardous Waste Analysis | | | | |
| Chain of Custody | | | | |
| | | | | |
| $\lambda = \lambda =$ | | | | |
| Name (Original Signature): 1/11/ 11/11/1 | | | | |
| Title: DPT / IEC IL | | | | |
| Late: 3/14/02 | | | | |
| | | | | |
| | | | | |

| District IV 2040 South Pacheco, Santa Fe, NM 87505 REQUEST FOR 1: RCRA Exempt: Non-Exempt: Verbal Approval Received: | APPROVAL TO ACCEPT | Oil Conservation Division | |
|--|--|---|---|
| REQUEST FOR 1. RCRA Exempt: Non-Exempt: X Verbal Approval Received: Yes | APPROVAL TO ACCEPT | | to Appropriate
District Office |
| 1: RCRA Exempt: Non-Exempt: X | | SOLID WASTE | |
| 1: RCRA Exempt: Non-Exempt: X | · · · · · · · · · · · · · · · · · · · | 4. Generator | · · · · |
| Verbal Approval Received: Yes | | Key End | ERGY |
| | | 5. Originating Site | 16700 12000 |
| 2 Management Facility Destination | no Dine d | 6. Transporter 1 | NOTON TAILU |
| | NERGY LISPOSIAL | Key | 89° |
| 3. Address of Facility Operator | N AY | 8. State NM | 59
- |
| 7 Logation of Material (Streat Address or UI | STEL SHILL WAY 64 | | |
| 7. Elocation of Material (Sifeer Address of OL | SIN FACHINETON NM 87401 | | · · · · · · · · · · · · · · · · · · · |
| 9. <u>Circle One</u> : | | | |
| A. All requests for approval to accept oilfiel | d exempt wastes will be accompanied by | a certification of waste from | the Generator; |
| B. All requests for approval to accept non-e
material is not-hazardous and the Genera
approved | xempt wastes must be accompanied by ne
itor's certification of origin. No waste cla | ccessary chemical analysis to
ssified hazardous by listing o | PROVE the r testing will be |
| All transporters must certify the wastes deli | vered are only those consigned for transp | ort. | |
| BRIEF DESCRIPTION OF MATERIAL: | | | in endel minimum |
| | FEB 2002
RELOON DIV
DIL CON DIV | 13458 | |
| | | Ý | |
| 120 66/3 | and the second second second second second second second second second second second second second second second | | • • |
| Estimated Volume PER Month cy | Known Volume (to be entered by the ope | rator at the end of the haul) _ | eyey |
| SIGNATURE Management Facility Authori | zed Agent TITLE: Mal | DATE | 2-25-07 |
| TYPE OR PRINT NAME: MICHAEL | TALOUICH TELE | PHONE NO. 505-334 | -6416 - |
| | | | 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - |
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| (This space for State Use)
APPROVED BY: Demy To
APPROVED BY: Mt SM | TITLE: Environm | DATE | : <u>02/27/0</u> 2
: <u>3- 4-</u> 02 |
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1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec. NM 87410

Energy inerals and Natural Resour

Oil Conservation Division 2040 South Pacheco Santa Fe. NM 87505

Form C-138 Revised March 17, 1999

Submit Original Plus 1 Corry ŋy ie x

| District IV
2040 South Pacheco, Santa Fe, NM 87505 | to Appropriate
District Office |
|--|--|
| REQUEST FOR APPROVAL TO ACCEPT S | SOLID WASTE |
| 1. RCRA Exempt: 🔲 Non-Exempt: 🔀 | 4. Generator KEY ENERGY |
| | -5Originating Site
FARMIN670NTARD |
| 2. Management Facility Destination KEYENER64 DisposAC | 6. Transporter Key - |
| #349 CR 3500 3. Address of Facility Operator $AZ + CC, NM$ | 8. State NM |
| 5651 US Highway 64
7. Location of Material (Street Address or ULSTR) Fremine Ton, NM 87401 | |
| 9. <u>Circle One</u> : | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by a one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by near material is not-hazardous and the Generator's certification of origin. No waste class approved | a certification of waste from the Generator:
cessary chemical analysis to PROVE the
sified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transpo | prt. |
| 120 66/s
Estimated Volume <u>PER nonth</u> cy Known Volume (to be entered by the oper | ator at the end of the haul)cy |
| SIGNATURE Management Fagility Authorized Agent TITLE: Mal | DATE: <u>2-25-02</u> |
| TYPE OR PRINT NAME: MICHACL TALOUICH TELEF | PHONE NO. 505-334-64/6 |
| | |
| (This space for State Use)
APPROVED BY: <u>Fride</u>
APPROVED BY: <u>TITLE</u> | 07 Engr DATE: 07/27/00
DATE: |



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON Governor Jennifer A. Salisbury **Cabinet Secretary**

Lori Wrotenbery Director **Oil Conservation Division**

CERTIFICATE OF WASTE STATUS

| • | 1. Generator Name and Address | 2. Destination Name: |
|--|--|---|
| | Key Energy Services, Inc. | Key Energy Services, Disposal |
| | Four Corners Divison | San Juan Country, NM |
| | 5651 US Highway 64 | |
| 2 | Farmington, NM 87401 | |
| | | - |
| | 3. Originating Site (name): | Location of the Waste (Street address &/or ULSTR): |
| | Key Energy Services, Inc. | Farmington Facility |
| | Four Corners Divison | Waste Water Storage Tank |
| | 5651 US Highway 64 | |
| | Farmington, NM 87401 | |
| | attach list of originating sites as appropriate | |
| | 4. Source and Description of Waste | |
| | - | |
| | Oilfield Service Equipment Waste Wash Water | |
| ······································ | | Alexandrizaren bir horizationiz oran e in horization dinatari filmerikari dinatari di barilari di barilari da d |
| | | |
| | | |
| | | |
| | | |
| I, Bob . | lames representative for Key Energy Services, Four Corne | rs Division do hereby certify that, according to the Resource |
| Conser | vation and Recovery Act (RCRA) and Environmental Protect | ion Agency's July, 1988, regulatory determination, the above |
| describ | ed waste is: (Check appropriate classification) | |
| | | |

EXEMPT oilfield waste

X NON-EXEMPT oilfield waste which is non-hazardous by characteristic analysis or by product identification

and that nothing has been added to the exempt or non-exempt non -hazardous waste defined above.

For NON-EXEMPT waste the following documentation is attached (check appropriate items):

MSDS Information X RCRA Hazardous Waste Analysis

X Chain of Custody

Other (description

This waste is in compliance with Regulated Levels of Naturally Occurring Radioactive Material (NORM) pursuant to 20 NMAC 3.1 subpart 1403.C and D.

Name (Original Signature):

Title:

Equipment & Environmental Manager

Date:

February 24, 2002

Oil Conservation Division * 1000 Rio Brazos Road * Aztec, New Mexico 87410 Phone: (505) 334-6178 * Fax (505) 334-6170 * http://www.emnrd.state.nm.us

2-22-02; 4:13PM; ENVIROTECH

EUVIRO EC ٦BS PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

SUSPECTED HAZARDOUS WASTE ANALYSIS

| | Client: | Key Energy | Project #: | 98065-001 |
|-----------------------------------|----------------------------|--|--|--|
| | Sample ID: | Wash Water Tank | Date Reported: | |
| an in darang sing ta sanagan
1 | Lab ID#: | 22038 | Date Sampled: | 02-14-02 |
| | Sample Matrix: | Water | Date Received: | 02-14-02 |
| | Preservative: | Cool | Date Analyzed: | 02-15-02 |
| | Condition: | Cool and Intact | Chain of Custody: | 8917 |
| | | 7 | | |
| | Parameter | Result | | |
| | IGNITABILITY: | Negative | | |
| | | Nasatina | | |
| | CORROSIVITY: | Negative | pH = 8.25 | |
| | REACTIVITY: | Negative | | |
| | RCRA Hazardous Waste Crite | eria | | |
| | Parameter | Hazardous Waste Criterion | n
Arta a constanta a constanta | an an an an an an an an an an an an an a |
| π. τα μαι Γ.23 | IGNITABILITY: | Characteristic of Ignitability
(i.e. Sample ignition upon | y as defined by 40 CFR, Subpart C, Sec
direct contact with flame or flash point < | оте и прави и лити и на выструкции и народи и народи.
60° С.) |
| | CORROSIVITY: | Characteristic of Corrosivil
(i.e. pH less than or equal | ty as defined by 40 CFR, Subpart C, Sec
to 2.0 or pH greater than or equal to 12. | 5. 261.22.
5) |
| | REACTIVITY: | Characteristic of Reactivity | y as defined by 40 CFR, Subpart C, Sec. | . 261.23. |
| | | (i.e. Violent reaction with v
of Sulfide or Cyanide | vater, strong base, strong acid, or the ge
gases at STP with pH between 2.0 and | neration
12.5) |
| | Reference: | 40 CFR part 261 Subpart | C sections 261.21 - 261.23, July 1, 199 | 2. |
| | Comments: | 5651_US Hwy 64, Far | mington, NM. | |
| | | | \land | |

Analyst

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ENVIROTECH LABS

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

| Client: | Key Energy | Project #: | 98065-001 |
|----------------------|-----------------------------------|--|------------|
| Sample ID: | Wash Water Tank | Date Reported: | 02-19-02 |
| Laboratory Number: | 22038 | _ Date Sampled: | 02-14-02 |
| Chain of Custody: | 8917 | Date Received: | 02-14-02 |
| Sample Matrix: | Water | Date Extracted: | N/A |
| Preservative: | Cool | Date Analyzed: | 02-19-02 - |
| Condition: | Cool & Intact | Analysis Requested: | TCLP |
| | | Detection | Regulatory |
| | Concentration | Limit | Limits |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| Vinyl Chloride | ND | 0.0001 | 0.2 |
| 1,1-Dichloroethene | ND | 0.0001 | 0.7 |
| 2-Butanone (MEK) | 0.0062 | 0.0001 | 200 |
| Chloroform | ND | 0.0001 | 6.0 |
| Carbon Tetrachloride | ND | 0.0001 | 0.5 |
| Benzene | 0.0018 | 0.0001 | 0.5 |
| 1,2-Dichloroethane | ND | 0.0001 | 0.5 |
| Trichloroethene | ND | 0.0003 | 0.5 |
| Tetrachloroethene | ND | 0.0005 | 0.7 |
| Chlorobenzene | ND | 0.0003 | 100 |
| 14-Dichlorobenzene | MD and was a ND as a state of the | ······································ | |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acce | otance Criteria | Parameter | Percent Recovery |
|-------------|---------------------------|---------------------------------------|-----------------------|
| <u> </u> | | Fluorobenzene | 100% |
| | | 1,4-difluorobenzene | 100% |
| | | 4-bromochlorobenzene | 100% |
| References: | Method 1311, Toxicity Cha | aracteristic Leaching Procedure, SW-8 | 46, USEPA, July 1992. |
| | Method 5030, Purge-and- | Trap, SW-846, USEPA, July 1992. | |
| | Method 8010, Halogenate | d Volatile Organic, SW-846, USEPA, S | Sept. 1994. |
| | Method 8020, Aromatic Vo | blatile Organics, SW-846, USEPA, Sep | ot. 1994. |
| Note: | Regulatory Limits based o | n 40 CFR part 261 Subpart C section | 261.24, July 1, 1992. |
| | | | |

Comments:

5651 US Hwy 64, Farmington, NM.

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EPA METHOD 8040 PHENOLS

| | • | | | | |
|---|--------------------|-----------------|---------------------|-----------|--|
| | Client: | Key Energy | Project #: | 98065-001 | - |
| | Sample ID: | Wash Water Tank | Date Reported: | 02-20-02 | |
| | Laboratory Number: | 22038 | Date Sampled: | 02-14-02 | |
| | Chain of Custody: | 8917 | Date Received: | 02-14-02 | Construction of the second second second |
| * | Sample Matrix: | Water | Date Extracted: | N/A | · • _ |
| | Preservative: | Cool | Date Analyzed: | 02-20-02 | |
| | Condition: | Cool & Intact | Analysis Requested: | TCLP | |

| Parameter | Concentration
(mg/Ľ) | Detection
Limit
(mg/L) | Regulatory
Limit
(mg/L) |
|-----------------------|-------------------------|------------------------------|-------------------------------|
| o-Cresol | ND | 0.020 | 200 |
| p,m-Cresol | ND | 0.040 | 200 |
| 2,4,6-Trichlorophenol | ND | 0.020 | 2.0 |
| 2,4,5-Trichlorophenol | ND | 0.020 | 400 |
| Pentachlorophenol | ND | 0.020 | 100 |

ND - Parameter not detected at the stated detection limit.

| مرعته جرها ورار | Surrogate Rec | overies: Parameter | Percent Recovery | | |
|-----------------|---------------|--|-----------------------------------|--|--|
| | | 2-Fluorophenol | 98% | | |
| | | 2,4,0-1 mbromophenoi | 3370 | | |
| | References: | Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992. | | | |
| | | Method 3510, Separatory Funnel Liquid-Liquid Extraction, Waste, SW-846, USEPA, July 1992. | Test Methods for Evaluating Solid | | |
| | | Method 8040, Phenols, Test Methods for Evaluating Solid | Waste, SW-846, USEPA, Sept. 1986. | | |
| | Note: | Regulatory Limits based on 40 CFR part 261 subpart C se | action 261.24, July 1, 1992. | | |
| | Comments: | 5651 US Hwy 64, Farmington, NM. | | | |

Analyst

Review

ENVIROTECH LABS

EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics

| Client: | Key Energy | Project #: | 98065-001 | |
|---------------------|-----------------|---------------------|------------|---|
| Sample ID: | Wash Water Tank | Date Reported: | 02-20-02 | |
| Laboratory Number: | 22038 | Date Sampled: | 02-14-02 | |
| Chain of Custody: | 8917 | Date Received: | 02-14-02 | |
| Sample Matrix: | Water | Date Extracted: | N/A | - |
| Preservative: | Cool | Date Analyzed: | 02-20-02 | |
| Condition: | Cool and Intact | Analysis Requested: | TCLP | |
| <i>"</i> | | Det. | Regulatory | |
| | Concentration | Limit | Limit | |
| Parameter | (mg/L) | (mg/L) | (mg/L) | |
| Pvridine | ND | 0.020 | 5.0 | |
| Hexachloroethane | ND | 0.020 | 3.0 | |
| Nitrobenzene | 0.133 | 0.020 | 2.0 | |
| Hexachlorobutadiene | ND | 0.020 | 0.5 | |
| 2,4-Dinitrotoluene | 0.082 | 0.020 | 0.13 | - |
| HexachloroBenzene | ND | 0.020 | 0.13 | |

ND - Parameter not detected at the stated detection limit.

ودوريد فيرويعمين

| QA/QC Acceptance Criteria | | Parameter | Percent Recovery | | |
|---------------------------|--|--|--|----------------------|--|
| | | 2-fluorobiphenyl | 97% | | |
| References: | Method 1311, Toxicity (
Method 3510, Separato
Method 8090, Nitroaror | Characteristic Leaching Procedure, S
bry Funnel Liquid-Liquid Extraction, S
natics and Cyclic Ketones, SW-846, | W-846, USEPA, July 1992.
W-846, USEPA, July 1992 <i>.</i>
USEPA, Sept. 1986. | | |
| Note: | Regulatory Limits base | d on 40 CFR part 261 Subpart C sec | tion 261.24, July 1, 1992. | - | |
| Comments: | ^{- -} 5651 US Hwy 64, F | Farmington, NM. | . . | - · · · <u>·</u> · · | |

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Thristing Westers Review

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EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

| Client: | Key Energy | Project #: | 98065-001 | |
|--------------------|-----------------|------------------|-------------|---|
| Sample ID: | Wash Water Tank | Date Reported: | 02-19-02 _ | £ |
| Laboratory Number: | 22038 | Date Sampled: | 02-14-02 | |
| Chain of Custody: | 8917 | Date Received: | 02-14-02 | |
| Sample Matrix: | Water | Date Analyzed: | 02-19-02 | |
| Preservative: | Cool | Date Extracted: | N/A | |
| Condition: | Cool & Intact | Analysis Needed: | TCLP metals | |
| | | Det. | Regulatory | |
| | Concentration | Limit | Level | |
| Parameter | _ (mg/L) | (mg/L) | (mg/L) | |
| Arsenic | 0.011 | 0.001 | 5.0 | |
| Barium | 0.222 | 0.001 | 100 | |
| Cadmium | 0.011 | 0.001 | 1.0 | |
| Chromium | 0.062 | 0.001 | 5.0 | |
| Lead | 0.144 | 0.001 | 5.0 | |
| Mercury | ND | 0.001 | 0.2 | |
| Selenium | 0.006 | 0.001 | 1.0 | |
| Silver | ND | 0.001 | 50 | |

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments: 5651 US Hwy 64, Farmington, NM.

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QUALITY ASSURANCE / QUALITY CONTROL -

DOCUMENTATION

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EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

| Client: | QA/QC | Project #: | N/A |
|----------------------|------------------|---------------------|------------|
| Sampie ID: | Laboratory Blank | Date Reported: | 02-19-02 |
| Laboratory Number: | 02-19-TCV | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 02-19-02 |
| Condition: | N/A | Analysis Requested: | TCLP |
| | ę. | Detection | Regulatory |
| | Concentration | Limit | Limits |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| Vinyl Chloride | ··· ND | 0.0001 | 0.2 |
| 1,1-Dichloroethene | ND | 0.0001 | 0.7 |
| 2-Butanone (MEK) | ND | 0.0001 | 200 |
| Chloroform | ND | 0.0001 | 6.0 |
| Carbon Tetrachloride | ND | 0.0001 | 0.5 |
| Benzene î | ND | 0.0001 ~ | 0.5 |
| 1,2-Dichloroethane | ND | 0.0001 | 0.5 |
| Trichloroethene | ND | 0.0003 | 0.5 |
| Tetrachloroethene | ND | 0.0005 | 0.7 |
| Chlorobenzene | ND | 0.0003 | 100 |
| 1.4-Dichlorobenzene | ND . | 0.0002 | 7.5 |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | | Parameter | Percent Recovery | |
|-----------------------------------|--|---|-----------------------|---|
| | | Fluorobenzene | 100% | |
| | | 1,4-difluorobenzene | 100% | |
| | | 4-bromochlorobenzene | 100% | |
| References: | Method 1311, Toxicity C | Characteristic Leaching Procedure, SW-8 | 46, USEPA, July 1992. | |
| | Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. | | | |
| Method 8010, Halogenated Volatile | | ited Volatile Organic, SW-846, USEPA, S | Sept. 1994. | |
| | Method 8020, Aromatic | Volatile Organics, SW-846, USEPA, Sep | ot. 1994. | |
| Note: Regulatory Limits based on | | on 40 CFR part 261 Subpart C section | 261.24, July 1, 1992. | - |

Comments:

Second Street

QA/QC for samples 22037 - 22039 and 22041.

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EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

| Client: | OA/OC | Droject #: | N1/A | |
|----------------------|---------------|---------------------|----------------------------------|---|
| Sample ID: | Method Blank | Date Reported: | 02.10.02 | |
| Laboratory Number | 02-14-TCV | Date Reported. | N/A | |
| Sample Matrix: | TCIPEvtract | Date Campled. | | AR 76 - 17 - 19 - 19 - 19 - 19 - 19 - 19 - 19 |
| | | Date Analysis | NVA
00.40.00 | |
| Fleselvauve. | | Date Analyzed: | 02-19-02 | |
| Condition: | N/A | Date Extracted: | 02-14-02 | |
| | | Analysis Requested: | TCLP | |
| | | | · * • | |
| | <u>,</u> | Detection | Regulatory | |
| | Concentration | Limit | Limits | |
| Parameter | (mg/L) | (mg/L) | (mg/L) | |
| | | | - | |
| Vinyl Chloride | ND | 0.0001 | 0.2 | |
| 1,1-Dichloroethene | ND | 0.0001 | 0.7 | |
| 2-Butanone (MEK) | ND | 0.0001 | 200 | |
| Chloroform | ND | 0.0001 | 6.0 | |
| Carbon Tetrachloride | ND | 0.0001 | 0.5 | - |
| Benzene | ND | 0.0001 | 0.5 | |
| 1,2-Dichloroethane | ND | 0.0001 | 0.5 | |
| Trichloroethene | ND | 0.0003 | 0.5 | |
| Tetrachloroethene | ND | 0.0005 | 0.7 | |
| - Chlorobenzene | | 0.0003 | n n se sen and 100 istration - a | ** *********** |
| 1,4-Dichlorobenzene | ND | 0.0002 | 7.5 | |

ND - Parameter not detected at the stated detection limit.

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| QA/QC Acceptance Criteria | | Parameter | Percent Recovery | |
|---------------------------|------------------------|--|-------------------------|-----|
| | | Fluorobenzene | 99% | |
| | | 1,4-difluorobenzene | 98% | |
| | | 4-bromochlorobenzene | 98% | |
| References: | Method 1311, Toxicity | Characteristic Leaching Procedure, SW- | 846, USEPA, July 1992. | |
| | Method 5030, Purge-ar | nd-Trap, SW-846, USEPA, July 1992. | | |
| | Method 8010, Halogen | ated Volatile Organic, SW-846, USEPA, | Sept. 1994. | |
| | Method 8020, Aromatic | : Volatile Organics, SW-846, USEPA, Se | ept. 1994. | · · |
| Note: | Regulatory Limits base | d on 40 CFR part 261 Subpart C section | 1 261.24, July 1, 1992. | |
| | | | | |
| Comments: | QA/QC for sample | s 22037 - 22039 and 22041. | | |

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EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

| Client: | QA/QC | | Project #: | N/A | - |
|----------------------|---------------|---|-----------------|------------|-------------|
| Sample ID: | Matrix Duplic | ate | Date Reported: | 02-19-02 | |
| Laboratory Number: | 22037 | ······································ | Date Sampled: | N/A | |
| Sample Matrix: | TCLP Extrac | n , uteringen tenenterspringersen in nen – nen neuroper | Date Received: | N/A | |
| Analysis Requested: | TCLP | | Date Analyzed: | 02-19-02 - | - |
| Condition: | N/A | | Date Extracted: | 02-14-02 | |
| | • | Duplicate | | ·] | |
| | Sample | Sample | Detection | | |
| | Result | Result | Limits | Percent | |
| Parameter | (mg/L) | (mg/L) | (mg/L) | Difference | |
| Vinyl Chloride | ND | ND | 0.0001 | 0.0% | |
| 1,1-Dichloroethene | ND | ND | 0.0001 | 0.0% | |
| 2-Butanone (MEK) | 0.0087 | 0.0087 | 0.0001 | 0.0% | |
| Chloroform | ND | ND | 0.0001 | 0.0% | |
| Carbon Tetrachloride | ND | ND | 0.0001 | 0.0% | - |
| Benzene | 0.0018 | 0.0018 | 0.0001 | 0.0% | |
| 1,2-Dichloroethane | ND | ND | 0.0001 | 0.0% | |
| Trichloroethene | ND | ND | 0.0003 | 0.0% | |
| Tetrachloroethene | ND | ND | 0.0005 | 0.0% | |
| Chlorobenzene | ND | ND white | 0.0003 | 0.0% | and a start |
| 1,4-Dichlorobenzene | ND | ND | 0.0002 | 0.0% | |
| | | | | | |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for samples 22037 - 22039 and 22041.

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hniai alles Review



EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

| Client: | QA/QC | | | Project #: | | N/A | |
|----------------------|---------------|---------------------------------------|----------|---------------|-------------|----------|---|
| Sample 1D: | Matrix Spike | · · · · · · · · · · · · · · · · · · · | | Date Reporte | ed: | 02-19-02 | |
| Laboratory Number: | 22037 | | | Date Sample | d: | N/A | |
| Sample Matrix: | TCLP Extract | | | Date Receive | ed: | N/A | |
| Analysis Requested: | TCLP | | | Date Analyze | ed: | 02-19-02 | |
| Condition: | N/A | | | Date Extracte | ed: | 02-14-02 | |
| | | <u>-</u> | Spiked | | | SW-846 | |
| | Sample | Spike | Sample | Det. | | % Rec. | |
| | Result | Added | Result | Limit | Percent | Accept. | |
| Parameter | (mg/L) | (mg/L) | (mg/L) | (mg/L) | Recovery | Range | |
| Vinyl Chloride | ND | 0.050 | 0.0495 | 0.0001 | 99% | 28-163 | |
| 1,1-Dichloroethene | ND | 0.050 | 0.0494 | 0.0001 | 99% | 43-143 | |
| 2-Butanone (MEK) | 0.0087 | 0.050 | 0.0577 | 0.0001 | 98% | 47-132 | |
| Chloroform | ND | 0.050 | 0.0500 | Ô.0001 | 100% | 49-133 | |
| Carbon Tetrachloride | ND | 0.050 | 0.0490 | 0.0001 | 98% | 43-143 | |
| Benzene | 0.0018 | 0.050 | 0.0513 | 0.0001 | 99% | 39-150 | |
| 1,2-Dichloroethane | ND | 0.050 | 0.0490 | 0.0001 | 98% | 51-147 | |
| Trichloroethene | ND | 0.050 | 0.0495 | 0.0003 | 99% | 35-146 | |
| | -ND | 0.050 | - 0.0495 | 0.0005 | * * 99% | 26-162 | ، منه بالمراجع المراجع المن الأربعية من المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع |
| Chlorobenzene | ND | 0.050 | 0.0495 | 0.0003 | 9 9% | 38-150 | |
| 1,4-Dichlorobenzene | ND | 0.050 | 0.0495 | 0.0002 | 99% | 42-143 | |

ND - Parameter not detected at the stated detection limit.

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for samples 22037 - 22039 and 22041.

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2-22-02; 4:13PM;ENVIROTECH



EPA METHOD 8040 PHENOLS Quality Assurance Report Laboratory Blank

;5056321865

| Client: | QA/QC | Project #: | N/A | · - |
|---------------------------|------------------|---------------------|------------|-----|
| Sample ID: | Laboratory Blank | Date Reported: | 02-20-02 | |
| Laboratory Number: | 02-20-TCA | Date Sampled: | NA | |
| Sample Matrix: | 2-Propanol | Date Received: | N/A | |
| Preservative: | N/A | Date Analyzed: | 02-20-02 | - |
| Condition: | N/A | Analysis Requested: | TCLP | |
| Analytical Results | • | Detection | Regulatory | |
| | Concentration | Limit | Limit | |
| Parameter | (mg/L) | (mg/L) | (mg/L) | |
| o-Cresol | - ND | 0.020 | 200 | |
| p,m-Cresol | ND | 0.040 | 200 | |
| 2,4,6-Trichlorophenol | ND | 0.020 | 2.0 | |
| 2.4.5-Trichlorophenol | ND | 0.020 | 400 | |
| mi-tio-IIIoIIIOIOPIIOIIOI | | | | |

ND - Parameter not detected at the stated detection limit.

| Surrogate Rec | overies: | Parameter | Percent Recovery |] |
|---------------------------|------------------------------|---|---|-----------------|
| e so we de ministration : | ، مىچ برىمەنىيىت كىرار با مۇ | 2-fluorophenol | an an an an an an an an an an an an b> | مربع فرمید احمد |
| | | 2,4,6-tribromophenol | 99 % | |
| Paforoncos | Method 131 | 11. Tovicity Characteristic Leaching Pr | acadura Test Mathods for Evaluating Solid | |
| Nelei ences. | Waste, SW | -846, USEPA, July 1992. | | |
| | Method 35 ⁻ | 10, Separatory Funnel Liquid-Liquid Ex | traction, Test Methods for Evaluating Solid | |
| | Waste, SW | -846, USEPA, July 1992. | | |
| · | Method 804 | 40, Phenols, Test Methods for Evaluati | ng Solid Waste, SW-846, USEPA, Sept. 1986. | |
| Note: | Regulatory | Limits based on 40 CFR part 261 subp | part C section 261.24, July 1, 1992. | |
| Comments: | QA/QC fo | or samples 22037 - 22039 and 2 | 22041. | |

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EPA METHOD 8040 PHENOLS Quality Assurance Report

| Client: | QA/QC | Project #: | N/A |
|-----------------------|---------------|---------------------|------------|
| Sample 1D: | Method Blank | Date Reported: | 02-20-02 |
| Laboratory Number: | 02-14-TCA-MB | Date Sampled: | N/A |
| Sample Matrix: | TCLP Extract | Date Received: | N/A |
| Preservative: | Cool | Date Extracted: | N/A |
| Condition: | Cool & Intact | Date Analyzed: | 02-20-02 |
| | | Analysis Requested: | TCLP |
| | | Det. | Regulatory |
| | Concentration | Limit | Limit |
| Parameter | (mg/L) | (mg/L) | (mg/L) |
| o-Cresol | ND | 0.020 | 200 |
| p,m-Cresol | ND | 0.040 | 200 |
| 2,4,6-Trichlorophenoi | ND | 0.020 | 2.0 |
| 2,4,5-Trichlorophenol | ND | 0.020 | 400 |
| Pentachloronhenol | ND | 0.020 | 100 |

ND - Parameter not detected at the stated detection limit.

and Benevie the we want to be the set of the set of the set of the set of the set of the set of the set of the

| Surrogate Recove | ries: Parameter | Percent Recovery |
|------------------|--|---------------------------------------|
| | 2-Fluorophenol
2,4,6-Tribromophenol | 98%
99% |
| References: | Method 1311, Toxicity Characteristic Leaching Procedu
Waste, SW-846, USEPA, July 1992. | re Test Methods for Evaluating Solid |
| | Method 3510; Separatory Funnel Liquid-Liquid Extractic
Waste, SW-846, USEPA, July 1992. | on, Test Methods for Evaluating Solid |
| | Method 8040, Phenols, Test Methods for Evaluating So | lid Waste, SW-846, USEPA, Sept. 1986. |
| Note: | Regulatory Limits based on 40 CFR part 261 subpart C | section 261.24, July 1, 1992. |
| Comments: | QA/QC for samples 22037 - 22039 and 2204 | 1. |

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EPA METHOD 8040 PHENOLS Quality Assurance Report

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| Client: | QA/QC | | Project #: | N/A |
|---|--|---|--|---|
| Sample ID: | Matrix Duplicate | | Date Reported: | 02-20-02 |
| Laboratory Number: | 22037 | | Date Sampled: | N/A * |
| Sample Matrix: | TCLP Extract | | Date Received: | N/A |
| Preservative: | Cool | | Date Extracted: | 02-14-02 |
| Condition: | Cool & Intact | | Date Analyzed: | 02-20-02 |
| | | | Analysis Requested: | TCLP |
| | | | | . 19* |
| | 01 | | | |
| | Sample | Duplicate | Detection | |
| | Sample
Result | Duplicate
Result | Detection
Limit | Percent |
| Parameter | Sample
Result
(mg/L) | Duplicate
Result
(mg/L) | Detection
Limit
(mg/L) | Percent
Difference |
| Parameter
o-Cresol | Sample
Result
(mg/L) | Duplicate
Result
(mg/L)
ND | Detection
Limit
(mg/L)
0.020 | Percent
Difference
0.0% |
| Parameter
o-Cresol
p.m-Cresol | Sample
Result
(mg/L)
ND
ND | Duplicate
Result
(mg/L)
ND
ND | Detection
Limit
(mg/L)
0.020
0.040 | Percent
Difference
0.0%
0.0% |
| Parameter
o-Cresol
p,m-Cresol
2,4,6-Trichlorophenol | Sample
Result
(mg/L)
ND
ND
ND | Duplicate
Result
(mg/L)
ND
ND
ND | Detection
Limit
(mg/L)
0.020
0.040
0.020 | Percent
Difference
0.0%
0.0%
0.0% |
| Parameter
o-Cresol
p,m-Cresol
2,4,6-Trichlorophenol
2,4,5-Trichlorophenol | Sample
Result
(mg/L)
ND
ND
ND
ND | Duplicate
Result
(mg/L)
ND
ND
ND
ND | Detection
Limit
(mg/L)
0.020
0.040
0.020
0.020 | Percent
Difference
0.0%
0.0%
0.0%
0.0% |

ND - Parameter not detected at the stated detection limit.

| QA/QC Accep | otance Criteria: | Parameter | Maximum Difference |
|-------------|---|---|--------------------------------|
| | | 8040 Compounds | 30.0% |
| References: | Method 1311, Toxicity C
Waste, SW-846, USEP/ | ly Characteristic Leaching Procedure Test Methods for Evaluating Sol
EPA, July 1992. | |
| | Method 3510, Separato
Waste, SW-846, USEP/ | ry Funnel Liquid-Liquid Extraction, Test
A, July 1992 | Methods for Evaluating Solid |
| | Method 8040, Phenols, | Test Methods for Evaluating Solid Was | te, SW-846, USEPA, Sept. 1986. |
| Note: | Regulatory Limits based | I on 40 CFR part 261 subpart C section | 261.24, July 1, 1992. |
| Comments: | QA/QC for samples | s 22037 - 22039 and 22041. | |
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EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics Quality Assurance Report

| Client: | ent: QA/QC | | N/A | | |
|--------------------------------|------------------|---------------------|---------------------|--|--|
| Sample ID: | Laboratory Blank | Date Reported: | 02-20-02 | | |
| Laboratory Number: • 02-20-TBN | | Date Sampled: | N/A | | |
| Sample Matrix: | Hexane | Date Received: | N/A | | |
| Preservative: | N/A | Date Extracted: | N/A | | |
| Condition: | N/A | Date Analyzed: | * 02 - 20-02 | | |
| | | Analysis Requested: | TCLP | | |
| | | Det. | Regulatory | | |
| | Concentration | Limit | Limit | | |
| Parameter | (mg/L) | (mg/L) | (mg/L) | | |
| Pyridine | ND | 0.020 | 5.0 | | |
| Hexachloroethane | ND | 0.020 | 3.0 | | |
| Nitrobenzene | ND | 0.020 | 2.0 | | |
| Hexachlorobutadiene | ND | 0.020 | 0.5 | | |
| 2,4-Dinitrotoluene | ND | 0.020 | 0.13 | | |
| HexachloroBenzene | ND | 0.020 | 0.42 | | |

ND - Parameter not detected at the stated detection limit.

| QA/QC Accept | ance Criteria | Parameter | Percent Recovery |
|--------------|---|--|--|
| | | 2-fluorobiphenyl | 100% |
| References: | Method 1311, Toxicity
Method 3510, Separato
Method 8090, Nitroaro | Characteristic Leaching Procedure
ory Funnel Liquid-Liquid Extraction
matics and Cyclic Ketones, SW-84 | e, SW-846, USEPA, July 1992.
, SW-846, USEPA, July 1992.
6, USEPA, Sept. 1986. |
| Note: | Regulatory Limits base | ed on 40 CFR part 261 Subpart C s | ection 261.24, July 1, 1992. |
| | ·· · · · · · · · | | |
| Comments: | QA/QC for sample | es 22037 - 22039 and 22041. | |

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EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QUALITY ASSURANCE REPORT

| | Client: | QA/QC | Project #: | N/A | |
|---|---------------------|-----------------|---------------------|------------|---------------------------------|
| | Sample ID: | Method Blank | Date Reported: | 02-20-02 | |
| - | Ląboratory Number: | 02-14-TBN-MB | Date Sampled: | N/A | ACTIVITY AND AND AND ADDRESS OF |
| | Sample Matrix: | TCLP Extract | Date Received: | ~ N/A | - |
| | Preservative: | Cool | Date Extracted: | 02-14-02 | |
| | Condition: | Cool and Intact | Date Analyzed: | 02-20-02 | ~ |
| | *
.4 | | Analysis Requested: | TCLP | |
| | | | Det. | Regulatory | - |
| | | Concentration | Limit | Limit | |
| | Parameter - | (mg/L) | (mg/L) | (mg/L) | |
| | Pyridine | ND | 0.020 | 5.0 | |
| | Hexachloroethane | ND | 0.020 | 3.0 | |
| | Nitrobenzene | ND | 0.020 | 2.0 | |
| | Hexachlorobutadiene | ND | - 0.020 | 0.5 | - |
| | 2,4-Dinitrotoluene | ND | 0.020 | 0.13 | |
| | HexachloroBenzene | ND | 0.020 | 0.13 | |
| | | | | | |

ND - Parameter not detected at the stated detection limit.

| QA/QC Accept | ance Criteria | Parameter | Percent Recovery |
|--------------|--|---|--|
| | | 2-fluorobiphenyl | 100% |
| References: | Method 1311, Toxicity
Method 3510, Separat
Method 8090, Nitroaro | Characteristic Leaching Procedure,
ory Funnel Liquid-Liquid Extraction,
matics and Cyclic Ketones, SW-846 | SW-846, USEPA, July 1992.
SW-846, USEPA, July 1992.
, USEPA, Sept. 1986. |
| Note: | Regulatory Limits base | ed on 40 CFR part 261 Subpart C se | ction 261.24, July 1, 1992. |
| Comments: | QA/QC for sample | es 22037 - 22039 and 22041. | |
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EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QA/QC Matrix Duplicate Report

| Sample ID: | | | Project #: | | 19775 |
|-------------------------------------|--|--|--|---|---------------------------|
| | | Matrix-Duplicate | Date Reported: | anan a annan ta tanan | |
| Laboratory_Number | | -22037 | Date Sampled: | | |
| Sample Matrix: | | TCLP Extract | Date Received: | | N/A |
| Preservative: | | N/A | Date Extracted: | | 02-14-02 |
| Condition: | | N/A | Date Analyzed: | | 02-20-02 |
| | | | Analysis Reques | ted: + | TCLP |
| | | Sample | Duplicate | | Det. |
| | | Result | Result | Percent | Limit |
| Parameter | | (mg/L) | (mg/L) | Difference | (mg/L) |
| Pyridine | | ND | ND | 0.0% | 0.020 |
| Hexachloroetha | ane | ND | ND | 0.0% | 0.020 |
| Nitrobenzene | | 0.102 | 0.101 | 0.0% | 0.020 |
| Hexachlorobut | adiene | ND | ~ ND | 0.0% | 0.020 |
| 2,4-Dinitrotolue | ene | 0.034 | 0.034 | 0.0% | 0.020 |
| HexachloroBer | izene | ND | ND | 0.0% | 0.020 |
| ND - Parameter not | t detected at th
ance Criteri | ne stated detection limit.
a Para | meter I | Maximum Diffe | erence |
| ND - Parameter not
QA/QC Accepta | t detected at th
ance Criteri | ne stated detection limit.
a Para | meter I | Maximum Diffe | Prence |
| ND - Parameter not
QA/QC Accepta | t detected at th
ance Criteri | ne stated detection limit.
a Para
8090 | meter l
Compounds | Maximum Diffe
30% | erence |
| ND - Parameter not | t detected at th
ance Criteri
Method 13
Method 36
Method 80 | ne stated detection limit.
a Paral
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311, Toxicity Characteristic Les
510, Separatory Funnel Liquid
090, Nitroaromatics and Cyclic | meter I Compounds aching Procedure, SW-846 -Liquid Extraction, SW-846 Ketones, SW-846, USEP | Maximum Diffe
30%
5, USEPA, July 199
5, USEPA, July 199
A, Sept. 1986. | erence
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| ND - Parameter not | t detected at th
ance Criteri
Method 13
Method 36
Method 80
Regulator | ne stated detection limit.
a Paral
8090
811, Toxicity Characteristic Lea
510, Separatory Funnel Liquid
090, Nitroaromatics and Cyclic
y Limits based on 40 CFR par | meter I
Compounds
aching Procedure, SW-846
-Liquid Extraction, SW-846
c Ketones, SW-846, USEP,
t 261 Subpart C section 26 | Maximum Diffe
30%
5, USEPA, July 199
5, USEPA, July 199
A, Sept. 1986.
51.24, July 1, 1992 | erence
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Review

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EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE **TRACE METAL ANALYSIS Quality Assurance Report**

| Client: | ant: QA/QC Project # | | | N/A | | | | | | |
|--------------------|---|------------|----------|-----------------|-----------|-----------------------|-------------------|--|--|--|
| Sample ID: | | 02-19-TCI | A QA/QC | Date Reported: | | | 02-19-02 | | | |
| Laboratory Number | atory Number22037 | | | Date Sampled: | | فكالم وراجع عدره ومرو | N/A | | | |
| Sample Matrix: | and the second second second second second second second second second second second second second second secon | TCLP Ext | act | Date Rec | eived: | · ··· ····· | N/A | an l'anna a' anna a' anna a' anna a' anna a' anna a' anna a' a' a' a' a' a' a' a' a' a' a' a' a' | | |
| Analysis Requested | i: | TCLP Met | als | Date Anal | lyzed: | | 02-19-02 | • | | |
| Condition: | | N/A | | Date Extracted: | | | N/A | | | |
| Blank & Duplicate | i instrumen | Melhod | Detectio | n Sample | Duplicate | | Acceptance | | | |
| Conc (mg/Cl | Blank | Bank | | | | Difference | Range | | | |
| Arsenic | ND | ND | 0.001 | 0.046 | 0.046 | 0.0% | 0% - 30% | - | | |
| Barium | ND | ND | 0.001 | 0.267 | 0.265 | 0.7% | 0% - 30% | | | |
| Cadmium | ND | ND | 0.001 | 0.039 | 0.039 | 0.0% | 0% - 30% | | | |
| Chromium | ND | ND | 0.001 | 0.149 | 0.147 | 1.3% | 0% - 30% | | | |
| Lead | ND | ND | 0.001 | 0.283 | 0.280 | 1.1% | 0% - 30% | | | |
| Mercury | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% | | | |
| Selenium | ND | ND | 0.001 | 0.024 | 0.024 | 0.0% | 0% - 30% | | | |
| - Silver | ND | ND | 0.001 | ND | ND | 0.0% | 0% - 30% | - | | |
| Spike | | e de saker | Same | Silved | Percent | | Acceptance | | | |
| Conc ung L | | ADOSO, | | Sang | | | Range State | | | |
| Arsenic | . In our subscule | 0.500 | 0.046 | 0.545 | 99.8% | A manual and | 80% - 120% | 1 | | |
| Barium | | 0.500 | 0.267 | 0.763 | 99.5% | | 80% - 120% | | | |
| Cadmium | | 0.500 | 0.039 | 0.537 | 99.6% | | 80% - 120% | | | |
| Chromium | | 0.500 | 0.149 | 0.647 | 99.7% | | 80% - 120% | | | |
| Lead | | 0.500 | 0.283 | 0.781 | 99.7% | | 80% - 120% | | | |
| Mercury | | 0.050 | ND | 0.049 | 98.0% | | 80% - 120% | | | |
| | | 0.500 | 0.024 | 0.523 | 99.8% | | 80% - 120% | | | |
| Selenium | | 0.500 | V.V.4 | | | | | | | |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission, SW-846, USEPA, December 1996.

Comments:

QA/QC for samples 22037 - 22039 and 22041.

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|-----------------------------------|-----|-------------------|--|--------------------------------------|------------|------------------|--|----------------|-----------|------------|-------|-------|-----------------|------|----------|------------|---------|-----|----------|
| Sampler: | | | 3 | Client No. | <u>с</u> , | | 1 | 2 | 4 | ; | | | | | ļ | | Remar | s | i. |
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taine | 37 | | | | | | 5 | 1 | | | |
| Sample No./
Identification | | Sample
Date | Sample
Time | Lab Number | | Sample
Matrix | | Cont | 24 | | | | | | - | | <u></u> | | |
| Wash WATER THANK | | 02.1 4 .07 | 11:40 | 22038 | | Water | | 4 | | 1 | ė | | | , | | | | | |
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2040 South Pacheco, Santa Fe, NM 87505
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Environmental Pareau | Submit Original
Plus 1 Copy
to Appropriate
District Office |
|---|--|
| REQUEST FOR APPROVAL TO ACCEPT | SOLID WASTE |
| . RCRA Exempt: 🔲 Non-Exempt: 🙀 | 4. Generator
COASTAL CHEMICAL |
| Verbal Approval Received: Yes No | 5. Originating Site
VACO TANKS |
| . Management Facility Destination KEY DIS POSAL | 6. Transporter Key |
| Address of Facility Operator
NEWMEXPICE | 8. State NM |
| Location of Material (Street Address or ULSTR) | 1 |
| Circle One: | |
| one certificate per job.
B All requests for approval to accept non-exempt wastes must be accompanied by r
material is not-hazardous and the Generator's certification of origin. No waste cl
approved | necessary chemical analysis to PROVE the
lassified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for trans | port |
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Estimated Volume <u>< 400 bb/r</u> cy Known Volume (to build be op | perator at the end of the haul)cy |
| ONLY VIEGIN Chemical IN WASTE (UNUSED TREATING
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See MSDS Sheets Filed 1-16-01
JAN 2000
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OLOON DN
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SIGNATURE Management Facility Authorized Agent
TITLE: MGL | perator at the end of the haul) cy
DATE: $(-9-02)$ |
| ONLY VIEGIN Chemical IN WASTE (UNUSED TREATING
LAST FILED 9-10-01 Approval DATE USED
See MSDS Sheets Filed 1-16-01
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OL OON: BIN
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SIGNATURE <u>Muchael Talourca</u>
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EPHONE NO. $505-334-64.86$ |
| ONLY VIEGIN CHEMICAL IN WASTE (UNUSED TREATINE
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See MSDS Sheets Filed 1-16-01
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SIGNATURE Management Facility Authorized Agent
TYPE OR PRINT NAME: MICHAEL TALOUICH TEL
(This space for State Use)
APPROVED BY: Demy Term TITLE: Envivo | Derator at the end of the haul) cy
DATE: $\frac{1-9-02}{-9-02}$
EPHONE NO. $\frac{505-334-64.86}{-64.86}$ |
| ONLY VIEGIN Chemical IN WASTE (UNUSED TREATING
LAST FileD 9-10-01 ApprovAL DATE USED TREATING
See MSDS Elgets filed 1-16-01
JAN 2002
NECEIVED
OCON: BN
SIGNATURE <u>Mulan</u>
Waste Management Facility Authorized Agent
TYPE OR PRINT NAME: <u>MICHAEL TALOWICH</u>
TEL
(This space for State Use)
APPROVED BY: <u>Mutyn</u> <u>Gith</u>
TITLE: <u>Enviro</u>
APPROVED BY: <u>Mutyn</u> <u>Gith</u> | Determinents)
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$Determinent be end of the haul)cy DATE: \frac{1-9-02}{-9-02}DATE: \frac{1-9-02}{-9-02}DATE: \frac{1-9-02}{-9-02}DATE: \frac{1-9-02}{-9-02}DATE: \frac{1-9-02}{-9-02}DATE: \frac{1-9-02}{-9-02}DATE: \frac{1-9-02}{-9-02}DATE: \frac{1-9-02}{-9-02}$ |

6

1625 N. French Dr., Hobbs, NM 88240 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2010 Sauth Bachene, Sant Fa, NM 87505 2040 South Pacheco, Santa Fe. NM 87505

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Energy inera s and Natura esource

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

Submit Original Plus 1 Copy to Appropriate District Office

REOUEST FOR APPROVAL TO ACCEPT SOLID WASTE

ч.,

| 1. RCRA Exempt: 🔲 Non-Exempt: 📈 | 4. Generator
COASTAL CHEMICAL |
|--|---|
| Verbal Approval Received: Yes No | 5. Originating Site
VAEO TANKS |
| 2. Management Facility Destination KEY DISPOSAL | 6. Transporter
UCY |
| 3. Address of Facility Operator
NEWMEXICO | 8. State NM |
| 7. Location of Material (Street Address or ULSTR) (130 MADISON LANC. | |
| 9. <u>Circle One</u> : | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by ne material is not-hazardous and the Generator's certification of origin. No waste class approved | a certification of waste from the Generator;
cessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transpo | סת |
| BRIEF DESCRIPTION OF MATERIAL: | |
| RINGEWAter FROM pumps, hoses AND TANKS | · · · · |
| LAST FILED 9-10-01 APPRUAL DATE 11-27-01
See MSDS Sheets FILEL 1-16-01
JAN 2002
PECEIVER
OLOON. ON
DIT. 3 | |
| Estimated Volume $\underline{-400 bb/r}_{cy}$ Known Volume (to be Supred by the ope | at the end of the haul)cy |
| SIGNATURE Management Facility Authorized Agent TITLE: MG.C. | DATE: 1-9-02 |
| TYPE OR PRINT NAME: MICHAEL TALOUICH TELE | PHONE NO. 505-334-61.86 |
| (This space for State Use)
APPROVED BY: Dent Temp Time: Environ | Engr DATE: 01/09/02 |
| APPROVED BY: TITLE: Environ | Engt DATE: <u>0//09</u>
DATE: |

•

| 111 3. First
Artely, Tort 46540
District 111 - (303) 134-61 78
1000 Rio Brazos Road
Actes, NM 87410
District 1V - (505) 827-7131
2040 S. Pacheco
Santa Fe, NM 87505 | Oil Conserv
2040 South
Sgnta Fe, Ne
(505) | Ment
Submit to OCD
Permitted Surface
Waste Management
Facility | |
|--|--|---|---|
| GE | NERATOR CERTIFIC | CATE OF WASTE S | TATUS |
| 1. Waste Generator Name and Ac
COATSAL CHEMICAL CO | ddress: | 2: Rermit Number (if v | aste generated at an OCD
permitted facility) |
| 1130 MADISON LANE
FARMINGTON, NM. 874 | 401 | | • |
| 3. Description of Waste and Gene
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UNUSED CHEMICALS. C
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ANTIFREEZE. | erating Process:
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D OUT ARE VIRGIN
HEMICALS MAY INCLU
(TEG & EG | 4 Location of Waste
COASTAL CH
1130 MADIS
FARMINGTON
DE | (Street address &/or ULSTR):
Emical co. LLC.
ON LANE
, NM. 87401 |
| | - | ~ | - |
| .5. Destination (Surface Waste Ma | anagement Facility): | 6. Transporter: | · · · · · · · · · · · · · · · · · · · |
| VEY ENERGY Disp | Dosul | Key | Evere y |
| 7. Estimated Volume cy/ | bbls | attached (check appropriate | Evere y |
| JEY Execution Display 7. Estimated Volume cy/ For NON-EXEMPT waste only, th X MSDS Information | bbls
e following documentation is | attached (check appropriate
RCRA Hazardous Wast | EN226 Y
items):
e Analysis (With Chain of Custody). |
| UEY Every Disp 7. Estimated Volume cy/ For NON-EXEMPT waste only, th XX MSDS Information Other (Description) | bbls
e following documentation is | attached (check appropriate | Eveloy
items):
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| UEY EXECUTIVE 7. Estimated Volume cy/ For NON-EXEMPT waste only, th XX MSDS Information Other (Description) Generator certifies that, according Agency's July 1988 regulatory de | bbls
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pursuant to 40 CFR Pa | Eveloy
items):
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A) and the Environmental Protection
riate classification)
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documentation) |
| UEY Gracy Drog
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For NON-EXEMPT waste only, th
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Other (Description)
Generator certifies that, according
Agency's July 1988 regulatory de
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In addition, Generator certifies th
waste does not contain Naturally
Subpart 1403. | bbls
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termination, the above descri
oilfield waste.
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Subpart 1403.
Generator Signature
Print Name:ROBERTBL | bbls
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at nothing has been added to
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JRNSIDE | Attached (check appropriate | Every Every items):
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field waste that is non-hazardous and 261. (Attach appropriate documentation)
non-hazardous waste and that this ant to 20 NMAC 3.1
ate: $\frac{1}{9}/92$ |

| JAN 1,5 2002 Santa Fe, NM 87410
JAN 1,5 2002 Santa Fe, NM 87505
Enoteconstruction Pacheco, Sunta Fe, NM 87505 | Submit Original
Plus I Copy
to Appropriate
District Office |
|--|---|
| REQUEST FOR APPROVAL TO ACCE | PT SOLID WASTE |
| | 4. Generator |
| Verbal Approval Received: Yes 7 No X | 5. Originating Site |
| Management Facility Destination KEY DIS 05AL | 6. Transporter |
| Address of Facility Operator # 345 CR 3500 A2 RC | 8. State NM |
| Location of Material (Street Address or ULSTR) 420 MADISON LANC | 401 |
| Circle One: | |
| (B) All requests for approval to accept non-exempt wastes must be accompanied is material is not-hazardous and the Generator's certification of origin. No waste approved | by necessary chemical analysis to PROVE the e classified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for tr | ansport. |
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| LAST Files 9-10-01 Approval Date 450 9107777
See mode sheets filed 1-16-01 A JAN 2002
NECEIVED
OLOBNI BIN
DIST. 9 | |
| LAST Files 9-10-01 Approval Date (1999)
See mode sheets filed 1-16-01
JAN 2000
DICON. BIN
DIST. S
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See msDs Skeets Filed 1-16-01 JAN 2002
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OLOBN. BN
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Estimated Volume <u>4400 bblr</u> cy Known Volume (to be all relief of the state of the stat | operator at the end of the haul) cy
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RECEIVED
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DIST. 9
Estimated Volume (to be Alternative
SIGNATURE Management Facility Authorized Agent
TYPE OR PRINT NAME: MICHAEL TALOUICH T | operator at the end of the haul) cy
DATE: $\sqrt{-2-02}$
ELEPHONE NO. $505-334-64$ Sb |
| LAST Files 9-10-01 ApprovAL DATE LESSIMIL
See mSDS Skeets filed 1-16-01 JAN 2002
DECEIVED
CLOCKI BIN
BIST: S
Estimated Volume (to be all performance
SIGNATURE Management Facility Authorized Agent
TYPE OR PRINT NAME: <u>MICHAEL TALOUICH</u> T | operator at the end of the haul) cy
DATE: 1-2-02
ELEPHONE NO. $505-334-1486$ |
| LAST Files 9-10-01 Approval Date (1989)
See msDs skeets filed 1-16-01 JAN 2008
RECEIVED
OLGON: BIN
BIST: 9
Estimated Volume (10 Description
SIGNATURE <u>Management Facility Authorized Agent</u>
TITLE: <u>Moe</u>
Waste Management Facility Authorized Agent
TYPE OR PRINT NAME: <u>MICHAEL TALOUICH</u> T
This space for State Use) | operator at the end of the haul) cy
DATE $\frac{2-02}{55-334-64}$
ELEPHONE NO SS - 334 - 64 86 |
| LAST Files 9-10-01 Approval Darre (1999)
See msDS Sheets Filed 1-16-01 JAN 2002
RECEIVED
OLIGEN. BIN
BIST. S
Estimated Volume <u>400 661</u> cy Known Volume (to be RECEIVED
OLIGEN. BIN
BIGNATURE <u>Mulan</u> <u>1000</u> TITLE: <u>MGR</u>
Wasie Management Facility Authorized Agean
TYPE OR PRINT NAME: <u>MICYAEL TALOUICH</u> T
This space for State Use)
APPROVED BY: <u>1900</u> TITLE: <u>Fund</u> | operator at the end of the haul) cy
DATE $(-2-02)$
ELEPHONE NO. $55-334-64$ Pb
C/Engk DATE: $01/09/02$ |

District I 1625 N. French Dr., Hobbs, NM 88240 21 \$11 South First, Artesia, NM 88210 izismici III 500 Rio Brazos Road, Aztoc, NM 87410 District IV

State of New Mexico Energy Minerals and Natural Rese

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

2040 South Pacheco, Santa Fe, NM 87505

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1. | RCRA Exempt: Non-Exempt: | 4. Generator HALIbueton |
|----|---|-------------------------|
| | Verbal Approval Received: Yes No | 5. Originating Site |
| 2. | Management Facility Destination Key DisposeL | 6. Transporter Key |
| 3. | Address of Facility Operator
TTZHEC NM | 8. State Nm |
| 7. | Location of Material (Street Address or ULSTR) 4109 E, MAN STEEST
Forem NGTON NM | т.
А |
| 9. | Circle One: | |

A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

| Retorned FRAC Fluids that | AZE STORED IN YARD |
|------------------------------|--------------------|
| Analytical previously filed | 7-21-01 31123 |
| Analytical DATE: 10-26-01 | AL AN 2022 |
| I believe this is two tests. | |
| | Carling Strands |

Known Volume (to be entered by the operator at the end of the haul) _____ Estimated Volume 200+ bblscv 02 DATE: 1-4-01 TITLE: MGR SIGNATURE Waste Management Facility Authorized Agent TYPE OR PRINT NAME: MICHAel Tolovich Telephone NO. 505334-6183

| (This space for State Use) | |
|---|--|
| APPROVED BY: Denny tem TITLE: Enviro/Engr DATE: 1104/05 | |
| Mather TITLE: Environmentel beologit DATE: 1/7/02 | |
| APPROVED BY: / //// | |

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 South First, Artesia, NM 88210 District III 7000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505

2

State of New Mexico Energy Minerals and Natural Resourc

> Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

| REQUEST FOR APPROVAL TO ACCEPT | SOLID WASTE |
|---|---|
| I. RCRA Exempt: Non-Exempt: X | 4. Generator HALLbueton |
| Verbal Approval Received: Yes No | 5. Originating Site YARD |
| 2. Management Facility Destination KEY DISPOSHL | 6. Transporter Key |
| 3. Address of Facility Operator #345 CR3500
Tiztec Nm | 8. State Nm |
| 7. Location of Material (Street Address or ULSTR) 4109 E. MAIN STREET
FORMAGTON NM | |
| 9. <u>Circle One</u> : | · · · · · · · · · · · · · · · · · · · |
| B. Il requests for approval to accept non-exempt wastes must be accompanied by ne
material is not-hazardous and the Generator's certification of origin. No waste clas
approved | cessary chemical analysis to PROVE the
ssified hazardous by listing or testing will be |
| All transporters must certify the wastes derivered are only those consigned for transp | on. |
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Amalytical DATE: 10-26-01 | AN STORY OF STREET |
| Estimated Volume 200+ bblscy Known Volume (to be entered by the ope | rator at the end of the haul)cy |
| SIGNATURE Waste Management Facility Authorized Agent | 02
DATE: /- 4-0/ |
| TYPE OR PRINT NAME: MICHAel Tolovich TELE | PHONE NO. 505-334-6182 |
| (This space for State Use) | |
| APPROVED BY: Deny Tour TITLE: Enviro | 1 Engr DATE: 01/04/0 |
| APPROVED BY: TITLE: | DATE: |

| Interfer (1903) 393-6101 New 625 N. French Dr Iobbs, NM 88246 Energy N rals and Na Intrictifi-(505) 748-1283 Energy N rals and Na 11 S. Fusi 0il Conserv 0il Conserv Viterial, New 38240 2040 South 2040 South 000 Rio Brazos Road Santa Fe, Ne Santa Fe, Ne Visrict IV - (505) 827-7131 (505) (505) 040 S Pacheco inter Fe, NM 87305 1000 | Mexico
tural Resources Department
vation Division
h Pacheco Street
ew Mexico 87505
9 827-7131
Form C-143
3/15/00
Submit to OCD
Permitted Surface
Waste Management
Facility |
|--|---|
| GENERATOR CERTIFIC | CATE OF WASTE STATUS |
| Waste Generator Name and Address:
tallibutton Gnergy Struces
Alog E Main Struct
Alog E Main Struct
Tammogton, NM 37402
Alog E Main Struct
Neve Stored in What is
Vere Stored in | 2.Permit Number (if waste generated at an OCD permitted facility) 4. Location of Waste (Street address &/or ULSTR):
Houbinton Energy Scruces
AIOAE Main Street
Tarmington 6. Transporter:
Wey EWEGY |
| For NON-EXEMPT waste only, the following documentation is a | attached (check appropriate items): |
| MSDS Information | RCRA Hazardous Waste Analysis (With Chain of Custody). |
| <u>A</u> Other (Description) <u>Knowledg</u> <i>if</i>
Senerator certifies that, according to the Resource Conservation
Agency's July 1988 regulatory determination, the above describ | MULEN + FULL PREVIOUSLY
on and Recovery Act (RCRA) and the Environmental Protection
bed waste is: (check appropriate classification) |
| EXEMPT oilfield waste. | pursuant to 40 CFR Part 261. (Attach appropriate documentation) |
| n addition, Generator certifies that nothing has been added to the vaste does not contain Naturally Occurring Radioactive Materia Subpart 1403.
Benerator Signature: All Gradies Contained and Contained Structure Contained Structure Contained Structure Supervises S | this exempt or non-exempt non-hazardous waste and that this
al (NORM) regulated pursuant to 20 NMAC 3.1
Date: Date:
S6R |
| ······································ | |



NEW MLAICO ENERGY, MINLRALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary

December 4, 2003

Lori Wrotenbery Director Oil Conservation Division

Tom K. Martella Earth Environmental Services 16754 West 75th Place Arvada, CO 80007

RE: Request to take diesel and degraded gasoline contaminated ground water recovered from the M&M Truck Stop located south of Cortez, Colorado to the Key Four Corners Inc. Surface Waste Management Facility, Permit NM-01-0009.

Dear Mr. Martella.

The New Mexico Oil Conservation Division (OCD) has received your fax concerning ground water recovered from the M&M Truck Stop south of Cortez, Colorado and has reviewed your request to take the recovered contaminated ground water from this project to Key Four Corners, Inc. (Key) surface waste management facility for disposal. After reviewing Rule 711 C.4.c and based on the information provided the OCD hereby determines that this waste stream is similar in physical and chemical composition to the oilfield wastes authorized for disposal at the Key facility under Permit NM-01-0009.

Prior to acceptance into the facility, a "Request For Approval to Accept Solid Waste" OCD Form C-138 must be submitted by Key to the OCD. The C-138 must be accompanied by a generator certificate of waste status and have been tested non-hazardous and not listed as a hazardous waste. The contaminated ground water at the facility must be tested for reactivity, corrosivity, ignitability, TCLP volatiles, TCLP semivolitiles, and TCLP metals. The results of the analysis will enable the OCD to make a final decision regarding acceptance. Please call me at (505) 476-3488 if you have any questions.

Sincerely,

Martyne J. Kieling Environmental Geologist

Aztec OCD xc:

Mike Talovich, Key Four Corners, Inc., P.O. Box 900, Farmington, New Mexico 87499

Oil Conservation Division * 1220 South St. Francis Drive * Santa Fe, New Mexico 87505 Phone: (505) 476-3440 * Fax (505) 476-3462 * <u>http://www.emnrd.state.nm.us</u> I

16754 West 75th Place Arvada, CO 80007 Phone: 303-910-8497 Fax: 303-456-9558

| | Danci | • | Ft. Co | llins | |
|--|--|--|--|---|--|
| 0: | Martyne Kieling | ***** * ** | Fax | 505-476-3462 | |
| From: | Tom K. Martella | | Date: | 12/03/03 | |
| <u>te:</u> | Analytical results Ma | &M Truck Stop | Pages | (including cover): | 15 |
| <u>::</u> | | | | ····· | |
|] Urgent | G For Review | 🗋 Please Comm | nent | 🗆 Please Reply | 🗆 Please Recycle |
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| • | ttached are the analy | | | | - |
| Notes: A | manned are the analy | tical results for Ju | né. I hávéi | 1'I received the re | sults from the most |
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map of the property.
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section limits or below
ocated near the wells
map of the property.
d gasoline is recovered
ou need anything else. |





RECOVERY SHED AND WELL LOCATION MAP

SCALE: 1"=80' DATE: JULY 2003 FIGURE:



DRAWN BY: MIRELES REVISED: SE!

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| District
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505 | State of New Mexico
Energy Minerals and Natural Reso
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505 | RECEIVED
urces
NOV 1 3 2003
OIL CONSERVATION
DIVISION
Form C-138
Revised June 10, 2003
Submit Original
Plus 1 Copy
to Appropriate
District Office |
|---|--|---|
| REQUEST FO | OR APPROVAL TO ACCEI | PT SOLID WASTE |
| | • • | 4. Generator Duke Energy Field Services, |
| 1. RCRA Exempt: Non-Exempt:
UVerbal Approval Received: Yes | | 5. Originating Site See attached list |
| 2. Management Facility Destination Key E | Energy Disposal | 6. Transporter Key Energy |
| 3. Address of Facility Operator #345 CR | 3500, Aztec, NM | 8. State NM |
| 7. Location of Material (Street Address or | ULSTR) See attached list | |
| A. All requests for approval to accept oil
one certificate per job.
B. All requests for approval to accept non
material is not-hazardous and the Gen
approved
All transporters must certify the wastes of
BRIEF DESCRIPTION OF MATERIAL:
RCRA non-exempt, non-hazardous storn
triethylene glycol, and lubricating oil from
A representative sample was collected for
Material Safety Data Sheets (soap - Zep
89, and coolant - Startex Antifreeze Cool
NOV 2003
All Comp | Ifield exempt wastes will be accompanied by
n-exempt wastes must be accompanied by
herator's certification of origin. No waste c
delivered are only those consigned for trans
n water and wastewater (soap/water m
equipment skids) generated from was
or analysis from the Pump Canyon Con
Formula 4358 Car Wash Powder, Trie
ant) enclosed
Known Volume (to be entered by the ope | by a certification of waste from the Generator;
necessary chemical analysis to PROVE the
lassified hazardous by listing or testing will be
sport |
| SIGNATURE Maste Management Facility Autho | TITLE: Mol | DATE: //-/0-03 |
| TYPE OR PRINT NAME: MICHAEL | TALOVICH TELE | PHONE NO. 555-334-6416 |
| (This space for State Use)
APPROVED BY: Lemy
APPROVED BY: Monty 534 | 9. To cit TITLE: ENVI
TITLE: Engl | Vohimental DATE: 11/10/03 |

lash

| de la | · · · · · · · · · · · · · · · · · · · | |
|--------------|---------------------------------------|----|
| Deriet | К | |
| 162. N. Fre | ench Dr., Hobbs, NM 88240 | |
| District II | é.,,, | |
| 1301 W. Gr | add Avenue, Artesia, NM 8821 | 0 |
| District III | | |
| 1000 Rio B | razos Road, Aztec, NM 87410 | |
| District IV | | |
| 1220 S. St. | Francis Dr., Santa Fe, NM 8750 | 05 |

State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-138 Revised June 10, 2003

> Submit Original Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| 1. RCRA Exempt: Non-Exempt: | 4. Generator Duke Energy Field Services,
LP | | |
|---|--|--|--|
| Uverbal Approval Received: Yes No | 5. Originating Site See attached list | | |
| 2. Management Facility Destination Key Energy Disposal | 6. Transporter Key Energy | | |
| 3. Address of Facility Operator #345 CR 3500, Aztec, NM | 8. State NM | | |
| 7. Location of Material (Street Address or ULSTR) See attached list | | | |
| 9. <u>Circle One</u> : | | | |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved | | | |

All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

RCRA non-exempt, non-hazardous storm water and wastewater (soap/water mixture with incidental amounts of coolant, triethylene glycol, and lubricating oil from equipment skids) generated from wash down activities at facilities (see attached list). A representative sample was collected for analysis from the Pump Canyon Compressor Station. Analytical results and Material Safety Data Sheets (soap - Zep Formula 4358 Car Wash Powder, Triethylene glycol, Lubricating Oil - Mobil Pegasus 89, and coolant. Startex Antifreeze Coolant) enclosed.

| NOV 2003
NECENCED
OIL CONS. DIV.
DIST. 3
Estimated Solution 2100 - 800 bbl/yrcy | Known Volume (to be entered by the operator at the end of | f the haul)cy |
|---|---|--------------------------------|
| SIGNATURE <u>Management Facility Auto</u> | Dorized Agent TITLE: MOL | DATE: <u>//-/0-03</u> |
| TYPE OR PRINT NAME: MICHAEL | <u>, TALOVICH</u> TELEPHONE NO. <u>5</u> | 05-334-6416 |
| E-MAIL ADDRESS | Veyenergy, com | |
| (This space for State Use)
APPROVED BY: Lorent Tr
APPROVED BY: | TITLE Enviro/Engr | DATE: <u>11/10/03</u>
DATE: |

| Originating Sites | Location |
|---------------------------------|---|
| Arch Rock Compressor Station | SW/4 Section 14 Township 31N Range 10W |
| Buena Vista Compressor Station | NE/4 Section 13 Township 30N Range 9W |
| Cedar Hill CDP | SW/4 Section 29 Township 32N Range 10 V |
| Cedar Hill Compressor Station | SW/4 Section 29 Township 32N Range 10W |
| Frances Creek CDP | NE/4 Section 4 Township 29N Range 6W |
| Frances Mesa Compressor Station | SW/4 Section 27 Township 30N Range 7W |
| Frances Mesa Junction | Section 21 Township 20N Range 7W |
| Gobernador Compressor Station | Section 31 Township 30N Range 7W |
| Hart Canyon Compressor Station | Section 20 Township 31N Range10W |
| Johnson Federal Drip | Section 35 Township 31N Range 9W |
| Manzanares Compressor Station | Section 4 Township 29N Range 8W |
| Middle Mesa Compressor Station | Section 10 Township 31N Range 7W |
| Pump Canyon Compressor Station | Section 24 Township 30N Range 9W |
| Pump Canyon Unicon CDP | Section 13 Township 30N Range 9W |
| Pump Mesa Compressor Station | Section 14 Township 31N Range 8W |
| Quinn Compressor Station | Section 17 Township 31N Range 8W |
| Sandstone Compressor Station | Section 32 Township 31N Range 8W |
| Sims Mesa Compressor Station | Section 22 Township 30N Range 7W |
| Trk MB20-MB16 Loop | Section 11 Township 29 N Range 11W |
| Trk MB22 Loop | Section 12 Township 29 N Range 11W |

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NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary Lori Wrotenbery Director Oil Conservation Division

CERTIFICATE OF WASTE STATUS

| 1. Generator Name and Address | 2. Destination Name: |
|---|--|
| Duke Energy Field Services, LP
119 CR 4900
Bloomfield NM 87413 | Key Energy Services Sunco WDW #1 Injection Well |
| 3. Originating Site (name): | Location of the Waste (Street address &/or ULSTR): |
| See attached list | See attached list |
| attach list of originating sites as appropriate4. Source and Description of Waste | |
| RCRA non-exempt, non-hazardous storm water an triethylene glycol, and lubricating oil from equipm list). A representative sample was collected for an attached. | d wastewater (soap/water mixture with incidental amounts of coolant,
ent skids) generated from wash down activities at facilities (see attached
alysis from the Pump Canyon Compressor Station. Analytical results |
| I, Michael LEE | representative for : |
| <u>Duke Energy Field Services, LP</u> do hereby certify that, acco
Environmental Protection Agency's July,1988, regulatory d
classification) | ording to the Resource Conservation and Recovery Act (RCRA) and letermination, the above described waste is: (Check appropriate |
| EXEMPT oilfield wasteXN | ON-EXEMPT oilfield waste which is non-hazardous by characteristic alysis or by product identification |
| and that nothing has been added to the exempt or non-exem | npt non -hazardous waste defined above. |
| For NON-EXEMPT waste the following documentation is
_X_MSDS Information (soap, coolant, triethylene
_X_RCRA Hazardous Waste Analysis
_X_Chain of Custody | attached (check appropriate items):
e glycol)Other (description |
| This waste is in compliance with Regulated Levels of Na
NMAC 3.1 subpart 1403.C and D. | aturally Occurring Radioactive Material (NORM) pursuant to 20 |
| Name (Original Signature): | |
| Title: Field Super Visor | |
| Date: 10/31/03 | |

| Originating Sites | Location |
|---------------------------------|---|
| Arch Rock Compressor Station | SW/4 Section 14 Township 31N Range 10W |
| Buena Vista Compressor Station | NE/4 Section 13 Township 30N Range 9W |
| Cedar Hill CDP | SW/4 Section 29 Township 32N Range 10 W |
| Cedar Hill Compressor Station | SW/4 Section 29 Township 32N Range 10W |
| Frances Creek CDP | NE/4 Section 4 Township 29N Range 6W |
| Frances Mesa Compressor Station | SW/4 Section 27 Township 30N Range 7W |
| Frances Mesa Junction | Section 21 Township 20N Range 7W |
| Gobernador Compressor Station | Section 31 Township 30N Range 7W |
| Hart Canyon Compressor Station | Section 20 Township 31N Range10W |
| Johnson Federal Drip | Section 35 Township 31N Range 9W |
| Manzanares Compressor Station | Section 4 Township 29N Range 8W |
| Middle Mesa Compressor Station | Section 10 Township 31N Range 7W |
| Pump Canyon Compressor Station | Section 24 Township 30N Range 9W |
| Pump Canyon Unicon CDP | Section 13 Township 30N Range 9W |
| Pump Mesa Compressor Station | Section 14 Township 31N Range 8W |
| Quinn Compressor Station | Section 17 Township 31N Range 8W |
| Sandstone Compressor Station | Section 32 Township 31N Range 8W |
| Sims Mesa Compressor Station | Section 22 Township 30N Range 7W |
| Trk MB20-MB16 Loop | Section 11 Township 29 N Range 11W |
| Trk MB22 Loop | Section 12 Township 29 N Range 11W |

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612 E. Murray Drive Farmington, NM 87499

Off: (505) 327-1072 FAX: (505) 327-1496

November 04, 2003

Robert Thompson Terracon #4A CR 3499 Flora Vista, NM 87415

TEL: (505) 334-2900 FAX (505) 334-9703

RE: Pump Canyon Compressor Station

Order No.: 0310056

Dear Robert Thompson:

iiná bá, Ltd. received 2 samples on 10/30/2003 for the analyses presented in the following report.

iiná bá

This certificate of analysis includes the Analytical Report(s) for the sample(s) received by the laboratory. A Quality Control Summary Report, the Sample Receipt Checklist and an executed Chain of Custody are included as an addendum to this report.

Should you have any questions regarding this certificate of analysis, please contact the laboratory at your convenience.

Report Approved By:

David Cox Laboratory Manager

Heidi Reese Quality Assurance Officer

This certificate of analysis and respective material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the person responsible for delivering this to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify the laboratory immediately at 505-327-1072.

P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

612 E. Murray Drive Farmington, NM 87499

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Off: (505) 327-1072 FAX: (505) 327-1496

iiná bá, Ltd.

P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

Date: 04-Nov-03

| CLIENT: | Terracon | |
|------------------------|---|----------------|
| Project:
Lab Order: | Pump Canyon Compressor Station
0310056 | CASE NARRATIVE |

iiná bá

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Any quality control and/or data qualifiers associated with this laboratory order will be flagged in the analytical result page(s), the quality control summary report(s) or the sample receipt checklist.

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

612 E. Murray Drive Farmington, NM 87499

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Off: (505) 327-1072 FAX: (505) 327-1496

ANALYTICAL REPORT

P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

Date: 04-Nov-03

| CLIENT: | Terracon | | | Cli | ent Sample Info: | Terracon
Compressor Station | | | | |
|---------------|------------------|----------------|--------|--------|-----------------------|--------------------------------|---------------|--|--|--|
| Work Order: | 0310056 | | | C | lient Sample ID: | | | | | |
| Project: | Pump Canyon Comp | ressor Station | | 10/30 | 10/30/2003 3:15:00 PM | | | | | |
| Lab ID: | 0310056-001B | | | | Matrix: | AQUEOUS | | | | |
| Parameter | | Result | PQL | Qual | Units | DF | Date Analyzed | | | |
| MERCURY, TCL | P LEACHED | | sw | 7470 | | Analyst: DWC | | | | |
| Mercury | | ND | 0.0010 | | mg/L | 1 | 11/3/2003 | | | |
| ICP METALS, T | CLP LEACHED | | SW131 | 1/6010 | В | | Analyst: DWC | | | |
| Arsenic | | ND | 0.018 | | mg/L | 1 | 11/3/2003 | | | |
| Barium | | ND | 0.003 | | mg/L | 1 | 11/3/2003 | | | |
| Cadmium | | ND | 0.003 | | mg/L | 1 | 11/3/2003 | | | |
| Chromium | | 0.024 | 0.003 | | mg/L | 1 | 11/3/2003 | | | |
| Lead | | ND | 0.005 | | mg/L | 1 | 11/3/2003 | | | |
| Selenium | | 0.024 | 0.011 | | mg/L | 1 | 11/3/2003 | | | |
| Silver | | ND | 0.020 | | mg/L | 1 | 11/3/2003 | | | |

iiná bá

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

H - Parameter exceeded Maximum Allowable Holding Time

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

E - Value above Upper Quantitation Limit - UQL

Page 1 of 2

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

| 612 E. Murray | Drive | | | (| | \sim | PO Boy 3788 | | | | |
|-----------------------------------|------------------|----------------|------|------|--------------|---------------------|---------------------|--|--|--|--|
| Parmington, NM | 1 87499 | | á | | | | Shiprock, NM 8742 | | | | |
| Off: (505) 327-
FAX: (505) 327 | 1072
-1496 | 111 | U | | JU | | Off: (505) 368-4065 | | | | |
| ANALYTI | CAL REPORT | | | | D | ate: 04-No | -1-03 | | | | |
| CLIENT: | Terracon | | | Cli | ent Sample I | n fo: Terrac | con | | | | |
| Work Order: | 0310056 | | | C | lient Sample | ID: Comp | ressor Station | | | | |
| Project: | Pump Canyon Comp | ressor Station | | | Collection D | ate: 10/30/ | 2003 3:15:00 PM | | | | |
| Lab ID: | 0310056-001C | | | | Mat | rix: AQUE | EOUS | | | | |
| Parameter | | Result | PQL | Qual | Units | DF | Date Analyzed | | | | |
| РН | | | E1 | 50.1 | | | Analyst: HNR | | | | |
| pН | | 6.24 | 2.00 | | pH units | 1 | 10/31/2003 | | | | |
| Temperature | | 16.0 | 0 | | deg C | 1 | 10/31/2003 | | | | |

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

.

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

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H - Parameter exceeded Maximum Allowable Holding Time

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

. _.....

E - Value above Upper Quantitation Limit - UQL

Page 2 of 2

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

Test America ANALYTICAL TESTING CORPORATION

> 2960 FOSTER CREDGHTON DRIVE + NASIVILED, TERNESSEE 37204 800-765-0980 + 6(5-726-3404 Pax

11/ 4/03 CASE NARRATIVE

IINA BA, LTD 3130 DAVE COX 612 E. MURRAY DRIVE FARMINGTON, NM 87401

· **)** "

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: Project Number: . Laboratory Project Number: 352489.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

| | | Page 1 |
|-----------------------|------------|-----------------|
| Sample Identification | Lab Number | Collection Date |
| | | |
| | | |
| 0310056-001D | C3-A170781 | 10/30/03 |

www.testamericainc.com TestAmerica Analytical Testing Corporation | TestAmerica Drilling Corporation | TestAmerica Air Emission Corporation



ANALYTICAL TESTING CORPORATION

2960 POSTEK CREIGHTON DRIVE + NASHVILLE, TEXNESSEE 37204 800-765-0980 + 615-726-3404 Fax

Sample Identification

Fage 2 Lab Number Collection Date

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By:

acxanich Contor Report Date: 11/ 4/03

Ashley Morris, Lab DirectorGail A. Lage, Technical Serv.Michael H. Dunn, M.S., QA/QC DirectorGlenn L. Norton, Technical Serv.Johnny A. Mitchell, Operations Manager Organics Kelly S. Comstock, Technical Serv.Eric S. Smith, Assistant Technical DirectorPamela A. Langford, Technical Serv.Roxanne L. Connor, Technical Services

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www.testomericainc.com

TestAmerico Analytical Testing Corporation 1 TestAmerica Drilling Corporation 1 TestAmerica Air Emission Corporation



2960 FUSTER CREMETON DRIVE . NASHVILLE, TENNESSEE 37204 800-765-0980 · 615-726-3404 FAX

ANALYTICAL REPORT

IINA BA, LTD 3130 DAVE COX 612 E. MURRAY DRIVE FARMINGTON, NM 87401

Project: Project Name: Sampler:

Lab Number: 03-A170781 Sample ID: 0310056-001D Sample Type: Liquid waste Site ID:

Date Collected: 10/30/03 Time Collected: 15:15 Date Received: 10/31/03 Time Received: 8:10 Page: 1 B

11/5/03

Pump Canyon Compressor Station

| Analyte | Result | Cnits | Report
Limit | Quan
Limit I | Dil
Factor | Date | Time | Analyst. | Method | Batch |
|---------------------------|-------------|--------------|-----------------|-----------------|---------------|----------|--------|------------|-----------|-------|
| | | | | | | | | | | |
| GENERAL CHEMISTRY PARAMI | ETERS* | | | | | | | | | |
| Ignitability | 11/ 3/03 | 10:33 | T. Beverly | y 1010M | 7527 | | | | | |
| Flash Point, Closed Cup | NO FUASH U | P TO 2008 | , | | | 11/ 3/03 | 10:33 | T. Beverly | y 1010 | 7527 |
| TCLP Results | | | | | | | | | | |
| | | | 1 | atrix Spi | æ | | | | | |
| Analyte | Result | Units | Reg Limit | Recovery | (*) | Date | Time | Analyst | Method QC | Baich |
| | | • • - | | | •••• | | | | | |
| Berzene | < 0.0200 | mg/l | D.5 | 108 | | 11/ 4/03 | 12:05 | C. Spry | 8260 | 9314 |
| Carbon tetrachloride | < 0.0200 | mg/1 | 0.S | 85 . | | 11/ 4/03 | 12:05 | C. Spry | 8260 | 9314 |
| Chlorobenzene | < 0,6200 | mg/l | 100 | 105 | | 11/ 4/03 | 12:05 | C. Spry | 8260 | 9314 |
| Chloroform | < 0.0200 | mg/l | S.0 | 105 | | 11/ 4/03 | 12:05 | C. Spry | 8260 | 9314 |
| 1.2-Dichloroethane | < 0.0200 | mg/l | 0.5 | 99 | | 11/ 4/03 | 12:05 | C. Spry | 2260 | 9314 |
| 1,1-Dichloroethene | < 0.0200 | mg/l | 0.7 | 100 | | 11/ 4/03 | 12:05 | C. Spry | 8260 | 9314 |
| Methylethylketone | < 0.100 | mg/l | 200 | 105 | | 11/ 4/03 | 12:05 | C. Spry | 8260 | 9314 |
| Tetrachloroethene | < 0.0200 | mg/l | 0.7 | 104 | | 11/ 4/02 | 12:05 | C. Spry | 8260 | 9314 |
| Trichloroethene | 0.230 | mg/l | 0.5 | 106 | | 11/ 4/03 | 3.2:05 | C. Spry | 8260 | 9314 |
| Vinyl Chloride | < 0.0200 | ng/l | 0.2 | 99 | | 11/ 4/03 | 12:05 | C. Spry | 8260 | 9314 |
| Zero Headspace Extraction | n Initiated | | | | | 10/21/03 | 15:00 | B.Minor | 1311 | 6253 |

Zero Headspace Extraction Initiated

Sample report continued . . .

www.testamericainc.com

TestAmerica Analytical Testing Corporation | TestAmerica Drilling Corporation | TestAmerica Air Emission Corporation

| | | | | | •••••••••••••••••••••••••••••••••••••• | | | | | | | | | | <u> </u> |
|---|--|------------------|--------------|---------------------|--|-----------------------|-------------------------------------|-------------|---------|----------------------------------|------------|------------|----------|-------------|--------------|
| fiiná bá | CHAI | ΝÖ | F Cl | JST(| DDY | RE(| COR | D | | | | ÷ | | 360 | 55 |
| (lor life's sake) 612 E. Murray Dr. • P.O. Box 2
Phone: (505) 327-1072 • Fax: | 2606 • Farm
(505) 327-1 | nington,
1496 | NM 874 | 199 C | Date _/ | 0-3 | <u>50 - c</u> | 2 | | | | Page | | / of | _/ |
| Report to: ROBERT THOMPSON
Company: TERRACON
Address: #4A CR 3499 | | | | | | PO N | lo.: | | | | Jot | o No.: | | | |
| | | | | | | Name: ROBERT THOMPSON | | | | | | | | | |
| | | | | | | Company: TERRACON | | | | | | | | | |
| City: FLORA VISTA, NM 874 | 15 | | | | S N N | Address: #4A CR 3499 | | | | | | | | | |
| Phone: 334-2900 Fax: 334-9703 | Email | ompsor | reter | Tacon. | com | City: | FLOR | LA 1 | 1157 | A | NN | 8 | 7415 | 5 | |
| Turnaround Time: Sample Integrity Subcontract 10 days (normal) Intact X | | | | | | Analysis Requested | | | | | | | | | |
| 3-5 days (50%) On Ice | | No | , | I | | <u>├</u> | $- \frac{\mathcal{O}}{\mathcal{O}}$ | | - | <u>-<u>(</u>)
-<u>5</u>7</u> |) | | | | |
| Sampling Location:
PUMP CANYON COMPRESSOR ST | ATTON | | | | SER OF
VINERS: | | (Mile) | | Net all | | | | | | |
| Sample Identification | Samp
Date | ole
Time | Matrix | Pres. | NUME | Hd. | The second | 1/2/ | 22 | ./ | | | | / La | b ID |
| PUMP CANYON COMPRESSOR STATION | 10-30 1 | 1515 | Hzo | HA | le | X | X | X | Х. | | | | | 031005 | <u>u-201</u> |
| TRIP BLANK | 10-30 1 | 1330 | H20 | Acl | | | | $ \times$ | | | | | | L | -0024 |
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| Relinquished by: 10001 Champbon Date/Time: 10-39-03/163 | | | 1.1630 | Received by Heren R | | | | | | Date/Time: 0/30/03 114? | | | | | |
| Heinquished by: | Date/Time: | | | | Receiv | eceived by: | | | | | | Date/Time: | | | |
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http://www.zep.com/MSDS/english/0407.txt ZEP MANUFACTURING COMPANY 07/19/01 PAGE 1 ISSUE DATE: 05/21/99 ZEP FORMULA 4358 SUPERSEDEJ: 06/15/88 PRODUCT NUMBER: 0407 Car Wash - Powder SECTION I - EMERGENCY CONTACTS MEDICAL EMERGENCY: TOLL FREE 1-877-541-2016 ALL CALLS RECORDED TRANSPORTATION EMERGENCY: CHEMTREC: TOLL FREE 1-600-424-9300 ALL CALLS RECORDED SECTION II - HAZARDOUS INGREDIENTS TLV EFFECTS & IN DESIGNATIONS (PFM) (SEE REVERSE) PROD. ** NONYLPHENOXYPOLY (ETHYLENEOXY) ETHANOL ** npe; N/D EIR 10 - 20poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omegahydroxy; CAS# 9016-45-9; RTECS# MD0905000; OSHA PEL-N/D SECTION III - HEALTH HAZARD DATA SPECIAL NOTE: MSDS data pertains to the product as dispensed from the container. Adverse health effects would not be expected under recommended conditions of use (diluted) so long as prescribed safety precautions are practiced. ACUTE EFFECTS OF OVEREXPOSURE: Dust from this product may be irritating to skin and eyes. Irritation of skin is characterized by itching or reddening of the skin. Eye irritation is characterized by watering, itching and redness. Inhalation of dust may produce respiratory irritation characterized by coughing or a choking sensation. CHRONIC EFFECTS OF OVEREXPOSURE: There are no known effects from chronic exposure to this product. None of the ingredients are listed as carcinogens by IARC, NTP, or OSHA. EST'D PEL/TLV: Not established PRIMARY ROUTES OF ENTRY: N/A _______ HMIS CODES: HEALTH 1; FLAM. 0; REACT. 0; PERS. PROTECT. A ; CHRONIC HAZ. NO FIRST AID PROCEDURES: SKIN : Flush contaminated skin with plenty of water. Consult a physician if irritation develops. EYES : Immediately flush eyes with plenty of water for at least 15 minutes. If irritation develops, consult a physician. INHALE: If symptoms occur, move affected person to fresh air. If symptoms persist, get medical attention promptly. INGEST: If this product is swallowed, do not induce vomiting. If individual is alert, give plenty of water to drink. Get medical attention at once.

PAGE 2

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רייב נייב , בנייב

11/05/2003 WED 14:52 FAX 505 207 5979 COOPER ENERGY 2008/011 ISSUE DATE: 05/21/99 ZEP FORMULA 4356 SUPERSEDES: 06/15/99 PRODUCT NUMBER: 0407 Car Wash - Powder SECTION IV - SPECIAL PROTECTION INFORMATION PROTECTIVE CLOTHING : As with all chemical products, prolonged skin contact should be avoided. Implement protective measures under EYE PROTECTION : As with all chemical products, eye contact should be avoided. Implement protective measures based on con-RESPIRATORY PROTECTION: No special measures are required. VENTILATION : No special measures are required. SECTION V - PHYSICAL DATA BOILING POINT (F) : N/ASPECIFIC GRAVITYVAPOR PRESSURE(MMHG): N/AEVAPORATION RATE(N/AVAPOR DENSITY(AIR=1): N/APH(CONCENTRATE)SOLUBILITY IN WATER : 1.0 #/gal.PH(USE DILUTION OF 0.25 =1): N/A : N/A): 9.3 VOC CONTENT (CONCENTRATE) N/A AFPEARANCE AND ODOR : A RED, FREE-FLOWING, FLEASANTLY SCENTED POWDER. SECTION VI - FIRE AND EXPLOSION DATA FLASH POINT(F) (METHOD USED) : N/A () FLAMMABLE LIMITS LEL N/A UEL N/A EXTINGUISHING MEDIA : Noncombustible. SPECIAL FIRE FIGHTING: Wear self-contained positive pres. breathing apparatus. UNUSUAL FIRE HAZARDS : May decompose to form toxic/corrosive gases. SECTION VII - REACTIVITY DATA VTT.TTRATE : Stable INCOMPATIBILITY (AVOID) : Strong oxidizing agents. POLYMERIZATION : Will not occur. HAZARDOUS DECOMPOSITION: Carbon dioxide, carbon monoxide and toxic/corrosive fumes as oxides of phosphorous. SECTION VIII - SPILL AND DISPOSAL PROCEDURES STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Observe safety precautions in sections 4 & 9 during clean-up. Sweep up uncontaminated product and place in a container for reuse. Place contaminated materials in a suitable waste container and rinse area well with water. WASTE DISPOSAL METHOD: Product is not considered a hazardous waste under RCRA. Unusable material should be drummed and taken to a chemical or industrial landfill, or if permitted put into solution with water and flushed into a sanitary sewer. Neutralization of pH may be a prerequisite for sewer disposal. Consult local, state, and federal agencies for proper method of disposal in your area. RCRA HAZ. WASTE NOS.: N/A PAGE 3 ISSUE DATE: 05/21/99 ZEP FORMULA 4358 SUPERSEDES: 06/15/88 PRODUCT NUMBER: 0407

Car Wash - Powder

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http://www.zcp.com/MSDS/englicit/0407.pt

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. SECTION IX - SPECIAL PRECAUTIONS PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING: Store tightly closed container in a dry area at temps. between 40-120 degrees F. Do not breathe dust. Keep product out of eyes. Keep out of the reach of children. SECTION X - REGULATORY INFORMATION DOT PROPER SHIP NAME: NONE NOTE: DOT information applies to larger package sizes of affected products. For some products, DOT may require alternate names and labeling in accordance with packaging group requirements. DOT HAZARD CLASS: N/A DOT PACKING GROUP: N/A DOT I.D. NUMBER : N/A DOT LABEL/PLACARD: NONE EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED EPA CWA 40CFR PART 117 SUBSTANCE (RQ IN A SINGLE CONTAINER) : NONE

NOTICE

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Thank you for your interest in, and use of, Zep products. Zep Manufacturing Co. is pleased to be of service to you by supplying this Material Safety Data Sheet for your files. Zep Manufacturing is concerned for your health and safety. Zep products can be used safely with proper protective equipment and proper handling practices consistent with label instructions and the MSDS. Before using any Zep product, be sure to read the complete label and the Material Safety Data Sheet.

As a further word of caution, Zep wishes to advise that serious accidents have resulted from the misuse of "emptied" containers. "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, or other sources of ignition; they may explode or develop harmful vapors and possibly cause injury or death. Clean empty containers by triple rinsing with water or an appropriate solvent. Empty containers must be sent to a drum reconditioner before reuse.

TERMS AND ABBREVIATIONS - LISTED ALPHABETICALLY BY SECTION

SECTION II: HAZARDOUS INGREDIENTS

CAR: Carcinogen - A chemical listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or OSHA as a definite or possible human cancer causing agent. CAS #: Chemical Abstract Services Registry Number - A univers- ally accepted numbering system for chemical substances. CEL: Combustible - At temperatures between 100F and 2007 chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester. CNS: Central Nervous System depressant which reduces the activity of the brain and spinal cord. CCR: Corrosive - Causes irreversible injury to living tissue (e.g. burns). DESIGNATIONS: Chemical and common names of hazardous ingredients. EIR: Eye Irritant Only - Causes reversible reddening and/or inflammation of eye tissues. EXPOSURE LIMITS: The time weighted average (TWA) airborne concentration at which most workers can be exposed without any expected adverse effects. Primary sources include ACGIH TLVs, and OSHA PELs (TWA, STEL and ceiling limits). ACGIH: American Conference of Governmental Industrial Hygienists. CEILING: The concentration that should not be exceeded in the workplace during any part of the working exposure. OSHA: Occupational Safety and Health Administration PEL: Permissible Exposure Limit - A set of time weighted average exposure values, established by OSHA, for a normal 8-hour day and a 40-hour work week. . 6

PPM: Parts per million - unit of measure for exposure limits. (3) SKIN: Skin contact with substance can contribute to overall exposure. STEL: Short Term Exposure Limit - Maximum concentration for a continuous 15-minute exposure period. TLV: Threshold Limit Value - A set of time weighted average exposure limits, established by the ACGIH, for a normal 9-hour day and a 40-hour work week. FBL: Flammable - At temperatures under 100F, chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester. HAZARDOUS INGREDIENTS: Chemical substances determined to be potential health or physical hazards based on the criteria established in the OSHA Hazard Communication Standard - 29 CFR 1910.1200 HTX: Highly toxic - the probable lethal dose for a 70kg (130 lb.) man and may be approximated as less than 6 teaspoons (2 tablespoons). IRR: Irritant - Causes reversible effects in living tissues (e.g. inflammation) - primarily skin and eyes. N/A: Not Applicable - Category is not appropriate for this product. N/D: Not Determined - Insufficient information to make a determination for this item. RTECS#: Registry of Toxic Effects of Chemical Substances - an unreviewed listing of published toxicology data on chemical substances. SARA: Superfund Amendment and Reauthorization Act - Section 313 designates chemicals for possible reporting for the Toxics Release Inventory. SEN: Sensitizer - Causes allergic reaction after repeated exposure. TOX: Toxic - The probable lethal dose for a 70 kg (150 lb.) man is one ounce (2 tablespoons) or more. SECTION III: HEALTH HAZARD DATA ACUTE EFFECT: An adverse effect on the human body from a single exposure with symptoms developing almost immediately after exposure or within a relatively short time. CHRONIC EFFECT: Adverse effects that are most likely to occur from repeated exposure over a long period of time. EST D PEL/TLV: This estimated, time-weighted average, exposure limit, developed by using a formula provided by the ACGIH, pertains to airborne concentrations from the product as a whole. This value should serve as guide for providing safe workplace conditions to nearly all workers. HMIS CODES: Hazardous Material Identification System - a rating system developed by the National Paint and Coating Association for estimating the hazard potential of a chemical under normal workplace conditions. These risk estimates are indicated by a numerical rating given in each of three hazard areas (Health/Flammability/Reactivity) ranging from a low of zero to a high of 4. The presence of a chronic hazard is indicated with a yes. Consult EMIS training guides for Personal Protection letter codes which indicate necessary protective equipment. PRIMARY ROUTE OF ENTRY: The way one or more hazardous ingredients may enter the body and cause a generalized-systemic or specific-organ toxic effect. ING: Ingestion - A primary route of exposure through swallowing of material INH: Inhalation - A primary route of exposure through breathing of vapors. SKIN: A primary route of exposure through contact with the skin. SECTION IV: SPECIAL PROTECTION INFORMATION Where respiratory protection is recommended, use only MSHA and NIOSH approved respirators and dust masks. MSHA: Mine Safety and Health Administration NIOSH: National Institute for Occupational Safety and Health SECTION V: PHYSICAL DATA EVAPORATION RATE: Refers to the rate of change from the liquid state to the vapor state at ambient temperature and pressure in comparison to a given substance (e.g. water). pH; A value representing the acidity or alkalinity of an aquecus solution (Acidic pH = 1; Neutral pH = 7; Alkaline pH = 14) VOC CONTENT: The percentage or amount in pounds per gallon of the product that is regulated as a Volatile Organic Compound under the Clean Air Act of 1990 and

various state jurisdictions.
 SOLUBILITY IN WATER: A description of the ability of the product to dissolve in water.

SECTION VII: REACTIVITY DATA HAZARDOUS DECOMPOSITION: Breakdown products expected to be produced upon product decomposition by extreme heat or fire. INCOMPATIBILITY: Material contact by extreme heat and the conditions to avoid to prevent hazardous reactions. POLYMERIZATION: Indicates the tendency of the product's molecules to combine with themselves in a chemical reaction, releasing excess pressure and heat. STABILITY: Indicates the susceptibility of the product to spontaneously and dangerously decompose.

SECTION VIII: SPILL AND DISPOSAL PROCEDURES RCRA WASTE NOS: RCRA (Resource Conservation and Recovery Act) waste codes (40 CFR 261) applicable to the disposal of spilled or unusable product from the original container.

SECTION X: TRANSPORTATION DATA CWA: Clean Water Act- Federal Law which regulates chemical releases to bodies of water. RQ: Reportable Quantity - The amount of the specific ingredient that, when spil-

led to the ground and can enter a storm sewer or natural watershed, must be reported to the National Response Center, and other regulatory agencies. TSCA: Toxic Substances Control Act - a federal law requiring all commercial chemical substances to appear on an inventory maintained by the EPA.

DISCLAIMER

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All statements, technical information and recommendations contained herein are based on available scientific tests or data which we believe to be reliable. The accuracy and completeness of such data are not warranted or guaranteed. We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with out products, may be used. Zep assumes no liability or responsibility for loss or damage resulting from the improper use or handling of our products, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the products label and Material Safety Data Sheet.

(rev. 1/98)

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Material Safety Data Sheet

| Section 1. Chemical Product and Company Identification | | | | | | |
|--|--|---|---------------------------------------|------------|--|--|
| Common Name T | riethylene Gly | col | | | Code | 7970 |
| Supplier Co | Coastal Chemical Co., L.L.C. | | • | | MSDS# | Not available. |
| 35
Ab
33 | 20 Veterans Memoria
beville, La. 70510
7-893-3862 | 'eterans Memorial Drive
Ile, La. 70510
13-3862 | | | Validation D | aie 4/8/2002 |
| No No | ot available. | · · · · · · · · · · · · · · · · · · · | | | Print Date | 4/8/2002 |
| Trade name No | ot available. | | | | Responsible | Name Charles Toups |
| Material Uses No | ot available. | | | | In Case of Transportation Emergency Call | |
| Munufacturer Co
35
Ab
33 | pastal Chemical Co., 1
20 Veterans Memoria
beville, La, 70510
7-893-3862 | al Chemical Co., L.L.C.
/eterans Memorial Drive
ille, La, 70510
93-3862 | | | Emergency CHEMTREC 800-424-9300
Other Information Call
Charles Toups
337-898-0001 | |
| Section 2. Compos | sition and Informa | tion on Ing | redients | | | |
| Name | | CAS # | % by Weight | | Ę | xposure Limits |
| 1) Disthylene glycol
2) Tristhylene Glycol | | 111-46-6
11227-6 | 0-5
95-100 | Not availa | able | |
| Section 3. Hazards | dentification | | · · · · · · · · · · · · · · · · · · · | | | |
| Physical State and
Appearance | Liquid. | | | | | |
| Emergency Overview | WARNING!
CONTAINS MAT
KIDNEYS, LIVER | WARNING!
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD,
KIDNEYS, LIVER. | | | | |
| Routes of Entry | Not available. | Not available. | | | | |
| Potential Acute Health Eff | otential Acute Health Effects | | | | | |
| 1 | fres Not available. | | | · | · | ······································ |
| | Skin Instation of the provident of the provident of the sensitization of the Slightly hazardow | Instation of the product in case of skin contact: Not available. Sensitization of the product: Not available. Slightly hazardous in case of skin contact (permeator). | | | | |
| inhala | tion Slightly hazardol | us in case of ir | nhalation. | | | |
| Inges | tion Slightly hazardo | an Slightly hazardous in case of ingestion. | | | | |
| Potential Chronic Health
Fffeets | CARCINOGENIC
MUTAGENIC EF
TERATOGENIC | CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available. | | | | |
| Medical Conditions
Aggravated by Overexpos | Repeated or pro | Repeated or prolonged exposure is not known to aggravate medical condition. | | | | |
| Overexposure
Signs Symptoms | Not available | Not available | | | | |
| Nee Toxicological Informa- | non (section 11) | | | | | |

Triethylene Glycol

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Page: 2/6

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| Section 4. First Aid Measures | | |
|-------------------------------|--|--|
| Eye Contact | Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention. | |
| Skin Contact | Wash with soap and water. Get medical attention if irritation develops. Cold water may be used. | |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. | |
| Ingestion | Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear. | |
| Notes to Physician | Not available. | |

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| Section 5. Fire Fighting Measures | | | |
|---|---|--|--|
| Flammability of the Product | May be combustible at high temperature. | | |
| Auto-ignition Temperature | The lowest known value is 227.78°C (442°F) (Diethylene glycol). | | |
| Flash Points | The lowest known value is CLOSED CUP: 138°C (280.4°F). OPEN CUP: 143°C (289.4°F). (Cleveland). (Diethylene glycol) | | |
| Flammable Limits | The greatest known range is LOWER: 2% UPPER: 12.3% (Diethylene glycol) | | |
| Products of Combustion | These products are carbon oxides (CO, CO2). | | |
| Fire Hazards in Presence of
Various Substances | Not available. | | |
| Explosion Hozards in
Presence of Various
Substances | Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available. | | |
| Fire Fighting Media
and Instructions | SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet. | | |
| Protective Clothing (Fire) | Be sure to use an approved/certified respirator or equivalent. | | |
| Special Remarks on Fire
Hazards | When heated to decomposition, it emits acrid smoke and irritating fumes. (Diethylene glycol) | | |
| Special Remarks on
Explosion Hazards | Not available. | | |

Section 6. Accidental Release Measures

| Small Spill and Leak | Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. |
|----------------------|--|
| Unige Spill and Leak | Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish
cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary
system. |

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| I riethylene Glycol | | Page: 3/6 | |
|--|--|---|--|
| Section 7. Handling | and Storage | | |
| Handling | Avoid breathing vapors or spray mi | sts. | |
| Storage | Keep container tightly closed Keep | o container in a cool, well-ventilated area. | |
| Section 8. Exposure | Controls/Personal Protection | | |
| Engineering Controls | Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location. | | |
| Personal Profection | es Safety olasses | | |
| Bat | ly Lab coat | | |
| Respiration | r: Not applicable. | | |
| Hand | L Gloves (impervious). | · | |
| s Jier | er Not applicable. | | |
| Personal Protection in Case o
a Large Spill | of Splash goggles. Full suit. Bools,
consult a specialist BEFORE handli | Gloves. Suggested protective clothing might not be sufficient; ng this product. | |
| Product Name | Evpasure L | imits | |
| 1) 2,2'-Oxydiethanol | Not available | 2. | |
| t unsult local authorities for a | cceptable exposure limits. | | |
| Section 9. Physical a | and Chemical Properties | | |
| Physical State and
Appearance | Liquid. | Odor Not available. | |
| Motecular Weight | Not applicable. | Taste Not available. | |
| Molecular Formula | Not applicable. | Color Not available. | |
| pH (1% Soln/Water) | Neutral. | | |
| Builing Condensation Point | The lowest known value is 245.8°C (474.4°F) (Dielhylene glycol). Weighted average: 284.02°C (543.2°F) | | |
| Melting/Freezing Point | May start to solidify at -5°C (23"F) based on data for: Triethylene Glycol. Weighted average: -5.09°C (22.8°F) | | |
| Critical Temperature | Not available. | | |
| specific Gravity | Weighted average: 1 12 (Water = 1) | | |
| Vapor Pressure | The highest known value is 0 kPa (@ 20°C) (Diethylene glycol). | | |
| Vanor Density | The highest known value is 6.7 (Air = 1) (Tetraethylene glycol). Weighted average: 5.15 (Air = 1) | | |
| Vəlaritiy | Not available. | | |
| Odar Threshold | Not available. | | |
| 1 superation Rate | Noi available. | | |

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Not available.

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| Triethylene Glycol | | Page: 416 |
|----------------------------|---|--|
| Viscosity | Not available. | |
| LogKm | Not available. | |
| lonicity (in Water) | Not available. | |
| Dispersion Properties | See solubility in water, methanol, diethyl ether. | ······································ |
| Solubility | Easily soluble in hot water, methanol, diethyl ether.
Soluble in cold water. | |
| Physical Chemical Comments | Not available. | |

Section 10. Stability and Reactivity

| Stability and Reactivity | The product is stable. | - |
|--|------------------------|---|
| Conditions of Instability | Nol available. | |
| Incompatibility with Various
Substances | Not available. | |
| Hazardous Decomposition
Products | Not available. | - |
| Havardous Pulymerization | Not available. | |

| Section 11. Toxicological Information | | | | | |
|---|--|--|--|--|--|
| lovicity to Animals | Acute oral toxicity (LD50): 12565 mg/kg [Hamster.]. (Diethylene glycol).
Acute dermal toxicity (LD50): 11890 mg/kg [Hamster.]. (Diethylene glycol). | | | | |
| Chronic Effects on Humans | Not available. | | | | |
| Other Toxic Effects on
Humans | Slightly hazardous in case of skin contact (permeator), of ingestion, of inhalation. | | | | |
| Special Remarks on Toxicity
su Animals | Not available. | | | | |
| Special Remarks on Chronic
Effects on Humans | Not available. | | | | |
| Special Remarks on Other
Toxic Effects on Humans | Experimentally tumorigen by inhalation. Exposure can cause nausea, headache and vomiting.
(Diethylene glycol) | | | | |

Section 12. Ecological Information

| u . | | | |
|--|---|--|--|
| Featoxicity | Not available. | | |
| BOD5 and COD | Not available. | | |
| Stodegradable/OECD | Not available. | | |
| Moinfity | Not available. | | |
| | These products are carbon oxides (CO, CO2) and water. | | |
| Foxicity of the Products of
Biodegradation | The product itself and its products of degradation are not toxic. | | |
| Special Remarks on the
Products of Biodegradation | Not available. | | |

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| Triethylene Glyd | col Page: 5/6 |
|-------------------|--|
| Section 13. Dispo | osal Considerations |
| Waste Information | Waste must be disposed of in accordance with federal, state and local environmental control requiations. |
| Waste Stream | Not available. |

Consult your local or regional authorities.

Section 14. Transport Information

| Shipping Description | Not a DOT controlled material (United States). | | | | |
|------------------------|--|---|--|--|--|
| | Not regulated. | | | | |
| Reportable Quantity | Noi available. | | | | |
| Marine Pollutant | Nor available. | _ | | | |
| Npecial Provisions for | Not applicable. | | | | |

Section 15. Regulatory Information

| HCS Classification | CLASS: Target organ effects. | | | |
|-------------------------------------|--|----------|--|--|
| U.S. Federal Regulations | TSCA 8(b) inventory: CFT Triethylene Glycol
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were foun
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found. | | | |
| International Regulations
EINECS | Not available | | | |
| DSCL (EFC) | This product is not classified according to the EU regulations | | | |
| International Lists | No products were found. | | | |
| State Regulations | Minnesota: Diethylene glycol | <u> </u> | | |
| | California prop. 65: No products were found. | | | |
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| Triethylene Glycol | | | | | Page: 6/6 |
|---|---|--------------------------------------|---|--|---|
| Section 16. Other In | formation | | | | |
| Label Requirements | CONTAINS MATERIA
KIDNEYS, LIVER. | NL WH | | AUSES DAMAGE TO | THE FOLLOWING ORGANS: BLOOD, |
| Hazardous Material
Information System
(U.S.A.) | Health
Fire Hazard
Reactivity
Personal Protection | 2
1
0
B | Natio
Prote
Asso | onal Fire
ection
ciation (U.S.A.) | Fire Hazard
Health Resetivity
Specific Hazard |
| References Not | available. | | | | |
| Other Special Not
Considerations | available. | | | | |
| Validated by Charles Toups | on 4/8/2002. | | | Verified by Charles | Foups. |
| | | | | Printed 4/8/2002. | |
| Transportation Emergency
CHEMTREC 800-424-9300
Other Information Call
Charles Toups
337-898-0001 | Call | | | | |
| <u>Natice to Reader</u>
To the best of our knowled
subsidiaries assumes any lia
Final determination of suita
be used with caution. Althou | ge, the information conta
bility whatsvever for the ac
bility of any material is the
igh certain hazards are des | ined h
curacy
sole r
cribed | erein i
or com
esponsi
herein, | s accurate. However,
pleteness of the inform
bility of the user. All m
we cannot guarantee to | neither the above named supplier nor any of its
ation contained herein.
aterials may present unknown hazards and should
hat these ure the only hazards that exist. |

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| 605717-00 MOBIL PEG
Material Safety Data | ASUS 89
BULLETIN | | |
| 1. PRODUCT AND COMPANY IDENTIFICATION | | | |
| PRODUCT NAME: MOBIL PEGASUS 89
SUPPLIER: MOBIL OIL CORP.
NORTH AMERICA MARKETING AND REFIN
3225 GALLOWS RD.
FAIRFAX, VA 22037
24 - Hour Emergency (call collect): 6
Product and MSDS Information: 8
CHEMTREC: 8 | ING
09-737-4411
00-662-4525 856
00-424-9300 202 | -224-4544
-483-7516 | |
| 2. COMPOSITION/INFORMATION ON INGREDIEN | ITS | | |
| CHEMICAL NAMES AND SYNONYMS: PET. HYDR
INGREDIENTS CONSIDERED HAZARDOUS TO HE
This product is not formulated to cont
exproure limits established by U.S. ag
health as defined by the European Unio
Substances/Preparations Directives. S
analysis of the ingredients.
See Section 15 for European Label Info
See Section 8 for exposure limits (if | OCARBONS AND ADDIT
ALTH:
ain ingredients wh
encies. It is not
n Dangerous
ee Section 15 for
mation.
applicable). | IVES
ich have
hazardous to
a regulatory | |
| 3. HAZARDS IDENTIFICATION | | | |
| US OSHA HAZARD COMMUNICATION STANDARD:
with OSHA 29 CFR 1910.1200 and determi
EFFECTS OF OVEREXPOSURE: No significan
EMERGENCY RESPONSE DATA: Amber Liquid. | Product assessed
ned not to be haza
t effects expected
DOT ERG No NA | in accordance
rdous. | |
| 4. FIRST AID MEASURES | · · · · · · · · · · · · · · · · · · | | |
| EYE CONTACT: Flush thoroughly with wat
a physician.
SKIN CONTACT: Wash contact areas with
INHALATION: Not expected to be a prob: | ter. If irritation
scap and water.
lem. | n occurs, call | |

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http://emmsds.ihssolutions.com/netacgi/nph-brs.exe?d../search.html&r=2&f=G&Sect3=MRU 7/18/01

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11/05/2003 WED 14:51 FAX 505 325 5979 COOPER ENERGY 003/011 Nov-08-02 11:22 From-AMIGO PETROL ٦ 5053270820 T-232 P 02/06 F-096 - : • 1 454 × 44 V INGESTION: Not expected to be a problem. However, if greater than 1/2 liter (pint) ingested, seek medical attention. 5. FIRE-FIGHTING MEASURES EXTINGUISHING MEDIA: Carbon dioxide, fcam, dry chemical and water fog. SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. SPECIAL PROTECTIVE EQUIPMENT: For fires in enclosed areas, fire fighters must use self-contained breathing apparatus. UNUSUAL FIRE AND EXPLOSION HAZARDS: None. Flash Point C(F): > 248(479) (ASTM D-92). Flammable limits - LEL: NA, UEL: NA. NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0 HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide. Metal oxides. Elemental oxides. _____ 6. ACCIDENTAL RELEASE MEASURES _____ NOTIFICATION PROCEDURES: Report spills as required to appropriate authorities. U. S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to Coast Guard toll free number (800) 424-8802. In case of accident or road spill notify CHEMITREC (800) 424-9300. PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: Adsorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal. ENVIRONMENTAL PRECAUTIONS: Prevent spills from entering storm sewers or drains and contact with soil. PERSONAL PRECAUTIONS: Sec Section 8 7. HANDLING AND STORAGE HANDLING: No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product. STORAGE: Do not store in open or unlabelled containers. Store away from strong oxidizing agents or combustible material. 8. EXPOSURE CONTROLS/PERSONAL PROTECTION _____ VENTILATION: No special requirements under ordinary conditions of use and with adequate ventilation. RESPIRATORY PROTECTION: No special requirements under ordinary conditions of use and with adequate ventilation. EYE PROTECTION: Normal industrial eye protection practices should be emplcyed. SKIN PROTECTION: No special equipment required. However, good perconal hygiene practices should always be followed. EXPOSURE LIMITS: This product does not contain any components which have recognized exposure limits. However, a exposure limit of 5.00 mg/m3 is suggested for oil mist. _____

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11/05/2003 WED 14:51 FAX 505 30 1979 COOPER ENERGY . Nov-06-02 11:22 From-AMIGO PETROL. T-232 P.03/06 F-098 5053270820 1 450 J UL U T 1 🚬 🗄 9. PHYSICAL AND CHEMICAL PROPERTIES Typical physical properties are given below. Consult Product Data Sheet for epecific details. APPEARANCE: Liquid COLOR: Amber CDOR: Mild ODOR THRESHOLD-ppm: NE pH: 5.8 BOILING POINT C(F): 388(730) MELTING POINT C(F) : NA FLASH POINT C(F): > 248(479) (ASTM D-92) FLAMMABILITY: NE AUTO FLAMMABILITY: NE EXPLOSIVE PROPERTIES: NA OXIDIZING PROPERTIES: NA VAPOR PRESSURE-mmHg 20 C: < 0.1 VAPOR DENSITY: > 2.0 EVAPORATION RATE: NE RELATIVE DENSITY, 15/4 C: 0,89 SOLUBILITY IN WATER: Negligible PARTITION COEFFICIENT: > 3.5 VISCOSITY AT 10 C. CSt: 121.5 VISCOSITY AT 100 C. CSt: 13.0 POUR POINT C(F): -15(5) FREEZING POINT C(F) : NE VOLATILE ORGANIC COMFOUND: NA NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE 10. STABILITY AND REACTIVITY -------------STABILITY (THERMAL, LIGHT, ETC.): Stable. CONDITIONS TO AVOID: Extreme heat. INCOMPATIBILITY (MATERIALS TO AVOID): Strong exidizers. HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide. Metal oxides. Elemental oxides. HAZARDOUS POLYMERIZATION: Will not occur. 11. TOXICOLOGICAL DATA _____ ---ACUTE TOXICOLOGY---ORAL TOXICITY (RATS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components. DERMAL TOXICITY (RABBITS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based or testing of similar products and/or the components. INHALATION TOXICITY (RATS): Practically non-toxic (LC50: greater than 5 mg/l). ---Baged on testing of similar products and/or the components. EYE IRRITATION (RABEITS): Fractically non-irritating. (Draize score: greater than 6 but 15 or less). ---Based on testing of similar products and/or the components. SKIN IRRITATION (RABBITS): Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3). --~Based on testing of similar products and/or the components.

OTHER ACUTE TOXICITY DATA: The acute toxicological results summarized above are based on testing of representative Mobil products. Representative Mobil formulations have shown no acute effects, administered via the inhalation route, when tested at maximum attainable oil mist or vapor concentrations.

---SUBCHRONIC TOXICOLOGY (SUMMARY) ---

. Nov-05-02 11:23 From-AMIGO PETROLL

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Representative Mobil formulations have been tested at the Mobil Environmental and Health Sciences Laboratory by dermal applications to rate 5 days/week for 90 days at doses significantly higher than those expected during normal industrial exposure. Extensive evaluations, including microscopic examination of internal organs and clinical chemistry of body fluids, showed no adverse effects.

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---Dermal exposure of pregnant rats to representative formulations did not cause adverse offects in either the mothers or their offspring.

---CHRONIC TOXICOLOGY (SUMMARY)---The base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of severely treated oils showed no evidence of carcinogenic effects. These results are confirmed on a continuing basis using various screening methods such as the Mobil Modified Ames Test and IP-346.

---SENSITIZATION (SUM4ARY)---Representative Mobil formulations have not caused skin sensitization in guinea pigs.

---OTHER TOXICOLOGY DATA---Used gasoline engine oils have shown evidence of skin carcinogenic activity in laboratory tests when no effort was made to wash the oil off between applications. Used oil from diesel engines did not produce this effect.

12. ECOLOGICAL INFORMATION

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ENVIRONMENTAL FATE AND EFFECTS: This product is expected to be inherently biodegradable. There is no evidence to suggest bioaccumulation will occur. It is not expected to be toxic to aquatic organisms. Accidental spillage may lead to penetration in the soil and groundwater. However, there is no evidence that this would cause adverse ecological effects.

#### 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at an appropriate government waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal. RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

14. TRANSPORT INFORMATION

USA DCT: NOT REGULATED BY USA DOT. RID/ADR: NOT REGULATED BY RID/ADR. IMO: NOT REGULATED BY IMO.

- http://emmsds.ihssolutions.com/netacgi/nph-brs.exe?d.../search.html&r=2&f=G&Sect3=MRU 7/18/01

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11/05/2003 WED 14:52 FAX 505 327 1979 COOPER ENERGY 006/011 Nov-05-02 11:23 From-AMIGO PETROL 5053270820 T-232 P.05/06 F-098 I abe lo oi o **.** • • • • IATA: NOT REGULATED BY IATA. 15. REGULATORY INFORMATION \_\_\_\_\_ Governmental Inventory Status: All components comply with TSCA, EINECS/ELINCS, AICS, and DSL. EU Labeling: EU labeling not required. U.S. Superfund Amendments and Reauthorization Act (SARA) Title III: This product contains no "EXTREMELY HAZARDOUS SUBSTANCES". SAFA (311/312) REPORTABLE HAZARD CATEGORIES: None. This product contains no chemicals reportable under SARA (313) toxic release program. The following product ingredients are cited on the lists below: CHEMICAL NAME CAS NUMBER LIST CITATIONS \_ . \_ . . . . . . . \_\_\_\_\_ 7440-66-6 ZINC (ELEMENTAL ANALYSIS) (0.03%) 22 PHOSPHORODITHOIC ACID, 0,0-DI 63649-42-3 22 C1-14-ALKYL ESTERS, ZINC SALTS (2: 1) (ZDDP) (0.26%) --- REGULATORY LISTS SEARCHED ---1=ACGIH ALL6=IARC 111=TSCA 416=CA P65 CARC21=LA RTK2=ACGIH AL7=IARC 2A12=TSCA 5a217=CA P65 REPRO22=MI 2933=ACGIH A28=IARC 2B13=TSCA 5e18=CA RTK23=MN RTK4=NTPCARC9=OSHA CARC14=TSCA 619=FL RTK24=NJ RTK S=NTP SUS 10=OSHA Z 15=TSCA 12b 20=IL RTK 25=PA RTK 26=RI RTK Code key: CARC=Carcinogen; SUS=Suspected Carcinogen; REPRO=Reproductive **16. OTHER INFORMATION** USE: NATURAL GAS ENGINE OIL NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS. \_\_\_\_\_ Please call the Customer Response Center on 800-662-4525 for formulation disclosure. For Internal Use Only: MHC: 1\* 1\* 0\* 1\* 1\*, MPPEC: A, TRN: 605717-00, GLIS: 403164, CMCS97: 979930, REQ: US - MARFETING, SAFE USE: L EHS Approval Date: 19JUN1999 \*\*\*\*\*\*\* Legally required information is given in accordance with applicable Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. Nothing is intended as a recommendation for uses which infringe valid patents or as extending any license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users. Use or retransmission of the information contained herein in any other format than the format as presented is strictly prohibited. Mobil neither represents nor warrants that the format, content or product formulas contained in this document comply with the laws of any other country except the United States of America. Copyright 1996 Mobil Corporation, All rights reserved

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Date Issue -02-96 Supersedes. \_3-20-96

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TEXACO MATERIAL SAFETY DATA SHEET NCTE: Read and understand Material Safety Data Sheet before handling or disposing of product.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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MATERIAL IDENTITY Product Code and Name: 02055 STARTEX ANTIFREEZE COOLANT Chemical Name and/or Family or Description: Antifreeze Manufacturer's Name and Address: - TEXACO LUBRICANTS COMPANY A DIVISION OF TEXACO REFINING AND MARKETING INC. P.D. Box 4427 Houston, TX 77210-4427 Telephone Numbers: Transportation Emergency-Company . (914) 831-3400 CHEMTREC : (800) 424-9300 : (914) 831-3400 -Company Health Emergency General MSDS Assistance : (914) 838-7204 Technical Information : (914) 838-7336 -Fuels : (512) 459-6543 -Cnemical -Lubricant/: (800) 782-7852 Antifreezes -Add111ves : (713) 235-6278 -Solvents : (800) 876-3738

2. COMPOSITION/INFORMATION ON INGREDIENTS

THE CRITERIA FOR LISTING COMPONENTS IN THE COMPOSITION SECTION IS AS FOLLOWS: CARCINDGENS ARE LISTED WHEN PRESENT AT 0.1 % OR GREATER: COMPONENTS WHICH ARE OTHERWISE HAZARDOUS ACCORDING TO OSHA ARE LISTED WHEN PRESENT AT 1.0 % OR GREATER; NON-HAZARDOUS COMPONENTS ARE LISTED AT 3.0 % OR GREATER. THIS IS NOT INTENDED TO BE A COMPLETE COMPOSITIONAL DISCLOSURE. REFER TO SECTION 14 FOR APPLICABLE STATES' RIGHT TO KNOW AND OTHER REGULATORY INFORMATION.

Product and/or Component(s) Carcinggenic According to: OSHA LARC NTP OTHER NONE X

Composition: (Sequence Number and Chemical Name) Seq. Chemical Name

01 \* 1.2 etnaned ol 02 • Sodium tetraborate pentahydrate 107-21-1 95.00-99.99 1330-43-4 1.00-2.99

\_\_\_\_Range\_in ½

CAS Number

PRODUCT IS HAZARDOUS ACCORDING TO OSHA (1910.1200). - COMPONENT IS HAZARDOUS ACCORDING TO OSHA.

Exposure Limits referenced by Sequence Number in the Composition Section Seg. Limit O1 50 ppm CEILING-OSHA

01 50 ppm CEILING-OSHA 01 39.4 ppm CEILING-ACGIH (AEROSOL) (A4) 02 10 mg/m3 TWA-DSHA 02 1 mg/m3 TWA-ACGIH

3. HAZARD IDENTIFICATION

EMERGENCY DVERVIEW Appearance: Fluorescent green liquid Odor: Mild odor

PAGE: 1 N.D. - NOT DETERMINED N.A. - NOT APPLICABLE N.T. - NOT TESTED < - LESS THAN > - GREATER THAN PRODUCT CODE: 02055 NAME: STARTEX ANTIFREEZE COOLANT

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Date Issued: 05-02-96 Supersedes: 03-20-96

3. HAZARD IDENTIFICATION (CONT)

| WARNING !<br>ATTENTION !                                                                                                                          | WARNIN<br>HARMFUL IF SWALLOWE<br>MAY CAUSE DIZZINESS<br>MAY CAUSE EYE IRRIT<br>ASPIRATION HAZARD I<br>CAN ENTER LUNGS AND<br>FOR INDUSTRIAL USE<br>CAN CAUSE KIDNEY DA<br>MAY CAUSE LIVER DAM.<br>CONTAINS SODIUM TET<br>REPRODUCTIVE EFFECT<br>CONTAINS ETHYLENE G<br>ON ANIMAL DATA | G STATEMENT<br>D<br>AND DROWSINESS<br>ATION<br>F SWALLOWED -<br>CAUSE DAMAGE<br>ONLY<br>MAGE<br>AGE IF SWALLOWED B<br>RABCRATE WHICH MAY<br>S BASED ON ANIMAL<br>LYCOL WHICH MAY CA | ASED ON ANIMAL DATA<br>Cause adverse<br>Data<br>USE BIRTH DEFECTS BASED                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Health:<br>Flammability:                                                                                                                          | HMIS<br>2 Reactivity: 0<br>1 Special : -                                                                                                                                                                                                                                              | Health<br>Flammacility:                                                                                                                                                             | NFPA<br>2 Reactivity: O<br>1 Special : -                                                                                                                                                    |
| POTENTIAL HEALTH                                                                                                                                  | EFFECTS                                                                                                                                                                                                                                                                               |                                                                                                                                                                                     |                                                                                                                                                                                             |
| Primary Route                                                                                                                                     | e of Exposure: X                                                                                                                                                                                                                                                                      | X X X                                                                                                                                                                               |                                                                                                                                                                                             |
| EFFECTS OF OVERE<br>Acute:<br>Eyes:<br>May cause irr<br>excess rednes                                                                             | XPDSURE<br>itation, experienced<br>is of the eye.                                                                                                                                                                                                                                     | as mild discomfor                                                                                                                                                                   | t and seen as slight                                                                                                                                                                        |
| Skin:<br>Brief contact<br>clothing wett<br>comfort, seen                                                                                          | may cause slight in<br>ed with material, ma<br>as local redness an                                                                                                                                                                                                                    | ritation. Prolong<br>y cause more sever<br>d swelling.                                                                                                                              | ed contact, as with<br>e irritation and dis-                                                                                                                                                |
| Other than th<br>term) adverse<br>effects, belo<br>term effects.                                                                                  | e potential skin irr<br>effects are not exp<br>w. and Section 11 fo                                                                                                                                                                                                                   | itation effects no<br>ected from brief s<br>r information rega                                                                                                                      | ted above, acute (short<br>kinicontact; see other<br>rding potentisi long                                                                                                                   |
| Inhalation:<br>Vapors or mis<br>high concentr<br>from exposure<br>inritation of                                                                   | it, in excest of perm<br>ations generated fro<br>in poorly ventilate<br>the nose and throat                                                                                                                                                                                           | issible concentrat<br>m spraying, heatin<br>d areas or confine<br>, neadache, nausea                                                                                                | ions, or in unusually<br>g the material or as<br>d spaces, may cause<br>, and drowsiness.                                                                                                   |
| Prolonged or potentially P                                                                                                                        | repeated overexposur<br>armful amounts of ma                                                                                                                                                                                                                                          | e may result in th<br>terial.                                                                                                                                                       | e abscrption of                                                                                                                                                                             |
| Ingestion:<br>Contains ethy<br>swallowed. A<br>ounces (one-r<br>ziness, stage<br>and vomiting,<br>breathing and<br>collapse, and<br>kidney falure | (lene glycol and/or d<br>lethal dose for an a<br>malf cup). Symptoms i<br>gering, slurrod speed<br>i increased hoart nat<br>d seeing, pulmonary o<br>d coma, Symptoms may<br>a may also occur. Sov                                                                                    | liethylene glycol,<br>dult is 1-2 ml per<br>nclude neadache, w<br>ch, loss of coordin<br>e, decreased blood<br>dema, unconsciousn<br>be delayed. Decrea<br>ere poisoning may        | which are toxic when<br>kilogram, or about 4<br>eakness, confusion, diz-<br>lation, faintness, nausea<br>pressure, difficulty<br>less, convulsions,<br>sed urine output and<br>cause death. |
| Aspiration ma<br>damage.                                                                                                                          | ay occur during swall                                                                                                                                                                                                                                                                 | owing or vomiting.                                                                                                                                                                  | resulting in lung                                                                                                                                                                           |
| Sensitization<br>Unknown.                                                                                                                         | Properties:                                                                                                                                                                                                                                                                           |                                                                                                                                                                                     |                                                                                                                                                                                             |
| Chronic:<br>Prolonged and                                                                                                                         | d repeated overexposu                                                                                                                                                                                                                                                                 | ire may cause kidne                                                                                                                                                                 | ey damage.                                                                                                                                                                                  |
| Medical Condit<br>Repeated over                                                                                                                   | tions Aggravated by E<br>rexposure may aggrava                                                                                                                                                                                                                                        | x <b>posure:</b><br>ite existing kidney                                                                                                                                             | disease.                                                                                                                                                                                    |
| Because of it<br>an existing o                                                                                                                    | ts innitating propert<br>dermatitis (skin conc<br>DACE                                                                                                                                                                                                                                | ties, repeated skir<br>dition).                                                                                                                                                     | a contact may aggravate                                                                                                                                                                     |
| N.D NOT DETERN<br>< - LESS THAN                                                                                                                   | AINED N.A NO<br>> - GF                                                                                                                                                                                                                                                                | T APPLICABLE<br>REATER THAN                                                                                                                                                         | N.T NOT TESTED                                                                                                                                                                              |

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#### PRODUCT CODE: 02055 •NAME: STARTEX ANTIFREEZE COOLANT

Date Issued: 05-02-96 Supersedes: 03-20-96

3. HAZARD IDENTIFICATION (CONT)

Other Remarks: None

#### 4. FIRST AID MEASURES

#### Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Got medical attention.

#### Skin:

Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.

#### Ingestion:

If person is conscious and can swallow, immediately give two glasses (i.e., 16 oz.) of water. Induce vomiting as directed by medical personnel. Get immediate medical attention. Nover give anything by mouth to an unconscious or convulsing person.

#### Inhalation:

If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get modical attention if breathing becomes difficult or respiratory irritation persists.

#### Other Instructions:

Ethylene glycol (EG) and diethylene glycol (DEG) intoxication may initially produce behavioral changes, drowsiness, vomiting, diarrhea, thirst, and convulsions. EG and DEG are nephrotoxic. End stages of polsoning may include renal damage or failure with acidosis. Supportive measures, supplemented with hemodialysis if indicated, may limit the progression and severity of toxic effects.

FOR ETHYLENE GLYCOL POISONING intravenous ethanol is a recognized antidotal treatment; other antidotal treatments also exist for EG poisoning. FOR DIETHYLENE GLYCOL POISONING the role of intravenous ethanol in the treatment is unclear but it may be of benefit in view of structural and toxicological similarities to ethylene glycol. Contact a Poison Center for further treatment information.

Aspiration of this product during induced emesis may result in severe lung injury. If evacuation of stomach is necessary, uso method least likely to cause aspiration, such as gastric lavage after endotracheal intubation, Contact a Poison Center for additional treatment information.

#### 5. FIRE-FIGHTING MEASURES

- LESS THAN

| Ignition Temperat | ure - AIT (degrees F):                                        |
|-------------------|---------------------------------------------------------------|
| Not determined    | ۱.<br>۱                                                       |
| Flash Point (degr | rees F):                                                      |
| 240 (COC)         |                                                               |
| Flammable Limits  | (%):                                                          |
| Lower: Not de     | termined.                                                     |
| Upper: Not de     | Stermined.                                                    |
|                   |                                                               |
| Recommended Fire  | Extinguishing Agents And Special Procedures:                  |
| Use water spra    | any chemical form or carbon dioxide to extinguish             |
| flames Use -      | at a spraw to cool fire-exposed containers. Water or          |
|                   |                                                               |
| Toam may cause    | , riotning.                                                   |
| Unusual or Explos | Sive Hazards:                                                 |
| Mono              |                                                               |
| Nona              |                                                               |
| Extinguishing Nor | the Which West Not Bo Usod:                                   |
| extinguishing mee | A WHICH MUST NOT BE 0900.                                     |
| Not determined    | 1.                                                            |
| Constal Destants  |                                                               |
| special protectiv | e equipment for firefighters.                                 |
| Wear full prot    | ective clothing and positive pressure breating apparatus.     |
| Approach fire     | from upwind to avoid hazardous vapors and toxic decomposition |
| products.         |                                                               |
|                   |                                                               |
|                   |                                                               |
|                   | PAGE: 3                                                       |
| .D NOT DETERMI    | NED N.A NOT APPLICABLE N.T NOT TESTED                         |

- GREATER THAN

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#### PRODUCT CODE: 02055 NAME: STARTEX ANTIFREEZE CODLANT

Date Issued: 05-02-96 Supersedes: 03-20-96 ۰.

#### 6. ACCIDENTAL RELEASE MEASURES (Transportation Spills: CHEMTREC (800)424-9300)

Procedures in Case of Accidental Release, Breakage or Leakage: Ventilate area. Avoid proathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

If more than 5,241 pounds of product is spilled, then report spill according to SARA 304 and/or CERCLA 102(a) requirements, unless product qualifies for the petroleum exemption (CERCLA Section 101(14))

#### 7. HANDLING AND STORAGE

#### Precautions to be Taken in

Handling:

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Minimum feasible handling temperatures should be maintained.

#### Storage:

Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Protective Equipment (Type)

Eye/Face Protection: Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.

#### Skin Protection:

Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

Respiratory Protection:

Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH or MSHA approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air supplied respirators should always be worn when airborne concentration of the contaminant or oxygen content is Unknown.

#### Ventilation:

Adequate to meet component occupational exposure limits (see Section 2).

#### Exposure Limit for Total Product: None established for product; refer to Section 2 for component exposure limits.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

| Appearance:<br>Fluorescent green liquid<br>Odor:<br>Mild odor |                                        |                |
|---------------------------------------------------------------|----------------------------------------|----------------|
| Boiling Point (degrees F):<br>388                             |                                        |                |
| Melting/Freezing point (de<br>Not applicable.                 | grees F):                              |                |
| Specific Gravity (Water=1)<br>1.13                            | :                                      |                |
| pH of undiluted product:<br>10.8                              |                                        |                |
| Vapor Pressure:<br>< .1 mmHg                                  |                                        |                |
| Viscosity:<br>< 20 cSt at 40.0 C                              | PAGE : 4                               |                |
| N.D NOT DETERMINED<br>< - LESS THAN                           | N.A NOT APPLICABLE<br>> - GREATER THAN | N.T NOT TESTED |



Date Issued: 05-02-96

Supersedes: 00-20-96

PRODUCT CODE: 02055 \*NAME: STARTEX ANTIFREEZE COOLANT

9. PHYSICAL AND CHEMICAL PROPERTIES (CONT)

VOC Content: Not determined.

Vapor Density (air=1): 2.1

Solubility in Water (%): > 10

Other: None

10. STABILITY AND REACTIVITY

This Material Reacts Violently With: (If Others is checked below, see comments for details) Air Water Heat Strong Oxidizers Others None of These Comments:

None

Products Evolved When Subjected to Heat or Combustion:

Carbon monoxide and carbon dioxide may be formed on burning in limited air supply. Boron, molybdenum and silicon compounds may also be released.

Hazardous Polymerizations: DO NOT OCCUR

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA) Median Lethal Dose 0ra1: Animal data does not reflect human toxicity; see Sections 3 & 11 Inhalation: Not determined. Dermal: LD50 Believed to be > 1.00 - 2.00 g/kg (rabbit) slightly toxic Irritation Index, Estimation of Irritation (Species) Skin: (Draize) Believed to be > .50 - 3.00 /8.0 (rabbit) slightly irritating Eyes: (Draize) Believed to be 15.00 - 25.00 /110 (rabbit) slightly invitating Sensitization: Not determined. Other; Oral administration of ethylene glycol to pregnant experimental animals has been shown to cause birth defects in the offspring. These effects were not seen when ethylene glycol was administered by dermal application or by inhalation.

Continuous ingestion of a diet containing 1% or 2% ethylene glycol for two years produced liver and kidney damage, and bladder stones in rats.

Chronic feeding of sodium tetraborate to rats and dogs leads to accumulation in the testes, germ cell depletion, and testicular atrophy.

#### 12. DISPOSAL CONSIDERATIONS

#### Waste Disposal Methods

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

#### Remarks

To prevent contamination of drinking water supplies, and poisoning of children, aquatic life, wildlife, and farm and domestic animals, ethylene glycol products such as used antifreeze solution, regardless of quantity, should never by discarded onto the ground, into surface waters, or into storm severs.

|      |                  | PAGE: 5            |                |
|------|------------------|--------------------|----------------|
| N.D. | - NOT DETERMINED | N.A NOT APPLICABLE | N.T NOT TESTED |
| < ·  | - LESS THAN      | > - GREATER THAN   | · · · ·        |

PRODUCT CODE: 02055 NAME: STARTEX ANTIFREEZE COOLANT

#### 13. TRANSPORT INFORMATION

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| DOT:                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proper Shipping Name:                                                                                                                                                                                                                                                |
| Not regulated                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                      |
| This product contains a DOT Hazardous Substance or Substances, listed in Section 14 of the MSDS. If the product's shipping container holds                                                                                                                           |
| at least 5,241 lbs, then the DOT information must be accompanied                                                                                                                                                                                                     |
| with RO notation, or. an otherwise 'Not Regulated' product will be                                                                                                                                                                                                   |
| Classified as Environmentally Hazardous (solid/liquid) N.U.S. Class 9,                                                                                                                                                                                               |
|                                                                                                                                                                                                                                                                      |
| IMDG:                                                                                                                                                                                                                                                                |
| Proper Shipping Name:<br>Not evaluated                                                                                                                                                                                                                               |
| TC40.                                                                                                                                                                                                                                                                |
| Rooder Shinning Name:                                                                                                                                                                                                                                                |
| Not evaluated                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                      |
| TDG:                                                                                                                                                                                                                                                                 |
| Proper Shipping Name:                                                                                                                                                                                                                                                |
| Not evaluated                                                                                                                                                                                                                                                        |
| A REGULATORY INFORMATION                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                      |
| Federal Regulations:                                                                                                                                                                                                                                                 |
| SARA (ITTE III)                                                                                                                                                                                                                                                      |
| Section 302/304 Extremely Hazardous Substances                                                                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                      |
| Section 302/304 Extremely Hazardous Substances (CONT)                                                                                                                                                                                                                |
| Seg. TPORQ                                                                                                                                                                                                                                                           |
| None                                                                                                                                                                                                                                                                 |
|                                                                                                                                                                                                                                                                      |
| Section 311 Hazardous Categorization:                                                                                                                                                                                                                                |
| Acute Chonic Fire Pressure Reactive M/A                                                                                                                                                                                                                              |
|                                                                                                                                                                                                                                                                      |
| Section 313 Toxic Chemical                                                                                                                                                                                                                                           |
| Chemical Name CAS Number Concentration                                                                                                                                                                                                                               |
| 1.2 ethanediol 107-21-1 55.00-99.39                                                                                                                                                                                                                                  |
| CERCLA 102(a)/DOT Hazardous Substances: (+ indicates DOT Hazardous Substances)                                                                                                                                                                                       |
| Seq. Chemical Name CAS Number Range In                                                                                                                                                                                                                               |
| 01+ 1.2 ethanediol 107-21-1 95.00-39                                                                                                                                                                                                                                 |
| 02+ Sedium hydroxide 1310-73-2 0.10-0.1                                                                                                                                                                                                                              |
| 03+ Phesphoric acid 764-38-2 0.10-0.3                                                                                                                                                                                                                                |
| CERCLA/DOT Hazardous Substances (Sequence Numbers and RQ'S):                                                                                                                                                                                                         |
| <u>500.</u> <u>5000</u>                                                                                                                                                                                                                                              |
|                                                                                                                                                                                                                                                                      |
| 03+ 5000                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                      |
| TSCA Inventory Status:                                                                                                                                                                                                                                               |
| This product, or its components, are listed on or are exempt from the                                                                                                                                                                                                |
| Toxic Substance Control Act (ISCA) Chemical Substance Inventory.                                                                                                                                                                                                     |
| Other:                                                                                                                                                                                                                                                               |
| None                                                                                                                                                                                                                                                                 |
|                                                                                                                                                                                                                                                                      |
| State Regulations:                                                                                                                                                                                                                                                   |
| Callfornia Proposition 65:                                                                                                                                                                                                                                           |
| The following detectable components of this product are substances.                                                                                                                                                                                                  |
| or belong to classes of substances, known to the State of California                                                                                                                                                                                                 |
| to cause cancer and/or reproductive toxicity.                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                                      |
| States Right-to-know Regulations:                                                                                                                                                                                                                                    |
| Chemical Name State Right-to-know                                                                                                                                                                                                                                    |
| PAGE: 6                                                                                                                                                                                                                                                              |
| Chemical Name         CAS Number         CAS Number         None         States Right-to-know Regulations:         Chemical Name         PAGE: 6         1.D NOT DETERMINED       N.A NOT APPLICABLE       N.T NOT TESTED         - LESS THAN       > - GREATER THAN |



Date Issued: 05-02-96 Supersedes: 03-20-96

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------|---|
| MUDUCT CUDE: 02056                                                                                                                                                       | Date Issued: 05-02-86                                                                                                                             | <b>FT</b> | i          |   |
| NAME: STARTEX ANTIPREEZE COOLANT                                                                                                                                         | Supersedes: 03-20-96                                                                                                                              | <b>V</b>  | :          |   |
| 14. RECULATORY INFORMATION (CONT)                                                                                                                                        |                                                                                                                                                   |           |            |   |
| PROBEROFIC ECIA                                                                                                                                                          | CT.FL.IL.MA.NU.PA.RI                                                                                                                              |           |            |   |
| Scalum tetraborate centahydrate                                                                                                                                          | FL.VA.PA                                                                                                                                          |           | •          |   |
| 1,2 sthaned101                                                                                                                                                           | FL.IL.MA.NJ.PA.RI                                                                                                                                 |           | ,          |   |
| State list: CT (Connecticut), FL (Floride<br>LA (Louisiana), MA (Massachus<br>PA (Ponnayivania), RI (Rhese                                                               | a), IL (Illinois), MI (Micrigan),<br>cetts), NJ (New Jonsey),<br>[Siland]                                                                         |           | · · ·      |   |
|                                                                                                                                                                          |                                                                                                                                                   |           | 7          |   |
| International Regulations:                                                                                                                                               |                                                                                                                                                   |           |            |   |
| WHMIS Class D. Civ 1. Subsity B: Toyls                                                                                                                                   |                                                                                                                                                   |           |            |   |
| Clues D. Div 2. Subaty A: Tenatogenic                                                                                                                                    |                                                                                                                                                   |           | l l        |   |
| Canada Invantory Status.                                                                                                                                                 |                                                                                                                                                   |           |            |   |
| This product, or its components, and it<br>Canadian Domestic Substance List (DSU)                                                                                        | istes on or are exempt from the                                                                                                                   |           |            |   |
|                                                                                                                                                                          |                                                                                                                                                   |           |            |   |
| Not determined                                                                                                                                                           |                                                                                                                                                   |           |            |   |
| Australia Inventory Status:<br>Not ostermined.                                                                                                                           |                                                                                                                                                   |           | •          | 2 |
| Japan Inventory Status:<br>Not dotarmined.                                                                                                                               |                                                                                                                                                   |           | й <u>.</u> |   |
| B. ENVIRONMENTAL INFORMATION                                                                                                                                             |                                                                                                                                                   |           |            |   |
| AQUATIC TOXICITY:<br>Not seterningd,                                                                                                                                     |                                                                                                                                                   |           |            |   |
| Mobl)]ty:                                                                                                                                                                |                                                                                                                                                   |           |            |   |
| Not detainined.                                                                                                                                                          |                                                                                                                                                   |           | :          |   |
| Persistence and Biodegradouility:<br>This product is estimated to have a moor<br>greater than or equal to 30 % degradatio<br>or less                                     | endte nate of biodegradation:<br>on over a test period of 30 days                                                                                 |           | ×.         |   |
| Potential to Bioneoumulate:                                                                                                                                              |                                                                                                                                                   |           |            |   |
|                                                                                                                                                                          | botentiar to braceletino ater                                                                                                                     |           | 2          |   |
| Norv                                                                                                                                                                     |                                                                                                                                                   |           | • :        |   |
| 8. CTHER INFORMATION                                                                                                                                                     |                                                                                                                                                   |           | *          |   |
|                                                                                                                                                                          | adurate containing athuises divice                                                                                                                |           |            |   |
| and produce significant average nearth (<br>and animals. Keep out of reach of chile<br>not be used in potable (arinking) water<br>temination of catable water successes) | ordert Johnshing dokka, in humane<br>dren ang pata, Such products should<br>ByRtehs or other systems where on-<br>costible (e.s. rocrosticns) we- |           |            |   |
| hic'se, winterizing potable water system                                                                                                                                 | ma).                                                                                                                                              |           | •          |   |
| Texace recommends that all exposures to<br>ethrathy admaning to recommended occupation<br>ony potential adverse health effects.                                          | this product be minimized by<br>tional controle procedurem to avoid                                                                               |           |            |   |
| THE INFORMATION CONTAINED MEREIN IS BELIE<br>INDEPENDENTLY OF ANY SALE OF THE PRODUCT                                                                                    | EVED TO BE ACCURATE. IT IS PROVIDED<br>FOR PURPOSE OF HAZARD COMMUNICATION                                                                        |           |            |   |
| AS PART OF TEXACO'S FRODUCT SAFETY FROGRA<br>PERFORMANCE INFORMATION CONSERVING THE PE                                                                                   | AM, IT IS NOT INTENDED TO CONSTITUTE<br>Roduct. No express warranty. Or                                                                           |           | :          |   |

THELED WARRANTY OF MERCHANTABILITY OF FUNCTION A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OF THE INFORMATION CONTAINED HEREIN. DATA SHEETS ARE AVAILABLE FOR ALL TEXACO PRODUCTS. YOU ARE UROSD TO OBTAIN DATA SHEETS FOR ALL TEXACO FROCUITS YOU GUY, PROCESS, USE OR DISTRIBUTE AND YOU DARE BICORACED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

|                    | PAGE: 7                           |
|--------------------|-----------------------------------|
| N.D NOT DETERMINED | N.A NOT APPLICABLE N.T NOT TESTED |
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Date Issued: 05-02-96 Supersedes: 03-20-96

PRODUCT CODE: 02055 NAME: STARTEX ANTIFREEZE CODLANT

16. OTHER INFORMATION (CONT)

TO DETERMINE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT. USER SHOULD CONSULT HIS LEGAL ADVISOR OR THE APPROFRIATE GOVERNMENT AGENCY. TEXACO DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

Date: <u>05-02-96</u> New <u>X</u> Revised. Supersedes: <u>03-20-96</u> Clate printed: <u>05-06-96</u>

Inquiries regarding MSDS should be directed to: Texaco Inc. Manager, Product Safety P.O. Box 509 Beacon, N.Y. 12508

PLEASE SEE NEXT PAGE FOR PRODUCT LABEL

PRODUCT CODE: 02055 Name: Startex Antifreeze coolant

17. PRODUCT LABEL

Label Date: 03-20-96

Date Issued: 05-02-86

Supersedes: 03-20-96

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910, 1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

#### 02055 STARTEX ANTIFREEZE CODLANT

WARNING /

WARNING STATEMENT HARMFUL IF SWALLOWED MAY CAUSE DIZZINESS AND DROWSINESS MAY CAUSE EVE IRRITATION ASPIRATION HAZARD IF SWALLOWED -CAN ENTER LUNGS AND CAUSE DAMAGE FOR INDUSTRIAL USE ONLY

ATTENTION !

MAY CAUSE LIVER DAMAGE IF SWALLOWED BASED ON ANIMAL DATA CONTAINS SODIUM TETRABORATE WHICH MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS BASED ON ANIMAL DATA CONTAINS ETHYLENE GLYCOL WHICH MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA

#### PRECAUTIONARY MEASURES

-Use only with adequate ventilation.

- -Avoid breathing vapor, mist, or gas.
- -Avoid contact with eyes, skin, and clothing.
- -Keep container closed.

#### -Wash theroughly after handling. FIRST AID

CAN CAUSE KIDNEY DAMAGE

#### Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention.

#### Skin Contact:

Wash skin with plenty of scap and water for several minutes. Get medical attention if skin innitation develops or persists.

#### Ingestion:

If person is conscious and can swallow, immediately give two glasses (i.e., 16 oz.) of water. Induce vomiting as directed by medical personnel. Get immediate medical attention. Never give anything by mouth to an unconscious or convulsing person.

#### Inhalation:

If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.

#### Note to Physician:

Ethylene glycol (EG) and diethylene glycol (DEG) intoxication may initially produce behavioral changes, drowsiness, vomiting, diarrhea, thirst, and convulsions. EG and DEG are nephrotoxic. End stages of poisoning may include renal damage or failure with acidosis. Supportive measures, supplemented with hemodialysis if indicated, may limit the progression and severity of toxic effects.

FOR ETHYLENE GLYCOL POISONING intravenous ethanol is a recognized antidotal treatment; other antidotal treatments also exist for EG poisoning. FOR DIETHYLENE GLYCOL POISONING the role of intravenous ethanol in the treatment is unclear but it may be of benefit in view of structural and toxicological similarities to ethylene glycol. Contact a Poison Center for further treatment information.

Aspiration of this product during induced emesis may result in severe lung injury. If evacuation of stomach is necessary, use method least likely to cause aspiration, such as gastric lavage after endotracheal intubation. Contact a Poison Center for additional treatment information. FIRE

In case of fire, use water spray, dry chemical, foam or carbon dioxide. Water may cause frothing. Use water spray to cool fire-exposed containers.

If more than 5.241 pounds of product is spilled, then report spill according to SARA 304 and/or CERCLA 102(a) requirements, unless product qualifies for the petroleum exemption (CERCLA Section 101(14)).

Chemical Name PAGE: 9 N.D. - NOT DETERMINED N.A. - NOT APPLICABLE N.T. - NOT TESTED < - LESS THAN > - GREATER THAN



A DIVISION OF TEXACO REFINING AND MARKETING INC. P.O. Eox 4427 Houston, TX 77210-4427

| TRANSPORTATION EMERGENCY | Company:<br>CHEMTREC: | (914) 831-3400<br>(80C) 424-9300 |
|--------------------------|-----------------------|----------------------------------|
|                          |                       |                                  |

Company: (914) 831-3400 HEALTH EMERGENCY

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<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 1301 W. Grand Avenue, Artesia, NM 88210 <u>District III</u> 1000 Rio Brazos Road, Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fc, NM 87505

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State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

## **REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

| 1. RCRA Exempt: Non-Exempt: X<br>Uverbal Approval Received: Yes No M                                                                                                                                                                                                                                                                                                                                                                                                                        | <ol> <li>Generator Key Energy Services, Inc.</li> <li>Originating Site Key Energy Services Inc.</li> </ol> |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--|--|--|
| 2. Management Facility Destination KEY ENERGY DISPOSAL                                                                                                                                                                                                                                                                                                                                                                                                                                      | 6. Transporter KEY                                                                                         |  |  |  |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8. State NM                                                                                                |  |  |  |
| 7. Location of Material (Street Address or ULSTR) Lat: 36 degrees, 57 min, 16 sec. N<br>Long: 107 degree, 46 min, 38 sec. W                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                            |  |  |  |
| <ul> <li>9. <u>Circle One</u>:</li> <li>A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.</li> <li>B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved</li> </ul> |                                                                                                            |  |  |  |

All transporters must certify the wastes delivered are only those consigned for transport.

#### BRIEF DESCRIPTION OF MATERIAL:

Produced water mixed with diesel and sediments resulting from a 40 bbl bobtail water truck wreck on the Navajo Dam road on 9-27-03.

180 JT

Estimated Volume 80 bbls \_\_\_\_\_\_ cy Known Volume (to be entered by the operator at the end of the haul) \_\_\_\_\_\_ cy

SIGNATURE Waste Management Facility Authorized Agent

TITLE: \_\_\_\_FACILITY MANAGER\_\_\_\_ DATE: \_11-11-03

TYPE OR PRINT NAME: \_\_MICHAEL TALOVICH

TELEPHONE NO. \_505-334-6416\_

| (This space for State Use) |                                 |                   |
|----------------------------|---------------------------------|-------------------|
|                            |                                 |                   |
| APPROVED BY: Deny torny    | TITLE: Enviro/Engt              | DATE: //////23    |
| MILANI                     |                                 |                   |
| APPROVED BY:               | TITLE: Znurvonmental (rologis-1 | DATE: 11 / 13/0.5 |
| <i>f</i>                   |                                 |                   |
| APPROVED BY: Harting CH    | TITLE: Environmental Gologis-1  | DATE: 11/13/03    |
| V V                        |                                 |                   |

Districe I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

# **REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

Santa Fe, NM 87505

| 1. RCRA<br>□Vert                                      | RCRA Exempt                                                                                                     | 4.       | 4. Generator Key Energy Services, Inc.    |  |  |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------|--|--|
|                                                       | Verbal Approval Received: Yes No 🖉                                                                              |          | Originating Site Key Energy Services Inc. |  |  |
| 2.                                                    | Management Facility Destination KEY ENERGY DISPOSAL                                                             | 6.       | Transporter KEY                           |  |  |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM |                                                                                                                 |          | State NM                                  |  |  |
| 7.<br>Lo                                              | Location of Material (Street Address or ULSTR) Lat: 36 degrees,57 min,16 sec. N ng: 107 degree,46 min,38 sec. W |          |                                           |  |  |
|                                                       |                                                                                                                 | <u> </u> |                                           |  |  |

9. <u>Circle One</u>:

A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; \_\_\_\_\_\_ one certificate per job.

B.)All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

All transporters must certify the wastes delivered are only those consigned for transport.

#### BRIEF DESCRIPTION OF MATERIAL:

Produced water mixed with diesel and sediments resulting from a 40 bbl bobtail water truck wreck on the Navajo Dam road on 9-27-03.



| Estimated Volume 80 bbls cy Known Volume (to b | be entered by the operator at the end of the haul)cy            |
|------------------------------------------------|-----------------------------------------------------------------|
| SIGNATURE Management Facility Authorized Agent | TITLE:FACILITY MANAGER DATE: _11-11-03                          |
| TYPE OR PRINT NAME:MICHAEL TALOVICH            | TELEPHONE NO505-334-6416                                        |
|                                                |                                                                 |
| (This space for State Use)<br>APPROVED BY:     | TITLE: <u>Enviro/Engr</u> DATE: <u>11/11/03</u><br>TITLE: DATE: |



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

Bill Richardson Governor

**Cabinet Secretary** 

Director Oil Conservation Division

# **CERTIFICATE OF WASTE STATUS**

| 1. Generator Name and Address                                                                                                                | 2. Destination Name:                                                                                                                       |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| Key Energy Services, Inc.                                                                                                                    | Key Energy Services, Disposal                                                                                                              |  |  |  |  |  |
| Four Corners Division                                                                                                                        | 345 C. R. 3500                                                                                                                             |  |  |  |  |  |
| 5651 US Highway 64                                                                                                                           | Aztec, NM 87410                                                                                                                            |  |  |  |  |  |
| Farmington, NM 87401                                                                                                                         |                                                                                                                                            |  |  |  |  |  |
| 3. Originating Site (name):                                                                                                                  | Location of the Waste (Street address &/or ULSTR):                                                                                         |  |  |  |  |  |
| Key Energy Services, Inc.                                                                                                                    | Latitude: 36 Degrees, 57 Min, 16 Sec. North                                                                                                |  |  |  |  |  |
| Four Corners Division                                                                                                                        | Longitude: 107 Degree, 46 Min., 38 Sec. West                                                                                               |  |  |  |  |  |
| 5651 US Highway 64                                                                                                                           |                                                                                                                                            |  |  |  |  |  |
| Farmington, NM 87401                                                                                                                         |                                                                                                                                            |  |  |  |  |  |
| attach list of originating sites as appropriate                                                                                              |                                                                                                                                            |  |  |  |  |  |
| 4. Source and Description of Waste                                                                                                           |                                                                                                                                            |  |  |  |  |  |
|                                                                                                                                              |                                                                                                                                            |  |  |  |  |  |
| Produced water mixed with diesel and sediments resulting fro<br>September 27, 2003.                                                          | Produced water mixed with diesel and sediments resulting from a 40 bbl Bobtail Water Truck wreck on Navajo Dam Road on September 27, 2003. |  |  |  |  |  |
| <b>EXEMPT</b> oilfield waste <b>X</b> NON-EXEM<br>analysis or by<br>and that nothing has been added to the exempt or non-exempt non -ha      | <b>1PT</b> oilfield waste which is non-hazardous by characteristic<br>product identification<br>zardous waste defined above.               |  |  |  |  |  |
|                                                                                                                                              |                                                                                                                                            |  |  |  |  |  |
| For NON-EXEMPT waste the following documentation is attached (<br>MSDS InformationO<br>X RCRA Hazardous Waste Analysis<br>X Chain of Custody | check appropriate items):<br>ther (description                                                                                             |  |  |  |  |  |
| This waste is in compliance with Regulated Levels of Naturally O<br>NMAC 3.1 subpart 1403.C and D.                                           | ccurring Radioactive Material (NORM) pursuant to 20                                                                                        |  |  |  |  |  |
| Name (Original Signature):                                                                                                                   |                                                                                                                                            |  |  |  |  |  |
| Title: Safety & Environmental Divisio                                                                                                        | on Manager                                                                                                                                 |  |  |  |  |  |
| Date: September 27, 2003 Rev                                                                                                                 | 4sed 11-11-02                                                                                                                              |  |  |  |  |  |

### Off: (505) 327-1072 FAX: (505) 327-1496

# ANALYTICAL REPORT

P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

Date: 13-Oct-03

| CLIENT:     | Souder, Miller & Associates | Client Sample Info: | Key Energy           |
|-------------|-----------------------------|---------------------|----------------------|
| Work Order: | 0310001                     | Client Sample ID:   | Lower SO1            |
| Project:    | 5114321; Key Energy         | Collection Date:    | 9/27/2003 3:34:00 PM |
| Lab ID:     | 0310001-001A                | Matrix:             | AQUEOUS              |
|             |                             |                     |                      |

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| Parameter                    | Result | PQL Qu | al Units | DF | Date Analyzed |    |
|------------------------------|--------|--------|----------|----|---------------|----|
| AROMATIC VOLATILES BY GC/PID |        | SW8021 | в        | -  | Analyst: J    | EM |
| Benzene                      | ND     | 0.5    | µg/L     | 1  | 10/6/2003     |    |
| Ethylbenzene                 | ND     | 0.5    | µg/L     | 1  | 10/6/2003     |    |
| m,p-Xylene                   | ND     | 1.0    | µg/L     | 1  | 10/6/2003     |    |
| o-Xylene                     | ND     | 0.5    | µg/L     | 1  | 10/6/2003     |    |
| Toluene                      | ND     | 0.5    | µg/L     | 1  | 10/6/2003     |    |

Qualifiers:

- ND Not Detected at the Practical Quantitation Limit
- J Analyte detected below Practical Quantitation Limit
- B Analyte detected in the associated Method Blank
- H Parameter exceeded Maximum Allowable Holding Time
- S Spike Recovery outside accepted recovery limits
- R RPD outside accepted precision limits
- E Value above Upper Quantitation Limit UQL

Page 1 of 4

Off: (505) 327-1072 FAX: (505) 327-1496

# ANALYTICAL REPORT

P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

Date: 13-Oct-03

| CLIENT:     | Souder, Miller & Associat | es     |     | Cli  | ent Sample Info:        | Key Ene | ergy          |
|-------------|---------------------------|--------|-----|------|-------------------------|---------|---------------|
| Work Order: | 0310001                   |        | ,   | C    | lient Sample ID:        | Upper S | 02            |
| Project:    | 5114321; Key Energy       |        |     |      | <b>Collection Date:</b> | 9/27/20 | 03 4:00:00 PM |
| Lab ID:     | 0310001-002A              |        |     |      | Matrix:                 | AQUEC   | OUS           |
| Parameter   |                           | Docult | POI | Qual | Linite                  | DE      | Dete Analyzed |

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|                              | Kesuit |        |      |   | Date Analyzeu |  |
|------------------------------|--------|--------|------|---|---------------|--|
| AROMATIC VOLATILES BY GC/PID |        | SW8021 | В    |   | Analyst: JEM  |  |
| Benzene                      | ND     | 0.5    | µg/L | 1 | 10/6/2003     |  |
| Ethylbenzene                 | 7.5    | 0.5    | µg/L | 1 | 10/6/2003     |  |
| m,p-Xylene                   | 19     | 1.0    | µg/∟ | 1 | 10/6/2003     |  |
| o-Xylene                     | 9.2    | 0.5    | µg/L | 1 | 10/6/2003     |  |
| Toluene                      | 5.8    | 0.5    | µg/L | 1 | 10/6/2003     |  |

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

H - Parameter exceeded Maximum Allowable Holding Time

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

E - Value above Upper Quantitation Limit - UQL

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# iiná bá **ANALYTICAL REPORT**

P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

Date: 13-Oct-03

| CLIENT: Souder, Miller & Associates |              | Client Sample Info | nergy            |          |                      |  |
|-------------------------------------|--------------|--------------------|------------------|----------|----------------------|--|
| Work Order:                         | 0310001      |                    | Client Sample ID | : Upper  | · SO2                |  |
| Project: 5114321; Key Energy        |              |                    | Collection Date  | : 9/27/2 | 0/27/2003 4:00:00 PM |  |
| Lab ID:                             | 0310001-002B |                    | Matrix           | : AQUI   | EOUS                 |  |
| Parameter                           | Re           | esult              | PQL Qual Units   | - DF     | Date Analyzed        |  |
| DIESEL RANGE                        | ORGANICS     |                    | SW8015B (SW3510E | 3)       | Analyst: JEM         |  |

0.25

T/R Hydrocarbons: C10-C28

11.1

mg/L

10/7/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

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Off: (505) 368-4065

ANALYTICAL REPORT

Date: 13-Oct-03

| CLIENT:                                                                     | Souder, Miller & Associat | tes    | Cli                                                     | ient Sample Inf | o: Key E  | nergy                |  |
|-----------------------------------------------------------------------------|---------------------------|--------|---------------------------------------------------------|-----------------|-----------|----------------------|--|
| Work Order:                                                                 | 0310001                   |        | C                                                       | lient Sample II | D: Trip B | lank                 |  |
| Project:         5114321; Key Energy           Lab ID:         0310001-003A |                           |        | Collection Date: 9/27/2003 2:50:00 F<br>Matrix: AQUEOUS |                 |           | 9/27/2003 2:50:00 PM |  |
|                                                                             |                           |        |                                                         |                 |           | OUS                  |  |
| Parameter                                                                   |                           | Result | PQL Qual                                                | Units           | , DF      | Date Analyzed        |  |
|                                                                             |                           |        |                                                         |                 |           |                      |  |

| AROMATIC VOLATILES BY GC/PID |    | SW8021 | 1B   |   | Analyst: JEM |  |  |
|------------------------------|----|--------|------|---|--------------|--|--|
| Benzene                      | ND | 0.5    | µg/L | 1 | 10/6/2003    |  |  |
| Ethylbenzene                 | ND | 0.5    | μg/L | 1 | 10/6/2003    |  |  |
| m,p-Xylene                   | ND | 1.0    | µg/L | 1 | 10/6/2003    |  |  |
| o-Xylene                     | ND | 0.5    | μg/L | 1 | 10/6/2003    |  |  |
| Toluene                      | ND | 0.5    | µg/L | 1 | 10/6/2003    |  |  |

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

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H - Parameter exceeded Maximum Allowable Holding Time

S - Spike Recovery outside accepted recovery limits

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### Sample Receipt Checklist

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| Client Name: SMA1005                             |                         |             |              | e Rećeived:    | 9/29/2003                               |
|--------------------------------------------------|-------------------------|-------------|--------------|----------------|-----------------------------------------|
| Work Order Number: 0310001                       |                         |             | Received by: | HNR            |                                         |
| Checklist completed by: Height R                 | - 9(30<br>Date          | 103         | Reviewed by  | Jem.           | 10/2/03                                 |
| Matrix:                                          | Carrier name:           | Courier     |              |                |                                         |
| Shipping container/cooler in good condition?     |                         | Yes 🗹       | No           | Not Present    | ]                                       |
| Custody seals intact on shippping container/cool | er?                     | Yes 🗌       | No           | Not Present    | V                                       |
| Custody seals intact on sample bottles?          |                         | Yes 🗔       | No 🗌         | Not Present    | $\mathbf{\tilde{z}}$                    |
| Chain of custody present?                        |                         | Yes 🔽       | No           |                |                                         |
| Chain of custody signed when relinquished and r  | eceived?                | Yes 🔽       | No           |                |                                         |
| Chain of custody agrees with sample labels?      |                         | Yes 🗹       | No           |                |                                         |
| Samples in proper container/bottle?              |                         | Yes 🔽       | No 🛄         |                |                                         |
| Sample containers intact?                        |                         | Yes 🗹       | No           |                |                                         |
| Sufficient sample volume for indicated test?     |                         | Yes 🗹       | No           |                |                                         |
| All samples received within holding time?        |                         | Yes 🗹       | No           |                |                                         |
| Container/Temp Blank temperature in compliance   | e?                      | Yes 🗹       | No 🗌         |                |                                         |
| Water - VOA vials have zero headspace?           | No VOA vials subr       | nitted 🗔    | Yes 🔽        | No             |                                         |
| Water - pH acceptable upon receipt?              |                         | Yes 🗹       | No           |                |                                         |
|                                                  | Adjusted?               |             | Checked by:  |                |                                         |
| Any No and/or NA (not applicable) response mu    | st be detailed in the c | omments sec |              |                | ======================================= |
| Client contacted:                                | Date contacted:         |             | Pers         | son contacted: |                                         |
| Contacted by:                                    | Regarding:              |             |              |                |                                         |
| Comments:                                        |                         |             |              |                |                                         |
|                                                  |                         |             |              |                |                                         |
| Corrective Action:                               |                         |             |              |                |                                         |
|                                                  |                         |             |              |                |                                         |

| CLIENT:     | Souder, Miller & Associates |  |  |  |  |  |
|-------------|-----------------------------|--|--|--|--|--|
| Work Order: | 0310001                     |  |  |  |  |  |
| Project:    | 5114321; Key Energy         |  |  |  |  |  |

# ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DRO\_W

| Sample ID MB_031001       | SampType: MBLK | TestCode: 8015DRO_W Units: mg/L | Prep Date: 10/8/2003                | Run ID: GC-2_031007A |  |  |
|---------------------------|----------------|---------------------------------|-------------------------------------|----------------------|--|--|
| Client ID: ZZZZZ          | Batch ID: 507  | TestNo: SW8015B (SW3510B)       | Analysis Date: 10/7/2003            | SeqNo: 72804         |  |  |
| Analyte                   | Result         | PQL SPK value SPK Ref Val       | %REC LowLimit HighLimit RPD Ref Val | %RPD RPDLimit Qual   |  |  |
| T/R Hydrocarbons: C10-C28 | 0.1307         | 0.250                           |                                     | J                    |  |  |
| Sample ID LCS_031001      | SampType: LCS  | TestCode: 8015DRO_W Units: mg/L | Prep Date: 10/8/2003                | Run ID: GC-2_031007A |  |  |
| Client ID: ZZZZZ          | Batch ID: 507  | TestNo: SW8015B (SW3510B)       | Analysis Date: 10/7/2003            | SeqNo: 72806         |  |  |
| Analyte                   | Result         | PQL SPK value SPK Ref Val       | %REC LowLimit HighLimit RPD Ref Val | %RPD RPDLimit Qual   |  |  |
| T/R Hydrocarbons: C10-C28 | 4.307          | 0.250 5.01 0.1307               | 83.4 55 120 0                       | 0                    |  |  |
| Sample ID LCSD_031001     | SampType: LCSD | TestCode: 8015DRO_W Units: mg/L | Prep Date: 10/8/2003                | Run ID: GC-2_031007A |  |  |
| Client ID: ZZZZZ          | Batch ID: 507  | TestNo: SW8015B (SW3510B)       | Analysis Date: 10/7/2003            | SeqNo: 72807         |  |  |
| Anaiyte                   | Result         | PQL SPK value SPK Ref Val       | %REC LowLimit HighLimit RPD Ref Val | %RPD RPDLimit Qual   |  |  |
| T/R Hydrocarbons: C10-C28 | 4.285          | 0.250 5.01 0.1307               | 82.9 55 120 4.307                   | 0.507 20             |  |  |
| Sample ID 0309007-006AD   | SampType: DUP  | TestCode: 8015DRO_W Units: mg/L | Prep Date: 10/8/2003                | Run ID: GC-2_031007A |  |  |
| Client ID: ZZZZZ          | Batch ID: 507  | TestNo: SW8015B (SW3510B)       | Analysis Date: 10/7/2003            | SeqNo: 72811         |  |  |
| Analyte                   | Result         | PQL SPK value SPK Ref Vál       | %REC LowLimit HighLimit RPD Ref Val | %RPD RPDLimit Qual   |  |  |
| T/R Hydrocarbons: C10-C28 | 0.6635         | 0.250 0 0                       | 0 0 0 0.6457                        | 2.72 20              |  |  |
| Sample ID CCV1_031007     | SampType: CCV  | TestCode: 8015DRO_W Units: mg/L | Prep Date:                          | Run ID: GC-2_031007A |  |  |
| Client ID: ZZZZZ          | Batch ID: 507  | TestNo: SW8015B                 | Analysis Date: 10/7/2003            | SeqNo: 72805         |  |  |
| Analyte                   | Result         | PQL SPK value SPK Ref Val       | %REC LowLimit HighLimit RPD Ref Val | %RPD RPDLimit Qual   |  |  |
|                           |                |                                 |                                     |                      |  |  |

ND - Not Detected at the Reporting Limit Qualifiers:

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

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CLIENT:Souder, Miller & AssociatesWork Order:0310001Project:5114321; Key Energy

# ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DRO\_W

| Sample ID CCV2_031007     | SampType  | ccv    | TestCoo | de: 8015DRO | _W Units: mg/L |      | Prep Da     | te:         |             | Run ID: GC | -2_031007A | ,    |
|---------------------------|-----------|--------|---------|-------------|----------------|------|-------------|-------------|-------------|------------|------------|------|
| Client ID: ZZZZZ          | Batch ID: | 507    | TestN   | lo: SW8015B |                |      | Analysis Da | te: 10/7/20 | 003         | SeqNo: 72  | 812        |      |
| Analyte                   |           | Result | PQL     | SPK value   | SPK Ref Val    | %REC | LowLimit    | HighLimit   | RPD Ref Val | %RPD       | RPDLimit   | Quat |
| T/R Hydrocarbons: C10-C28 |           | 2.339  | 0.250   | 2.5         | 0              | 93.6 | 85          | 115         | 0           | 0          |            |      |

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

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B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

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CLIENT: Souder, Miller & Associates

**Work Order:** 0310001

Project: 5114321; Key Energy

# ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX\_W

| Sample ID MB_031005                                                 | SampType: MBLK                                                    | TestCo              | de: BTEX_W                                      | Units: µg/L                                    |              | Prep Dal                       | te: 10/6/2             | 003                                         | Run ID: G                          | C-1_031006A                      |      |
|---------------------------------------------------------------------|-------------------------------------------------------------------|---------------------|-------------------------------------------------|------------------------------------------------|--------------|--------------------------------|------------------------|---------------------------------------------|------------------------------------|----------------------------------|------|
| Client ID: ZZZZZ                                                    | Batch ID: R5014                                                   | Test                | No: SW8021E                                     | 5                                              |              | Analysis Dat                   | te: 10/6/20            | 003                                         | SeqNo: 72                          | 742                              |      |
| Analyte                                                             | Result                                                            | PQL                 | SPK value                                       | SPK Ref Val                                    | %REC         | LowLimit                       | HighLimit              | RPD Ref Val                                 | %RPD                               | RPDLimit                         | Qual |
| Benzene                                                             | ND                                                                | 0.50                |                                                 |                                                |              |                                |                        |                                             |                                    |                                  |      |
| Ethylbenzene                                                        | ND                                                                | 0.50                |                                                 |                                                |              |                                |                        |                                             |                                    |                                  |      |
| m,p-Xylene                                                          | ND                                                                | 1.0                 |                                                 |                                                |              |                                |                        |                                             |                                    |                                  |      |
| o-Xylene                                                            | 0.1228                                                            | 0.50                |                                                 |                                                |              |                                |                        |                                             |                                    |                                  | J    |
| Toluene                                                             | 0.2024                                                            | 0.50                |                                                 |                                                |              |                                |                        | · · · · · · · · · · · · · · · · · · ·       | <u></u>                            |                                  | J    |
| Sample ID LCS_031005                                                | SampType: LCS                                                     | TestCo              | de: BTEX_W                                      | Units: µg/L                                    |              | Prep Dat                       | e: 10/6/20             | 003                                         | Run ID: GC                         | C-1_031006A                      |      |
| Client ID: ZZZZZ                                                    | Batch ID: R5014                                                   | Test                | No: SW8021B                                     | 1                                              |              | Analysis Dat                   | e: 10/6/20             | 003                                         | SeqNo: 72                          | 741                              |      |
| Anaiyte                                                             | Result                                                            | PQL                 | SPK value                                       | SPK Ref Val                                    | %REC         | LowLimit                       | HighLimit              | RPD Ref Val                                 | %RPD                               | RPDLimit                         | Qual |
| Benzene                                                             | 42.25                                                             | 0.50                | 40                                              | 0                                              | 106          | 85                             | 110                    | 0                                           | 0                                  |                                  |      |
| Ethylbenzene                                                        | 44.52                                                             | 0.50                | 40                                              | 0                                              | 111          | 85                             | 113                    | 0                                           | 0                                  |                                  |      |
| m,p-Xylene                                                          | 87.22                                                             | 1.0                 | 80                                              | 0                                              | 109          | 86                             | 112                    | 0                                           | 0                                  |                                  |      |
| o-Xylene                                                            | 42.21                                                             | 0.50                | 40                                              | 0.1228                                         | 105          | 83                             | 112                    | 0                                           | 0                                  |                                  |      |
| Toluene                                                             | 42.81                                                             | 0.50                | 40                                              | 0.2024                                         | 107          | 83                             | 110                    | 0                                           | 0                                  |                                  |      |
| Sample ID 0310007-008AMS                                            | SampType: MS                                                      | TestCo              | de: BTEX_W                                      | Units: µg/L                                    |              | Prep Dat                       | e: 10/6/20             | 03                                          | Run ID: GC                         | -1_031006A                       |      |
| Client ID: ZZZZZ                                                    | Batch ID: R5014                                                   | TestN               | No: SW8021B                                     |                                                |              | Analysis Dat                   | e: <b>10/6/20</b>      | 103                                         | SeqNo: 72                          | 743                              |      |
| Analyte                                                             | Result                                                            | PQL                 | SPK value                                       | SPK Ref Val                                    | %REC         | LowLimit                       | HighLimit              | RPD Ref Val                                 | %RPD                               | RPDLimit                         | Qual |
| Benzene                                                             | 301.1                                                             | 2.5                 | 200                                             | 102.7                                          | 99.2         | 73                             | 124                    | 0                                           | 0                                  |                                  |      |
| Ethylbenzene                                                        | 246.1                                                             | 2.5                 | 200                                             | 37.03                                          | 105          | 83                             | 116                    | 0                                           | 0                                  |                                  |      |
| m,p-Xylene                                                          | 418.4                                                             | 5.0                 | 400                                             | 5.924                                          | 103          | 75                             | 121                    | 0                                           | 0                                  |                                  |      |
| o-Xylene                                                            | 202.4                                                             | 2.5                 | 200                                             | 3.046                                          | 99.7         | 81                             | 113                    | 0                                           | 0                                  |                                  |      |
| Toluene                                                             | 205.6                                                             | 2.5                 | 200                                             | 2.722                                          | 101          | 84                             | 110                    | 0                                           | 0                                  |                                  |      |
| Sample ID 0310007-008AMSD                                           | SampType: MSD                                                     | TestCoc             | ie: BTEX_W                                      | Units: µg/L                                    |              | Prep Date                      | e: 10/6/20             | 03                                          | Run ID: GC                         | -1_031006A                       |      |
|                                                                     |                                                                   |                     |                                                 |                                                |              | Applysia Date                  | e <sup>.</sup> 10/6/20 | በጓ                                          | SegNo: 727                         | 7.4.4                            |      |
| Client ID: ZZZZZ                                                    | Batch ID: R5014                                                   | TestN               | lo: SW8021B                                     |                                                |              | Analysis Date                  |                        | 00                                          |                                    |                                  |      |
| Client ID: ZZZZZ                                                    | Batch ID: <b>R5014</b><br>Result                                  | TestN<br>PQL        | lo: SW8021B                                     | SPK Ref Val                                    | %REC         |                                | HighLimit              | RPD Ref Val                                 | %RPD                               | RPDLimit                         | Quat |
| Client ID: ZZZZZ<br>Analyte<br>Benzene                              | Batch ID: R5014<br>Result<br>299.7                                | TestN<br>PQL<br>2.5 | lo: SW8021B<br>SPK value<br>200                 | SPK Ref Val<br>102.7                           | %REC<br>98.5 | LowLimit<br>72                 | HighLimit              | RPD Ref Val<br>301.1                        | %RPD<br>0.468                      | RPDLimit<br>6.9                  | Quat |
| Client ID: ZZZZZ<br>Analyte<br>Benzene<br>Qualifiers: ND - Not Dete | Batch ID: R5014<br>Result<br>299.7<br>cted at the Reporting Limit | PQL<br>2.5          | lo: SW8021B<br>SPK value<br>200<br><br>S - Spil | SPK Ref Val<br>102.7<br>Re Recovery outside ad | %REC<br>98.5 | LowLimit<br>72<br>overy limits | HighLimit              | RPD Ref Val<br>301.1<br>3 - Analyte detecto | %RPD<br>0.468<br>ed in the associa | RPDLimit<br>6.9<br>ted Method BI | Qual |

### CLIENT: Souder, Miller & Associates

Work Order: 0310001

Project: 5114321; Key Energy

# ANALYTICAL QC SUMMARY REPORT

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TestCode: BTEX\_W

| Sample ID 0310007-008AMSD                                                                                                                                                                                                                                                                                                 | SampType: MSD                                                                                                                                                                          | TestCo                                                                                                    | de: BTEX_W                                                                                                                       | Units: μg/L                                                                                      |                                                                | Prep Da                                                                                                                | te: 10/6/20                                                                                                                       | 003                                                                                 | Run ID: GC                                                                                                                                | C-1_031006A                                                      |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------|
| Client ID: ZZZZZ                                                                                                                                                                                                                                                                                                          | Batch ID: R5014                                                                                                                                                                        | Test                                                                                                      | lo: SW8021E                                                                                                                      | 5                                                                                                |                                                                | Analysis Da                                                                                                            | te: 10/6/20                                                                                                                       | 003                                                                                 | SeqNo: 72                                                                                                                                 | 744                                                              |              |
| Analyte                                                                                                                                                                                                                                                                                                                   | Result                                                                                                                                                                                 | PQL                                                                                                       | SPK value                                                                                                                        | SPK Ref Val                                                                                      | %REC                                                           | LowLimit                                                                                                               | HighLimit                                                                                                                         | RPD Ref Val                                                                         | %RPD                                                                                                                                      | RPDLimit                                                         | Qual         |
| Ethylbenzene                                                                                                                                                                                                                                                                                                              | 245.1                                                                                                                                                                                  | 2.5                                                                                                       | 200                                                                                                                              | 37.03                                                                                            | 104                                                            | 80                                                                                                                     | 111                                                                                                                               | 246.1                                                                               | 0.422                                                                                                                                     | 6.7                                                              |              |
| m,p-Xylene                                                                                                                                                                                                                                                                                                                | 417.4                                                                                                                                                                                  | 5.0                                                                                                       | 400                                                                                                                              | 5.924                                                                                            | 103                                                            | 72                                                                                                                     | 117                                                                                                                               | 418.4                                                                               | 0.255                                                                                                                                     | 6.6                                                              |              |
| o-Xylene                                                                                                                                                                                                                                                                                                                  | 202.9                                                                                                                                                                                  | 2.5                                                                                                       | 200                                                                                                                              | 3.046                                                                                            | 99.9                                                           | · 80                                                                                                                   | 110                                                                                                                               | 202.4                                                                               | 0.231                                                                                                                                     | 6.2                                                              |              |
| Toluene                                                                                                                                                                                                                                                                                                                   | 205.7                                                                                                                                                                                  | 2.5                                                                                                       | 200                                                                                                                              | 2.722                                                                                            | 101                                                            | 82                                                                                                                     | 110                                                                                                                               | 205.6                                                                               | 0.0671                                                                                                                                    | 6.2                                                              |              |
| Sample ID CCV2_031006                                                                                                                                                                                                                                                                                                     | SampType: CCV                                                                                                                                                                          | TestCoo                                                                                                   | le: BTEX_W                                                                                                                       | Units: µg/L                                                                                      |                                                                | Prep Dat                                                                                                               | te: 10/6/20                                                                                                                       | 003                                                                                 | Run ID: GC                                                                                                                                | C-1_031006A                                                      |              |
| Client ID: ZZZZZ                                                                                                                                                                                                                                                                                                          | Batch ID: R5014                                                                                                                                                                        | TestN                                                                                                     | lo: SW8021B                                                                                                                      | i                                                                                                |                                                                | Analysis Dat                                                                                                           | te: 10/6/20                                                                                                                       | 003                                                                                 | SeqNo: 72                                                                                                                                 | 738                                                              |              |
| Analyte                                                                                                                                                                                                                                                                                                                   | Result                                                                                                                                                                                 | PQL                                                                                                       | SPK value                                                                                                                        | SPK Ref Val                                                                                      | %REC                                                           | LowLimit                                                                                                               | HighLimit                                                                                                                         | RPD Ref Val                                                                         | %RPD                                                                                                                                      | RPDLimit                                                         | Qual         |
| Benzene                                                                                                                                                                                                                                                                                                                   | 41.07                                                                                                                                                                                  | 0.50                                                                                                      | 40                                                                                                                               | 0                                                                                                | 103                                                            | 85                                                                                                                     | 115                                                                                                                               | 0                                                                                   | 0                                                                                                                                         |                                                                  |              |
| Ethylbenzene                                                                                                                                                                                                                                                                                                              | 43.63                                                                                                                                                                                  | 0.50                                                                                                      | 40                                                                                                                               | 0                                                                                                | 109                                                            | 85                                                                                                                     | 115                                                                                                                               | 0                                                                                   | 0                                                                                                                                         |                                                                  |              |
| m,p-Xylene                                                                                                                                                                                                                                                                                                                | 85.47                                                                                                                                                                                  | 1.0                                                                                                       | 80                                                                                                                               | 0                                                                                                | 107                                                            | 85                                                                                                                     | 115                                                                                                                               | 0                                                                                   | · 0                                                                                                                                       |                                                                  |              |
| o-Xylene                                                                                                                                                                                                                                                                                                                  | 41.5                                                                                                                                                                                   | 0.50                                                                                                      | 40                                                                                                                               | 0                                                                                                | 104                                                            | 85                                                                                                                     | 115                                                                                                                               | 0                                                                                   | 0                                                                                                                                         |                                                                  |              |
| Toluene                                                                                                                                                                                                                                                                                                                   | 41.98                                                                                                                                                                                  | 0.50                                                                                                      | 40                                                                                                                               | 0                                                                                                | 105                                                            | 85                                                                                                                     | 115                                                                                                                               | 0                                                                                   | 0                                                                                                                                         |                                                                  |              |
|                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                        |                                                                                                           |                                                                                                                                  |                                                                                                  |                                                                |                                                                                                                        |                                                                                                                                   |                                                                                     |                                                                                                                                           |                                                                  |              |
| Sample ID. CCV4_031006                                                                                                                                                                                                                                                                                                    | SampType: CCV                                                                                                                                                                          | TestCoo                                                                                                   | ie: BTEX_W                                                                                                                       | Units: µg/L                                                                                      |                                                                | Prep Dal                                                                                                               | te: 10/6/20                                                                                                                       | 003                                                                                 | Run ID: GC                                                                                                                                | C-1_031006A                                                      |              |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ                                                                                                                                                                                                                                                                                | SampType: CCV<br>Batch ID: R5014                                                                                                                                                       | TestCoo<br>TestN                                                                                          | le: BTEX_W<br>lo: SW8021B                                                                                                        | Units: µg/L                                                                                      |                                                                | Prep Dat<br>Analysis Dat                                                                                               | te: 10/6/20<br>te: 10/6/20                                                                                                        | 003<br>003                                                                          | Run ID: GC<br>SeqNo: 72                                                                                                                   | C-1_031006A<br>739                                               |              |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ<br>Analyte                                                                                                                                                                                                                                                                     | SampType: CCV<br>Batch ID: R5014<br>Result                                                                                                                                             | TestCoo<br>TestN<br>PQL                                                                                   | le: BTEX_W<br>lo: SW8021B<br>SPK value                                                                                           | Units: µg/L<br>SPK Ref Val                                                                       | %REC                                                           | Prep Dat<br>Analysis Dat<br>LowLimit                                                                                   | te: <b>10/6/20</b><br>te: <b>10/6/20</b><br>HighLimit                                                                             | 003<br>003<br>RPD Ref Val                                                           | Run ID: GC<br>SeqNo: 72<br>%RPD                                                                                                           | C-1_031006A<br>739<br>RPDLimit                                   | Qual         |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene                                                                                                                                                                                                                                                          | SampType: CCV<br>Batch ID: R5014<br>Result<br>20.93                                                                                                                                    | TestCoo<br>TestN<br>PQL<br>0.50                                                                           | ie: BTEX_W<br>io: SW8021B<br>SPK value<br>20                                                                                     | Units: µg/L<br>SPK Ref Val<br>0                                                                  | %REC<br>105                                                    | Prep Dat<br>Analysis Dat<br>LowLimit<br>85                                                                             | te: 10/6/20<br>te: 10/6/20<br>HighLimit<br>115                                                                                    | 03<br>03<br>RPD Ref Val<br>. 0                                                      | Run ID: GC<br>SeqNo: 72<br>%RPD<br>0                                                                                                      | C-1_031006A<br>739<br>RPDLimit                                   | Qual         |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene<br>Ethylbenzene                                                                                                                                                                                                                                          | SampType: CCV<br>Batch ID: R5014<br>Result<br>20.93<br>22.42                                                                                                                           | TestCoo<br>TestN<br>PQL<br>0.50<br>0.50                                                                   | le: BTEX_W<br>lo: SW8021B<br>SPK value<br>20<br>20                                                                               | Units: µg/L<br>SPK Ref Val<br>0<br>0                                                             | %REC<br>105<br>112                                             | Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85                                                                       | te: 10/6/20<br>te: 10/6/20<br>HighLimit<br>115<br>115                                                                             | 03<br>03<br>RPD Ref Val<br>0<br>0                                                   | Run ID: GC<br>SeqNo: 72<br>%RPD<br>0<br>0                                                                                                 | C-1_031006A<br>739<br>RPDLimit                                   | Quat         |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene<br>Ethylbenzene<br>m.p-Xylene                                                                                                                                                                                                                            | SampType: CCV<br>Batch ID: R5014<br>Result<br>20.93<br>22.42<br>43.73                                                                                                                  | TestCoc<br>TestN<br>PQL<br>0.50<br>0.50<br>1.0                                                            | le: BTEX_W<br>lo: SW8021B<br>SPK value<br>20<br>20<br>40                                                                         | Units: µg/L<br>SPK Ref Val<br>0<br>0<br>0                                                        | %REC<br>105<br>112<br>109                                      | Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85<br>85                                                                 | te: 10/6/20<br>te: 10/6/20<br>HighLimit<br>115<br>115<br>115                                                                      | 03<br>03<br>RPD Ref Val<br>0<br>0<br>0                                              | Run ID: GC<br>SeqNo: 72<br>%RPD<br>0<br>0<br>0                                                                                            | C-1_031006A<br>739<br>RPDLimit                                   | Qual         |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene<br>Ethylbenzene<br>m,p-Xylene<br>o-Xylene                                                                                                                                                                                                                | SampType: CCV<br>Batch ID: R5014<br>Result<br>20.93<br>22.42<br>43.73<br>21.21                                                                                                         | TestCoc<br>TestN<br>PQL<br>0.50<br>0.50<br>1.0<br>0.50                                                    | ie: BTEX_W<br>lo: SW8021B<br>SPK value<br>20<br>20<br>40<br>20                                                                   | Units: µg/L<br>SPK Ref Val<br>0<br>0<br>0<br>0                                                   | %REC<br>105<br>112<br>109<br>106                               | Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85<br>85<br>85                                                           | te: 10/6/20<br>te: 10/6/20<br>HighLimit<br>115<br>115<br>115<br>115<br>115                                                        | 003<br>003<br>RPD Ref Val<br>0<br>0<br>0<br>0                                       | Run ID: GC<br>SeqNo: 72<br>%RPD<br>0<br>0<br>0<br>0                                                                                       | 2-1_031006A<br>739<br>RPDLimit                                   | Qual         |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene<br>Ethylbenzene<br>m.p-Xylene<br>o-Xylene<br>Toluene                                                                                                                                                                                                     | SampType: CCV<br>Batch ID: R5014<br>Result<br>20.93<br>22.42<br>43.73<br>21.21<br>21.32                                                                                                | TestCoc<br>TestN<br>PQL<br>0.50<br>0.50<br>1.0<br>0.50<br>0.50                                            | le: BTEX_W<br>lo: SW8021B<br>SPK value<br>20<br>20<br>40<br>20<br>20<br>20                                                       | Units: µg/L<br>SPK Ref Val<br>0<br>0<br>0<br>0<br>0                                              | %REC<br>105<br>112<br>109<br>106<br>107                        | Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85<br>85<br>85<br>85<br>85                                               | te: 10/6/20<br>te: 10/6/20<br>HighLimit<br>115<br>115<br>115<br>115<br>115<br>115                                                 | 03<br>03<br>RPD Ref Val<br>0<br>0<br>0<br>0<br>0<br>0                               | Run ID: GC<br>SeqNo: 72<br>%RPD<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                                                        | C-1_031006A<br>739<br>RPDLimit                                   | Qual         |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene<br>Ethylbenzene<br>m.p-Xylene<br>o-Xylene<br>Toluene<br>Sample ID CCV5_031006                                                                                                                                                                            | SampType: CCV<br>Batch ID: R5014<br>Result<br>20.93<br>22.42<br>43.73<br>21.21<br>21.32<br>SampType: CCV                                                                               | TestCoc<br>TestN<br>PQL<br>0.50<br>0.50<br>1.0<br>0.50<br>0.50<br>TestCoc                                 | ie: BTEX_W<br>io: SW8021B<br>SPK value<br>20<br>20<br>40<br>20<br>20<br>e: BTEX_W                                                | Units: µg/L<br>SPK Ref Val<br>0<br>0<br>0<br>0<br>0<br>Units: µg/L                               | %REC<br>105<br>112<br>109<br>106<br>107                        | Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85<br>85<br>85<br>85<br>85<br>85                                         | te: 10/6/20<br>te: 10/6/20<br>HighLimit<br>115<br>115<br>115<br>115<br>115<br>115<br>e: 10/6/20                                   | 03<br>RPD Ref Val<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | Run ID: GC<br>SeqNo: 72<br>%RPD<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                                                              | C-1_031006A<br>739<br>RPDLimit<br>-1_031006A                     | Qual         |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene<br>Ethylbenzene<br>m,p-Xylene<br>o-Xylene<br>Toluene<br>Sample ID CCV5_031006<br>Client ID: ZZZZZ                                                                                                                                                        | SampType: CCV<br>Batch ID: R5014<br>Result<br>20.93<br>22.42<br>43.73<br>21.21<br>21.32<br>SampType: CCV<br>Batch ID: R5014                                                            | TestCoc<br>TestN<br>PQL<br>0.50<br>0.50<br>1.0<br>0.50<br>0.50<br>TestCoc<br>TestN                        | le: BTEX_W<br>lo: SW8021B<br>SPK value<br>20<br>20<br>40<br>20<br>20<br>le: BTEX_W<br>lo: SW8021B                                | Units: µg/L<br>SPK Ref Val<br>0<br>0<br>0<br>0<br>0<br>Units: µg/L                               | %REC<br>105<br>112<br>109<br>106<br>107                        | Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85<br>85<br>85<br>85<br>85<br>Prep Dat<br>Analysis Dat                   | te: 10/6/20<br>te: 10/6/20<br>HighLimit<br>115<br>115<br>115<br>115<br>115<br>e: 10/6/20<br>e: 10/6/20                            | 003<br>RPD Ref Val<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | Run ID: GC<br>SeqNo: 72<br>%RPD<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>8<br>0<br>0<br>727                                   | C-1_031006A<br>739<br>RPDLimit<br>G-1_031006A<br>740             | Qual         |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene<br>Ethylbenzene<br>m,p-Xylene<br>o-Xylene<br>Toluene<br>Sample ID CCV5_031006<br>Client ID: ZZZZZ<br>Analyte                                                                                                                                             | SampType: CCV<br>Batch ID: R5014<br>Result<br>20.93<br>22.42<br>43.73<br>21.21<br>21.32<br>SampType: CCV<br>Batch ID: R5014<br>Result                                                  | TestCoc<br>TestN<br>PQL<br>0.50<br>0.50<br>1.0<br>0.50<br>0.50<br>TestCoc<br>TestN<br>PQL                 | ie: BTEX_W<br>lo: SW8021B<br>SPK value<br>20<br>20<br>40<br>20<br>20<br>ie: BTEX_W<br>lo: SW8021B<br>SPK value                   | Units: µg/L<br>SPK Ref Val<br>0<br>0<br>0<br>0<br>Units: µg/L<br>SPK Ref Val                     | %REC<br>105<br>112<br>109<br>106<br>107                        | Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85<br>85<br>85<br>85<br>Prep Dat<br>Analysis Dat<br>LowLimit             | te: 10/6/20<br>te: 10/6/20<br>HighLimit<br>115<br>115<br>115<br>115<br>115<br>e: 10/6/20<br>HighLimit                             | 003<br>RPD Ref Val<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | Run ID: GC<br>SeqNo: 72<br>%RPD<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>8<br>0<br>0<br>0<br>727<br>%RPD            | C-1_031006A<br>739<br>RPDLimit<br>-1_031006A<br>740<br>RPDLimit  | Qual         |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene<br>Ethylbenzene<br>m.p-Xylene<br>o-Xylene<br>Toluene<br>Sample ID. CCV5_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene                                                                                                                                 | SampType: CCV<br>Batch ID: R5014<br>Result<br>20.93<br>22.42<br>43.73<br>21.21<br>21.32<br>SampType: CCV<br>Batch ID: R5014<br>Result<br>19.86                                         | TestCoc<br>TestN<br>PQL<br>0.50<br>0.50<br>1.0<br>0.50<br>0.50<br>TestCoc<br>TestN<br>PQL<br>0.50         | ie: BTEX_W<br>io: SW8021B<br>SPK value<br>20<br>20<br>40<br>20<br>20<br>ie: BTEX_W<br>io: SW8021B<br>SPK value<br>20             | Units: µg/L<br>SPK Ref Val<br>0<br>0<br>0<br>0<br>Units: µg/L<br>SPK Ref Val<br>0                | %REC<br>105<br>112<br>109<br>106<br>107<br>%REC<br>99.3        | Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85<br>85<br>85<br>85<br>Prep Dat<br>Analysis Dat<br>LowLimit             | te: 10/6/20<br>te: 10/6/20<br>HighLimit<br>115<br>115<br>115<br>115<br>115<br>e: 10/6/20<br>e: 10/6/20<br>HighLimit<br>115        | 003<br>RPD Ref Val<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | Run ID: GC<br>SeqNo: 72<br>%RPD<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>8<br>Run ID: GC<br>SeqNo: 727<br>%RPD<br>0 | C-1_031006A<br>739<br>RPDLimit<br>C-1_031006A<br>740<br>RPDLimit | Qual         |
| Sample ID. CCV4_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene<br>Ethylbenzene<br>m.p-Xylene<br>o-Xylene<br>Toluene<br>Sample ID CCV5_031006<br>Client ID: ZZZZZ<br>Analyte<br>Benzene<br>Ethylbenzene                                                                                                                  | SampType: CCV<br>Batch ID: R5014<br>Result<br>20.93<br>22.42<br>43.73<br>21.21<br>21.32<br>SampType: CCV<br>Batch ID: R5014<br>Result<br>19.86<br>21.2                                 | TestCoo<br>TestN<br>PQL<br>0.50<br>0.50<br>1.0<br>0.50<br>0.50<br>TestCoo<br>TestN<br>PQL<br>0.50<br>0.50 | ie: BTEX_W<br>io: SW8021B<br>SPK value<br>20<br>20<br>40<br>20<br>20<br>ie: BTEX_W<br>io: SW8021B<br>SPK value<br>20<br>20<br>20 | Units: μg/L<br>SPK Ref Val<br>0<br>0<br>0<br>0<br>0<br>Units: μg/L<br>SPK Ref Val<br>0<br>0<br>0 | %REC<br>105<br>112<br>109<br>106<br>107<br>%REC<br>99.3<br>106 | Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85<br>85<br>85<br>85<br>Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85 | te: 10/6/20<br>te: 10/6/20<br>HighLimit<br>115<br>115<br>115<br>115<br>115<br>e: 10/6/20<br>e: 10/6/20<br>HighLimit<br>115<br>115 | 003<br>RPD Ref Val<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | Run ID: GC<br>SeqNo: 72<br>%RPD<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>Run ID: GC<br>SeqNo: 727<br>%RPD<br>0<br>0      | C-1_031006A<br>739<br>RPDLimit<br>C-1_031006A<br>740<br>RPDLimit | Qual         |
| Sample ID. CCV4_031006         Client ID:       ZZZZZ         Analyte         Benzene         Ethylbenzene         m,p-Xylene         o-Xylene         Toluene         Sample ID. CCV5_031006         Client ID:       ZZZZZ         Analyte         Benzene         Ethylbenzene         Qualifiers:       ND - Not Dete | SampType: CCV<br>Batch ID: R5014<br>Result<br>20.93<br>22.42<br>43.73<br>21.21<br>21.32<br>SampType: CCV<br>Batch ID: R5014<br>Result<br>19.86<br>21.2<br>exted at the Reporting Limit | TestCoc<br>TestN<br>PQL<br>0.50<br>0.50<br>1.0<br>0.50<br>0.50<br>TestCoc<br>TestN<br>PQL<br>0.50<br>0.50 | le: BTEX_W<br>lo: SW8021B<br>SPK value<br>20<br>20<br>40<br>20<br>20<br>le: BTEX_W<br>lo: SW8021B<br>SPK value<br>20<br>20<br>20 | Units: µg/L<br>SPK Ref Val<br>0<br>0<br>0<br>0<br>Units: µg/L<br>SPK Ref Val<br>0<br>0           | %REC<br>105<br>112<br>109<br>106<br>107                        | Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85<br>85<br>85<br>85<br>Prep Dat<br>Analysis Dat<br>LowLimit<br>85<br>85 | te: 10/6/20<br>te: 10/6/20<br>HighLimit<br>115<br>115<br>115<br>115<br>e: 10/6/20<br>e: 10/6/20<br>HighLimit<br>115<br>115        | 003<br>RPD Ref Val<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | Run ID: GC<br>SeqNo: 72<br>%RPD<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0            | C-1_031006A<br>739<br>RPDLimit<br>-1_031006A<br>740<br>RPDLimit  | Qual<br>Qual |

#### Souder, Miller & Associates CLIENT: 0310001

Work Order:

**Project:** 5114321; Key Energy

# ANALYTICAL QC SUMMARY REPORT

### TestCode: BTEX\_W

| Sample ID CCV5_031006                  | SampType: CCV           | TestCoo             | le: BTEX_W     | Units: µg/L |                   | Prep Dat       | e: 10/6/20        | 003         | Run ID: GC  | -1_031006A |      |
|----------------------------------------|-------------------------|---------------------|----------------|-------------|-------------------|----------------|-------------------|-------------|-------------|------------|------|
| Client ID: ZZZZZ                       | Batch ID: R5014         | TestN               | lo: SW8021B    |             |                   | Analysis Dal   | te: 10/6/20       | 003         | SeqNo: 727  | 740        |      |
| Analyte                                | Result                  | PQL                 | SPK value      | SPK Ref Val | %REC              | LowLimit       | HighLimit         | RPD Ref Val | %RPD        | RPDLimit   | Qual |
| m,p-Xylene                             | 41.34                   | 1.0                 | 40             | 0           | 103               | 85             | 115               | 0           | 0           |            |      |
| o-Xylene                               | 20.22                   | 0.50                | 20             | 0           | 101               | 85             | 115               | 0           | 0           |            |      |
| Toluene                                | 20.22                   | 0.50                | 20             | 0           | 101               | 85             | 115               | 0           | 0           |            |      |
| Sample ID CCV1_031006                  | SampType: CCV           | TestCoc             | e: BTEX_W      | Units: µg/L |                   | Prep Dat       | e: 10/6/20        | 03          | Run ID: GC  | -1_031006A |      |
| Client ID: ZZZZZ                       | Batch ID: R5014         | Test                | lo: SW8021B    |             |                   | Analysis Dat   | e: 10/6/20        | 03          | SeqNo: 727  | 45         |      |
| Analyte                                | Result                  | PQL                 | SPK value      | SPK Ref Val | %REC              | LowLimit       | HighLimit         | RPD Ref Val | %RPD        | RPDLimit   | Quat |
| Benzene                                | 21.46                   | 0.50                | 20             | 0           | 107               | 85             | 115               | 0           | 0           |            |      |
| Denzene                                | 21,40                   |                     |                |             |                   |                |                   |             | U           |            |      |
| Ethylbenzene                           | 22.65                   | 0.50                | 20             | 0           | 113               | 85             | 115               | 0           | 0           |            |      |
| Ethylbenzene<br>m.p-Xylene             | 22.65<br>43.95          | 0.50<br>1.0         | 20<br>40       | 0<br>0      | 113<br>110        | 85<br>85       | 115<br>115        | 0<br>0      | 0           |            |      |
| Ethylbenzene<br>m,p-Xylene<br>o-Xylene | 22.65<br>43.95<br>21.36 | 0.50<br>1.0<br>0.50 | 20<br>40<br>20 | 0<br>0<br>0 | 113<br>110<br>107 | 85<br>85<br>85 | 115<br>115<br>115 | 0<br>0<br>0 | 0<br>0<br>0 |            |      |

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery fimits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

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Souder, Miller & Associates

CLIENT:

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# QC SUMMARY REPORT

| Work Order:<br>Project:<br>Test No: | 0310001<br>5114321; Key Energy<br>SW8015B | Matrix: W                             |                                       | SU | URROGAT                               | TE RECO | OVERIES                               |
|-------------------------------------|-------------------------------------------|---------------------------------------|---------------------------------------|----|---------------------------------------|---------|---------------------------------------|
| Sample ID                           | ОТ                                        |                                       |                                       |    |                                       |         |                                       |
| 0309007-006AD                       | 93.0                                      |                                       |                                       |    | !                                     | :       |                                       |
| 0310001-002B                        | 94.5                                      |                                       | · · · · · · · · · · · · · · · · · · · |    |                                       |         | · · · · · · · · · · · · · · · · · · · |
| CCV1_031007                         | 105                                       |                                       |                                       |    | · · · · · · · · · · · · · · · · · · · |         |                                       |
| CCV2_031007                         | 103                                       | :                                     |                                       | ·  | - : ;:                                |         |                                       |
| LCS_031001                          | 93.6                                      | · · · · · · · · · · · · · · · · · · · | i                                     | 1  | -<br>-                                |         |                                       |
| LCSD_031001                         | 90.8                                      |                                       |                                       |    | :                                     |         |                                       |
| MB_031001                           | 91.4                                      |                                       |                                       |    | 1                                     |         |                                       |



#### \* Surrogate recovery outside acceptance limits

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| CLIENT:<br>Work Order:<br>Project: | Souder, Miller & Ass<br>0310001<br>5114321; Key Energ | sociates |      | QC SUMMA<br>SURROGATE R | RY REPORT<br>ECOVERIES                |
|------------------------------------|-------------------------------------------------------|----------|------|-------------------------|---------------------------------------|
| Test No:                           | SW8021B                                               | Matrix   | : W  |                         |                                       |
| Sample ID                          | 14FBZ                                                 | 4BCBZ    | FLBZ |                         |                                       |
| 0310001-001A                       | 107                                                   | 118      | 105  |                         |                                       |
| 0310001-002A                       | 108                                                   | 119      | 105  |                         |                                       |
| 0310001-003A                       | 108                                                   | 114      | 105  |                         | · · · · · · · · · · · · · · · · · · · |
| 0310007-008AMS                     | 106                                                   | 105      | 104  |                         |                                       |
| 0310007-008AMS                     | D 106                                                 | 107      | 103  | · · ·                   |                                       |
| CCV1_031006                        | 107                                                   | 115      | 104  | ;                       | ····                                  |
| CCV2_031006                        | 106                                                   | 115      | 103  |                         | -                                     |
| CCV4_031006                        | 107                                                   | 112      | 105  |                         |                                       |
| CCV5_031006                        | 107                                                   | 113      | 104  |                         |                                       |
| LCS_031005                         | 107                                                   | 115      | 104  |                         |                                       |
| MB_031005                          | 107                                                   | 114      | 105  |                         |                                       |

\* Surrogate recovery outside acceptance limits

Surrogate

= Fluorobenzene

= 1,4-Difluorobenzene

= 4-Bromochlorobenzene

- Acronym -14FBZ

4BCBZ

FLBZ

QC Limits

90-113

82-137

85-115

|                      | <u> iiná bá</u>                                  |                                                      | CH                      | AIN C               | OF C      | UST     | ODY                 | RE       | CO    | RD       |                     |           |       | _           |          | 36                     | 66           | ٤.        |
|----------------------|--------------------------------------------------|------------------------------------------------------|-------------------------|---------------------|-----------|---------|---------------------|----------|-------|----------|---------------------|-----------|-------|-------------|----------|------------------------|--------------|-----------|
| <u></u>              | (lor life's sake) 612<br>Pho                     | E. Murray Dr. • P.O. Box<br>ne: (505) 327-1072 • Fax | 2606 • Fa<br>: (505) 32 | rmingtor<br>7-1496  | n, NM 87  | 7499    | Date                |          |       |          |                     |           |       | Page        | e        | / of                   |              | -         |
|                      | Report to: Ken                                   | Sinki                                                |                         |                     |           |         |                     | PO       | No.:  |          |                     |           | Jo    | b No.:      |          |                        |              |           |
| H Ö                  | Company: 5M1                                     | 4                                                    |                         |                     |           |         | ۵ġ                  | Nam      | ne: / | Rick     | E E                 | RAZ       | fie   | 12          |          |                        |              |           |
| DO ULTS              | Address:                                         |                                                      |                         |                     |           |         |                     | Corr     | pany: | Ke       | y E                 | NER       | e c y |             |          |                        |              |           |
| HE<br>RES            | City:                                            |                                                      |                         |                     | •         |         | J O ≥<br>Z          | Add      | ress: |          | J                   |           |       |             |          |                        |              |           |
|                      | Phone:                                           | Fax:                                                 | En                      | nail:               |           |         |                     | City:    |       |          |                     |           |       |             |          |                        |              |           |
| Turnaro<br>1<br>24-4 | ound Time:<br>0 days (normal)<br>18 hours (100%) | Sample Integrity                                     |                         | Sub<br>Yes          | ocontract |         |                     |          |       | òo       |                     | Analys    | is Re | quest       | ed       |                        |              |           |
|                      | 3-5 days (50%)                                   | On Ice                                               |                         | No                  | <u> </u>  |         |                     | <u> </u> |       | - 41     |                     | <u> </u>  | 7     | 7           |          | <u> </u>               | <u>.</u>     | ┦         |
| Samp                 | ling Location:                                   |                                                      |                         |                     | <b>.</b>  | <b></b> | IBER OF<br>FAINERS: |          |       |          |                     |           |       |             |          |                        |              |           |
|                      | Sample Ider                                      | ntification                                          | Sar<br>Date             | nple<br>Time        | Matrix    | Pres.   |                     | 10       | 0     |          |                     |           | /     |             |          | L                      | ab ID        |           |
| <u></u>              | OWER SUL                                         |                                                      | 9/27                    | 3:34                | 1420      | 7ez     | 4                   | X        |       |          |                     |           |       |             |          | 23100                  | 101          | $\square$ |
| 4                    | ppere 502                                        | -                                                    | 9/27                    | 4.00                | 14,0      | Jez     | 5                   | 7        | 7     |          |                     |           |       |             |          | <u> </u>               | -00          |           |
| TR                   | Auch Blank                                       |                                                      | 9/2)                    | 2/30                | His       | J#2     | _/                  | <u>×</u> |       |          |                     |           | ·     |             | <b> </b> | <u> </u>               | <u>-</u> w   | 2         |
|                      |                                                  |                                                      | -                       |                     | <b> </b>  | [       |                     |          |       |          |                     |           |       |             |          |                        |              | $\neg$    |
|                      | · · ·                                            |                                                      |                         |                     |           |         |                     |          |       |          |                     |           |       |             |          |                        |              | -         |
|                      |                                                  |                                                      |                         |                     |           |         |                     |          |       |          |                     |           |       |             |          |                        |              | _         |
|                      | ·                                                |                                                      |                         |                     |           |         |                     |          |       |          |                     |           |       |             |          |                        |              |           |
|                      |                                                  |                                                      |                         |                     |           |         |                     |          |       |          |                     |           |       |             |          |                        |              | _         |
|                      |                                                  |                                                      |                         |                     |           |         |                     |          |       |          |                     |           |       |             |          | ·                      |              | 4         |
|                      |                                                  |                                                      |                         |                     |           |         |                     |          |       |          |                     | ····      |       |             |          |                        |              | 4         |
| Relin                | uished by:                                       |                                                      | Date/Ti                 | me <sup>.</sup> 41. | 24/03     | 0800    | Beceive             | ed hv≻   | -     |          | $\overline{\gamma}$ | l         |       | Date        | e/Time   | alzal                  |              |           |
| Relino               | uished by:                                       | Longen                                               | Date/Ti                 | me:                 | <u> </u>  | - 4     | Receive             | ed by:   |       | COLL_    |                     | Alle, art |       | Date        | e/Time:  | <u>- 112 - 17</u><br>: | <u>05 07</u> | ۲         |
| Relino               | uished by:                                       |                                                      | Date/Ti                 | me:                 |           |         | Receive             | ed by:   |       | <u> </u> |                     | <u> </u>  |       | Date        | e/Time:  | ·                      |              |           |
| Com                  | nents                                            |                                                      |                         |                     |           |         |                     |          |       |          | ·                   | <u> </u>  |       | · · · · · · |          |                        |              | 1         |

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| District I       RECENVED       State of New Mexico         16623 N. Francis Dr., Hobbs, NM 85240       Energy Minerals and Natural Resourt         District II       0C 1 0 7 2003         1301 W. Grand Avenue, Artesia, NM 85210       OC 1 0 7 2003         District IV       0C 1 0 7 2003         District IV       1220 South St. Francis Dr., Same H. MARNOSERVATION         DIVISION       Santa Fe, NM 87505 | hartyne Kieling<br>Check Form C-138<br>rccs Xylene and Revised March 17, 1999<br>Benzene Submit Original<br>Levels, This GRG Mysis to Appropriate<br>100 Ks weind District Office |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REQUEST FOR APPROVAL TO ACCEP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | T SOLID WASTE                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4. Generator SAFETY KLEEN                                                                                                                                                         |
| □ Verbal Approval Received: Yes □ No K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 5. Originating Site SAFETY KLEEN YARD                                                                                                                                             |
| 2. Management Facility Destination KEY ENERGY DISPOSAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6. Transporter SAFETY KLEEN                                                                                                                                                       |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 8. State NM                                                                                                                                                                       |
| 7. Location of Material (Street Address or ULSTR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                   |
| <ul> <li>A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job.</li> <li>All requests for approval to accept non-exempt wastes must be accompanied by material is not-hazardous and the Generator's certification of origin. No waste cla approved</li> <li>All transporters must certify the wastes delivered are only those consigned for transporter DESCRIPTION OF MATERIAL:</li> </ul>                                                                                                                                     | y a certification of waste from the Generator;<br>eccessary chemical analysis to PROVE the<br>assified hazardous by listing or testing will be<br>port.                           |
| OILFIELD WASTE WATER COLLECTED BY SAFETY KLEEN, INCLUDES PROD<br>THIS IS THE SECOND ANALYTICAL, ORIGNAL C-138 APPROVED DATE 8-15-0                                                                                                                                                                                                                                                                                                                                                                                                                                                     | UCED WATER.                                                                                                                                                                       |
| Fictimated Volume 1000 PBIS for one month or - Known Volume (to be entered by th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                   |
| Estimated volume tooo BBLS_tor one month_cy Known volume (to be entered by m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | e operator at the end of the habi)cy                                                                                                                                              |
| SIGNATURE Management Facility Authorized Agent TITLE:FACILITY N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | MANAGER DATE: _10-01-03                                                                                                                                                           |
| TYPE OR PRINT NAME:MICHAEL TALOVICH TELEPHONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | NO505-334-6416                                                                                                                                                                    |
| (This space for State Ilse)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                   |

| (This space for State Use) | _                            |               |
|----------------------------|------------------------------|---------------|
| APPROVED BY: Denny tent    | TITLE: En-No/Engt            | DATE: 10/2/03 |
| APPROVED BY: May Line 75th | TTTLE: Support and fordaus + | DATE: 10/7/03 |
|                            |                              |               |

**Oil Conservation Division** 

1220 South St. Francis Dr.

Santa Fe, NM 87505

Submit Original Plus 1 Copy to Appropriate District Office

### **REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

| 1. RCRA Exempt: Non-Exempt: 🔀                          | 4. Generator SAFETY KLEEN             |
|--------------------------------------------------------|---------------------------------------|
| UVerbal Approval Received: Yes No 🕅                    | 5. Originating Site SAFETY KLEEN YARD |
| 2. Management Facility Destination KEY ENERGY DISPOSAL | 6. Transporter SAFETY KLEEN           |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM  | 8. State NM                           |
| 7. Location of Material (Street Address or ULSTR)      |                                       |
|                                                        |                                       |

- 9. Circle One:
  - A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.
  - (B) All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved
  - All transporters must certify the wastes delivered are only those consigned for transport.

#### BRIEF DESCRIPTION OF MATERIAL:

OILFIELD WASTE WATER COLLECTED BY SAFETY KLEEN, INCLUDES PRODUCED WATER.

THIS IS THE SECOND ANALYTICAL, ORIGNAL C-138 APPROVED DATE 8-15-03



| Estimated Volume | 1000 BBLS for one month | cy Know | n Volume (to be entered by the | operator at the end of the haul) | С |
|------------------|-------------------------|---------|--------------------------------|----------------------------------|---|
|                  |                         | _ ~     | · · ·                          |                                  |   |

SIGNATURE Muline Waste Management Facility Authorized Agent

TITLE: \_\_\_\_FACILITY MANAGER\_\_\_\_DATE: \_10-01-03\_\_\_\_\_

TYPE OR PRINT NAME: \_\_MICHAEL TALOVICH \_\_\_\_\_ TELEPHONE NO. 505-334-6416

| (This space for State Use) |                    |               |
|----------------------------|--------------------|---------------|
| APPROVED BY: Dom Dem       | TITLE: Enviro/Engr | DATE: 10/2/03 |
| APPROVED BY:               | TITLE:             | DATE:         |

# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

#### BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary

Lori Wrotenbery Director Oil Conservation Division

## **CERTIFICATE OF WASTE STATUS**

| 1. Generator Name and Address<br>Safety Kleen Systems Inc. dba<br>4210 A Hawkins Road<br>Farmington, NM 87401                                                                                                                                                                                                                                                                                                              | 2. Destination Name:                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety Kleen Systems Inc. dba<br>4210 A Hawkins Road<br>Farmington, NM 87401                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                         |
| 4210 A Hawkins Road<br>Farmington, NM 87401                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                         |
| Farmington, NM 87401                                                                                                                                                                                                                                                                                                                                                                                                       | Key Disposal                                                                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
| 2 Originating Site (manual) - Safety Klass Manual                                                                                                                                                                                                                                                                                                                                                                          | Leasting of the Warry (Charles Julies 9./                                                                                                                                                                                               |
| 5. Originating Sile (name): Salety Kleen Yard                                                                                                                                                                                                                                                                                                                                                                              | Location of the waste (Street address &/or                                                                                                                                                                                              |
| (ULSTR):                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
| Same as above                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
| attach list of originating sites as appropriate                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
| 4. Source and Description of Waste                                                                                                                                                                                                                                                                                                                                                                                         | . "                                                                                                                                                                                                                                     |
| Oilfield waste water-Non Exempt                                                                                                                                                                                                                                                                                                                                                                                            | • ,                                                                                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                            | · .                                                                                                                                                                                                                                     |
| · · · · · · · · · · · · · · · · · · ·                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
| ike Crawford                                                                                                                                                                                                                                                                                                                                                                                                               | representative for                                                                                                                                                                                                                      |
| Print Name                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
| ety Kleen Systems Inc. dba                                                                                                                                                                                                                                                                                                                                                                                                 | do hereby: certify                                                                                                                                                                                                                      |
| city Ricen Systems me. uoa                                                                                                                                                                                                                                                                                                                                                                                                 | do hereby certary                                                                                                                                                                                                                       |
| coording to the Resource Conservation and Recovery Act (RC)                                                                                                                                                                                                                                                                                                                                                                | (A) and Environmental Protection Agency's July, 1988.                                                                                                                                                                                   |
| itory determination, the above described waste is: (Check appre                                                                                                                                                                                                                                                                                                                                                            | opriate classification)                                                                                                                                                                                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                         |
| EXEMPT oilfield wasteX_NON-EXE                                                                                                                                                                                                                                                                                                                                                                                             | MPT oilfield waste which is non-hazardous by characteristic                                                                                                                                                                             |
| EXEMPT oilfield wasteX_NON-EXE<br>analysis or t                                                                                                                                                                                                                                                                                                                                                                            | MPT oilfield waste which is non-hazardous by characteristic or product identification                                                                                                                                                   |
| EXEMPT oilfield wasteX_NON-EXE<br>analysis or t                                                                                                                                                                                                                                                                                                                                                                            | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification                                                                                                                                                |
| EXEMPT oilfield wasteX_NON-EXE<br>analysis or to<br>hat nothing has been added to the exempt or non-exempt non -h                                                                                                                                                                                                                                                                                                          | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification                                                                                                                                                |
| EXEMPT oilfield wasteX_NON-EXE<br>analysis or t<br>hat nothing has been added to the exempt or non-exempt non -h                                                                                                                                                                                                                                                                                                           | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above.                                                                                                               |
| EXEMPT oilfield waste      X_NON-EXE         analysis or to                                                                                                                                                                                                                                                                                                                                                                | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above.                                                                                                               |
| EXEMPT oilfield waste      XNON-EXE         analysis or to                                                                                                                                                                                                                                                                                                                                                                 | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>hazardous waste defined above.<br>(check appropriate items): •                                                                              |
| EXEMPT oilfield waste      X_NON-EXE         analysis or to                                                                                                                                                                                                                                                                                                                                                                | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>hazardous waste defined above.<br>(check appropriate items): •<br>Other (description                                                        |
| EXEMPT oilfield waste      X_NON-EXE         analysis or l         hat nothing has been added to the exempt or non-exempt non -h         ON-EXEMPT waste the following documentation is attached        MSDS Information      O        X_RCRA Hazardous Waste Analysis                                                                                                                                                     | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above.<br>(check appropriate items): •<br>Other (description                                                         |
| EXEMPT oilfield waste      XNON-EXE         analysis or l         hat nothing has been added to the exempt or non-exempt non -h         ON-EXEMPT waste the following documentation is attached        MSDS Information        X_RCRA Hazardous Waste Analysis        X_Chain of Custody                                                                                                                                   | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above<br>(check appropriate items): -<br>Other (description                                                          |
| EXEMPT oilfield waste      XNON-EXE         analysis or l         hat nothing has been added to the exempt or non-exempt non -h         ON-EXEMPT waste the following documentation is attached        MSDS Information        X_RCRA Hazardous Waste Analysis        X_Chain of Custody                                                                                                                                   | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above<br>(check appropriate items): •<br>Other (description                                                          |
| EXEMPT oilfield waste      XNON-EXE         analysis or l                                                                                                                                                                                                                                                                                                                                                                  | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above<br>(check appropriate items): •<br>Other (description                                                          |
| EXEMPT oilfield waste      XNON-EXE         analysis or l         hat nothing has been added to the exempt or non-exempt non -h         ION-EXEMPT waste the following documentation is attached        MSDS Information        X_RCRA Hazardous Waste Analysis        X_Chain of Custody                                                                                                                                  | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above<br>(check appropriate items): •<br>Other (description<br>Occurring Radioactive Material (NORM) pursuant to 20  |
| EXEMPT oilfield waste      XNON-EXE         analysis or l         hat nothing has been added to the exempt or non-exempt non -h         ION-EXEMPT waste the following documentation is attached        MSDS Information        X_RCRA Hazardous Waste Analysis        X_Chain of Custody         waste is in compliance with Regulated Levels of Naturally C         C 3.1 subpart 1403.C and D.                          | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above<br>(check appropriate items): •<br>Other (description<br>Ccurring Radioactive Material (NORM) pursuant to 20   |
| EXEMPT oilfield waste      XNON-EXE         analysis or l         hat nothing has been added to the exempt or non-exempt non -h         ION-EXEMPT waste the following documentation is attached        MSDS Information        X_RCRA Hazardous Waste Analysis        X_Chain-of Custody         waste is in compliance with Regulated Levels of Naturally C         C 3.1 subpart 1403.C and D.                          | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above<br>(check appropriate items): •<br>Other (description<br>Occurring Radioactive Material (NORM) pursuant to 20  |
| EXEMPT oilfield waste      X_NON-EXE         analysis or l                                                                                                                                                                                                                                                                                                                                                                 | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above<br>(check appropriate items): •<br>Other (description<br>Other (description                                    |
| EXEMPT oilfield waste      X_NON-EXE         analysis or l         hat nothing has been added to the exempt or non-exempt non -h         ION-EXEMPT waste the following documentation is attached        MSDS Information        X_RCRA Hazardous Waste Analysis        X_Chain-of Custody         waste is in compliance with Regulated Levels of Naturally CAC 3.1 subpart 1403.C and D.         e (Original Signature): | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above.<br>(check appropriate items): •<br>Other (description<br>Other (description                                   |
| EXEMPT oilfield waste      X_NON-EXE         analysis or 1         nat nothing has been added to the exempt or non-exempt non -h         ION-EXEMPT waste the following documentation is attached        MSDS Information        X_RCRA Hazardous Waste Analysis        X_Chain of Custody         waste is in compliance with Regulated Levels of Naturally ON-EXEMPT 1403.C and D.         e (Original Signature):       | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above.<br>(check appropriate items): •<br>Other (description<br>Other (description                                   |
| EXEMPT oilfield waste      X_NON-EXE         analysis or 1         nat nothing has been added to the exempt or non-exempt non -h         ION-EXEMPT waste the following documentation is attached        MSDS Information        X_RCRA Hazardous Waste Analysis        X_Chain of Custody         waste is in compliance with Regulated Levels of Naturally ON-EXEMPT 1403.C and D.         e (Original Signature):       | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above.<br>(check appropriate items): •<br>Other (description<br>Occurring Radioactive Material (NORM) pursuant to 20 |
| EXEMPT oilfield waste      X_NON-EXE<br>analysis or l         hat nothing has been added to the exempt or non-exempt non -h         ION-EXEMPT waste the following documentation is attached        MSDS Information        X_RCRA Hazardous Waste Analysis        X_Chain of Custody         waste is in compliance with Regulated Levels of Naturally ON-EXEMPT 1403.C and D.         e (Original Signature):            | MPT oilfield waste which is non-hazardous by characteristic<br>by product identification<br>azardous waste defined above.<br>(check appropriate items): •<br>Other (description<br>Occurring Radioactive Material (NORM) pursuant to 20 |

Phone: (505) 334-6178 \* Fax (505) 334-6170.\* <u>http://www.emnrd.state.nm.us</u>

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| CLIENT:         Safety Kleen         Client Sample ID:         SK Various           Lab Order:         0309166         Collection Date:         9/22/2003 1:00:00 PM           Project:         Farm          Matrix:         AQUEOUS           Analyses         Result         Limit Qual         Units         DF         Date Analyz           EPA METHOD 8260B:         VOLATILES         Matrix:         AQUEOUS           Bergene         300         100         µg/L         100         9/24/2003           Toluene         750         100         µg/L         100         9/24/2003           Elhylbonzene         ND         100         µg/L         100         9/24/2003           A.atyze         180         100         µg/L         100         9/24/2003           1.3,5-Trimethylbenzene         120         100         µg/L         100         9/24/2003           1.2-Dichorberhane (EDC)         ND         100         µg/L         100         9/24/2003           1.2-Dichorberhane (EDC)         ND         100         µg/L         100         9/24/2003           1.2-Dichorberhane (EDC)         ND         100         µg/L         100         9/24/2003                                | Dute: 30-Sep-05 |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--|--|--|--|--|--|--|--|--|
| Lab Order:         0309166         Collection Date:         9/22/2003 1:00:00 PM           Project:         Farm          Analyses         Result         Limit         Qual         Units         DF         Date Analyses           Analyses         Result         Limit         Qual         Units         DF         Date Analyses           EPA METHOD 8260B:         VOLATILES         Analysis         Analysis         Analysis           Bergene         300         100         µg/L         100         9/24/2003           Toluere         750         100         µg/L         100         9/24/2003           Ethylbonzane         ND         100         µg/L         100         9/24/2003           Methyl lerr-burgl advar (MTBE)         180         100         µg/L         100         9/24/2003           1.3.5-Trimethylbenzene         120         100         µg/L         100         9/24/2003           1.2-Dichorbethane (EDC)         ND         100         µg/L         100         9/24/2003           1.2-Dichorbethane (EDB)         ND         100         µg/L         100         9/24/2003           1.2-Dichorbethane (EDC)         ND         100         µg/L         100        |                 |  |  |  |  |  |  |  |  |  |
| Project:         Farm           Lab LD:         0309166-02         Matrix:         AQUEOUS           Analyses         Result         Limit         Qual         Units         DF         Date Analyse           EPA METHOD 8260B:         VOLATILES         Analyse         Analyse         Analyse         Analyse           Bergene         300         100         µg/L         100         9/24/2003           Toluerre         750         100         µg/L         100         9/24/2003           Methylier-busyl athor (MTBE)         180         100         µg/L         100         9/24/2003           1.2,4-Trimethylbenzene         120         100         µg/L         100         9/24/2003           1.3,5-Trimethylbenzene         120         100         µg/L         100         9/24/2003           1.2-Dichlorbethane (EDC)         ND         100         µg/L         100         9/24/2003           1.2-Dichlorbethane (EDB)         ND         100         µg/L         100         9/24/2003           1.2-Dichlorbethane (EDB)         ND         100         µg/L         100         9/24/2003           1.2-Dichlorbethane (EDB)         ND         100         µg/L         100           |                 |  |  |  |  |  |  |  |  |  |
| Lab LD:         0309166-02         Matrix: AQUEOUS           Analyses         Result         Limit         Qual         Units         DF         Date Analys           EPA METHOD 8260B: VOLATILES         300         100         µg/L         100         9/24/2003           Bergene         300         100         µg/L         100         9/24/2003           Toluene         750         100         µg/L         100         9/24/2003           Ethylbonzane         ND         100         µg/L         100         9/24/2003           1.2,4-Trimethylbenzene         120         100         µg/L         100         9/24/2003           1.3,5-Trimethylbenzene         120         100         µg/L         100         9/24/2003           1.2-Dichtorbethane (EDC)         ND         100         µg/L         100         9/24/2003           1.2-Dichtorbethane (EDB)         ND         100         µg/L         100         9/24/2003           1.2-Dichtorbethane (EDB)         ND         100         µg/L         100         9/24/2003           1.2-Dichtorbethane (EDB)         ND         100         µg/L         100         9/24/2003           1.4-Methylnaphthalene         ND              |                 |  |  |  |  |  |  |  |  |  |
| Analyses         Result         Limit         Qual         Units         DF         Date Analyse           EPA METHOD 8260B: VOLATILES         300         100         µg/L         100         9/24/2003           Bergene         300         100         µg/L         100         9/24/2003           Toluene         750         100         µg/L         100         9/24/2003           Ethylbonzane         ND         100         µg/L         100         9/24/2003           1.2,4-Trimethylbenzene         120         100         µg/L         100         9/24/2003           1.3,5-Trimethylbenzene         ND         100         µg/L         100         9/24/2003           1.2-Dichtorbethane (EDC)         ND         400         µg/L         100         9/24/2003           1.2-Dichtorbethane (EDC)         ND         400         µg/L         100         9/24/2003                 |                 |  |  |  |  |  |  |  |  |  |
| Analyses         Result         Limit         Qual         Units         DF         Date Analys           EPA METHOD 8260B: VOLATILES         300         100         µg/L         100         9/24/2003           Bengene         300         100         µg/L         100         9/24/2003           Toluene         750         100         µg/L         100         9/24/2003           Elhylbonzane         ND         100         µg/L         100         9/24/2003           Methyl lerk-butyl othor (MTBE)         180         100         µg/L         100         9/24/2003           1.2,4-Titmethylbenzene         120         100         µg/L         100         9/24/2003           1.3,5-Titmethylbenzene         ND         100         µg/L         100         9/24/2003           1.2-Olchloroethane (EDC)         ND         100         µg/L         100         9/24/2003           1.2-Dibromoethane (EDB)         ND         100         µg/L         100         9/24/2003           1.2-Aritimethylaene         ND         200         µg/L         100         9/24/2003           1.2-Aritimethylaene         ND         100         µg/L         100         9/24/2003                      | •               |  |  |  |  |  |  |  |  |  |
| EPA METHOD 8260B: VOLATILES         Analysi           Bergene         300         100         µg/L         100         8/24/2003           Toluerre         750         100         µg/L         100         9/24/2003           Elhylbonzane         ND         100         µg/L         100         9/24/2003           Methyl (eri-butyl othor (MTBE)         180         100         µg/L         100         9/24/2003           1.2,4-Trimethylbenzene         120         100         µg/L         100         9/24/2003           1.3,5-Trimethylbenzene         ND         100         µg/L         100         9/24/2003           1.2-Dichloroethane (EDC)         ND         100         µg/L         100         9/24/2003           1,2-Dichloroethane (EDB)         ND         100         µg/L         100         9/24/2003           1-Methylnaphithalene         ND         400         µg | x]              |  |  |  |  |  |  |  |  |  |
| Bergene         300         100         μg/L         100         9/24/2003           Toluene         750         100         μg/L         100         9/24/2003           Elhylbenzene         ND         100         μg/L         100         9/24/2003           Methyl lert-butyl othor (MTBE)         180         100         μg/L         100         9/24/2003           1.2,4-Trimethylbenzene         120         100         μg/L         100         9/24/2003           1.3,5-Trimethylbenzene         ND         100         μg/L         100         9/24/2003           1.2,4-Trimethylbenzene         ND         100         μg/L         100         9/24/2003           1.3,5-Trimethylbenzene         ND         100         μg/L         100         9/24/2003           1.2-Dichtlorbethane (EDC)         ND         100         μg/L         100         9/24/2003           1,2-Dibtomoothane (EDB)         ND         100         μg/L         100         9/24/2003           1-Methylnaphthalene         ND         400         μg/L         100         9/24/2003           2-Methylnaphthalene         ND         100         μg/L         100         9/24/2003           Bromobtizono           | BDH             |  |  |  |  |  |  |  |  |  |
| Tbluene         750         100         μg/L         100         9/24/2003           Elhylbonzene         ND         100         μg/L         100         9/24/2003           Methyl ten-buryl othor (MTBE)         180         100         μg/L         100         9/24/2003           1.2,4-Trimethylbenzene         120         100         μg/L         100         9/24/2003           1.3,5-Trimethylbenzene         ND         100         μg/L         100         9/24/2003           1.2-Dichlomethane (EDC)         ND         100         μg/L         100         9/24/2003           1,2-Dichlomethane (EDC)         ND         100         μg/L         100         9/24/2003           1,2-Dichlomethane (EDC)         ND         100         μg/L         100         9/24/2003           1,2-Dichlomethane (EDB)         ND         100         μg/L         100         9/24/2003           Naphthalene         ND         200         μg/L         100         9/24/2003           2-Methylnaphthalene         ND         400         μg/L         100         9/24/2003           Bromodizizono         ND         1000         μg/L         100         9/24/2003           Bromodichlorome           |                 |  |  |  |  |  |  |  |  |  |
| Ethylbonzene         ND         100         µg/L         100         9/24/2003           Methyl ter-butyl athor (MTBE)         180         100         µg/L         100         9/24/2003           1.2,4-Trimethylbenzene         120         100         µg/L         100         9/24/2003           1.3,5-Trimethylbenzene         ND         100         µg/L         100         9/24/2003           1.2-Dichtomethane (EDC)         ND         100         µg/L         100         9/24/2003           1.2-Dichtomethane (EDC)         ND         100         µg/L         100         9/24/2003           1.2-Dichtomethane (EDB)         ND         100         µg/L         100         9/24/2003           Naphthalene         ND         200         µg/L         100         9/24/2003           1-Methylnaphthalene         ND         400         µg/L         100         9/24/2003           2-Methylnaphthalene         ND         400         µg/L         100         9/24/2003           Acetone         ND         1000         µg/L         100         9/24/2003           Bromobanzono         ND         100         µg/L         100         9/24/2003           Bromobanzono                    |                 |  |  |  |  |  |  |  |  |  |
| Methyl (eri-butyl othor (MTBE)       180       100       µg/L       100       9/24/2003         1.2,4-Trimethylbenzene       120       100       µg/L       100       9/24/2003         1.3,5-Trimethylbenzene       ND       100       µg/L       100       9/24/2003         1.3,5-Trimethylbenzene       ND       100       µg/L       100       9/24/2003         1.2-Dichtorbethane (EDC)       ND       100       µg/L       100       9/24/2003         1.2-Dichtorbethane (EDB)       ND       100       µg/L       100       9/24/2003         Naphthalene       ND       200       µg/L       100       9/24/2003         1-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         2-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         Acetone       ND       1000       µg/L       100       9/24/2003         Bromobanzono       ND       100       µg/L       100       9/24/2003         Bromobanzono       ND       100       µg/L       100       9/24/2003         Bromodichlaromethane       ND       100       µg/L       100       9/24/2003                                                                                                  |                 |  |  |  |  |  |  |  |  |  |
| 1.2.4-Trimethylbenzene       120       100       µg/L       100       9/24/2003         1.3.5-Trimethylbenzene       ND       100       µg/L       100       9/24/2003         1.2-Dichtorbethane (EDC)       ND       100       µg/L       100       9/24/2003         1.2-Dichtorbethane (EDC)       ND       100       µg/L       100       9/24/2003         1.2-Dichtorbethane (EDC)       ND       100       µg/L       100       9/24/2003         Naphthalene       ND       200       µg/L       100       9/24/2003         1-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         2-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         2-Methylnaphthalene       ND       1000       µg/L       100       9/24/2003         Acetone       ND       1000       µg/L       100       9/24/2003         Bromobanzano       ND       100       µg/L       100       9/24/2003         Bromodichlaromethane       ND       100       µg/L       100       9/24/2003         Bromodichlaromethane       ND       100       µg/L       100       9/24/2003         B                                                                                         |                 |  |  |  |  |  |  |  |  |  |
| 1.3,5-Trimethylbenzene       ND       100       µg/L       100       9/24/2003         1.2-Dichloroethane (EDC)       ND       100       µg/L       100       9/24/2003         1.2-Dichloroethane (EDB)       ND       100       µg/L       100       9/24/2003         Naphihalene       ND       200       µg/L       100       9/24/2003         Naphihalene       ND       200       µg/L       100       9/24/2003         1-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         2-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         Acetone       ND       1000       µg/L       100       9/24/2003         Bromobanzano       ND       100       µg/L       100       9/24/2003         Bromodichloromethane       ND       100       µg/L       100       9/24/2003         Bromodichlorometh                                                                                         |                 |  |  |  |  |  |  |  |  |  |
| 1.2-Dichloroethane (EDC)       ND       100       µg/L       100       9/24/2003         1,2-Dibromoothane (EDB)       ND       100       µg/L       100       9/24/2003         Naphthalene       ND       200       µg/L       100       8/24/2003         1-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         2-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         2-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         Acetone       ND       1000       µg/L       100       9/24/2003         Bromobarzano       ND       100       µg/L       100       9/24/2003         Bromodichloromethane       ND       100       µg/L       100       9/24/2003         Bromomethane                                                                                         |                 |  |  |  |  |  |  |  |  |  |
| 1,2-Dibromoethane (EDB)       ND       100       µg/L       100       9/24/2003         Naphithelene       ND       200       µg/L       100       8/24/2003         1-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         2-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         2-Methylnaphthalene       ND       400       µg/L       100       9/24/2003         Acetone       ND       1000       µg/L       100       9/24/2003         Bromobanzono       ND       100       µg/L       100       9/24/2003         Bromodichloromethane       ND       200       µg/L       100       9/24/2003         Bromomethone <td></td>                                                                                  |                 |  |  |  |  |  |  |  |  |  |
| Naphitalene         ND         200         µg/L         100         \$/24/2003           1-Methylnaphthalene         ND         400         µg/L         100         \$/24/2003           2-Methylnaphthalene         ND         400         µg/L         100         \$/24/2003           Acetone         ND         1000         µg/L         100         \$/24/2003           Bromobanzono         ND         1000         µg/L         100         \$/24/2003           Bromobanzono         ND         100         µg/L         100         \$/24/2003           Bromochiarzono         ND         100         µg/L         100         \$/24/2003           Bromochiarzone         ND         100         µg/L         100         \$/24/2003           Bromochiarzone         ND         100         µg/L         100         \$/24/2003           Bromochiarzone         ND         200         µg/L <td></td>                   |                 |  |  |  |  |  |  |  |  |  |
| 1-Methylnaphthalena         ND         400         μg/L         100         9/24/2003           2-Methylnaphthalene         ND         400         μg/L         100         9/24/2003           Acetone         ND         1000         μg/L         100         9/24/2003           Bromobanzono         ND         1000         μg/L         100         9/24/2003           Bromobanzono         ND         100         μg/L         100         9/24/2003           Bromochloromethano         ND         100         μg/L         100         9/24/2003           Bromochloromethane         ND         100         μg/L         100         9/24/2003           Bromochloromethane         ND         100         μg/L         100         9/24/2003           Bromochloromethane         ND         100         μg/L         100         9/24/2003           Bromomethane         ND         100         μg/L         100         9/24/2003           Bromomethane         ND         200         μg/L         100         9/24/2003           2-Butanono         ND         1000         μg/L         100         9/24/2003           Carbon disulido         ND         1000                                        |                 |  |  |  |  |  |  |  |  |  |
| 2-Methylnephthalene         ND         400         μg/L         100         9/24/2003           Acetone         ND         1000         μg/L         100         9/24/2003           Bromobarzono         ND         100         μg/L         100         9/24/2003           Bromobarzono         ND         100         μg/L         100         9/24/2003           Bromochioromethano         ND         100         μg/L         100         9/24/2003           Bromochioromethano         ND         100         μg/L         100         9/24/2003           Bromochioromethane         ND         100         μg/L         100         9/24/2003           Bromodethioromethane         ND         100         μg/L         100         9/24/2003           Bromodethioromethane         ND         100         μg/L         100         9/24/2003           Bromomethane         ND         200         μg/L         100         9/24/2003           2-Butanono         ND         1000         μg/L         100         9/24/2003           Carbon disulfido         ND         1000         μg/L         100         9/24/2003                                                                                   | *               |  |  |  |  |  |  |  |  |  |
| Acetone         ND         1000         µg/L         100         9/24/2003           Bromobanzano         ND         100         µg/L         100         9/24/2003           Bromochioromethano         ND         100         µg/L         100         9/24/2003           Bromochioromethano         ND         100         µg/L         100         9/24/2003           Bromochioromethano         ND         100         µg/L         100         9/24/2003           Bromotomethano         ND         100         µg/L         100         9/24/2003           Bromotom         ND         100         µg/L         100         9/24/2003           Bromotom         ND         100         µg/L         100         9/24/2003           Bromotomethane         ND         200         µg/L         100         9/24/2003           2-Butanono         ND         1000         µg/L         100         9/24/2003           Carbon disulfido         ND         1000         µg/L         100         9/24/2003                                                                                                                                                                                                       |                 |  |  |  |  |  |  |  |  |  |
| Bromobanzano         ND         100         μg/L         100         9/24/2003           Bromochioromethano         ND         100         μg/L         100         9/24/2003           Bromochioromethano         ND         100         μg/L         100         9/24/2003           Bromochioromethano         ND         100         μg/L         100         9/24/2003           Bromotomethane         ND         100         μg/L         100         9/24/2003           Bromotomethane         ND         200         μg/L         100         9/24/2003           Bromotomethane         ND         200         μg/L         100         9/24/2003           Carbon disulido         ND         1000         μg/L         100         9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |  |  |  |  |  |  |  |  |  |
| Bromochioromethano         ND         100         µg/L         100         9/24/2003           Bromodichioromethane         ND         100         µg/L         100         9/24/2003           Bromodichioromethane         ND         100         µg/L         100         9/24/2003           Bromodichioromethane         ND         100         µg/L         100         9/24/2003           Bromomethane         ND         200         µg/L         100         9/24/2003           2-Butanono         ND         1000         µg/L         100         9/24/2003           Carbon disulido         ND         1000         µg/L         100         9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |  |  |  |  |  |  |  |  |  |
| Bromodichlanom         ND         100         µg/L         100         9/24/2003           Bromodiom         ND         100         µg/L         100         9/24/2003           Bromomethane         ND         200         µg/L         100         9/24/2003           Bromomethane         ND         200         µg/L         100         9/24/2003           2-Butanono         ND         1000         µg/L         100         9/24/2003           Carbon disultido         ND         1000         µg/L         100         9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |  |  |  |  |  |  |  |  |  |
| Bromotorm         ND         100         µg/L         100         9/24/2003           Bromomethone         ND         200         µg/L         100         9/24/2003           2-Butanono         ND         1000         µg/L         100         9/24/2003           2-Butanono         ND         1000         µg/L         100         9/24/2003           Carbon disultido         ND         1000         µg/L         100         9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |  |  |  |  |  |  |  |  |  |
| Bromomethone         ND         200         µg/L         100         9/24/2003           2-Butanono         ND         1000         µg/L         100         9/24/2003           Carbon disultido         ND         1000         µg/L         100         9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |  |  |  |  |  |  |  |  |  |
| 2-Butanono ND 1000 µg/L 100 9/24/2003<br>Carbon disulido ND 1000 µg/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |  |  |  |  |  |  |  |  |  |
| 1000 1000 1000 1000 1000 1000 1000 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |  |  |  |  |  |  |  |  |  |
| Carbon Tetrachioride ND 100 µg/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |  |  |  |  |  |  |  |  |  |
| Chloroberzene ND 100 µg/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |  |  |  |  |  |  |  |  |  |
| Chloroothano ND 200 µg/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |  |  |  |  |  |  |  |  |  |
| Chloroform ND 100 µg/l, 100 \$/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | •               |  |  |  |  |  |  |  |  |  |
| Chloromethane ND 100 ug/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |  |  |  |  |  |  |  |  |  |
| 2-Chlorotoluene. ND 100 µg/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |  |  |  |  |  |  |  |  |  |
| 4-Chiorotoluene ND 100 µg/L 100 8/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |  |  |  |  |  |  |  |  |  |
| cls-1,2-DCE ND 100 µgA 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |  |  |  |  |  |  |  |  |  |
| cis-1,3-Dichloropropena ND 100 yg/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |  |  |  |  |  |  |  |  |  |
| 1,2-Dibromo-3-chleropropane ND 200 µg/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |  |  |  |  |  |  |  |  |  |
| Dibromochloromethane ND 100 yg/L 100 B/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |  |  |  |  |  |  |  |  |  |
| Dibromomothane ND 200 µp/L 100 8/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |  |  |  |  |  |  |  |  |  |
| 1,2-Dichlorobanzana ND 100 yg/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |  |  |  |  |  |  |  |  |  |
| 1,3-Dichlorobenzene ND 100 ug/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |  |  |  |  |  |  |  |  |  |
| 1,4-Dichlombenzene ND 100 up/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |  |  |  |  |  |  |  |  |  |
| Dichlorodifiuoromethane ND 100 ug/L 100 8/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |  |  |  |  |  |  |  |  |  |
| 1.1-Oichioroothane ND 100 Ug/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |  |  |  |  |  |  |  |  |  |
| 1.1-Dichlorosthona ND 100 ugiL 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |  |  |  |  |  |  |  |  |  |
| 1,2-Dichicropropane ND 100 µg/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |  |  |  |  |  |  |  |  |  |
| 1,3-Dichloropropane ND 100 µg/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |  |  |  |  |  |  |  |  |  |
| 2,2-Dichlaropropane ND 100 µg/L 100 8/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |  |  |  |  |  |  |  |  |  |
| 1,1-Dichiaropropene ND 100 µg/L 100 9/24/2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | •               |  |  |  |  |  |  |  |  |  |

Qualifiers: ND - Not Detected

ND - Not Detected at the Reporting Limit

S - Spike Roenvery outside accepted reenvery limits

J - Analyze detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

\* - Value exceeds Maximum Comminant Level

Page 5 of 8

CLIENT:

| Hall | Environmental | Analysis | Laboratory |
|------|---------------|----------|------------|
|------|---------------|----------|------------|

Safety Kleen

Date: 30-Sep-03

Client Sample ID: SK Various Collection Date: 9/22/2003 1:00:00 PM

| Lab Order: | 0309166 |
|------------|---------|
| Project:   | Farm    |

Lab ID: 0309166-02

| Matri | R AQUEOUS |  |
|-------|-----------|--|

.....

| Analyses                        | Result | Linit    | Qual | Unics | DF  | Date Analyzed |
|---------------------------------|--------|----------|------|-------|-----|---------------|
| Hexachlorobutatione             | ND     | 100      |      | .µg/L | 100 | 9/24/2003     |
| 2-Hoxanono                      | ND     | 1000     |      | µg/L  | 100 | 9/24/2003     |
| Isopropyibenzene                | ND     | 100      |      | µg/L  | 100 | 9/24/2003     |
| 4-Isopropyitoluene              | ND     | 100      |      | ug/L  | 100 | 9/24/2003     |
| 4-Methyl-2-pentanone            | ND     | 1000     |      | µg/L  | 100 | 9/24/2003     |
| Methylene Chloride              | ND     | 300      |      | µg/L  | 100 | 9/24/2003     |
| n-Bulyibanzano                  | ND     | 100      |      | µg/L  | 100 | 9/24/2003     |
| n-Propylbanzene                 | ND     | 100      |      | µg/L  | 100 | 9/24/2003     |
| sec-Butylbenzane                | ND     | 100      |      | hovr  | 100 | 9/24/2003     |
| Styrene                         | ND     | 100      |      | μgΛ   | 100 | 9/24/2003     |
| tort-Butylbenzene               | ND     | 100      |      | h8/L  | 100 | 9/24/2003     |
| 1.1.1.2-Totrachloroothane       | ND     | 100      |      | L.    | 100 | 9/24/2003     |
| 1,1,2,2-Teirachieroethane       | ND     | 100      |      | µg/L  | 100 | 9/24/2003     |
| Telrachlordethene (PCE)         | ND     | 100      |      | hây"  | 100 | 9/24/2003     |
| trans-1.2-DCE                   | ND     | 100      |      | hav   | 100 | 9/24/2003     |
| wans-1,3-Dichloropropene        | ND     | 100      |      | µg/L  | 100 | 9/24/2003     |
| 1,2,3-Trichlorobenzeno          | ND     | 100      |      | ug/L  | 100 | 9/24/2003     |
| 1,2,4-Trichlorobenzena          | ND     | 100      |      | µg/L  | 100 | 9/24/2003     |
| 1,1,1-Trichloroelhene           | ND     | 100      |      | ug/L  | 100 | 9/24/2003     |
| 1,1,2-Trichloroethane           | ND     | 100      |      | 49/L  | 100 | 8/24/2003     |
| Trichloraethene (TCE)           | ND     | 100      |      | µg/L  | 100 | 9/24/2003     |
| Trichlorofluoromothano          | ND     | 001 🗠    |      | µg/L  | 100 | 8/24/2003     |
| 1,2,3-Trichloropropane          | ND     | 200      |      | μg/L  | 100 | 9/24/2003     |
| Vinyl chloride                  | ND     | 200      |      | ugA   | 100 | 9/24/2003     |
| Xviencs, Total                  | 530    | 100      |      | ug/L  | 100 | 9/24/2003     |
| Surr. 1,2-Dichloroathano-d4     | 108    | 70.6-124 |      | %REC  | 100 | 9/24/2003     |
| Sur. 4-Bromofluorobenzene       | 106    | 76.2-122 |      | %REC  | 100 | 9/24/2003     |
| Sur: Dibromofluoromethane       | 103    | 87.2-131 |      | %REC  | 100 | 9/24/2003     |
| Sur Toluene-d8                  | 105    | 82.1-123 |      | %REC  | 100 | 9/24/2003     |
| EPA METHOD 8270D: SEMIVOLATILES |        |          |      |       |     | Analyst: CS   |
| Acenaphthene                    | ND     | 500      |      | hav   | 5   | 9/28/2003     |
| Acenaphihylene                  | NÐ     | 500      |      | µg/L  | 5   | 9/29/2003     |
| Aniline                         | ND     | 500      |      | ug/L  | 5   | 9/29/2003     |
| Anthracono                      | ND     | 500      |      | ug/L  | 5   | 9/29/2003     |
| Azobenzene                      | ND     | 500      |      | μg/L  | 5   | 9/29/2003     |
| Benz(a)anthracene               | ND     | 500      |      | ug/L  | 5   | 9/28/2003     |
| Benzidine                       | ND     | 1000     |      | µg/L  | 5   | 8/29/2003     |
| Benzo(a)pyrene                  | ND     | 500      |      | havr  | 5   | 9/29/2003     |
| Bonzo(b)fluoramhene             | ND     | 500      |      | µ\$/L | δ   | 8/29/2003     |
| Benzo(g.h.i)perylano            | ND     | 500      |      | µg/L  | 5   | 9/29/2003     |
| Benzo(k)/Iuoranihene            | ND     | 500      |      | րց/լ  | 5   | 8/29/2003     |
| Benzoic add                     | NĎ     | 2500     |      | pg/L  | 5   | 9/29/2003     |

ND - Not Detected at the Reporting Limit

Qualificrs:

S - Splke Recovery outside accepted recovery limits

R - RPD outside accopted recovery limits

J - Analyte detected below quantitation limits

E - Value above quantitation range

B - Analyte detected in the associated Method Blunk
 Value exoceds Maximum Contaminant Level

Page 6 of 8

| CHAI                   | N-0F-  | Cust                       | ddy record       | N<br>Other:                 | Accre             | editation App<br>U USA | fied:<br>CE 🗋 |           |             |             |           | <br>      | H<br>A<br>49 | AL<br>NA     | L EI<br>LY:<br>Hawi | NVI<br>515<br>kins I |                                        |              | nen<br>RA<br>D<br>0 B7 | 1 <b>TA</b><br><b>TOF</b><br>109 | L<br>7Y            |              | ,<br>k       | ,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------|--------|----------------------------|------------------|-----------------------------|-------------------|------------------------|---------------|-----------|-------------|-------------|-----------|-----------|--------------|--------------|---------------------|----------------------|----------------------------------------|--------------|------------------------|----------------------------------|--------------------|--------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Ciant:</u> <u>5</u> | ogfet. | r-kle                      | en               | Project Name:<br>Fo         | · · ~             |                        |               |           |             |             |           |           | Te           | 1.50<br>MW.D | 5.34<br>alien       | 15.3<br>viror        | 9 <b>7</b> 5<br>Men                    | Fa<br>ital.c | x 50<br>:am            | 5.34                             | 5.41               | 07           | 1. Jak       | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Address:               | 2720   | Gira                       | NA NE            | Project #:                  | <del>i</del> na   | (Hano                  |               |           | y           | sel) 🕅      |           |           | <u>(</u> .E  |              | YEI                 | 5 F                  | 50                                     | リキ           |                        |                                  |                    |              |              | 10,91                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                        |        | xby -2                     |                  | Project Manager<br>Mike     | :<br>Cra          | anfur                  | 4             | s (8021)  | Gasoline On | OD (Gas/Die |           |           |              |              |                     |                      | Po, So,J                               | s (8082)     |                        |                                  |                    |              | Ce (Y or N)  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Phone #:<br>Fax #:     | 505-   | - <del>884 -</del><br>883- | 2277<br>4870     | Sampler:<br>Sample Temperat | uner              | 9.0                    | )             | BE + TMB  | ) HAT + 38  | d 80158 MM  | od 418.1) | od 504.1) | od 8021)     | or PAH)      | tals                | , K Ca, Mg)          | 1. NO <sub>3</sub> . NO <sub>2</sub> . | icides / POB | 0                      | 1-V0A)                           | 1:4                |              | tor Headspa  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Oæte                   | Time   | Matrix                     | Samøle I.D. No.  | Number/Volume               | H <sup>°</sup> Cľ | HNO                    | - HEAL No.    | BTEX + MI | BTEX + MI   | TPH Metho   | TPH (Meth | EDB (Mech | EDC (Meth    | 8310 (PNA    | RCRA 8 Me           | Cecions (Ne          | Anions (F. C                           | 8081 Pest    | 8260 NO4               | 8270 (Ser                        | 25                 |              | dir Bubbles  | in a second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second seco |
| 50903                  | 13 00  | 01                         | SKUS             | 1-2.5L                      | T                 |                        | 0709166-1     |           |             |             |           |           |              |              | ·                   |                      |                                        |              |                        |                                  | X                  |              |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 50003                  | 1300   | Aj                         | SE VALIAS        | 1-12                        |                   |                        | -2            |           |             |             |           |           |              |              |                     |                      |                                        |              |                        |                                  | X                  |              |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                        |        | D                          |                  |                             | <u> </u>          |                        |               |           |             |             |           |           |              |              |                     |                      |                                        |              |                        |                                  |                    |              | Ļ            | _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                        |        |                            |                  |                             |                   | <u>  </u>              |               |           |             |             |           |           |              |              |                     |                      |                                        |              |                        |                                  |                    |              | $\downarrow$ | _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                        |        |                            |                  |                             |                   | <b></b>                |               | -         |             |             |           |           |              |              |                     |                      |                                        |              |                        |                                  | ┟╼┦                |              | +-           | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                        |        |                            |                  |                             | ╁                 | ┨╼╌┫╼╌                 |               |           |             |             |           |           |              |              |                     |                      | <b> </b>                               |              |                        |                                  |                    | -+-          | ╇            | _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                        |        |                            |                  |                             |                   | ┿╼╀╾                   |               |           | <u> </u>    |             |           |           |              |              |                     | -                    |                                        |              |                        | $\left  - \right $               | $\left  - \right $ | -+-          | ╇            | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                        |        |                            |                  |                             |                   | ┼╌┼╴                   |               |           |             |             |           |           |              |              |                     |                      | $\vdash$                               |              |                        |                                  |                    |              | +            | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                        |        |                            |                  |                             | 1                 |                        |               |           |             |             |           |           |              |              |                     | ţ                    | ţ                                      |              |                        |                                  |                    | ├ <b>१</b> - | 十            | _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                        |        |                            |                  |                             | 1                 |                        |               | 1         |             |             |           |           |              |              | 5                   |                      |                                        |              |                        |                                  |                    |              |              | _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                        |        |                            |                  |                             |                   |                        |               |           |             |             |           |           |              |              |                     |                      |                                        |              |                        |                                  |                    |              |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Date:<br>?Sepu3        | Timer: | Refinquisha<br>X           | d By: 1Signature | Remarks                     |                   | AL.                    | 9/22/03       | Rem       | lanks:      | R           | es        | υl        | k            |              | A                   | SA                   | P                                      |              |                        |                                  |                    |              |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

P. 002/014

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                           | ومستثب وجريبها وتقابلون الأشاف فسيسبط بالإستار ستجد                     |                                                                                                             |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--|--|
| District I<br>1623 M. French Dr., Hobbs, NM 88240<br>District II<br>1301 W. Grand Avenue, Artesia, NM 88210<br>District III<br>1000 Rio Brazos Road, Aztec, NM 87410<br>District IV<br>1220 S. St. Francis Dr., Santa Fe, NM 87505                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | State of New Mexico<br>Energy Minerals and Natural Resou<br>Oil Conservation Division<br>1220 South St. Francis Dr.<br>Santa Fe, NM 87505 | RECEIVED<br>AUG 1 4 2003<br>OIL CONSERVATION<br>DIVISION                | Form C-138<br>Revised March 17, 1999<br>Submit Original<br>Plus 1 Copy<br>to Appropriate<br>District Office |  |  |
| REQUEST FO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | R APPROVAL TO ACCEP                                                                                                                       | T SOLID WASTE                                                           |                                                                                                             |  |  |
| 1. RCRA Exempt: Don-Exempt: M<br>UVerbal Approval Received: Yes [                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ] No [X]                                                                                                                                  | <ol> <li>Generator SAFETY KL</li> <li>Originating Site SAFET</li> </ol> | EEN<br>Y KLEEN YARD                                                                                         |  |  |
| 2. Management Facility Destination KEYEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | NERGY DISPOSAL                                                                                                                            | 6. Transporter SAFETY K                                                 | LEEN                                                                                                        |  |  |
| 3. Address of Facility Operator #345 CR 350                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0 AZTEC NM                                                                                                                                | 8. State NM                                                             |                                                                                                             |  |  |
| 7. Location of Material (Street Address or UL<br>FARMINGTON, NM 87401                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | STR) 4201 A HAWKINS ROAD                                                                                                                  |                                                                         |                                                                                                             |  |  |
| <ul> <li>PAROUNCION, NM 87401</li> <li><u>Circle One:</u> <ul> <li>A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator, one certificate per job.</li> <li>B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved</li> <li>All transporters must certify the wastes delivered are only those consigned for transport.</li> </ul> </li> <li>BRIEF DESCRIPTION OF MATERIAL:         <ul> <li>OILFIELD WASTE WATER COLLECTED BY SAFETY KLEEN, INCLUDES PRODUCED WATER.</li> <li>This Approval is For one month From The Approval Date. Acceptance for this waste Stream Can be reapplied For with New Analystical On a monthy basis. Affect Six months of Analystical History on this waste Stream the OCD will Review the Need For monthily this waste Stream the OCD will Review the Need For monthily thistory on this waste Stream the OCD will Review the Need For monthily</li></ul></li></ul> |                                                                                                                                           |                                                                         |                                                                                                             |  |  |
| SIGNATURE Muchael Jallank TITLE:FACILITY MANAGER DATE: 8-4-03<br>Waste Management Facility Authorized Agent<br>TYPE OR PRINT NAME:MICHAEL TALOVICH TELEPHONE NO505-334-6416                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                           |                                                                         |                                                                                                             |  |  |
| (This space for State Use)<br>APPROVED BY: Derry Por<br>APPROVED BY: Montyn g. July.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | TTTLE: Envire                                                                                                                             | JEngt DATE:<br>al Coolog15+ DATE:                                       | 8/11/03<br>8/15/03                                                                                          |  |  |

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| District I                                  |
|---------------------------------------------|
| 1625 N. French Dr., Hobbs, NM 88240         |
| District II                                 |
| 1301 W. Grand Avenue, Artesia, NM 88210     |
| District III                                |
| 1000 Rio Brazos Road, Aztec, NM 87410       |
| District IV                                 |
| 1220 S. St. Francis Dr., Santa Fe, NM 87505 |
| · · · ·                                     |

State of New Mexico **Energy Minerals and Natural Resources** 

Form C Revised March 17, 1999

**Oil Conservation Division** 1220 South St. Francis Dr. Santa Fe, NM 87505

Submit Original Plus 1 Copy to Appropriate District Office

### **REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

| 1. RCRA Exempt: 🔲 Non-Exempt: 🕅                                                               | 4. Generator SAFETY KLEEN             |
|-----------------------------------------------------------------------------------------------|---------------------------------------|
| □Verbal Approval Received: Yes □ No 🕅                                                         | 5. Originating Site SAFETY KLEEN YARD |
| 2. Management Facility Destination KEY ENERGY DISPOSAL                                        | 6. Transporter SAFETY KLEEN           |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM                                         | 8. State NM                           |
| 7. Location of Material (Street Address or ULSTR) 4201 A HAWKINS ROAD<br>FARMINGTON, NM 87401 |                                       |
| 9. <u>Circle One</u> :                                                                        | · ·                                   |

- A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.
- B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved
- All transporters must certify the wastes delivered are only those consigned for transport.

#### BRIEF DESCRIPTION OF MATERIAL:

\_\_\_\_\_cy

OILFIELD WASTE WATER COLLECTED BY SAFETY KLEEN, INCLUDES PRODUCED WATER.



| SIGNATURE Muchael         | Talah            | TITL |
|---------------------------|------------------|------|
| Waste Management Facility | Authorized Agent |      |

LE: \_\_\_\_FACILITY MANAGER\_\_\_ DATE: 8-4-03

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

| (This space for State Use) |                    |                      |
|----------------------------|--------------------|----------------------|
| APPROVED BY: Demy Com      | TITLE: Enviro/Engl | DATE: <u>8/11/03</u> |
| APPROVED BY:               | TITLE:             | DATE:                |



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON** Governor Joanna Prukop **Cabinet Secretary** 

Lori Wrotenbery Director **Oil Conservation Division** 

### **CERTIFICATE OF WASTE STATUS**

| 1 Generator Name and Address                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2 Destination Name                                         |  |  |  |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|--|--|--|--|--|--|--|
| Galet Illes Santa Ton Il                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                            |  |  |  |  |  |  |  |
| JARCY WIEEN JUSIEMS UNC. CIDA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | KEN DISDOSAL                                               |  |  |  |  |  |  |  |
| 4210 A NAWKINS KOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                            |  |  |  |  |  |  |  |
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| Ster . Man Yea A San A ABane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                            |  |  |  |  |  |  |  |
| Smerg wieen they                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Jime in Awoul                                              |  |  |  |  |  |  |  |
| attach list of originating sites as appropriate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |  |  |  |  |  |  |  |
| 4. Source and Description of Waste                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                            |  |  |  |  |  |  |  |
| OILField WASTEWATER - NON EXEMP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | of may include produces where                              |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |  |  |  |  |  |  |  |
| I. MIKE L'AWTORD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | representative for :                                       |  |  |  |  |  |  |  |
| Print Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                            |  |  |  |  |  |  |  |
| SARcty Kleen Systems Inc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | do hereby certify that according to the Resource           |  |  |  |  |  |  |  |
| Conservation and Recovery Act (RCRA) and Environmental Protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | n Agency's July, 1988, regulatory determination, the above |  |  |  |  |  |  |  |
| described waste is: (Check appropriate classification)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                            |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |  |  |  |  |  |  |  |
| EXEMPT oilfield waste NON-EXEMI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | "T oilfield waste which is non-hazardous by characteristic |  |  |  |  |  |  |  |
| analysis of by                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | product identification                                     |  |  |  |  |  |  |  |
| and that nothing has been added to the exempt or non-exempt non -has                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | zardous waste defined above.                               |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |  |  |  |  |  |  |  |
| For NON-EXEMPT waste the following documentation is attached (c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | check appropriate items):                                  |  |  |  |  |  |  |  |
| Ot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | her (description                                           |  |  |  |  |  |  |  |
| <u>X</u> RCRA Hazardous Waste Analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                            |  |  |  |  |  |  |  |
| <u>X</u> Chain of Custody                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                            |  |  |  |  |  |  |  |
| This waste is in compliance with Regulated Levels of Naturally Oc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | curring Radioactive Material (NORM) pursuant to 20         |  |  |  |  |  |  |  |
| NMAC 3.1 subpart 1403.C and D.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | curring Mathoactive Material (NONA) pursuant to 20         |  |  |  |  |  |  |  |
| mppf                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                            |  |  |  |  |  |  |  |
| Name (Original Signature):k /S Uaufu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                            |  |  |  |  |  |  |  |
| CM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ·                                                          |  |  |  |  |  |  |  |
| Title: <u>GII</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            |  |  |  |  |  |  |  |
| Data: 7/1/03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ·                                                          |  |  |  |  |  |  |  |

Oil Conservation Division \* 1000 Rio Brazos Road \* Aztec, New Mexico 87410 Phone: (505) 334-6178 \* Fax (505) 334-6170 \* http://www.emnrd.state.nm.us



# ANALYTICAL LABORATORIES, INC.

4301 Masthead NE • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259

3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820 127 Eastgate Drive, 212-C • Los Alamos, New Mexico 87544 • (505).662-2558 Explanation of codes

SAFETY KLEEN attn: MIKE CRAWFORD 2720 GIRARD NE ALBUQUERQUE

NM 87107

Assaigai Analytical Laboratories, Inc.

| В   | analyte detected in Method Blank |
|-----|----------------------------------|
| E   | result is estimated              |
| H.  | analyzed out of hold time        |
| N   | tentatively identified compound  |
| S   | subcontracted                    |
| 1-9 | see footnote                     |

STANDARD

# Certificate of Analysis

| Client:<br>Project:<br>Order: | SAFETY KLEEN<br>SAFETY KLEEN-V<br>0306200 SAF | William P. Blave: President of Assaigal Analytical Laboratories, Inc. |                                                                                                                        |                                                                                           |                                               |                                          |           |          |                   |            |
|-------------------------------|-----------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------|------------------------------------------|-----------|----------|-------------------|------------|
| Sample:                       | VARIOUS PRODU                                 | ICED WATE                                                             | २                                                                                                                      | Collected: 06-05-                                                                         | -03 15:30:0                                   | 0 By: <i>IF</i>                          | 1         |          |                   |            |
| Matrix:                       | С                                             |                                                                       |                                                                                                                        |                                                                                           |                                               |                                          |           |          |                   |            |
|                               |                                               |                                                                       |                                                                                                                        |                                                                                           |                                               | Dilution                                 | Detection |          | Pron              | Run        |
| QC Group                      | Run Sequence                                  | CAS #                                                                 | Analyte                                                                                                                | Result                                                                                    | Units                                         | Factor                                   | Limit     | Code     | Date              | Date       |
| 0306200-01                    | 1B                                            | SW846 1311/3                                                          | 010A/6010A ICP TCLP                                                                                                    |                                                                                           |                                               |                                          | By:       | JRE      |                   |            |
| M03761                        | MT.2003.745.101                               | 7440-38-2                                                             | Arsenic                                                                                                                | 0.2                                                                                       | mg / L                                        | 1                                        | 0.1       |          | 06-11-03          | 06-15-03   |
| M03761                        | MT.2003.745.101                               | 7440-39-3                                                             | Barium                                                                                                                 | 1.2                                                                                       | mg / L                                        | 1                                        | 0.1       |          | 06-11-03          | 06-15-03   |
| M03761                        | MT.2003.745.101                               | 7440-43-9                                                             | Cadmium                                                                                                                | ND                                                                                        | mg / L                                        | 1                                        | 0.02      |          | 06-1 <b>1-</b> 03 | 06-15-03   |
| M03761                        | MT.2003.765.11                                | 7440-47-3                                                             | Chromium                                                                                                               | ND                                                                                        | mg / L                                        | 1 :                                      | 0.02      |          | 06-11-03          | 06-18-03   |
| M03761                        | MT.2003.745.101                               | 7439-92-1                                                             | Lead                                                                                                                   | 0.08                                                                                      | mg / L                                        | 1 ;                                      | 0.05      | В        | 06-11-03          | 06-15-03   |
| M03761                        | MT.2003.745.101                               | 7782-49-2                                                             | Selenium                                                                                                               | ND                                                                                        | mg / L                                        | 1                                        | 0.05      |          | 06-11-03          | 06-15-03   |
| 0306200-0                     | 1B                                            | SW846 1311/3                                                          | 010A/7000 series AA-FL T                                                                                               | CLP                                                                                       |                                               |                                          | By        | JRE      |                   |            |
| M03761                        | MT.2003.746.48                                | 7440-22-4                                                             | Silver                                                                                                                 | ND                                                                                        | mg / L                                        | 1                                        | 0.01      |          | 06-11-03          | 06-12-03   |
| 0306200-0                     | 18                                            | SW846 1311/3                                                          | 3510B/8270B SVOCs by GO                                                                                                | MS TOLP                                                                                   |                                               |                                          | Ву        |          |                   |            |
| X03216                        | XG.2003.970.2                                 | 106-46-7                                                              | 1,4-Dichlorobenzene                                                                                                    | ND                                                                                        | ; mg / L                                      | 1                                        | 0.001     | . 2 .    | 06-10-03          | 06-10-03   |
| X03216                        | XG.2003.970.2                                 | 95-95-4                                                               | 2,4,5-Trichlorophenol                                                                                                  | ND                                                                                        | mg / L                                        | 1                                        | 0.01      | 2        | 06-10-03          | 06-10-03   |
| X03216                        | XG.2003.970.2                                 | 88-06-2                                                               | 2,4,6-Trichlorophenol                                                                                                  | ND                                                                                        | mg/L                                          | 1                                        | 0.01      | 2        | 06-10-03          | 06-10-03   |
| X03215                        | XG.2003.970.2                                 | 121-14-2                                                              | 2,4-Dinitrotoluene                                                                                                     | ND                                                                                        | mg / L                                        | 1                                        | 0.01      | 2        | 06-10-03          | 06-10-03   |
| X03216                        | XG.2003.970.2                                 | 118-74-1                                                              | Hexachlorobenzene                                                                                                      | ND                                                                                        | mg / L                                        | 1                                        | 0.001     | ; 2      | 06-10-03          | 06-10-03   |
| X03216                        | XG.2003.970.2                                 | 87-68-3                                                               | Hexachlorobutadiene                                                                                                    | ND                                                                                        | mg / L                                        | 1                                        | 0.001     | ; 2      | 06-10-03          | 06-10-03   |
| X03216                        | XG.2003.970.2                                 | 67-72-1                                                               | Hexachloroethane                                                                                                       | ND -                                                                                      | mg / L                                        | 1                                        | 0.001     | 2        | 06-10-03          | 06-10-03   |
| X03216                        | XG.2003.970.2                                 | :                                                                     | m-Cresol & p-Cresol                                                                                                    | 0.073                                                                                     | mg / L                                        | 1                                        | 0.001     | 2        | 06-10-03          | , 06-10-03 |
| X03216                        | XG.2003.970.2                                 | 98-95-3                                                               | Nitrobenzene                                                                                                           | ND                                                                                        | mg / L                                        | 1                                        | 0.001     | . 2      | 06-10-03          | 06-10-03   |
| X03216                        | XG.2003.970.2                                 | 95-48-7                                                               | o-Cresol                                                                                                               | 0.082                                                                                     | mg / L                                        | 1                                        | 0.001     | 2        | 06-10-03          | 06-10-03   |
| X03216                        | XG.2003.970,2                                 | 87-86-5                                                               | Pentachlorophenol                                                                                                      | ND                                                                                        | mg/L                                          | <u> </u>                                 | 0.01      | 2        | 06-10-03          | 06-10-03   |
| X03216                        | XG.2003.970.2                                 | 110-86-1                                                              | Pyridine                                                                                                               | ND                                                                                        | mg / L                                        | : 1                                      | 0.01      | 2        | 06-10-03          | 06-10-03   |
| 0306200-0                     | 018                                           | SW846 1311/                                                           | 7470 CVAA TCLP                                                                                                         |                                                                                           |                                               |                                          | By        | : JRE    |                   |            |
| M03763                        | MT.2003.734.50                                | 7439-97-6                                                             | Mercury                                                                                                                | ND                                                                                        | j mg/L                                        | 1                                        | 0.0002    | 1        | 06-12-03          | 3 06-12-03 |
|                               |                                               | REPRODUCT<br>THIS REPORT MA<br>PRODUCT END                            | SQLCoyote: Reports<br>ION OF THIS REPORT IN LESS THAN<br>Y NOT BE USED IN ANY MANNER B<br>ORSEMENT BY THE NATIONAL VOL | 1.0.0305281535XX<br>FULL REQUIRES THE WR<br>Y THE CLIENT OR ANY OT<br>UNTARY LABORATORY A | RITTEN CONSE<br>THER THIRD PA<br>ACCREDITATIO | NT OF AAL.<br>ARTY TO CLA<br>IN PROGRAM. | Report D  | ate 06/1 | 9/2003            | OT PM      |

# Certificate of Analysis

2 5

# Client: SAFETY KLEEN Project: SAFETY KLEEN-VARIOUS PRODUCED WATER

Order: 0306200 S/

SAF03 Receipt: 06-06-03

| Sample:  | VARIOUS PRODU | ER (       | Collected: 06-05-03 15:30:00 By: IH |           |          |                    |                    |      |              |             |
|----------|---------------|------------|-------------------------------------|-----------|----------|--------------------|--------------------|------|--------------|-------------|
| Aatrix:  | С             |            |                                     |           |          |                    |                    | _    |              |             |
| QC Group | Run Sequence  | CAS #      | Analyte                             | Result    | Units    | Dilution<br>Factor | Detection<br>Limit | Code | Prep<br>Date | Run<br>Date |
| 306200-0 | 18            | SW846 1311 | /8260B Purgeable VOCs by G0         | C/MS TCLP |          |                    | By:                | JDR  |              |             |
| (03262   | XG.2003.978.4 | 75-35-4    | 1,1 Dichloroethylene                | ND        | mg / L   | 50                 | 0.001              | 1    | 06-11-03     | 06-11-03    |
| (03262   | XG.2003.978.4 | 107-06-2   | 1,2 Dichloroethane (EDC)            | ND        | mg / L   | 50                 | 0.001              | 1    | 06-11-03     | 06-11-03    |
| (03262   | XG.2003.978.4 | 71-43-2    | Benzene                             | 0.067     | · mg / L | 50                 | 0.001              | 1    | 06-11-03     | 06-11-03    |
| (03262   | XG.2003.978.4 | 56-23-5    | Carbon tetrachloride                | ND        | · mg / L | 50                 | 0.001              | 1    | 06-11-03     | 06-11-03    |
| 03262    | XG.2003.978.4 | 108-90-7   | Chlorobenzene                       | ND        | mg / L   | 50                 | 0.001              | 1    | 06-11-03     | 06-11-03    |
| (03252   | XG.2003.978.4 | 67-66-3    | Chloroform                          | ND        | mg / L   | 50                 | 0.001              | 1    | 06-11-03     | 06-11-03    |
| (03262   | XG.2003.978.4 | 78-93-3    | Methyl ethyl ketone                 | ND        | , mg / L | . 50               | 0.005              | 1    | 06-11-03     | 06-11-03    |
| X03262   | XG.2003.989.7 | 127-18-4   | Tetrachloroethylene                 | ND        | : mg / L | 50                 | 0.001              | 1    | 06-12-03     | 06-12-03    |
| X03262   | XG.2003.978.4 | 79-01-6    | Trichloroethylene                   | ND        | mg / L   | 50                 | 0.001              | 1    | 06-11-03     | 06-11-03    |
| X03262   | XG.2003.978.4 | 75-01-4    | Vinyl chloride                      | ND        | mg / L   | 50                 | 0.001              | 1    | 06-11-03     | 06-11-03    |

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, is result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or foonotes will appear below.

: Sample was analyzed with headspace.

A surrogate recovery was outside of QC criteria, suggesting matrix interference problems. This should be taken into account when reviewing the data.

STANDARD

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Chain of Custody Recor                                                                  | 4301 Masthead N.E.<br>ALBUQUERQUE, NEW MEXICO 87109<br>(505) 345-8964                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LABORATORIES, INC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Leb job No. : 030.6200 Date 6.770.76.3                                                  | 3332 WEDGEWOOD<br>EL PASO, TEXAS 79925<br>(215) 592 5000                                                                                                   |
| Safen Kloin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Page of                                                                                 | 127 EASTGATE DRIVE, 212-C<br>LOS ALAMOS, NEW MEXICO 87544<br>(505) 662-2558                                                                                |
| Clips Day 129 Miller<br>Second<br>Chy/State/Zip<br>Project Name/Number Satley Kleen-Varia<br>Order/Quote Produced Wa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Project Manager / Contact I / / / / / / / / / / / / / / / /                             | Analysis Required                                                                                                                                          |
| Field Mamber / Location 2011 Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Time Sample Type / Size of Container Temp: Chemical                                     |                                                                                                                                                            |
| Pund ster<br>SK-Vir                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 330 <sup>(1)</sup> L+ ~\G~?                                                             | <b>K</b>                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                         |                                                                                                                                                            |
| vie vie v Busus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                         |                                                                                                                                                            |
| 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                         |                                                                                                                                                            |
| n an anna an Anna Anna Anna Anna Anna A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                         | · · · ·                                                                                                                                                    |
| The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon |                                                                                         |                                                                                                                                                            |
| by:<br>Longre Ab-Ch-Cr<br>Suler(Cic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Received by:     Relinquished by:       Signature     Control       Printed     Control | Date Received by:<br>Signature<br>Printed                                                                                                                  |
| ispeak a 256 Ar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Company     AMC     Company       Reason     Company     Reason                         | Time Company<br>Reason                                                                                                                                     |
| No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Comments: KISHP                                                                         | After analysis, samples are to be:<br>Disposed of (additional fee)<br>Stored (30 days max)<br>Stored over 30 days (additional fee)<br>Returned to customer |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CA(31(1) 1)                                                                             |                                                                                                                                                            |

| R ED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| District 1<br>1625 N. French Dr., Hobbs, NM 88240<br>District II<br>District II<br>District II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Form C-138<br>Revised March 17, 1999             |
| 1301 W. Grand Avenue, Artesia, NM Schlfronmental Bureau<br>District III Oil Concernation Division                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Submit Original                                  |
| 1000 Rio Brazos Road, Aztec, NM 87470 Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division Di Conservation Division ivision Divisio Division Divisio Division Division | Plus 1 Copy<br>to Appropriate<br>District Office |
| 1220 S. St. Francis Let, Santa Fe, NM 87505 Santa Fe, NM 87505                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                  |
| REQUEST FOR APPROVAL TO ACCEP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | T SOLID WASTE                                    |
| 56109/07                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A. Generator AMERICAN ENERGY                     |
| 1. RCRA Exempt: Non-Exempt: 21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5 Foriginating Site FARMINGTON YARD              |
| 2. Management Facility Destination KEY ENERGY DISPOSAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6 Transporter KEY                                |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 8. State NM                                      |
| 7. Location of Material (Street Address or ULSTR) 708 S. Tucker, Farmington, NM, 87401                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                  |
| 9. <u>Circle One</u> :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                  |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied by                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | a certification of waste from the Generator;     |
| B. All requests for approval to accept non-exempt wastes must be accompanied by no                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ecessary chemical analysis to PROVE the          |
| material is not-hazardous and the Generator's certification of origin. No waste cla<br>approved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ssified hazardous by listing or testing will be  |
| All transporters must certify the wastes delivered are only those consigned for transp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | xort                                             |
| BRIEF DESCRIPTION OF MATERIAL:<br>CITY WATER MIXED WITH SMALL AMOUNTS OF HCL GENERATED AT THE A<br>IF REQUIRED WASTE WILL BE NEUTRALIZED BEFORE TRANSPORT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ACID LOADING STATION.                            |
| MSDS INFO ATTACHED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  |
| Estimated Volume < 20 BBI S DED MONTH cy Known Volume (to be entered by the c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | operator at the end of the haul)                 |
| Estimated volume (or DDESTEX MORTH cy Allowin volume (or or emerced by the c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                  |
| SIGNATURE Massagement Facility Authorized Agent TITLE:FACILITY N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IANAGER DATE: _7-10-03                           |
| TYPE OR PRINT NAME:MICHAEL TALOVICH TELEPHONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | NO505-334-6416                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  |
| (This space for State Use)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                  |
| APPROVED BY: Demarten TITLE: Furing)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | (Engt DATE: 7/14/07                              |
| APPROVED BY: Mastyn Ally TITLE: Envionme                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | the backgrost DATE: 2-21/03                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  |

| District I .<br>1825 N. Friench Dr., Hobbs, NM 88240<br>District II<br>1301 W. Grand Avenue, Artesia, NM 88210<br>District III<br>1000 Rio Brazos Road, Aztec, NM 87410<br>District IV<br>1220 S. St. Francis Dr., Santa Fe, NM 87505                                                                                                                                                                                                                         | State of New Mexico<br>Energy Minerals and Natural Resou<br>Oil Conservation Division<br>1220 South St. Francis Dr.<br>Santa Fe, NM 87505                                                                                          | Form C-138<br>Revised March 17, 1999<br>On CC 1903<br>District Office                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| REQUEST FOI                                                                                                                                                                                                                                                                                                                                                                                                                                                   | R APPROVAL TO ACCER                                                                                                                                                                                                                | \$ SOLID WASTE                                                                                                                                                                   |
| 1. RCRA Exempt: 🔲 Non-Exempt: 🕅<br>□Verbal Approval Received: Yes [                                                                                                                                                                                                                                                                                                                                                                                           | No 🖾                                                                                                                                                                                                                               | <ol> <li>Generator AMERICAN ENERGY<br/>SERVICES</li> <li>Originating Site FARMINGTON YARD</li> </ol>                                                                             |
| 2. Management Facility Destination KEY EN                                                                                                                                                                                                                                                                                                                                                                                                                     | ERGY DISPOSAL                                                                                                                                                                                                                      | 6. Transporter KEY                                                                                                                                                               |
| 3. Address of Facility Operator #345 CR 350                                                                                                                                                                                                                                                                                                                                                                                                                   | 0 AZTEC NM                                                                                                                                                                                                                         | 8. State NM                                                                                                                                                                      |
| 7. Location of Material (Street Address or UL<br>87401                                                                                                                                                                                                                                                                                                                                                                                                        | STR) 708 S. Tucker, Farmington, NM,                                                                                                                                                                                                |                                                                                                                                                                                  |
| <ul> <li>9. <u>Circle One</u>:</li> <li>A. All requests for approval to accept oilfie<br/>one certificate per job.</li> <li>B. All requests for approval to accept non-e<br/>material is not-hazardous and the Genera<br/>approved</li> <li>All transporters must certify the wastes del</li> <li>BRIEF DESCRIPTION OF MATERIAL:</li> <li>CITY WATER MIXED WITH SMALL AMOU</li> <li>IF REQUIRED WASTE WILL BE NEUTRALI</li> <li>MSDS INFO ATTACHED</li> </ul> | Id exempt wastes will be accompanied be<br>exempt wastes must be accompanied by rator's certification of origin. No waste cl<br>ivered are only those consigned for trans<br>INTS OF HCL GENERATED AT THE<br>IZED BEFORE TRANSPORT | a certification of waste from the Generator;<br>necessary chemical analysis to PROVE the<br>lassified hazardous by listing or testing will be<br>sport.<br>ACID LOADING STATION. |
| SIGNATURE MALA                                                                                                                                                                                                                                                                                                                                                                                                                                                | TITLE: FACILITY                                                                                                                                                                                                                    | MANAGER DATE: 7-10-03                                                                                                                                                            |
| Waste Management Facility Authoriz                                                                                                                                                                                                                                                                                                                                                                                                                            | ed Agent TELEPHONE                                                                                                                                                                                                                 | E NO505-334-6416                                                                                                                                                                 |
| (This space for State Use)                                                                                                                                                                                                                                                                                                                                                                                                                                    | unt TITLE Enviro                                                                                                                                                                                                                   | Engr DATE: 7/14/03                                                                                                                                                               |

| APPROVED : | BY: |
|------------|-----|

TITLE:

7

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DATE: \_



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary

Date:

Lori Wrotenbery Director Oil Conservation Division

### **CERTIFICATE OF WASTE STATUS**

1. Generator Name and Address Destination Name: 2. AMERICAN Chergy Scalles 708 5 Tucker Forming TON MM 82401 nergy Services US Huy 64 ngton MM 87461 3. Originating Site (name): Location of the Waste (Street address &/or ULSTR); American Energy Schulles 70+ S. TUCKLE Arming Ton MM 87401 attach list of originating sites as appropriate 4. Source and Description of Waste UNATER is from over flour when loseling usatu and Acid at acid Bock, utita is Then punped in to maste mater tank and be use in coraing of Acid. Jearberry representative for : avius do hereby certify that, according to the Resource marican Cnergy Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1988, regulatory determination, the above described waste is: (Check appropriate classification) NON-EXEMPT oilfield waste which is non-hazardous by characteristic **EXEMPT** oilfield waste analysis or by product identification and that nothing has been added to the exempt or non-exempt non -hazardous waste defined above. For **NON-EXEMPT** waste the following documentation is attached (check appropriate items): ✓ MSDS Information Other (description RCRA Hazardous Waste Analysis Chain of Custody This waste is in compliance with Regulated Levels of Naturally Occurring Radioactive Material (NORM) pursuant to 20 NMAC 3.1 subpart 1403.C and D. Name (Original Signature): Pangel Title: Opuation

ER



#### GENERAL

Hydrogen Chloride, both as a gas and in a solution as Hydrochloric Acid, is a corrosive substance and can cause severe and painful burns on contact with any part of the body or if taken internally. The mucous membranes of the eyes and the upper respiratory tract are especially susceptible to the irritating effects of high atmospheric concentrations of Hydrogen Chloride. The gas or vapor is so penetrating and pungent that when high concentrations do occur those exposed should immediately leave the contaminated area.

#### **ROUTES OF ENTRY**

Inhalation of the gas or mist; ingestion, eye and skin contact with both the gas and/or mist are possible routes of entry.

#### INGESTION

When concentrated Hydrochloric Acid is swallowed, it causes severe burns of the mucous membranes of the mouth, esophagus and stomach. The lips and mouth usually turn white, and later brown. There is pain in the throat and stomach, difficulty in swallowing, intense thirst, nausea and vomiting, followed by diarrhea and, in severe cases, by collapse and unconsciousness.

#### EYE CONTACT

Contact of the eyes with Hydrogen Chloride, either as a gas or in solution, rapidly causes severe irritation and painful burns of the eyes and eyelids. If the acid is not quickly removed by thorough irrigation with water, there may be prolonged or permanent visual impairment or total loss of sight. Wash the affected area for 15 minutes with large amounts of water.

#### SKIN CONTACT

Concentrated solutions are destructive to clothing and on contact with skin, cause severe burns unless promptly washed off. Repeated skin contact with dilute solutions may lead to the development of dermatitis. Exposure to the concentrated vapor of Anhydrous Hydrogen Chloride may also result in burns or dermatitis.

#### INHALATION

Inhalation of excessive concentrations of Hydrogen Chloride vapors immediately produces severe irritation of the upper respiratory tract, resulting in coughing, burning of the throat, and a choking sensation. Reactions encountered in man have usually been limited to inflammation and occasional ulceration of the nose, throat and larynx. If inhaled deeply, edema of the lungs may occur.

#### TOXICOLOGY DATA

- (a) Toxicity: Inhalation, human LCLo: 1300 ppm/30 min. Oral, rabbit LD<sub>50</sub>: 900 mg/Kg.
- (b) Mutagenic Effects:

Chromosome damage, Inhalation: 100 ppm/24 hours Chromosome damage, Oral: 100 ppm Cytogenic effects, Parenteral: 20 mg

- (c) OSHA Standard: Air: TLV 5 ppm
- Air: TLV 7 mg/cubic meter
- (d) ACGH Limit Values: Hydrogen Chloride TWA-STEL 5 ppm
  - TWA-STEL 7 mg./cu. meter
- (e) TOSCA: Reported in TOSCA Inventory in 1980.
  - NOTE: The sources of the toxicology data are:
  - 1. NIOSH-Registery of Toxic Effects of Chemical Substances 1986 Volumes I-V.
  - 2. Patty-Industrial Hygiene and Toxicology Volume 2-A, B, C.
  - 3. American Conference of Governmental Industrial Hygienists 1988.

The above quoted data are an abstract only of the complete information disclosed in the source documents. Reagent will supply, upon request, photos of the complete source documents referred to herein. Please phone the nearest Reagent Sales Office.

#### TOXICOLOGY DATA

CARCINOGENIC STATEMENT: National Toxicology Register 12 No IARC Monograph 12 No

OSHA Register 12 No ACGIH 1987-88 12 No

#### STABILITY

#### GENERAL

Hydrochloric Acid is a stable compound and forms an azeotrope that boils at 108.6°C. or 227.5°F. at one atmosphere and contains 20.22% Hydrogen Chloride.

The gaseous form, Hydrogen Chloride, begins dissociation at 1500°C. or 2732°F.

#### GENERAL

Hydrochloric Acid is chemically stable when properly contained and handled. It is a strong mineral acid and reacts with many metals and metal oxides and hydroxides to form the equivalent metal chloride. It reacts with zeolites and other silicious compounds to form Hydrosilicic Acid; it reacts with carbonates to form Carbon Dioxide and Water. It is oxidized by Oxygen or electrolysis to form Chlorine, a lethal, poisonous gas. It reacts with alkaline compounds to form a neutral salt. It is a hydrolyzing agent for carbohydrates, esters and other compounds.

The reaction of Hydrochloric Acid with most metals will produce Hydrogen, an explosive, flammable gas.

Violent reactions will result when Hydrochloric Acid reacts with acetic anhydride, 2-aminoethanol, ammonium hydoxide, calcium phosphide, chlorosulfonic acid, ethylene diamine, ethylene imine, oleum (fuming sulfuric acid), perchloric acid, beta propiolactone, propylene oxide, sodium hydoxide, sulfuric acid, uranium phosphide and vinyl acetate. This listing is not all-inclusive.

#### **FIRST AID**

#### GENERAL

If a known exposure occurs or is suspected, immediately initiate the recommended procedures below. Simultaneously contact a physician, the nearest hospital, or the nearest Poison Control Center. Inform the person contacted of the type and extent of exposure, describe the victim's symptoms and follow the advice given. For additional information, call, day or night. Reagent (800) 231-1807 or Chemtrec (800) 424-9300.

#### INGESTION

DO NOT induce vomiting. Immediately give large quantities of water or milk, if available. If vomiting does occur, give fluids again. Never give anything by mouth to an unconscious person. Call a physician or the nearest Poison Control Center immediately.

#### EYE CONTACT

Immediately flush the eyes with large quantities of running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eyes and lids with water. DO NOT attempt to neutralize with chemical agents. Obtain medical attention as soon as possible. Oils or ointments should not be used. Continue the flushing for an additional 15 minutes if the physician is not immediately available.

#### SKIN CONTACT

Immediately remove contaminated clothing under a safety shower. Flush all affected areas with large amounts of water for at least 15 minutes. DO NOT attempt to neutralize with chemical agents. Obtain medical advice immediately.

#### INHALATION

Remove from contaminated atmosphere. If breathing has ceased, clear the victim's airway and start mouth-to-mouth artificial respiration, which may be supplemented by the use of a bag-mask respirator, or a manually-triggered, oxygen supply capable of delivering 1 liter/second or more. If the victim is breathing, oxygen may be administered from a demand-type or continuous-flow inhalator, preferably with a physician's advice. Contact a physician immediately.

#### ADDITIONAL REGULATORY INFORMATON

#### TOXIC SUBSTANCES CONTROL ACT

This substance is listed on the Toxic Substances Control Act inventory.

SUPERFUND AMENDMENT AND REAUTHORIZATION ACT, TITLE III

HAZARD CATAGORIES: HEALTH: Immediate (Acute) PHYSICAL: NONE Delayed (Chronic)

#### EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW

Extremely Hazardous Substance - Thresold Planning Quantity: None Established

#### IS THIS PRODUCT REGULATED UNDER 1990 CLEAN AIR ACT? ZNO

DOES THIS PRODUCT CONTAIN, OR IS MANUFACTURED WITH, CFC's? ENO

#### GENERAL

Spills or discharges into the environment involving large quantities of Hydrochloric Acid should be controlled and cleaned-up according to a pre-determined affirmative, written Spill Prevention and Control Program. For assistance in developing a SPCP contact your nearest Reagent Sales Office.

#### PERSONNEL

All personnel involved in a spill clean-up should follow the recommendations and practices set forth below (refer to Industrial Hygiene).

#### PROCEDURE

Spills should be handled immediately by neutralization and dilution of the spilled Product by the use of Soda Ash (Sodium Carbonate), Lime (Calcium Hydroxide) or Limestone (Calcium Carbonate) with large amounts of water. For an interior (inside a closed space) spill be aware that the use of Soda Ash, Lime and Limestone will evolve Carbon Dioxide and that ample ventilation be provided.

#### DISPOSAL

Under Federal RCRA, it is the responsibility of the user of Products to determine, at the time of disposal, whether the Product falls under the RCRA as a hazardous waste. This is because Product uses, transformations, synthesis, mixtures, etc. may render the resulting end-product hazardous.

#### INDUSTRIAL HYGIENE

#### EYE CONTACT

Chemical goggles and full face shields must be worn at all times by personnel exposed to or handling Hydrochloric Acid.

#### SKIN CONTACT

Impervious clothing, gloves, footwear and head gear must be worn at all times by Personnel exposed to or handling Hydrochloric Acid.

#### INHALATION

The use of a NIOSH approved full face piece cartridge respirator or a Scott Air-Pak should be used by all personnel exposed to or handling Hydrochloric Acid.

#### **RESPIRATOR SELECTION:**

**100 ppm concentration** — chemical cartridge respirator with Acid gas cartridge with full face piece.

Escape — self contained breathing apparatus.

#### **BIBLIOGRAPHY SOURCE REFERENCE**

1. NIOSH-RTECS-Registry of Toxic Effects of Chemical Substances Volumes I-V - 1986.

- 2. American Conference of Governmental Industrial Hygienist 1988.
- 3. Dangerous Properties of Industrial Material, SAX Edition Six.
- 4. Handbook of Toxic and Hazardous Chemicals and Carcinogens, Second Edition, Marshall Sittig.
- 5. Industrial Hygiene and Toxicology, Patty Volumes I-II ABC.

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**REVISED FEBRUARY 1994** 

State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

APR ( 9 2003 OIL CONSERVATION

IIV

> Submit Original Plus 1 Copy to Appropriate District Office

Form C-138

Revised March 17, 1999

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#### **REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

| 1 BCBA Example D Non Example M                                                                                                                                                                                                                                                                      | 4. Generator WILLIAMS FIELD SERVICES                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| UVerbal Approval Received: Yes No                                                                                                                                                                                                                                                                   | 5. Originating Site MILAGRO GAS PLANT                                                                                                            |
| 2. Management Facility Destination KEY ENERGY DISPOSAL                                                                                                                                                                                                                                              | 6. Transporter KEY                                                                                                                               |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM                                                                                                                                                                                                                                               | 8. State NM RECEIVED                                                                                                                             |
| 7. Location of Material (Street Address or ULSTR) 190 CR 4900 BLOOMFIELD,<br>NM, 87413                                                                                                                                                                                                              | APR 0 9 2003<br>Environmental Bureau<br>Oil Conservation Distance                                                                                |
| 9. <u>Circle One</u> :                                                                                                                                                                                                                                                                              | Conservation Division                                                                                                                            |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied to<br>one certificate per job.<br>B)All requests for approval to accept non-exempt wastes must be accompanied by<br>material is not-hazardous and the Generator's certification of origin. No waste c<br>approved | by a certification of waste from the Generator;<br>necessary chemical analysis to PROVE the<br>lassified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for trans                                                                                                                                                                                                               | sport.                                                                                                                                           |
| BRIEF DESCRIPTION OF MATERIAL: WASTEWATER FROM NATURAL GAS                                                                                                                                                                                                                                          | PROCESSING.                                                                                                                                      |
| New Analytical for 2003 Last filed 11-27-01                                                                                                                                                                                                                                                         | APR 2003                                                                                                                                         |
| Estimated Volume _1,200 BBLS per month cy Known Volume (to be entered by                                                                                                                                                                                                                            | the operator at the end of the haul)cy                                                                                                           |
| SIGNATURE Management Facility Authorized Agent TITLE:FACILITY                                                                                                                                                                                                                                       | MANAGER DATE:4-4-03 1                                                                                                                            |
| TYPE OR PRINT NAME:MICHAEL TALOVICH TELEPHONE                                                                                                                                                                                                                                                       | E NO505-334-6416                                                                                                                                 |
| (This space for State Use)<br>APPROVED BY: Mention Tout TITLE: Environment<br>APPROVED BY: Minton May                                                                                                                                                                                               | 0/Engr DATE: 4/8/03<br>hal balog DATE: 4/9/03                                                                                                    |

| District I<br>, 162 <sup>5</sup> N. Erench Dr., Hobbs, NM 88240<br><u>Destrict II</u><br>1301 W. Grand Avenue, Artesia. NM 88210 | State of New Mexico<br>Energy Minerals and Natural Reso                       | Form C-133<br>IFCES Revised March 17, 199                       |
|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------|
| District III<br>1000 Rio Brazos Road, Aztec, NM 87410<br>District IV<br>1220 S. St. Francis Dr., Santa Fe, NM 87505              | Oil Conservation Division<br>1220 South St. Francis Dr.<br>Santa Fe, NM 87505 | Submit Origina<br>Plus 1 Cop<br>to Appropriat<br>District Offic |
| REQUEST                                                                                                                          | FOR APPROVAL TO ACCEI                                                         | PT SOLID WASTE                                                  |
|                                                                                                                                  | · · ·                                                                         | 4. Generator WILLIAMS FIELD SERVICES                            |
| 1. RCRA Exempt: ∐ Non-Exemp<br>□ Verbal Approval Received:                                                                       | t: 🛛<br>Yes 🗌 No 🖾                                                            | 5. Originating Site MILAGRO GAS PLANT                           |
| 2. Management Facility Destination KI                                                                                            | EY ENERGY DISPOSAL                                                            | 6. Transporter KEY                                              |
| 3. Address of Facility Operator #345 C                                                                                           | R 3500 AZTEC NM                                                               | 8. State NM                                                     |
| 7. Location of Material (Street Address NM, 87413                                                                                | or ULSTR) 190 CR 4900 BLOOMFIELD,                                             |                                                                 |
| 9. <u>Circle One</u> :                                                                                                           | · ·                                                                           |                                                                 |
| By All requests for approval to accept<br>material is not-hazardous and the<br>approved                                          | Generator's certification of origin. No waste c                               | lassified hazardous by listing or testing will be               |
| All transporters must certify the was                                                                                            | tes delivered are only those consigned for trans                              | sport                                                           |
| Estimated Volume _1,200 BBLS per mor                                                                                             | thcy Known Volume (to be entered by                                           | APA 2003<br>APA 2003<br>the operator at the/efid of the haul)   |
| SIGNATURE Management Facility A                                                                                                  | uthorized Agent TITLE:FACILITY                                                | MANAGER DATE:4-4-03                                             |
| FYPE OR PRINT NAME:MICHAEL                                                                                                       | TALOVICHTELEPHONI                                                             | E-NO505-334-6416                                                |
| (This space for State Use)                                                                                                       |                                                                               |                                                                 |
| APPROVED BY: Dent                                                                                                                | Format TITLE: Emui-                                                           | 0/ Fuge DATE: 4/8/03                                            |
| APPROVED BY:                                                                                                                     | TITLE:                                                                        | DATE:                                                           |
|                                                                                                                                  |                                                                               |                                                                 |



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON** Governor Joanna Průkop Cabinet Secretary

- :

#### Lori Wrotenbery Director **Oil Conservation Division**

## **CERTIFICATE OF WASTE STATUS**

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| ŀ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3. Originating Site (name):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Location of the Waste (Street address &/or ULSTR):                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |  |  |  |
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| nserv<br>cribe<br>EX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Williams Field Services                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | do hereby certify that, according to the Resource<br>otection Agency's July,1988, regulatory determination, the above                                                                                                                                                                                                                                                                |  |  |  |  |  |  |  |
| nserv<br>cribe<br>_EX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Williams Field Services         vation and Recovery Act (RCRA) and Environmental Prosed waste is: (Check appropriate classification)         KEMPT oilfield waste                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | do hereby certify that, according to the Resource<br>otection Agency's July, 1988, regulatory determination, the above<br><b>EXEMPT</b> oilfield waste which is non-hazardous by characteristic<br>s or by product identification                                                                                                                                                    |  |  |  |  |  |  |  |
| nserv<br>cribe<br>_EX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Williams Field Services         vation and Recovery Act (RCRA) and Environmental Proceed waste is: (Check appropriate classification)         KEMPT oilfield waste       X_NON-2         analysis         anothing has been added to the exempt or non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exemp | do hereby certify that, according to the Resource<br>otection Agency's July,1988, regulatory determination, the above<br><b>EXEMPT</b> oilfield waste which is non-hazardous by characteristic<br>s or by product identification<br>on -hazardous waste defined above.                                                                                                               |  |  |  |  |  |  |  |
| serv<br>cribe<br>EX<br>that                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Williams Field Services         vation and Recovery Act (RCRA) and Environmental Pro-         vation and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery Act (RCRA) and Recovery A                                                                                                                                                                                                                                                                                                                                          | do hereby certify that, according to the Resource<br>otection Agency's July,1988, regulatory determination, the above<br>EXEMPT oilfield waste which is non-hazardous by characteristic<br>s or by product identification<br>on -hazardous waste defined above.                                                                                                                      |  |  |  |  |  |  |  |
| ISERV<br>Cribe<br>EX<br>that                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Williams Field Services         vation and Recovery Act (RCRA) and Environmental Pro-         ed waste is: (Check appropriate classification)         KEMPT oilfield waste       X_NON-         analysis         t nothing has been added to the exempt or non-exempt non-         N-EXEMPT waste the following documentation is attace        MSDS Information        X_RCRA Hazardous Waste Analysis        Chain of Custody                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | do hereby certify that, according to the Resource<br>otection Agency's July,1988, regulatory determination, the above<br>EXEMPT oilfield waste which is non-hazardous by characteristic<br>s or by product identification<br>on -hazardous waste defined above.                                                                                                                      |  |  |  |  |  |  |  |
| EX<br>that<br>NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Williams Field Services         vation and Recovery Act (RCRA) and Environmental Pro-         ed waste is: (Check appropriate classification)         KEMPT oilfield waste       X_NON-         analysis         t nothing has been added to the exempt or non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exempt non-exem                           | do hereby certify that, according to the Resource<br>otection Agency's July,1988, regulatory determination, the above<br>EXEMPT oilfield waste which is non-hazardous by characteristic<br>s or by product identification<br>on -hazardous waste defined above.<br>ched (check appropriate items):<br>Other (description<br>Ily Occurring Radioactive Material (NORM) pursuant to 20 |  |  |  |  |  |  |  |
| EX<br>L that<br>NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Williams Field Services         vation and Recovery Act (RCRA) and Environmental Pro-         ed waste is: (Check appropriate classification)         KEMPT oilfield waste                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | do hereby certify that, according to the Resource<br>otection Agency's July,1988, regulatory determination, the above<br>EXEMPT oilfield waste which is non-hazardous by characteristic<br>s or by product identification<br>on -hazardous waste defined above.<br>thed (check appropriate items):<br>Other (description<br>Ily Occurring Radioactive Material (NORM) pursuant to 20 |  |  |  |  |  |  |  |
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612 E. Murray Drive Farmington, NM 87401

Off: (505) 327-1072 March 18, 2003

> Michael Lane Williams Field Services 188 County Road 4900 Bloomfield, NM 87413

TEL: (505) 632-4625. FAX (505) 632-4781

RE: Milagro Gas Plant

Order No.: 0302022

Dear Michael Lane:

iiná bá, Ltd. received 1 sample on 2/24/2003 for the analyses presented in the following report.

iiná bá

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

David Cox

P.O. Box 2606 Farmington, NM 87499

Fax: (505) 327-1496

. 612 E. Murray Drive Farmington, NM 87401

Off: (505) 327-1072

#### iiná bá. Ltd.

iiná bá

P.O. Box 2606 Farmington, NM 87499

Fax: (505) 327-1496

Date: 18-Mar-03

| CLIENT:    | Williams Field Services |                       |
|------------|-------------------------|-----------------------|
| Project:   | Milagro Gas Plant       | <b>CASE NARRATIVE</b> |
| Lab Order: | 0302022                 |                       |

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Any quality control and/or data qualifiers associated with this laboratory order will be flagged in the analytical result page(s) or the quality control summary report(s).

612 E. Murray Drive Farmington, NM 87401

Off: (505) 327-1072



P.O. Box 2606 Farmington, NM 87499

Fax: (505) 327-1496

Date: 18-Mar-03

| CLIENT:<br>Work Order:<br>Project:<br>Lab ID: | Williams Field Services<br>0302022<br>Milagro Gas Plant<br>0302022-001B | 5 · .  |        | Client San<br>Client Sa<br>Collect | nple Info:<br>imple ID:<br>ion Date:<br>Matrix: | Milag<br>Waste<br>2/24/2<br>AQUI | ro Gas Plant<br>e Water Ponds<br>2003 9:55:00 AM<br>EQUS |
|-----------------------------------------------|-------------------------------------------------------------------------|--------|--------|------------------------------------|-------------------------------------------------|----------------------------------|----------------------------------------------------------|
| Parameter                                     | s                                                                       | Result | PQL    | Qual Units                         |                                                 | DF                               | Date Analyzed                                            |
| MERĈÜRY, TCL                                  | P LEACHED                                                               |        | SW7    | 470 (\$                            | SW7470)                                         |                                  | Analyst: DJC                                             |
| Mercury                                       |                                                                         | ND     | 0.0020 | mg/L                               |                                                 | 1                                | 3/10/2003                                                |
| ICP METALS, T                                 | CLP LEACHED                                                             |        | SW1311 | /6010B (                           | SW3005A)                                        |                                  | Analyst: DJC                                             |
| Arsenic                                       |                                                                         | ND     | 0.042  | mg/L                               |                                                 | 5                                | 3/6/2003                                                 |
| Barium                                        |                                                                         | 0.021  | 0.007  | mg/L                               |                                                 | 5                                | 3/6/2003                                                 |
| Cadmium                                       |                                                                         | ND     | 0.206  | mg/L                               |                                                 | 5                                | 3/6/2003                                                 |
| Chromium                                      |                                                                         | 0.991  | 0.023  | mg/L                               |                                                 | 5                                | 3/6/2003                                                 |
| Lead *                                        |                                                                         | ND     | 0.016  | mg/L                               |                                                 | 5                                | 3/6/2003                                                 |
| Selenium                                      |                                                                         | ND     | 0.044  | mg/L                               |                                                 | 5                                | 3/6/2003                                                 |
| Silver                                        |                                                                         | ND     | 0.004  | mg/L                               |                                                 | 5                                | 3/6/2003                                                 |
|                                               |                                                                         |        | -      |                                    |                                                 | -                                | <u>.</u>                                                 |

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

\* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits ~

R - RPD outside accepted precision limits

E - Value above Upper Quantitation Limit - UQL

Page 1 of 1

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

iina ba, Ltd.

### Sample Receipt Checklist

| Client Name: WIL1001                                |                   | Date and       | Time Received: | 2/24/2003 |                                       |                       |
|-----------------------------------------------------|-------------------|----------------|----------------|-----------|---------------------------------------|-----------------------|
| Work Order Number: 0302022                          |                   |                | •              | Received  | d by: DWC                             |                       |
| Checklist completed by:                             | 2/24/<br>Date     | 03             |                | Reviewe   | d by:                                 | 2/24/03<br>Date       |
| Matrix:                                             | Carrier name:     | <u>Myke La</u> | ne             |           |                                       |                       |
| Shipping container/cooler in good condition?        |                   | Yes 🗸          |                | • No _    | Not Present                           |                       |
| Custody seals intact on shippping container/cooler? | 2                 | Yes            |                | No        | Not Present                           | <u>`</u>              |
| Custody seals intact on sample bottles?             |                   | Yes            |                | No        | Not Present                           | <ul> <li>✓</li> </ul> |
| Chain of custody present?                           |                   | Yes Ϋ          |                | No        |                                       |                       |
| Chain of custody signed when relinquished and rec   | eived?            | Yes 🗹          |                | No        |                                       |                       |
| Chain of custody agrees with sample labels?         |                   | Yes 🔽          |                | No        |                                       |                       |
| Samples in proper container/bottle?                 |                   | Yes 🗹          |                | No        |                                       |                       |
| Sample containers intact?-                          |                   | Yes 🗹          |                | No 🗌      |                                       | ·• _                  |
| Sufficient sample volume for indicated test?        |                   | Yes 🗹          |                | No        |                                       |                       |
| All samples received within holding time?           |                   | Yes 🗹          |                | No        | ٩.                                    |                       |
| Container/Temp Blank temperature in compliance?     |                   | Yes 🔽          |                | No        | -                                     |                       |
| Water - VOA vials have zero headspace?              | No VOA vials subr | nitted         |                | Yes       | ✓ No                                  |                       |
| Water - pH acceptable upon receipt?                 |                   | Yes 🚣          |                | No        |                                       |                       |
| · Ad                                                | justed?           |                | Chec           | cked by:  |                                       |                       |
|                                                     |                   |                |                |           | · · · · · · · · · · · · · · · · · · · |                       |

Any No and/or NA (not applicable) response must be detailed in the comments section below.

| Contacted by: Regarding: |
|--------------------------|
| Comments:                |
| Corrective Action:       |
| Corrective Action:       |
| Corrective Action:       |
| Corrective Action:       |
| · · · ·                  |
|                          |
|                          |
|                          |

| a<br>Al-de<br>Meritana                                                                                                                                                                                                              | iiná bá,                        | Ltd.                                        |                        |                 |                 |                            | ,<br>,<br>,                    | ,<br>K       |                              |                        |                | <sup>6</sup> Date: 78    | -Mar-03         |                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------------------|------------------------|-----------------|-----------------|----------------------------|--------------------------------|--------------|------------------------------|------------------------|----------------|--------------------------|-----------------|----------------------------------------|
| n Sana<br>Sana<br>Sana Sana                                                                                                                                                                                                         | CLIENT:<br>Work Ord<br>Project: | Williams Fie<br>ler: 0302022<br>Milagro Gas | ld Service<br>Plant    | s .             |                 | ?                          | \$                             |              | ANALY                        | TICAL<br>Test          | QC SU          | UMMARY<br>1311_HG        | Y REPC          | ORT                                    |
| •<br>• •                                                                                                                                                                                                                            | Sàmple ID<br>Client ID:         | MBLK_031003<br>ZZZZZ                        | SampType<br>Batch ID:  | : MBLK<br>332   | TestCo<br>Test  | de: 131,1_HG<br>No: SW7470 | Units: <b>mg/L</b><br>(SW7470) | 1            | Prep Date:<br>Analysis Date: | 3/10/2003<br>3/10/2003 | · .            | Run ID: AA<br>SeqNo: 622 | _030310A<br>228 |                                        |
| •                                                                                                                                                                                                                                   | Analyte                         |                                             | ,<br>                  | Result          | PQL             | SPK value                  | SPK Ref Val                    | %REC         | LowLimit H                   | lighLimit RF           | D Ref Val      | %RPD                     | RPDLimit        | Qual                                   |
| • • • • •                                                                                                                                                                                                                           | Mercury                         | ·····                                       |                        | ND              | 0.00100         |                            | ··                             | ······       |                              |                        |                |                          |                 |                                        |
| · · · ·                                                                                                                                                                                                                             | Sample ID<br>Client ID:         | LCS_031003<br>ZZZZZ                         | SampType<br>Batch ID:  | LCS<br>332      | TestCo<br>Test  | de: 1311_HG<br>No: SW7470  | Units: <b>mg/L</b><br>(SW7470) | <b>i</b> •   | Prep Date:<br>Analysis Date: | 3/10/2003<br>3/10/2003 |                | Run ID: AA<br>SeqNo: 622 | _030310A<br>231 |                                        |
|                                                                                                                                                                                                                                     | Analyte                         |                                             |                        | Result          | PQL             | SPK value                  | SPK Ref Val                    | %REC         | LowLimit H                   | lighLimit RP           | PD Ref Val     | %RPD                     | RPDLimit        |                                        |
|                                                                                                                                                                                                                                     | Mercury                         |                                             | ·                      | 0.00891         | 0.00100         | 0.01                       | 0                              | 89.1         | 70                           | 130                    | 0              | 0                        |                 | <u></u>                                |
|                                                                                                                                                                                                                                     | Sample ID<br>Client ID:         | 0302022-001BMS<br>Waste Water Ponds         | SampType<br>Batch ID:  | : MS<br>332     | TestCo<br>Testl | de: 1311_HG<br>No: SW7470  | Units: mg/L<br>(SW7470)        | 1            | Prep Date:<br>Analysis Date: | 3/10/2003<br>3/10/2003 |                | Run ID: AA<br>SeqNo: 622 | _030310A<br>234 |                                        |
| •                                                                                                                                                                                                                                   | Analyte                         |                                             |                        | Result          | . PQL           | SPK value                  | SPK Ref Val                    | %REC         | LowLimit H                   | lighLimit RP           | D Ref Val      | %RPD                     | RPDLimit        | Qual                                   |
| ۰                                                                                                                                                                                                                                   | Mercury                         |                                             |                        | 0.01995         | 0.00200         | 0.025                      | 0                              | 79.8         | 70                           | 130                    | 0              | 0                        |                 | ······································ |
| an<br>An agus an a                                                                                                                                                                                                                  | Sample ID<br>Client ID:         | 0302022-001BMSD<br>Waste Water Ponds        | SampType<br>Batch ID:  | : MSD<br>332    | TestCo<br>Testl | de: 1311_HG<br>No: SW7470  | Units: mg/L<br>(SW7470)        |              | Prep Date:<br>Analysis Date: | 3/10/2003<br>3/10/2003 |                | Run ID: AA<br>SeqNo: 622 | _030310A<br>235 |                                        |
| •                                                                                                                                                                                                                                   | Analyte                         |                                             |                        | Result          | PQL             | SPK value                  | SPK Ref Val                    | %REC         | LowLimit H                   | lighLimit RP           | D Ref Val      | %RPD                     | RPDLimit        | Qual                                   |
|                                                                                                                                                                                                                                     | Mercury                         |                                             |                        | 0.0211          | 0.00200         | 0.025                      | 0                              | ' 84.4       | 70                           | 130                    | 0.01995        | 5.60                     | 20              |                                        |
|                                                                                                                                                                                                                                     | Sample ID<br>Client ID:         | 0302022-001BD<br>Waste Water Ponds          | •SampType<br>Batch ID: | : DUP<br>332    | TestCo<br>Testl | de: 1311_HG<br>No: SW7470  | Units: mg/L<br>(SW7470)        | ,<br>I       | Prep Date:<br>Analysis Date: | 3/10/2003<br>3/10/2003 |                | Run ID: AA<br>SeqNo: 622 | _030310A<br>33  |                                        |
|                                                                                                                                                                                                                                     | Analyte                         | •                                           |                        | Result          | PQL             | SPK value                  | SPK Ref Val                    | :<br>%REC    | LowLimit H                   | ighLimit RP            | D Ref Val      | %RPD                     | RPDLimit        | Qual                                   |
| 19 10 1<br>1                                                                                                                                                                                                                        | Mercury                         |                                             |                        | ND              | 0.00200         | 0                          | 0                              | 0            | <sup>1</sup> 0               | 0                      | 0              | 0                        | 15              |                                        |
| s de la composición de la composición de la composición de la composición de la composición de la composición d<br>Reference de la composición de la composición de la composición de la composición de la composición de la compos |                                 | :<br>:                                      | 1. <sup>20</sup>       |                 |                 |                            | , · ·                          |              |                              |                        |                |                          |                 |                                        |
|                                                                                                                                                                                                                                     | •                               | 7                                           |                        |                 |                 |                            |                                | ı            |                              |                        |                | -1                       |                 | ł                                      |
| · ·                                                                                                                                                                                                                                 | Qualifiers:                     | ND - Not Detect                             | ed at the Rep          | orting Limit    | 1               | S - Spil                   | ke Recovery outside ac         | cepted reco  | overy limits                 | B - A                  | nalyte detecto | ed in the associat       | ed Method B     | ank                                    |
|                                                                                                                                                                                                                                     | ·                               | J - Analyte detec                           | ted below qu           | antitation limi | ts              | R - RP                     | D outside accepted rec         | overy limits | S                            |                        |                | 4                        | Page I          | of 5                                   |
|                                                                                                                                                                                                                                     |                                 |                                             |                        |                 |                 | *                          | <i></i>                        | -1           |                              |                        |                |                          |                 |                                        |

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# ANALYTICAL QC SUMMARY REPORT

# TestCode: 1311\_HG

|   | Sample ID   | CCV1 031003                           | Sam              | pType: CCV           | TestCo  | de: 1311_HG | Units: mg/L            |              | Prep Da      | te:         |                     | Run ID: AA       | 030310A       |          |
|---|-------------|---------------------------------------|------------------|----------------------|---------|-------------|------------------------|--------------|--------------|-------------|---------------------|------------------|---------------|----------|
|   | Client ID:  | ZZZZZ                                 | Ва               | tch ID: 332          | Test    | No: SW7470  |                        | ı            | Analysis Da  | te: 3/10/20 | 003                 | SeqNo: 62        |               | · .      |
| : | Analyte     |                                       |                  | Result               | PQL     | SPK value   | SPK Ref Val            | %REC         | LowLimit     | HighLimit   | RPD Ref Val         | %RPD             | RPDLimit      | Qual     |
|   | Mercury     | · · · · · · · · · · · · · · · · · · · | <u>,</u>         | 0.00947              | 0.00100 | 0.01        | 0                      | 94.7         | .80          | 120         | 0                   | 0                |               |          |
|   | Sample ID   | CCV2_031003                           | Sam              | pType: CCV           | TestCo  | de: 1311_HG | Units: mg/L            |              | Prep Da      | te:         | ب                   | Run ID: AA       | _030310A      |          |
|   | Client ID:  | 22222                                 | Ba               | tch ID: 332          | , TestՒ | lo: SW7470  |                        |              | Analysis Da  | te: 3/10/20 | 003                 | SeqNo: 62        | 236           | <b>,</b> |
|   | Analyte     |                                       | . P <sup>*</sup> | Result               | PQL     | SPK value   | SPK Ref Val            | %REC         | LowLimit     | HighLimit   | RPD Ref Val         | %RPD             | RPDLimit      | Qual     |
|   | Mercury     | ;                                     |                  | 0.00885              | 0.00100 | 0.01        | 0                      | 88.5         | . 80         | 120         | 0                   | Q                | <u>,</u>      |          |
|   | ·<br>•      |                                       |                  |                      | r       |             |                        | ,            |              | ,           |                     | ٩                |               | ,        |
|   |             |                                       |                  | - \$ ~               | ı       |             |                        |              |              |             |                     |                  |               |          |
| ; |             |                                       |                  |                      |         |             | ,<br>1                 |              |              |             |                     | Ŷ                |               |          |
|   |             |                                       |                  | 1                    |         |             | •                      | ·            |              |             |                     |                  |               |          |
|   |             |                                       |                  |                      |         | ş.          | ÷.                     |              |              |             |                     |                  | ·             |          |
|   |             |                                       |                  |                      |         |             |                        |              | ×            |             |                     |                  |               |          |
|   |             |                                       | •                |                      |         |             |                        |              |              |             |                     |                  |               |          |
|   |             |                                       |                  | đ                    | •       |             |                        |              |              |             |                     |                  |               |          |
|   |             |                                       | . ]              |                      |         |             |                        |              |              |             | ж.                  |                  |               |          |
|   |             |                                       | -                |                      |         | N.          |                        |              | •            |             |                     |                  |               |          |
|   |             |                                       |                  |                      | 1       |             |                        |              |              |             |                     |                  |               |          |
|   |             |                                       | •                |                      |         |             | •                      |              |              |             | *                   |                  | · .           |          |
| • |             |                                       |                  | *                    |         |             |                        |              |              |             |                     |                  | *             |          |
| · |             |                                       |                  |                      |         |             |                        |              |              | ·           |                     | •                |               |          |
| • |             |                                       |                  |                      |         |             |                        | I            |              |             |                     |                  |               |          |
|   | Qualifiers: | ND - Not                              | Detected at 1    | the Reporting Limit  |         | S - Spil    | te Recovery outside ac | cepted reco  | overy limits | 1           | 3 - Analyte detecte | d in the associa | ted Method Bl | ank      |
|   | •           | J - Analyte                           | e detected he    | low quantitation lim | nits    | R - RPI     | ) outside accepted rec | overy limits | <b>5</b>     |             |                     |                  | Page 2        | of 5     |
|   |             |                                       | •                |                      |         |             |                        |              |              |             |                     |                  |               |          |

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Williams Field Services

Milagro Gas Plant

0302022

CLIENT:

Project:

Work Order:

# ANALYTICAL QC SUMMARY REPORT

TestCode: 1311\_M

| Sample ID    | MBLK_030303 Sa       | mpType: MBLK             | TestCo                        | de: 1311_M           | Units: mg/L             |                         | Prep Dat                | te: 3/3/2003 | Run ID: ICP_1_030306A |                       |               |        |
|--------------|----------------------|--------------------------|-------------------------------|----------------------|-------------------------|-------------------------|-------------------------|--------------|-----------------------|-----------------------|---------------|--------|
| Client ID: 2 | ZZZZZ E              | atch ID: 331             | TestNo: SW1311/6010 (SW3005A) |                      |                         |                         | Analysis Dat            | te: 3/6/2003 | SeqNo: 62194          |                       |               |        |
| Analyte      |                      | Result                   | PQL                           | SPK value            | SPK Ref Val             | %REC                    | LowLimit                | HighLimit    | RPD Ref Val           | %RPD                  | RPDLimit      | Qual   |
| Arsenic      | ~                    | ND                       | 0.0420                        | Υ.                   |                         | r                       |                         |              |                       | ····                  |               |        |
| Barium       |                      | ND                       | 0.00700                       |                      |                         |                         |                         |              | *                     |                       | ·             |        |
| Cadmium      |                      | ND                       | 0.206                         |                      |                         |                         | •                       |              |                       |                       | · .           |        |
| Chromium     |                      | . ND                     | 0.0230                        |                      |                         | •                       |                         |              | ч.                    |                       | •••           |        |
| Lead         | *                    | ND                       | 0.0155                        |                      |                         |                         |                         |              | 、<br>、                |                       |               |        |
| Selenium     |                      | ` ND                     | 0.0440                        |                      |                         |                         | `                       |              |                       |                       |               |        |
| Silver       |                      | ND                       | 0.00350                       |                      |                         |                         | <u></u>                 |              |                       | ``                    |               |        |
| Sample ID 1  | LCS_030303 Sa        | mpType: LCS              | TestCode: 1311_M Units: mg/L  |                      |                         |                         | Prep Dal                | te: 3/3/2003 | Run ID: ICP_1_030306A |                       |               |        |
| Client ID:   | ZZZZZ E              | Batch ID: 331            | Test                          | No: <b>SW1311</b> /6 | 6010 (SW3005A)          |                         | Analysis Date: 3/6/2003 |              |                       | SeqNo: 62             | 195           | •      |
| Analyte      | ,                    | Result                   | PQL                           | SPK value            | SPK Ref Vál             | %REC                    | LowLimit                | HighLimit    | RPD Ref Val           | %RPD                  | RPDLimit      | Qual   |
| Arsenic      | 4                    | 0.1371                   | . 0.0420                      | 0.1325               | 0                       | 103                     | 75                      | 125          | 0                     | 0                     |               |        |
| Barium       |                      | 1.319                    | 0.00700                       | 1.325                | 0                       | 99.6                    | 75                      | 125          | 0                     | 0                     |               |        |
| · Cadmium    |                      | 0.0661                   | 0.206                         | 0.0663               | 0                       | i 99.7                  | 75                      | 125          | 0                     | 0                     |               |        |
| Chromium     |                      | 0.132                    | 0.0230                        | 0.1325               | 0                       | <b>9</b> 9.6            | 75                      | 125          | 0                     | 0                     |               |        |
| Lead         | ,                    | 0.1318                   | 0.0155                        | 0.1325               | 0                       | 99.5                    | 75                      | 125          | 0                     | 0                     |               | •      |
| Selenium     |                      | 0.0678                   | 0.0440                        | 0.0663               | 0.                      | . 102                   | 75                      | 125          | 0                     | 0                     |               | ,      |
| Silver       |                      | 0.1323                   | 0.00350                       | 0.1325               | 0                       | 99.8                    | 75                      | 125          | 0                     | 0                     |               |        |
| Sample ID (  | 0302022-001BMS Sa    | mpType: MS               | TestCode: 1311_M Units: mg/L  |                      |                         |                         | Prep Dat                | e: 3/3/2003  | Run ID: ICP_1_030306A |                       |               |        |
| Client ID: V | Waste Water Ponds    | atch ID: 331             | TestNo: SW1311/6010 (SW3005A) |                      |                         | Analysis Date: 3/6/2003 |                         |              |                       | SeqNo: 62198          |               |        |
| Analyte      |                      | Result                   | PQL                           | SPK value            | SPK Ref Val             | %REC                    | LowLimit                | HighLimit I  | RPD Ref Val           | %RPD                  | RPDLimit      | Qual   |
| Arsenic      |                      | 0.6285                   | 0.0420                        | 0.5995               | 0                       | 105                     | 75                      | 125          | 0                     | <u></u> 0             |               | ·      |
| Barium       |                      | 6.21                     | 0.00700                       | 5.997                | 0.021                   | , 103                   | . 75                    | 125          | 0                     | 0                     | e.            |        |
| Cadmium      |                      | 0.307                    | 0.206                         | 0.3                  | 0                       | 102                     | 75                      | 125          | 0                     | 0                     |               |        |
| Chromium     | • <sup>1,1</sup> *   | 1.617                    | 0.0230                        | 0.5995               | 0.991                   | 104                     | 75                      | 125          | 0                     | 0                     |               |        |
| Lead         |                      | 0.615                    | 0.0155                        | 0.5995               | 0                       | 103                     | , 75                    | 125          | 0                     | ·0                    |               |        |
| Selenium     | ì                    | 0.3235                   | 0.0440                        | 0.3                  | 0                       | ' 108                   | 75                      | 125          | 0                     | 0                     |               | '      |
| Silver       |                      | 0.62                     | 0.00350                       | 0.5995               | 0                       | 103                     | 75                      | 125          | 0                     | 0                     |               |        |
| Qualifiers:  | ND - Not Detected a  | t the Reporting Limit    | 1                             | S - Spil             | ke Recovery outside ac  | cepted reco             | overy limits            | В            | - Analyte detecte     | ed in the association | ted Method Bl | lank   |
|              | J - Analyte detected | below quantitation limit | s                             | R - RP               | D outside accepted reco | overy limits            | ;                       |              |                       | Ŷ                     | Page 3        | s of 5 |
|              | ·                    |                          |                               |                      | •                       | , ·                     |                         |              |                       |                       |               |        |

CLIENT:

Project:

Work Order:

Williams Field Services

Milagro Gas Plant

0302022

# ANALYTICAL QC SUMMARY REPORT

TestCode: 1311\_M

| Sample ID   | 0302022-001BD     | SampTyp      | e: DUP          | TestCo     | ode: 1311_M          | Units: mg/L             |                         | Prep Da                 | te: 3/3/200 | Run ID: ICP_1_030306A |                                    |              |      |  |
|-------------|-------------------|--------------|-----------------|------------|----------------------|-------------------------|-------------------------|-------------------------|-------------|-----------------------|------------------------------------|--------------|------|--|
| Client ID:  | Waste Water Ponds | Batch II     | D: 331          | Test       | No: <b>SW1311</b> /  | 6010 (SW3005A)          | ł                       | Analysis Date: 3/6/2003 |             |                       |                                    | SeqNo: 62197 |      |  |
| Analyte     |                   |              | Result          | PQL        | SPK value            | SPK Ref Val             | %REC                    | LowLimit                | HighLimit   | RPD Ref Val           | %RPD                               | RPDLimit     | Qual |  |
| Arsenic     | · · · ·           |              | ND              | 0.0420     | 0                    | 0                       | · 0                     | : 0                     | 0           | 0                     | 0                                  | 20           |      |  |
| Barium      |                   |              | 0.0225          | 0.00700    | 0                    | 0                       | 0                       | 0                       | 0           | <sup>7</sup> , 0.021  | 6.90                               | · 20         |      |  |
| Cadmium     | •                 |              | ND              | 0.206      | 0                    | 0                       | ' 0                     | 0                       | 0           | 0                     | ., 0                               | 20           | N    |  |
| Chromium    |                   |              | 1.027           | 0,0230     | 0                    | 0                       | ; 0                     | . 0                     | 0           | 0.991                 | 3.57                               | 20           |      |  |
| Lead        |                   |              | ND              | 0.0155     | 0                    | 0                       | 0                       | 0                       | 0           | 0                     | 0                                  | 20           |      |  |
| Selenium    | ,<br>•            | 18 B         | ND              | 0.0440     | · 0                  | 0                       | · 0                     | 0                       | 0           | 0                     | 0                                  | 20           |      |  |
| Silver      |                   |              | ND              | 0.00350    | 0                    | Ô                       | 0                       | . 0                     | 0           | 0                     | · 0                                | 20           |      |  |
| Sample ID   | CCB1_030306       | SampTyp      | e: CCB          | <br>TestCo | de: 1311_M           | Units: mg/L             | ,                       | Prep Dat                | te: 3/3/200 | 3                     | <br>Run ID: * <b>ICP_1_030306A</b> |              |      |  |
| Client ID:  | 27272             | Batch II     | D: <b>'331</b>  | , Test     | No: <b>SW1311</b> /6 | 5010                    |                         | Analysis Dal            | te: 3/6/200 | 3                     | SeqNo: <b>62191</b>                |              |      |  |
| Analyte     | s                 |              | Result          | PQL        | SPK value            | SPK Ref Val             | %REC                    | LowLimit                | HighLimit   | RPD Ref Val           | · %RPD                             | RPDLimit     | Qual |  |
| Arsenic     |                   | , ,          | ND              | 0.0420     | 0                    | 0.                      | 0                       | 0                       | 0           | 0                     | 0                                  |              |      |  |
| Barium      |                   |              | ND              | 0.00700    | 0                    | 0                       | 0                       | 0                       | 0           | 0                     | 0                                  |              |      |  |
| Cadmium     |                   |              | ND              | 0.206      | * 0                  | 0                       | . 0                     | ·0                      | 0           | 0                     | 0                                  |              |      |  |
| Chromium    |                   |              | ND              | 0.0230     | 0                    | 0                       | 0                       | · 0                     | 0           | ·<br>0                | 0                                  |              |      |  |
| Lead        |                   |              | ND              | 0.0155     | · 0                  | 0                       | : 0                     | 0                       | 0           | 0                     | 0                                  |              |      |  |
| Selenium    | ،                 |              | ND              | 0.0440     | 0                    | 0                       | , 0                     | 0                       | 0           | 0                     | · 0                                |              |      |  |
| Silver      | . •               |              | ND              | 0.00350    | . 0                  | 0                       | 0                       | 0                       | 0           | . 0                   | 0                                  |              |      |  |
| Sample ID   | CCB2_030306       | SampTyp      | e: CCB          | TestCo     | de: 1311_M           | Units: mg/L             | 1                       | Prep Date:              |             |                       | Run ID: ICP_1_030306A              |              |      |  |
| Client ID:  | ZZZZZ             | Batch ID     | D: <b>331</b>   | Test       | No: SW1311/6         | 010                     | Analysis Date: 3/6/2003 |                         |             | 3                     | SeqNo: 62199                       |              |      |  |
| Analyte     |                   |              | Result          | PQL        | SPK value            | SPK Ref Val             | %REC                    | LowLimit                | HighLimit   | RPD Ref Val           | %RPD                               | RPDLimit     | Qual |  |
| Arsenic     |                   |              | ND              | 0.0420     | 0                    | 0                       | · 0                     | 0                       | 0           | 0                     | 0                                  | · ·          |      |  |
| Barium      |                   |              | ND              | 0.00700    | 0                    | ~ 0                     | 0                       | 0                       | 0           | 0                     | 0                                  |              |      |  |
| Cadmium     |                   |              | NÐ              | 0.206      | 0                    | 0                       | 0                       | <u>،</u> 0              | 0           | 0                     | 0                                  |              |      |  |
| Chromium    |                   |              | ND              | 0.0230     | 0                    | 0                       | 0                       | 0                       | 0           | · 0                   | · 0                                | *            |      |  |
| Lead        |                   |              | ND              | 0.0155     | 0                    | 0                       | 0                       | 0                       | 0           | 0                     | . 0                                |              |      |  |
| Selenium    |                   |              | ND              | 0.0440     | 0                    | 0                       | 0                       | 0                       | 0           | 0                     | 0                                  |              |      |  |
| Silver      |                   |              | ND              | 0.00350    | 0                    | . 0                     | ' 0                     | 0                       | 0           | 0                     | . 0                                |              |      |  |
| Qualifiers: | ND - Not Detect   | ed at the Re | porting Limit   | -          | * S - Spil           | ke Recovery dutside ac  | epted reco              | overy limits            | В           | - Analyte detect      | ed in the associat                 | ed Method Bl | nk   |  |
| · · · ·     | J - Analyte detec | led below q  | uantitation lin | nits       | R - RP               | D outside accepted reco | very limits             | :                       |             |                       |                                    | Page 4       | of 5 |  |
|             |                   |              |                 |            |                      |                         | 1                       |                         |             |                       |                                    |              |      |  |

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CLIENT: Williams Field Services

Work Order:

Project:

Also in the

er: 0302022 Milagro Gas Plant
## TestCode: 1311\_M

| Sample ID   | CCV1_030306       | SampT          | -<br>ype: <b>CCV</b> | TestCo  | de: 1311_M           | Units: mg/L             |             | Prep Dat     | e:          |                     | Run ID: ICI        | P_1_0303064  | ۹.       |
|-------------|-------------------|----------------|----------------------|---------|----------------------|-------------------------|-------------|--------------|-------------|---------------------|--------------------|--------------|----------|
| Client ID:  | ZZZZZ             | Batch          | n ID: 331 #          | Test    | No: <b>SW1311/</b> 6 | 6010                    |             | Analysis Dal | ie: 3/6/200 | )3                  | SeqNo: <b>62</b> 1 | 192          |          |
| Analyte     | · · ·             |                | Result               | PQL     | SPK value            | SPK Ref Val             | %REC        | LowLimit     | HighLimit   | RPD Ref Val         | %RPD               | RPDLimit     | Qual     |
| Arsenic     |                   |                | 0.2069               | 0.0420  | 0.2045               | 0                       | 101         | 90           | 110         | 0                   | 0                  |              |          |
| Barium      |                   |                | 2.05                 | 0.00700 | 2.045                | . 0                     | 100         | • 90         | 110         | · 0                 | 0                  |              |          |
| Cadmium     |                   |                | 0.1038               | 0.206   | 0.1023               | 0                       | 101         | 90           | 110         | . 0                 | 0                  | · .          |          |
| Chromium    |                   | •              | 0.2063               | 0.0230  | 0.2045               | °Ο                      | 101         | 90           | 110         | 0                   | 0                  |              |          |
| Lead        |                   |                | 0.2088               | 0.0155  | 0.2045               | 0                       | 102         | , 90         | 110         | 0                   | 0                  |              |          |
| Selenium    |                   |                | 0.1044               | 0.0440  | 0.1023               | 0                       | 102         | 90           | 110         | 0                   | ۰ <b>)</b>         | •            |          |
| Silver      |                   |                | 0.2089               | 0.00350 | 0.2045               | 0                       | 102         | 90           | 110         | 0                   | . 0                |              |          |
| Sample ID   | CCV2_030306       | SampT          | ype: CCV             | TestCo  | de: 1311_M           | Units: mg/L             |             | Prep Dat     | e:          |                     | Run ID: ICF        | P_1_030306A  | <b>\</b> |
| Client ID:  | 27222             | Batch          | h ID: <b>331</b>     | Test    | No: <b>SW1311/6</b>  | 6010                    | •           | Analysis Dat | e: 3/6/200  | 3                   | SeqNo: 622         | 200          |          |
| Analyte     | • ·               |                | Result               | PQL     | SPK value            | SPK Ref Val             | %REC        | LowLimit     | HighLimit   | RPD Ref Val         | %RPD               | RPDLimit     | Qual     |
| Arsenic     |                   |                | 0.2141               | 0.0420  | 0.2045               | 0                       | 105         | 90           | 110         | 0                   | 0                  |              |          |
| Barium      |                   | ĺ              | 2.116                | 0.00700 | 2.045                | 0                       | 103         | 90           | 110         | 0                   | 0                  |              |          |
| Cadmium     |                   |                | 0.1054               | 0.206   | 0.1023               | 0                       | 103         | <u>9</u> 0   | 110         | 0                   | 0                  |              |          |
| Çhromium    |                   |                | 0.2104               | 0.0230  | 0.2045               | 0                       | 103         | 90           | 110         | 0                   | 0                  |              |          |
| Lead        | · .               |                | 0.2106               | 0.0155  | 0.2045               | 0                       | 103         | 90           | 110         | 0                   | 0                  |              |          |
| Selenium    |                   |                | 0.1053               | 0.0440  | 0.1023               | 0                       | 103         | 90           | 110         | 0                   | 0                  |              | `        |
| Silver      |                   |                | 0.2143               | 0.00350 | 0.2045               | 0                       | , 105       | 90           | 110         | 0                   | 0                  |              |          |
| Sample ID   | ICV_030306        | SampT          | ype: ICV             | TestCo  | de: 1311_M           | Units: mg/L             | · ·         | Prep Dat     | e:          |                     | Run ID: ICP        | _1_030306A   |          |
| Çlient ID:  | ZZZZZ             | Batch          | n ID: 331            | Test    | No: SW1311/6         | 010                     | 1           | Analysis Dat | e: 3/6/200  | 3                   | SeqNo: 621         | 93           |          |
| Analyte     | •                 |                | Result               | PQL     | SPK value            | SPK Ref Val             | %REC        | LowLimit     | HighLimit   | RPD Ref Val         | %RPD               | RPDLimit     | Qual     |
| Arsenic     |                   |                | 0.5105               | 0.0420  | 0.5083               | 0                       | . 100       | 90           | 110         | 0                   |                    | r –          | •        |
| Barium      |                   |                | 0.4996               | 0.00700 | 0.5067               | 0                       | 98.6        | 90           | 110         | 0                   | 0                  |              |          |
| Cadmium     | •                 | 1 <sup>2</sup> | 0.5088               | 0.206   | 0.5083               | 0                       | 100         | 90           | 110         | 0                   | 0                  |              |          |
| Chromium    |                   |                | 0.5051               | 0.0230  | 0.5083               | · 0                     | 99.4        | 90           | 110         | · 0                 | .0                 |              |          |
| Lead        | Ì                 |                | 0.5022               | 0.0155  | 0.5083               | 0                       | i 98.8      | · 90         | 110         | 0                   | 0                  |              | I.       |
| Selenium    |                   |                | 0.5097               | 0.0440  | 0.5083               | 0                       | 100         | 90           | 110         | 0                   | · 0                |              |          |
| Silver      |                   |                | -40:2591             | 0.00350 | 0.2534               | 0                       | 102         | 90           | 110         | 0                   | 0                  |              |          |
| Qualifiers: | ND - Not Detect   | ed at the      | Reporting Limit      |         | S - Spil             | ke Recovery outside ac  | cepted reco | very limits  | <br>B       | 8 - Analyte detecte | ed in the associat | ed Method Bl | ank      |
|             | J - Analyte detec | ited balov     | w quantitation limit | 5       | R - RPI              | D outside accepted reco | very limits | i            |             |                     |                    | Page S       | of 5     |

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CLIENT:

Project:

24 1.1 2

Work Order:

Williams Field Services

Milagro Gas Plant

0302022



3/ 5/03

IINA BA, LTD 3130 DAVE COX 612 E. MURRAY DRIVE FARMINGTON, NM 87401

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name:

Project Number: .

Laboratory Project Number: 321566.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980.

|                       |            | Page 1          |
|-----------------------|------------|-----------------|
| Sample Identification | Lab Number | Collection Date |
|                       |            |                 |
|                       |            |                 |
| 0302022-001C,D        | 03-A28261  | 2/24/03         |

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By:

Rexanniz Conner

Report Date: 3/ 5/03

Paul E. Lane, Jr., Lab Director Michael H. Dunn, M.S., Technical Director Johnny A. Mitchell, Dir. Technical Serv. Eric S. Smith, Assistant Technical Director Roxanne L. Connor, Technical Services Gail A. Lage, Technical Serv. Glenn L. Norton, Technical Serv. Kelly S. Comstock, Technical Serv. Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 02008



IINA BA, LTD 3130 DAVE COX 612 E. MURRAY DRIVE FARMINGTON, NM 87401 Lab Number: 03-A28261 Sample ID: 0302022-001C,D Sample Type: Liquid waste Site ID:

Project: Project Name: Sampler: Date Collected: 2/24/03 Time Collected: 9:55 Date Received: 2/26/03 Time Received: 9:00 Page: 1

Milagro Gas Plant, Waste Water Pond

|                                                                                  | ·                                 |                              | Report               | Quan         | Dil      | • •                           | -                      |                                        |                           |                      |
|----------------------------------------------------------------------------------|-----------------------------------|------------------------------|----------------------|--------------|----------|-------------------------------|------------------------|----------------------------------------|---------------------------|----------------------|
| Analyte                                                                          | Result                            | Units                        | Limit                | Limit        | Factor   | Date                          | Time                   | Analyst                                | Method "                  | Batch                |
|                                                                                  |                                   |                              | <br>\                |              |          |                               |                        |                                        |                           | ÷                    |
|                                                                                  | ,                                 |                              | •                    |              |          |                               |                        | •:                                     |                           |                      |
|                                                                                  |                                   | •                            |                      |              |          |                               |                        |                                        |                           |                      |
|                                                                                  |                                   |                              |                      |              |          |                               |                        |                                        |                           |                      |
| *GENERAL CHEMISTRY PARAM                                                         | IETERS*                           |                              |                      |              |          |                               |                        |                                        |                           |                      |
| *GENERAL CHEMISTRY PARAM<br>Reactive Cyanide                                     | IETERS*                           | mg/kg                        | 50.0                 | 50.0         | 20       | 2/26/03                       | 22:00                  | S. Prayter                             | SW-846                    | 4130                 |
| *GENERAL CHEMISTRY PARAM<br>Reactive Cyanide<br>Reactive Sulfide                 | ND<br>ND                          | mg/kg<br>mg/kg               | 50.0<br>100.         | 50.0<br>100. | 20<br>20 | 2/26/03<br>2/26/03            | 22:00<br>22:00         | S. Prayter<br>S. Prayter               | SW-846<br>SW-846          | 4130<br>4130         |
| *GENERAL CHEMISTRY PARAM<br>Reactive Cyanide<br>Reactive Sulfide<br>Ignitability | NETERS*<br>ND<br>ND<br>NOT IGNITI | mg/kg<br>mg/kg<br>ABLE UP TO | 50.0<br>100.<br>200F | 50.0<br>100. | 20<br>20 | 2/26/03<br>2/26/03<br>3/ 5/03 | 22:00<br>22:00<br>9:50 | S. Prayter<br>S. Prayter<br>T. Beverly | SW-846<br>SW-846<br>1010M | 4130<br>4130<br>8703 |

TCLP Results

|                      |          |       | 1         | Matrix Spike |         |       |          | ,      |          |     |
|----------------------|----------|-------|-----------|--------------|---------|-------|----------|--------|----------|-----|
| Analyte              | Result   | Units | Reg Limit | Recovery (%) | Date    | Time  | Änalyst  | Method | QC Batch |     |
|                      |          |       |           |              |         |       |          |        |          |     |
| 22                   |          |       |           |              |         |       |          |        |          |     |
| Benzene              | < 0.0200 | mg/l  | 0.5       | 98           | 2/28/03 | 16:41 | J.Haley  | 8260   | 6774     |     |
| Carbon tetrachloride | < 0.0200 | mg/l  | 0.5       | 106          | 2/28/03 | 16:41 | J.Haley  | 8260   | -6774    |     |
| Chlorobenzene        | < 0.0200 | mg/l  | 100       | 98           | 2/28/03 | 16:41 | J.Haley  | 8260   | 6774     |     |
| Chloroform           | < 0.0200 | mg/l  | 6.0       | 94           | 2/28/03 | 16:41 | J.Haley  | 8260   | 6774     |     |
| 1,2-Dichloroethane   | < 0.0200 | mg/l  | 0.5       | 96           | 2/28/03 | 16:41 | J.Haley  | 8260   | 6774     |     |
| 1,1-Dichloroethene   | < 0.0200 | mg/l  | 0.7       | 88           | 2/28/03 | 16:41 | J.Haley  | 8260   | 6774     | · , |
| Methylethylketone    | < 0.100  | mg/l  | 200       | 89           | 2/28/03 | 16:41 | J.Haley  | 8260   | 6774     |     |
| Tetrachloroethene    | < 0.0200 | mg/1  | 0.7       | 98           | 2/28/03 | 16:41 | J.Haley  | 8260   | 6774     |     |
| Trichloroethene      | < 0.0200 | mg/l  | 0.5       | 94 .         | 2/28/03 | 16:41 | J.Haley  | 8260   | 6774     |     |
| Vinyl Chloride       | < 0.0200 | mg/l  | 0.2       | 100          | 2/28/03 | 16:41 | J.Haley  | 8260   | 6774     |     |
| Cresols              | < 0.0100 | mg/l  | 200       | 73           | 3/ 3/03 | 16:29 | R. Beard | 8270   | 8736     |     |
| 1,4-Dichlorobenzene  | < 0.0100 | mg/l  | 7.5       | 68           | 3/ 3/03 | 16:29 | R. Beard | 8270   | 8736     |     |
|                      |          |       |           |              |         |       |          |        |          |     |

Sample report continued . . .



Laboratory Number: 03-A28261 Sample ID: 0302022-001C,D Project: Page 2

#### TCLP Results Matrix Spike Analyte Result Units Req Limit Recovery (%) Date Time Analyst Method QC Batch --------------------\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ - - - - - - -2,4-Dinitrotoluene < 0.0100 mg/l 0.13 88 3/ 3/03 16:29 R. Beard 8270 8736 3/ 3/03 16:29 R. Beard 8270 8736 Hexachlorobenzene < 0.0100 mg/l 0.13 62 16:29 R. Beard 8270 8736 Hexchlor-1,3-butadien < 0.0100 . mg/l 0.5 66 3/ 3/03 3/ 3/03 ' 16:29 R. Beard Hexachloroethane < 0.0100 mg/l 3.0 66 8270 8736 Nitrobenzene < 0.0100 mg/l 2.0 72 3/ 3/03 16:29 R. Beard 8270 8736 Pentachlorophenol < 0.0100 mg/l 100 78 3/ 3/03 16:29 R. Beard 8270 8736 8736 3/ 3/03 16:29 R. Beard 8270 Pyridine < 0.0100 mg/l 5.0 40 3/ 3/03 16:29 R. Beard 8270 8736 2,4,5-Trichlorophenol < 0.0100 mg/l 409 88 8270 8736 2,4,6-Trichlorophenol < 0.0100 mg/l 2.0 86 3/ 3/03 16:29 R. Beard 1311 4417 16:00 B. Powell TCLP Extraction Initiatëd 2/26/03 Zero Headspace Extraction Initiated 2/26/03 16:00 B. Powell - 1311 4417 Sample Extraction Data Wt/Vol Parameter Extracted Extract Vol Date Time Analyst Method ------------------500. ml 1.0 ml TCLP BNA's 3/ 3/03 M. Ricke 3510 12 Surrogate \* Recovery Target Range ---------------73. - 133. VOA Surr 1,2-DCA-d4 96. VOA Surr Toluene-d8 100. 80. - 121. 80. - 128. 4. VOA Surr, 4-BFB 102. 40. - 127. BNA Surr-Nitrobenzene-d5 74. 42. - 113. BNA Surr-2-Fluorobiphenyl . 70. BNA Surr-Terphenyl-d14 70. 41. - 129. 86. # 1. - 75. BNA Surr-Phenol-d5 3. - 97. BNA Surr-2-Fluorophenol 46. BNA Surr-2,4,6-Tribromophenol 116. 35. - 174.

Sample report continued . . .



Laboratory Number: 03-A28261 Sample ID: 0302022-001C,D Project: Page 3

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

Flash point/ignitability reported to the nearest 10 deg F.

All results reported on a wet weight basis.

#### End of Sample Report.



PROJECT QUALITY CONTROL DATA Project Number: Project Name: Page: 1 Laboratory Receipt Date: 2/26/03

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

| Analyte              | units . | Orig. Val. | MS Val | Spike Conc | Recovery | Target Range | Q.C. Batch | Spike Sample |
|----------------------|---------|------------|--------|------------|----------|--------------|------------|--------------|
|                      | ·       |            |        |            |          |              |            |              |
| **VOA PARAMETERS**   |         | ي          |        |            |          |              |            | ·- ·•        |
| Benzene              | mg/l    | < 0.00200  | 0.490  | 0.500      | 98       | 78 132.      | 6774       | 03A27905     |
| Carbon tetrachloride | mg/l    | < 0.00200  | 0.530  | 0.500      | 106      | 64 146.      | 6774       | 03A27905     |
| Chlorobenzene        | mg/l "  | 0.00200    | 0.490  | 0.500      | 98       | 79 124.      | 6774       | 03A27905     |
| Chloroform           | mg/l    | < 0.00200  | 0.470  | 0.500      | 94       | 73 133.      | - 6774     | 03A27905     |
| 1,2-Dichloroethane   | mg/l    | < 0.00200  | 0.480  | 0.500      | 96       | 70 140.      | 6774       | 03A27905     |
| 1,1-Dichloroethene   | mg/l    | < 0.00200  | 0.440  | 0.500      | 88       | 68 141.      | 6774       | 03A27905     |
| Methylethylketone    | mg/l    | < 0.0100   | 2.24   | 2.50       |          | 69 142.      | 6774       | 03A27905     |
| Tetrachloroethene    | mg/l    | 0.00700    | 0.490  | 0.500      | 97       | 72 136.      | 6774       | 03A27905     |
| Trichloroethene      | mg/l    | 0.00400    | 0.470  | 0.500      | 93       | 73 137.      | 6774       | 03A27905     |
| Vinyl Chloride       | mg/l    | < 0.00200  | 0.500  | 0.500      | 100      | 52 156.      | 6774       | 03A27905     |

#### Matrix Spike' Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

| Analyte             | units | Orig. Val. | MS Val | Spike Conc | Recovery | Target Range | Q.C. Batch Spike Sample |   |
|---------------------|-------|------------|--------|------------|----------|--------------|-------------------------|---|
|                     |       |            |        |            |          |              |                         |   |
|                     |       |            |        |            |          |              |                         |   |
| **MISC PARAMETERS** |       | 1          |        |            |          |              |                         |   |
| Reactive Cyanide    | mg/kg | < 50.0     | 336.   | 400.       | 84       | 10 - 120     | 4130 03-A28319          |   |
| Reactive Cyanide    | mg/kg | < 50.0     | - 331. | 400.       | 83       | 10 - 120     | 4130 03-A28319          |   |
| Reactive Sulfide    | mg/kg | < 100.     | 430.   | 400.       | 108      | 10 - 120     | 4130 03-A28319          | • |
| Reactive Sulfide    | mg/kg | < 100.     | 422.   | 400.       | 106      | 10 - 120     | 4130 03-A28319          |   |
| •                   |       | •          |        |            | •        |              |                         |   |

Project QC continued . .



PROJECT QUALITY CONTROL DATA Project Number: Project Name: Page: 2 Laboratory Receipt Date: 2/26/03

Matrix Spike Duplicate

|   |                      |                | •          |              |         |          |                 |           |            |       |
|---|----------------------|----------------|------------|--------------|---------|----------|-----------------|-----------|------------|-------|
|   | Analyte              | units          | Orig. Val. | Duplicate    | RPD     | Limit    | Q.C. Batch      |           |            | e     |
|   |                      |                |            |              |         |          |                 |           |            |       |
|   | **VOA PARAMETERS**   | <i>.</i>       |            |              |         |          |                 |           |            |       |
|   | Benzene              | mg/l           | 0.490      | 0.500        | 2.02    | 15       |                 | • • • • • |            | · • * |
|   | Carbon tetrachloride | mg/l           | 0.530      | 0.480        | 9.90    | 21.      | 6774            | u         |            |       |
|   | Chlorobenzene        | mg/l           | 0,490      | 0.500        | 2.02    | 16.      | 6774            | -         | •          |       |
|   | Chloroform           | mg/l           | . 0.470    | 0.440        | 6.59    | 20.      | 6774 -          |           |            |       |
|   | 1,2-Dichloroethane   | mg/l           | 0.480      | 0.440        | 8.70    | 16.      | 6774            |           |            |       |
|   | 1,1-Dichloroethene   | . mg/1         | 0.440      | 0.480        | 8.70    | 19.      | 6774            |           |            |       |
|   | Methylethylketone    | mg/l           | 2.24       | 2.17         | 3.17    | 21.      | 6774            |           |            |       |
|   | Tetrachloroethene    | mg/l           | 0.490      | 0.510        | 4.00    | 23.      | 6774            |           |            |       |
| ¢ | Trichloroethene      | mg/l           | 0.470      | 0.490        | 4.17    | 20.      | 6774            |           | <b>*</b> - |       |
|   | Vinyl Chloride       | mg/l           | 0,500      | 0.540        | 7.69    | 28.      | 6774            |           |            |       |
|   | ' Applicto           | Matrix Spike   | Duplicate  | Duplicate    | הספ     | 7.imi+   | O.C. Batch      | ,         |            |       |
|   | Analyte              | - units        | Orig. Val. | Dupilcace    |         |          | Q.C. Bacch      | -         |            |       |
|   | *******              |                |            |              |         |          |                 |           |            |       |
|   | Reactive Cvanide     | mg/kg          | 336.       | 331.         | 1.50    | 20       | 4130            |           |            |       |
|   | Reactive Sulfide     | mg/kg          | 430.       | 422.         | 1.88    | 20       | 4130            | •         |            |       |
|   |                      | Laboratory Con | trol Data  |              |         |          |                 | *         | -          | ·     |
|   | •                    |                |            |              |         |          | ÷               |           | ·          | •     |
|   | Analyte              | units          | Known Val. | Analyzed Val | Recover | ry Targo | et Range Q.C. I | atch      |            |       |
|   |                      |                |            |              |         |          |                 |           |            |       |
|   | **VOA PARAMETERS**   |                |            |              |         |          | . <del></del>   | · .       |            |       |
|   | Benzene              | mg/l           | 0.0500     | 0.0460       | 92      | 78       | - 127 6774      | 1         |            |       |
|   | Carbon tetrachloride | mg/l           | 0.0500     | 0.0430       | 86      | 69       | - 132 6774      | l         |            | -     |
|   |                      |                |            |              |         |          |                 |           |            |       |

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA Project Number: Project Name: Page: 3 Laboratory Receipt Date: 2/26/03

Laboratory Control Data

| Analyte                                | units | Known Val. | Analyzed Val | % Recovery | Target Range | Q.C. Batch |
|----------------------------------------|-------|------------|--------------|------------|--------------|------------|
| `````````````````````````````````````` | ····· |            |              |            |              |            |
| Chlorobenzene                          | mg/l  | 0.0500     | 0.0470       | 94         | 81 - 120     | 6774       |
| Chloroform                             | mg/l  | 0.0500     | 0.0420       | 84         | 77 - 125     | 6774       |
| 1,2-Dichlorosthane                     | mg/l  | 0.0500     | 0.0420       | 84         | 71 - 135     | 6774       |
| 1,1-Dichlorosthene                     | mg/l  | 0.0500     | 0.0450       | 90         | 72 - 128     | 6774       |
| Methylethylketone                      | mg/l  | 0.250-     | 0.234        | 94         | 75 - 140     | 6774       |
| Tetrachloroethene                      | mg/1  | 0.0500     | 0.0450       | 90         | 76 - 123     | 6774       |
| Trichloroethene                        | mg/1  | 0.0500     | 0.0440       | 88         | 78 - 125     | 6774       |
| Vinyl Chloride                         | mg/l  | 0.0500     | 0.0510       | 102        | 61 - 140     | 6774 -     |
|                                        |       |            |              |            |              |            |

Laboratory Control Data

| Analyte                    | units  | Known Val. | Analyzed Val | <pre>% Recovery</pre> | Target Range | Q.C. Batch |
|----------------------------|--------|------------|--------------|-----------------------|--------------|------------|
|                            |        |            |              |                       |              |            |
|                            |        |            |              |                       |              |            |
| **EXTRACTABLE PARAMETERS** |        |            |              |                       |              |            |
| Cresols                    | mg/1 ' | 0.300      | 0.220        | 73                    | 19 - 100     | 8736       |
| 1,4-Dichlorobenzene        | mg/l   | 0.100      | 0.0680       | 68                    | 23 103       | 8736       |
| 2,4-Dinitrotoluene         | mg/l   | 0.100      | 0.0880       | · 88                  | 24 - 136     | 8736       |
| Hexachlorobenzene          | mg/l   | 0.100      | 0.0620       | 62                    | 22 - 78      | 8736       |
| Hexchlor-1,3-butadien      | mg/l   | 0.100      | 0.0660       | 66                    | 18 - 106     | 8736       |
| Hexachloroethane           | mg/l   | 0.100      | 0.0660       | 66                    | 21 - 103     | 8736       |
| Nitrobenzene               | mg/l   | 0.100      | 0.0720       | 72                    | 30 - 117     | 8736       |
| Pentachlorophenol          | mg/l   | 0.100      | 0.0780       | 78                    | 30 - 130     | 8736       |
| Pyridine                   | mg/l   | 0.100 -    | 0.0400       | 40                    | 9 - 71       | 8736       |
| 2,4,5-Trichlørophenol      | mg/l   | 0.100      | 0.0880       | 88                    | 34 - 132     | 8736       |
| 2,4,6-Trichlorophenol      | mg/l   | 0.100      | 0.0860       | - 86                  | 32 - 129     | 8736       |

Project QC continued . . .



PROJECT QUALITY CONTROL DATA Project Number: Project Name: Page: 4 Laboratory Receipt Date: 2/26/03

Laboratory Control Data

| A                    |             |                     |              |               |                |            |       |
|----------------------|-------------|---------------------|--------------|---------------|----------------|------------|-------|
| Analyte              | units K     | nown Val.           | Analyzed Val | * Recovery    | arget Range C  | Q.C. Batch |       |
| ,                    |             |                     |              |               |                | · · · · ·  |       |
| **MISC PARAMETERS**  | ,           |                     |              |               |                |            |       |
| Reactive Cyanide     | mg/kg       | 200.                | 204.         | 102           | 10 - 120       | 4130       |       |
| Reactive Sulfide     | mg/kg       | 400.                | 392.         | 98            | 10 - 120       | 4130       |       |
|                      | Blank Data  | •                   |              |               |                |            | <br>• |
| Analyte              | Blank Value | Units               | Q.C. Batch   | Date Analyzed | l Time Analyze | ed         |       |
|                      |             |                     |              |               |                | -          |       |
| **VOA PARAMETERS**   |             |                     |              |               |                |            |       |
| Benzene              | < 0.002     | 00 mg/l             | 6774         | 2/28/03       | 16:41          |            | ý.    |
| Carbon tetrachloride | < 0.002     | 00 mg/l             | 6774         | 2/28/03       | 16:41          |            |       |
| Chlorobenzene        | < 0.002     | 00 mg/l             | 6774         | 2/28/03       | 16:41          |            |       |
| Chloroform           | < 0.002     | 00 mg/l             | 6774         | 2/28/03       | 16:41          |            |       |
| 1,2-Dichloroethane   | < 0.002     | 00 mg/l             | 6774         | 2/28/03       | 16:41          | ,          |       |
| 1,1-Dichloroethene   | < 0.002     | 00 mg/l             | 6774         | 2/28/03       | 16:41          |            |       |
| Methylethylketone    | < 0.010     | 0 mg/l <sup>.</sup> | 6774         | 2/28/03       | 16:41          | -          | -     |
| Tetrachloroethene    | < 0.002     | 00 mg/l             | 6774         | 2/28/03       | 16:41          |            |       |
| Trichloroethene      | 0.034       | 0 mg/l              | 6774         | 2/28/03       | 16:41          |            |       |
| Vinyl Chloride       | < 0.002     | 00 mg/l             | 6774         | 2/28/03       | 16:41          | I          |       |
| VOA Surr 1,2-DCA-d4  | 88.         | * Rec               | 6774         | 2/28/03       | 16:41          | -          |       |
| VOA Surr Toluene-d8  | 101.        | * Rec               | 6774         | 2/28/03       | 16:41          |            |       |
| VOA Surr, 4-BFB      | 107.        | * Rec               | 6774         | 2/28/03       | 16:41          |            | -     |
|                      | •           |                     |              |               |                | · · ·      |       |
| •                    | Blank Data  |                     |              |               |                |            |       |
| Deslute              | Blank Value | Inite               | O.C. Batch   | Date Analyze  | i Time Analyza | ed         |       |
| Analyce              | Diank Value |                     |              |               |                |            |       |

\*\*EXTRACTABLE PARAMETERS\*\*

Project QC continued . . .



PROJECT QUALITY CONTROL DATA Project Number: Project Name: Page: 5 Laboratory Receipt Date: 2/26/03

Blank Data

| Analyte               | Blank Value           | Units  | Q.Ć. Batch | Analysis Date | Analysis Time |
|-----------------------|-----------------------|--------|------------|---------------|---------------|
|                       |                       |        |            |               |               |
| Cresols               |                       | mg/l   | 8736       | 3/ 3/03       | • 16:29       |
| 1,4-Dichlorobenzene   | < 0.0100              | mg/l   | 8736       | 3/ 3/03       | 16:29         |
| 2,4-Dinitrotoluene    | < 0.0100              | mg/l   | 8736       | 3/ 3/03       | 16:29         |
| Hexachlorobenzene     | < 0.0100              | mg/l   | 8736       | 3/ 3/03       | 16:29         |
| Hexchlor-1,3-butadien | < 0.0100              | mg/l   | 8736       | 3/ 3/03       | 16:29         |
| Hexachloroethane      | < 0.0100              | mg/1 . | ** 8736    | 3/ 3/03       | 16:29         |
| Nitrobenzene          | <sup>"</sup> < 0.0100 | mg/l   | 8736       | 3/ 3/03       | 16:29         |
| Pentachlorophenol     | < 0.0100              | mg/l   | 8736       | 3/ 3/03       | 16:29         |
| Pyridine              | < 0.0100              | mg/l   | 8736       | 3/ 3/03       | 16:29         |
| 2,4,5-Trichlorophenol | < 0.0100              | mg/l   | 8736       | 3/ 3/03       | 16:29         |
| 2,4,6-Trichlorophenol | < 0.0100              | mg/l   | 8736       | 3/ 3/03 -     | 16:29         |
|                       | Blank Data            |        |            | •             |               |
| Analyte               | Blank Value           | Units  | Q.C. Batch | Date Analyzed | Time Analyzed |
|                       | <u>-</u>              |        |            |               |               |

| ++MISC      | PARAMETERS **        |                  | -          |           |         | -     |
|-------------|----------------------|------------------|------------|-----------|---------|-------|
| Reactive    | Cyanide              | < 50.0           | mg/kg      | 4130      | 2/26/03 | 22:00 |
| Reactive    | Sulfide              | < 100.           | mg/kg      | 4130      | 2/26/03 | 22:00 |
| = Value out | side Laboratory hist | orical or method | progetihod | og limite |         |       |

# = Value outside Laboratory historical or method prescribed QC limits

End of Report for Project 321566

| SAMPLE. | SA | <b>AMPL</b> | Ε. |
|---------|----|-------------|----|
|---------|----|-------------|----|

CONFORMANCE/COC REVISIC

ORM

| Test<br>Nashville Division                | a                             |                                                 |                                        |
|-------------------------------------------|-------------------------------|-------------------------------------------------|----------------------------------------|
| DATE RECEIVED: 3/25/03                    | · .                           | ACCT NO .: _ 3624 31                            | 30                                     |
| SDG NUMBER: ~                             | _                             | COMPANY NAME: ing ba,                           | <u>Ud</u>                              |
| Relinguished by:                          | Date/Time:                    | Received by:                                    | Date/Time                              |
| (D) 2:25 5 @ 16:22                        |                               | <u>KB</u>                                       | 2/25/03 14:41                          |
| Relinquished by:<br>K13                   | Date/Time:<br>2/2 \$/03 ) 6   | Received by:                                    | Date/Time:                             |
| Relinguished by:                          | Date/Time:                    | Received by:                                    | Date/Time:                             |
| NONCONFORMANCE ISSUE(S):                  |                               |                                                 | ······································ |
| OIL & GREASE METHOD?                      |                               | METALS LIST?                                    |                                        |
| TPH METHOD?                               |                               | TCLP WHAT?                                      |                                        |
| EDB METHOD? .                             |                               | HERB LIST- LONG OR SHORT?                       |                                        |
| NEED LIST OF COMPOUNDS?                   | •<br>•                        | RUN SOILS BY 8260 INSTEAD (                     | DF 8021?                               |
| TEMPERATURE UPON RECEIPT?                 |                               | SATURDAY DELIVERY MARKED                        | ?                                      |
| ICE OR NO ICE??                           |                               | SAMPLES TO BE SUBCONTRAC                        | TED?                                   |
| NO COC - PLEASE FAX                       |                               | NO ANALYSIS REQUESTED?                          | -<br>-                                 |
| DOCUMENTATION LEVEL?                      |                               | OUT OF HOLDING TIME TES                         | т:                                     |
| OTHER: #1) We read vu.<br>TELP - ? #2) IF | n's, t 3 172<br>So no problem | s nor-pres- un fusion<br>- if not which fests a | e glindy ritch of for                  |
| RESOLUTION: They                          | were m                        | not notated To                                  | CCP semiridates + TCCP volatel         |
| should all                                | be Isan                       | uple mot multip                                 | Co samples.                            |
|                                           |                               |                                                 |                                        |
| PERSON CONTACTED                          | DATE/TIME                     | VIA E-MAIL or VOICEMAIL                         | NOTES AND/OR COMMENTS:                 |
| Judy Moore                                | <b>E</b> /25/03               | phisis call                                     |                                        |

Sample Nonconformance/COC Revision Form

÷

Revised 12/9/02

|       | iina ba, Ltc<br>612 E. Murray f<br>Farmington, NM<br>(505) 327-1072 | <b>I.</b><br>Drive<br>1 87401      |                                                                      |                                 | <b>5</b>      | CHA            | IN-OF-(                 | CUSTO                     | )DY RE(              | ORD                | Page 1 c   | 511                                                                                                                                                                                                                                |
|-------|---------------------------------------------------------------------|------------------------------------|----------------------------------------------------------------------|---------------------------------|---------------|----------------|-------------------------|---------------------------|----------------------|--------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | (2007)221 1012                                                      |                                    | 21566                                                                |                                 |               | •              |                         |                           |                      |                    |            |                                                                                                                                                                                                                                    |
| ·     | Subcontractor:                                                      | /                                  |                                                                      |                                 |               | •              |                         |                           |                      |                    |            | e de la construction de la construction de la construcción de la construcción de la construcción de la constru<br>La construcción de la construcción d |
|       | Test America, I<br>2960 Foster Cr<br>Nashville, TN 3                | Inc.<br>eighton Drive<br>372040566 | TEL:<br>FAX:                                                         | (800) 765-098<br>(615) 726-340  | 30 :<br>14    |                |                         |                           |                      |                    |            | · · ·                                                                                                                                                                                                                              |
|       |                                                                     |                                    | Acct                                                                 | #: 3130                         | a,            |                |                         |                           |                      | •                  | 24-Feb-    | 03                                                                                                                                                                                                                                 |
|       | Sample ID                                                           | Matrix                             | Collection Date                                                      | Bottle Type                     | SW1010        | SW1311         | 5W1311/6010             | Requested T<br>BW1311/820 | ests<br>60時W1311/827 | 0 <b>C SW</b> 3005 | A   SW3510 |                                                                                                                                                                                                                                    |
|       | 0302022-001A                                                        | Aqueous                            | 2/24/2003 10:15:00 AM                                                | KAmber / 3 VOA                  | 2/21/03       |                |                         | · · ·                     |                      |                    |            |                                                                                                                                                                                                                                    |
| 29261 | <del>✓0302022-001B</del><br>0302022-001C<br>0302022-001D            | Aqueous<br>Aqueous<br>Aqueous      | 2/24/2003 9:55:00 AM<br>2/24/2003 9:55:00 AM<br>2/24/2003 9:55:00 AM | 500HDPÉHNO3<br>1LAMGU<br>VOAHCL |               | <b>††</b>      |                         | 1                         | 1                    |                    | 1          | 2/24/03                                                                                                                                                                                                                            |
|       |                                                                     |                                    | •                                                                    |                                 |               |                |                         |                           | i                    |                    |            |                                                                                                                                                                                                                                    |
|       |                                                                     |                                    |                                                                      |                                 | ž             |                | ŕ                       |                           |                      |                    |            | •••                                                                                                                                                                                                                                |
|       |                                                                     |                                    | 6                                                                    |                                 | •<br>•<br>•   |                |                         | ł                         | . I<br>*             | <b>V</b>           | · .        |                                                                                                                                                                                                                                    |
|       |                                                                     |                                    |                                                                      |                                 |               |                |                         |                           | - <b>7</b> ·         |                    |            | • •. •                                                                                                                                                                                                                             |
|       |                                                                     | ·.                                 | . •                                                                  |                                 | 1             |                |                         |                           |                      |                    | ÷          | en e de<br>Ser e de                                                                                                                                                                                                                |
|       |                                                                     |                                    |                                                                      |                                 |               |                |                         |                           |                      | ۰<br>۱۰            |            | <sup>-</sup>                                                                                                                                                                                                                       |
|       | Comments:                                                           | Please and                         | alyze one (1) sample for R                                           | eactivity (Cyanid               | e/Sulfide), C | Corrosivity, I | gnitability, TC         | LP Semi-V                 | olatiles and TO      | CLP Volatile       | <u>:s.</u> |                                                                                                                                                                                                                                    |
|       |                                                                     |                                    | ł.                                                                   |                                 |               |                |                         |                           |                      |                    |            |                                                                                                                                                                                                                                    |
|       |                                                                     |                                    |                                                                      |                                 |               |                |                         |                           |                      | . •                |            | · · · · · ·                                                                                                                                                                                                                        |
|       |                                                                     |                                    |                                                                      | h Duto/                         | Timo          |                |                         |                           |                      | į                  | Dete/Time  |                                                                                                                                                                                                                                    |
|       |                                                                     | 1 m                                | <b>n</b> .2                                                          | alaulas                         |               |                | Call                    | · A                       | [] 7                 | 2.0 -              | Date/Time  |                                                                                                                                                                                                                                    |
| •     | Relinquished by                                                     | . [/][00                           | lee .                                                                | Hatios                          | 7.90          | Received by    | r: 677 <b>a</b> n<br>r: |                           | μ                    | <u>(6</u> - ):     | ·····      | • · · · ·                                                                                                                                                                                                                          |
| •     |                                                                     | <del>.</del>                       | •<br>• •                                                             |                                 | •             |                |                         |                           |                      |                    | . ,        |                                                                                                                                                                                                                                    |
| -     |                                                                     |                                    |                                                                      |                                 |               |                |                         |                           |                      |                    |            |                                                                                                                                                                                                                                    |

## **TESTAMERICA, INC.-NASHVILLE**

## COOLER RECEIPT FORM

| Client: JINA BA, 170 BC# 321566                                                            |
|--------------------------------------------------------------------------------------------|
| Cooler Received On: <u>2/26/03</u> And Opened On: <u>2/26/03</u> By: MARVIN BLUMHOEFER     |
| Mr. Aunth                                                                                  |
| (Signature)                                                                                |
| 1. Temperature of Cooler when opened <u>Degrees Celsius</u>                                |
| 2. Were custody seals on outside of cooler?                                                |
| a. If yes, how many, what kind and where: 1 from t                                         |
| b. Were the seals intact, signed, and dated correctly?                                     |
| 3. Were custody seals on containers and intact?                                            |
| 4. Were custody papers inside cooler?                                                      |
| 5. Were custody papers properly filled out (ink,signed,etc)?                               |
| 6. Did you sign the custody papers in the appropriate place?                               |
| 7. What kind of packing material used? Bubblewrap Peanuts Vermiculite Other None           |
| 8. Was sufficient ice used (if appropriate)?                                               |
| 9. Did all bottles arrive in good condition( unbroken)?                                    |
| 10. Were all bottle labels complete (#,date,signed,pres,etc)?                              |
| 11. Did all bottle labels and tags agree with custody papers?                              |
| 12. Were correct bottles used for the analysis requested?                                  |
| 13. a. Were VOA vials received?                                                            |
| b. Was there any observable head space present in any VOA vial?                            |
| 14. Was sufficient amount of sample sent in each bottle?                                   |
| 15. Were correct preservatives used?                                                       |
| 16. Was residual chlorine present?NO YES N/A<br>17. Corrective action taken, if necessary: |

LF-1

See attached for resolution

|                                       | C                                           | CHAI                    | N O                      | F Cl            | JST                                    | OD.                                   | YR       | EC       | ÓR      | D     |        |              |      |           | В                 | 16        | 13        |
|---------------------------------------|---------------------------------------------|-------------------------|--------------------------|-----------------|----------------------------------------|---------------------------------------|----------|----------|---------|-------|--------|--------------|------|-----------|-------------------|-----------|-----------|
|                                       |                                             |                         |                          | : .             | Date:                                  | 2/2                                   | 5/0      | ,<br>23  |         |       |        |              |      | Pa        | ge                | /of       |           |
| (for life's sake)                     | 612 E. Murray Dr. • P. O.<br>(505) 327-1072 | Box 2606 •<br>• FAX: (5 | • Farming<br>505) 327-14 | ton NM 8<br>496 | 7499                                   | 2                                     | 41       |          |         | •     | :      |              |      |           | -                 |           |           |
| Purchase Order No.:                   | Job No.                                     |                         |                          |                 |                                        | _ 0                                   | Name     | M        | ICHA    | E2 [  | ANT    | <del>.</del> | -    | Titl      | e Ey              | v. Spe    | 2         |
| Name Klichter LAN                     | IE                                          |                         |                          |                 |                                        | S T S                                 | Comp     | bany     |         |       | ·      |              |      |           | ·                 |           |           |
| Company Vilreinne                     |                                             |                         | Dept. 🖌                  | Twv.            |                                        |                                       | Mailin   | ng Addre | ess     |       | ÷      |              |      | -m        | 15                |           |           |
| Address IBBCR 490                     | $\mathcal{O}$                               | •                       |                          |                 |                                        | RES                                   | City, S  | State, Z | ip      |       |        |              |      | <u> </u>  | 17                |           | · · · · · |
| City, State, Zip ELOOMFTER            | D, NM 8741                                  | 2                       |                          |                 | · .                                    |                                       | Telep    | hone N   | o. A    | 5-6   | 32-4   | 625          |      | Telefax   | No. S             | 25-632    | - 478     |
| Sampling Location:<br>MILAGEO GAS FCA |                                             |                         |                          |                 | 4 .<br>                                | e e e e e e e e e e e e e e e e e e e |          |          |         |       | ANAL   | YSIS         | REQL | JESTE     | ED                |           |           |
| Sampler:                              |                                             |                         |                          |                 | · · ·                                  | Number o<br>Container                 |          |          | N.2/    | N.R.  | 3      | .<br>        |      | /         |                   |           |           |
| SAMPLE IDENTIFICATI                   | ON                                          | SAN<br>DATE             | MPLE<br>TIME             | MATRIX          | PRES.                                  |                                       | 1        |          |         | X 13/ | )<br>( | / .          |      |           |                   |           | AB ID     |
| WATE WATER YONDS                      | · · ·                                       | 25                      | 1015                     | LITE.           | H                                      | 5                                     | ·        | ·        | · .     |       |        |              |      |           |                   | 030202    | 2-001     |
|                                       | <u>.</u>                                    | 325                     | 255                      | WITE            | HNO.                                   |                                       |          | 6        |         |       | ,      |              |      |           | _                 |           | -001      |
| //                                    |                                             | 25                      | 955                      | UME             | ?                                      |                                       |          |          | ~       |       |        |              |      | ļ         | <u> </u>          |           | -0010     |
| , <i>1</i> /                          | RA <sub>ert</sub>                           | 125                     | 155                      | WITR            |                                        | 1                                     |          |          |         |       |        | - <b>,</b>   |      |           | -                 |           | -001      |
|                                       |                                             | 2/7d                    | 1                        |                 | · .                                    |                                       |          | <u> </u> |         |       |        |              |      |           |                   |           | · .       |
|                                       |                                             | 1 P                     |                          |                 |                                        |                                       |          |          |         |       |        |              |      |           |                   |           |           |
|                                       |                                             |                         |                          |                 |                                        | <u>+</u>                              |          |          |         |       | ·      |              |      |           | 1                 |           | ·         |
|                                       | •                                           |                         |                          | · · ·           |                                        |                                       |          |          |         |       |        |              |      |           | · · .             |           |           |
| •                                     | · · · ·                                     | · .                     | 1                        |                 |                                        | 1                                     |          |          |         |       |        |              |      |           |                   |           |           |
| •                                     | · · · · · · · · · · · · · · · · · · ·       |                         |                          |                 |                                        |                                       |          |          |         |       |        |              |      |           | +                 |           |           |
| •                                     |                                             |                         |                          |                 |                                        |                                       |          |          |         |       |        |              |      | ·         |                   |           |           |
| Relinguished by                       | 5 de                                        | - D                     | ate/Time                 | 12/03           | 11:A5                                  | Rece                                  | ived by: |          |         | ~     |        | 1            |      | <u> </u>  | Date/Ti           | me 2/24/0 | 3 114     |
| Relinquished by:                      |                                             | D                       | ate/Time                 | 24 N            | ······································ | Rece                                  | ived by: |          | 71      |       |        |              |      |           | Date/Ti           |           |           |
| Relinquished by:                      |                                             | D                       | ate/Time                 |                 | 1 <sup>4</sup>                         | Rece                                  | ived by: | :        |         |       |        | •            |      |           | Date/Ti           | me :      | ····      |
| Method of Shipment:                   |                                             | 2                       | Date 21                  | <u>z[0</u>      | 2                                      | Rush                                  | ·        |          | 24-48 H | lours | 10 V   | Vorking      | Days | Spec<br>T | ial Instru<br>Fr. | uctions:  | ( EIV     |
| . (Client Signature M                 | usi Accompany Hequest)                      |                         | 6                        | (41)            |                                        | 1                                     |          |          |         |       | · ·    |              |      | 1 1       | 15                | (1)       |           |

| Dis:<br>130<br>Dis:<br>100 | The II Conservation Division Reset Azter, NM 8740 Conservation Division Division Plus 1 Cop                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1220                       | DS. SL Francis Dr., Santa Fe, NM 87505<br>Santa Fe, NM 87505<br>Santa Fe, NM 87505<br>DIVISION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                            | REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1.                         | RCRA Exempt: DINON-Exempt: DIN |
| 2.                         | Management Facility Destination KEY ENERGY DISPOSA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 3.                         | Address of Facility Operator #345 CR 3500 AZTEC NM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 7.                         | Location of Material (Street Address or ULSTR) 119 CR 4900<br>BLOOM FIELD, NM 874/3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 9.                         | Circle One:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RI                         | approved<br>All transporters must certify the wastes delivered are only those consigned for transport.<br>EF DESCRIPTION OF MATERIAL: VERDE ERE READE CONSTRUCTION OF MATERIAL:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RI                         | All transporters must certify the wastes delivered are only those consigned for transport.<br>EF DESCRIPTION OF MATERIAL: VAL VERDE GAS PLANT CLOSED DRAIN<br>WASTEWATER SYSTEM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RI                         | approved<br><u>All transporters must certify the wastes delivered are only those consigned for transport</u><br>EF DESCRIPTION OF MATERIAL: VAL VERDE GAS PLANT CLOSED DRAIN<br>WASTEWATER SYSTEM<br>WASTEWATER FROM PLANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IRI                        | All transporters must certify the wastes delivered are only those consigned for transport.<br>EF DESCRIPTION OF MATERIAL: VAL VERDE GAS PLANT CLOSED DRAIN<br>WASTEWATER SYSTEM<br>WASTEWATER SYSTEM<br>CHEMICAL ANAL JSIS ATTACHED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| RI                         | All transporters must certify the wastes delivered are only those consigned for transport.<br>EF DESCRIPTION OF MATERIAL: VAL VERDE GAS PLANT CLOSED DRAIN<br>WASTEWATER SYSTEM<br>WASTEWATER FROM PLANT<br>CHEMICAL ANALYSIS ATTACHED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| IRI                        | All transporters must certify the wastes delivered are only those consigned for transport.<br>EF DESCRIPTION OF MATERIAL: VAL VEADE GAS PLANT CLOSED DARIN<br>WASTEWATER SYSTEM<br>WASTEWATER FROM PLANT<br>CHEMICAL AND YSIS ATTRCHED<br>2004/12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| sti                        | approved<br>All transporters must certify the wastes delivered are only those consigned for transport.<br>EF DESCRIPTION OF MATERIAL: VAL VEADE GAS PLANT CLOSED DARIN<br>WASTEWATEN SYSTEM<br>WASTEWATEN FROM PLANT<br>CHEMICAL AND YSIS ATTRCHED<br>MADEMICAL AND YSIS ATTRCHED<br>MADEMICAL AND YSIS ATTRCHED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| stin<br>IG                 | All transporters must certify the wastes delivered are only those consigned for transport.<br>EF DESCRIPTION OF MATERIAL: VAL VEADE GAS PLANT CLOSED DARIN<br>WASTEWATEN SYSTEM<br>WASTEWATEN FROM PLANT<br>CHEMICAL AND YSIS ATTRENED<br>MADE MOVEN Volume (to be entered by the operator at the end of the haul)CY<br>NATURE Management bicility Authorized Agent<br>TITLE:FACILITY MANAGER DATE: 320-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| stir<br>IG                 | All transporters must certify the wastes delivered are only those consigned for transport.<br>EF DESCRIPTION OF MATERIAL: VAL VEADE GAS ALANT CLOSED DAAIN<br>WASTEWATEN SYSTEM<br>WASTEWATEN SYSTEM<br>CHEMICAL ANAL YS IS ATTACHED<br>MADE IN CONTRACT AND YS IS ATTACHED<br>MATURE Management Belility Authorized Agent<br>E OR PRINT NAME:MICHAEL TALOVICH TELEPHONE NO. 505-334-6416                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                            | All transporters must certify the wastes delivered are only those consigned for transport.<br>EF DESCRIPTION OF MATERIAL: VAL VEADE GAS PLANT CLOSED DARIN<br>WASTEWATEN SYSTEM<br>WASTEWATEN SYSTEM<br>WASTEWATEN FROM PLANT<br>CHEMICAL ANALYSIS ATTRENED<br>MATURE MADE STORE TO BUL/YA<br>NATURE Management Beclity Authorized Agent<br>E OR PRINT NAME:MICHAEL TALOVICHTELEPHONE NO. 505-334-6416                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                            | All transporters must certify the wastes delivered are only those consigned for transport.         EF DESCRIPTION OF MATERIAL:       VAL VEADE GAS PLANT CLOSED DARIN<br>WASTEWATER SYSTEM<br>WASTEWATER SYSTEM         Image: Description of MATERIAL:       VAL VEADE GAS PLANT CLOSED DARIN<br>WASTEWATER SYSTEM         Image: Description of MATERIAL:       VAL VEADE GAS PLANT CLOSED DARIN<br>WASTEWATER SYSTEM         Image: Description of MATERIAL:       VAL VEADE GAS PLANT CLOSED DARIN<br>WASTEWATER SYSTEM         Image: Description of MATERIAL:       VAL VEADE GAS PLANT CLOSED DARIN<br>WASTEWATER SCIENCE         Image: Description of MATERIAL:       VIENT NAME: DATE: 320-03         Image: Description of State Use)       TITLE: FACILITY MANAGER DATE: 3/20/07         Its space for State Use)       TITLE: FACILITY MANAGER DATE: 3/20/07         PROVED BY: Description       TITLE: FACILITY MATERIAL: DATE: 3/20/07                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| <u>astrict I</u><br>625 N. French Dr., Hobbs, NM <u>8</u> 8240<br><u>itarict II</u> aug | State of New Mexico<br>Energy Minerals and Natural Resources                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Form C-138<br>Revised March 17, 1999    |
|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| 301 W. Grand Avegue, Artesia, NM 88210                                                  | Oil Conservation Division                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Submit Original                         |
| NUU KIO ERAZOS ROAd, Azlec, NM 87410<br><u>istrict IV</u>                               | 1220 South St. Francis Dr.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Plus 1 Copy<br>to Appropriate           |
| 220 S. SL. Francis Dr., Santa Fe, NM 87505                                              | Santa Fe, NM 87505                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | District Office                         |
| REQUEST                                                                                 | FOR APPROVAL TO ACCEPT SOLID W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ASTE                                    |
|                                                                                         | 4. Generator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | NUKE ENENGIFIELD SER<br>NUMERANE PLANT. |
| RCRA Exempt: Non-Exempt                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |
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| Manager English Destination VI                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | KEV                                     |
| . Management Facility Destination Ke                                                    | THENERGY DISPOSALS MAR 2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                         |
| Address of Facility Operator #345 C                                                     | R 3500 AZTEC NM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |
|                                                                                         | Diof. 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                         |
| . Location of Material (Street Address                                                  | or ULSTR) 1/7 C/2 4700                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                         |
| ) Circle One:                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |
| A All projects for approval to accort                                                   | nilfield event wastes will be accompanied by a certification of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | waste from the Concenter                |
| one certificate per job.                                                                | onned exempt wastes will be accompanied by a certification of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | waste from the Generator.               |
| B. All requests for approval to accept<br>material is not-bazardous and the (           | non-exempt wastes must be accompanied by necessary chemical<br>Generator's certification of origin. No waste classified bazardous                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | analysis to PROVE the                   |
| approved                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | by insuing or testing with be           |
| All transporters must certify the wast                                                  | es delivered are only those consigned for transport.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                         |
| RIEF DESCRIPTION OF MATERIAL:                                                           | VALVERDE GAS RIANT CLOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ED DRAIN                                |
| ,<br>,                                                                                  | WASTEWATER SYSTEM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |
| ·                                                                                       | WASTEWATER FROM PLAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | يد ا                                    |
| (                                                                                       | HEMILAL PRAL YELL A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                         |
|                                                                                         | JAN ATTLE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                         |
|                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |
|                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ,                                       |
|                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | · ·                                     |
| 5000 1000 1                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |
|                                                                                         | Volume (to be entered by the operator at the end of the haul)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Cÿ                                      |
| ICNATURE Man /                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | DATE 320-03                             |
| Waste Management Facility A                                                             | uthorized Agent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | DATE. <u>200</u>                        |
| YPE OR PRINT NAME: MICHAEL                                                              | TALOVICH TELEPHONE NO. 505-334-64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 16                                      |
|                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |
|                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |
| (This space for State Use)                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |
| ADDROVED BY: 1 Sen 19                                                                   | Etent THE EnvirolEncir                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DATE: 3/20/03                           |
|                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | - DAIL OF C                             |
| APPROVED BY:                                                                            | TTTLE:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DATE:                                   |
|                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |
| • • • • • • • •                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | •                                       |
|                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |
|                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |

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New Mexico Form C-143 1625 N French Dr Energy Minerals and Natural Resources Hobbs, NM 88240 3/15/00 artment District II - (505) 748-1283 811 S. First Oil Conservation Division Anala Nories 10 District []] - (505) 33-\$6178 2040 South Pacheco Street Submit to OCD 1000 Rio Brazos Road Santa Fe, New Mexico 87505 Permitted Surface AZC. NM \$7410 District IV . (505) 827-7131 (505) 827-7131 Waste Management 1040 S Pacheco Facility Santa Fe, NM 87505 GENERATOR CERTIFICATE OF WASTE STATUS 1. Waste Generator Name and Address 2.Permit Number (if waste generated at an OCD permitted facility) DUKE ENERGY FIELD SERVICES VAL VERDE GAS PLANT 119 COUNTY ROAD 4900 3. Description of Waste and Generating Process: 4. Location of Waste (Street address &/or ULSTR): CLOSED DRAIN WASTEWATER SAME AS #1 FROM GRS PROCESSING PLANT 5. Destination (Surface Waste Management Facility): 6. Transporter: KEJENERGY SERVICES KEY ENERY SERVICES 565/US HWY-64 . Estimated Volume 5000 g/bbls/yr FARMINCTON, NM 87499 for NON-EXEMPT waste only, the following documentation is attached (check appropriate items): RCRA Hazardous Waste Analysis (With Chain of Custody). SHEWING THAT WASTE IS NON-HAZ **MSDS** Information Other (Description) senerator certifies that, according to the Resource Conservation and Recovery Act (RCRA) and the Environmental Protection gency's July 1988 regulatory determination, the above described waste is: (check appropriate classification) NON-EXEMPT oilfield waste that is non-hazardous EXEMPT oilfield waste. pursuant to 40 CFR Part 261. (Attach appropriate documentation) aste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 ubpart 1403. Date: \_\_\_\_ 3 - 7 - 03 enerator Signature: rint Name: MICHAEL R. BETZ itle: ASSET MAMAGER - 1/4/ VERDE

## iiná bá

P.O. Box 2606 Farmington, NM 87499

Fax: (505) 327-1496

Off: (505) 327-1072 March 04, 2003

> Blair Armstrong Duke Energy Field Service 370 17th St., Suite 900 Denver, CO 80202

TEL: (505) 632-6462 FAX (505) 632-6485

RE: Val Verde Plant, Bloomfield, NM

Order No.: 0302004

Dear Blair Armstrong:

iiná bá, Ltd. received 4 samples on 2/7/2003 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

David Cox

Off: (505) 327-1072

#### iiná bá, Ltd.

# iiná bá

P.O. Box 2606 Farmington, NM 87499

Fax: (505) 327-1496

Page 1 of 1

Date: 04-Mar-03

| CLIENT:    | Duke Energy Field Service       |                |
|------------|---------------------------------|----------------|
| Project:   | Val Verde Plant, Bloomfield, NM | CASE NARRATIVE |
| Lab Order: | 0302004                         |                |
|            | 1                               |                |

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Any quality control and/or data qualifiers associated with this laboratory order will be flagged in the analytical result page(s) or the quality control summary report(s).

Analytical comments for SAMPLE 0302004-003A: Sandblasting I.M.I.; Soil sample was received with a temperature of 14 degrees C and had approximately three quarters of an inch of headspace.

Analytical comments for SAMPLE 0302004-004A: B-Blast Shop; Soil sample was received with a temperature of 14 degrees C and had approximately three quarters of an inch of headspace.

Off: (505) 327-1072

PCLP META

# iiná bá

P.O. Box 2606 Farmington, NM 87499

Fax: (505) 327-1496

Date: 04-Mar-03

| CLIENT:<br>Work Order:<br>Project:<br>Lab ID: | Duke Energy Field S<br>0302004<br>Val Verde Plant, Blo<br>0302004-001C | ervice<br>omfield, NM | Client Sample Info:<br>Client Sample ID:<br>Collection Date:<br>Matrix: |                   |             | √al Verde<br>Frain 5 Waste Water<br>2/6/2003 4:00:00 PM<br>AQUEOUS |  |  |  |
|-----------------------------------------------|------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------|-------------------|-------------|--------------------------------------------------------------------|--|--|--|
| Parameter                                     |                                                                        | Result                | PQL Qu                                                                  | al Units          | DF          | Date Analyzed                                                      |  |  |  |
| MERCURY, TCL<br>Mercury                       | PLEACHED                                                               | 0.0006                | <b>SW747(</b><br>0.0005                                                 | <b>) <u> </u></b> | <b>470)</b> | Analyst: <b>DJC</b><br>2/18/2003                                   |  |  |  |
| ICP METALS, T                                 | CLP LEACHED                                                            |                       | SW1311/60                                                               | 10B (SW3)         | 005A)       | Analyst: DJC                                                       |  |  |  |
| Arsenic                                       |                                                                        | ND                    | 0.008                                                                   | mg/L              | 1           | 2/12/2003                                                          |  |  |  |
| Barium                                        |                                                                        | 0.062                 | 0.002                                                                   | mg/L              | 1           | 2/12/2003                                                          |  |  |  |
| Cadmium                                       |                                                                        | · ND                  | 0.001                                                                   | mg/L              | 1           | 2/12/2003                                                          |  |  |  |
| Chromium                                      |                                                                        | 0.080                 | 0.028                                                                   | mg/L              | 1           | 2/12/2003                                                          |  |  |  |
| Lead                                          | ۰.<br>۱                                                                | ND                    | 0.003                                                                   | mg/L              | 1,          | 2/12/2003                                                          |  |  |  |
| Selenium'                                     |                                                                        | 0.014                 | 0.006                                                                   | mg/L -            | 1           | 2/12/2003                                                          |  |  |  |
| Silver .                                      |                                                                        | ND                    | 0.001                                                                   | mg/L              | 1           | 2/12/2003                                                          |  |  |  |
|                                               |                                                                        |                       | -                                                                       | -                 |             | <b>u</b>                                                           |  |  |  |

Qualifiers:

- ND Not Detected at the Practical Quantitation Limit
- J Analyte detected below Practical Quantitation Limit
- B Analyte detected in the associated Method Blank
- \* Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

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E - Value above Upper Quantitation Limit - UQL

Page 1 of 4

Off: (505) 327-1072

# iiná bá

P.O. Box 2606 Farmington, NM 87499

Fax: (505) 327-1496

Date: 04-Mar-03

| CLIENT:     | Duke Energy Field Service       | <b>Client Sample Info:</b> | Val Verde           |
|-------------|---------------------------------|----------------------------|---------------------|
| Work Order: | 0302004                         | <b>Client Sample ID:</b>   | Train 5 Waste Water |
| Project:    | Val Verde Plant, Bloomfield, NM | <b>Collection Date:</b>    | 2/6/2003 4:00:00 PM |
| Lab ID:     | 0302004-001D ×                  | Matrix:                    | AQUEOUS             |
|             | ·                               |                            |                     |

| Kesult |              | al Units                      | L                                                                                                                                                | DF Date Analyzed                                 |                                                                                                                                                                                                                                                                 |
|--------|--------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | E150.1       |                               | Analyst: HI                                                                                                                                      | NR                                               |                                                                                                                                                                                                                                                                 |
| 8.63   | 2.00         | pH units                      | · 1                                                                                                                                              | 2/10/2003                                        |                                                                                                                                                                                                                                                                 |
| 21.0   | 0            | Deg C                         | 1                                                                                                                                                | 2/10/2003                                        |                                                                                                                                                                                                                                                                 |
|        | 8.63<br>21.0 | E150.1<br>8.63 2.00<br>21.0 0 | Result         PQL         Qual         Units           E150.1         8.63         2.00         pH units           21.0         0         Deg C | E150.1<br>8.63 2.00 pH units 1<br>21.0 0 Deg C 1 | Result         PQL         Qual         Units         DF         Date Analyzed           E150.1         Analyst: Hi           8.63         2.00         pH units         1         2/10/2003           21.0         0         Deg C         1         2/10/2003 |

#### Qualifiers:

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- ND Not Detected at the Practical Quantitation Limit
- J Analyte detected below Practical Quantitation Limit
- B Analyte detected in the associated Method Blank
- \* Value exceeds Maximum Contaminant Level
- S Spike Recovery outside accepted recovery limits
- R RPD outside accepted precision limits
- · E Value above Upper Quantitation Limit UQL

Page 2 of 4

|   | -   |     |      |
|---|-----|-----|------|
| 1 | ina | ba. | Lid. |

### Sample Receipt Checklist

| Client Name: DUK1001                                    |                   | Date and Time | e Received:   | 2/7/2003 |
|---------------------------------------------------------|-------------------|---------------|---------------|----------|
| Work Order Number: 0302004                              |                   | Received by:  | JEM           |          |
|                                                         | 2-7-03<br>Date    | Reviewed by:  | Initials      | Date     |
| Matrix: Carr                                            | ier name: Courier |               |               | •        |
| Shipping container/cooler in good condition?            | Yes 🗹             | No            | Not Present   |          |
| Custody seals intact on shippping container/cooler?     | Yes               | No            | Not Present 🗵 |          |
| Custody seals intact on sample bottles?                 | Yes               | No            | Not Present 🗹 |          |
| Chain of custody present?                               | Yes 🔽             | No            |               |          |
| Chain of custody signed when relinquished and received? | Yes 🗹             | No :          |               | ,        |
| Chain of custody agrees with sample labels?             | Yes 🗹             | No            |               |          |
| Samples in proper container/bottle?                     | Yes 💆             | No            |               |          |
| Sample containers intact?                               | Yes 🗹             | No            |               |          |
| Sufficient sample volume for indicated test?            | Yes 🗌             | No            |               | •<br>·   |
| All samples received within holding time?               | Yes 🔽             | No            |               | • •      |
| Container/Temp Blank temperature in compliance?         | Yes               | No            | e.            |          |
| Water - VOA vials have zero headspace? No VOA           | vials submitted   | Yes 🗹         | No            |          |
| Water - pH acceptable upon receipt?                     | Yes 🔽             | No            |               |          |
| Adjusted?                                               |                   | Checked by:   | ·             | ù        |

Any No and/or NA (not applicable) response must be detailed in the comments section below.

\_\_\_\_\_

\_\_\_\_\_

| Client contacted: $u_{ay}d$ Date contacted: $2 - 7 - 6 \cdot 3$ Person contacted: |   |
|-----------------------------------------------------------------------------------|---|
| Contacted by: <u>5 Mouse + DC</u> Regarding: <u>Temperature</u> , Soil Hearepare  | - |
| comments: When complie brought in Tomperature was discussed w/                    | _ |
| vient client wanted TCLP volatiles on the soils.                                  |   |
| Sincle sample not filled totally discussed                                        |   |
| Corrective Action: Note Temperature on Report. Client decided not                 |   |
| todo TCLP volatilos on Soil                                                       |   |
| -                                                                                 |   |

iiná bá, Ltd.

Duke Energy Field Service

Val Verde Plant, Bloomfield, NM

0302004

CLIENT:

**Project:** 

Work Order:

Date: 04-Mar-03

## ANALYTICAL QC SUMMARY REPORT

#### TestCode: 1311\_HG

| Sample ID  | MBLK_030218         | SampType: MB    | LK Test         | Code: 1311_HG       | Units: mg/L           |                   | Prep Date               | 2/18/200           | 3           | Run ID: AA | _030218A |      |
|------------|---------------------|-----------------|-----------------|---------------------|-----------------------|-------------------|-------------------------|--------------------|-------------|------------|----------|------|
| Client ID: | ZZZZZ               | Batch ID: 325   | . Te            | estNo: SW7470       | (SW7470)              |                   | Analysis Date           | : 2/18/200         | 13          | SeqNo: 62  | 005      |      |
| Analyte    | ï                   | Re              | sult PQ         | SPK value           | SPK Ref Val           | <sup>i</sup> %REC | LowLimit H              | HighLimit I        | RPD Ref Val | %RPD       | RPDLimit | Qual |
| Mercury    |                     | &               | ND 0.000400     | )                   |                       |                   |                         |                    |             |            | ·        |      |
| Sample ID  | LCS_030218          | SampType: LCS   | Test            | Code: 1311_HG       | Units: mg/L           |                   | Prep Date:              | : 2/18/200         | 3           | Run ID: AA | _030218A |      |
| Client ID: | ZZZZZ               | · Batch ID: 325 | Τe              | stNo: SW7470        | (SW7470) <sup>1</sup> | r                 | Analysis Date           | : 2/18/200         | 3           | SeqNo: 620 | 006      |      |
| Analyte    |                     | Res             | sult PQI        | SPK value           | SPK Ref Val           | %REC              | LowLimit H              | HighLimit f        | RPD Ref Val | %RPD       | RPDLimit | Qual |
| Mercury    |                     | 0.11            | 19 0.000400     | 0.0993              | 0                     | 113               | 70                      | 130                | 、 0         | 0          |          |      |
| Sample ID  | LCSD_030218         | SampType: LCS   | SD Test         | Code: 1311_HG       | Units: mg/L           |                   | Prep Date               | : 2/18/200         | 3           | Run ID: AA | _030218A |      |
| Client ID: | ZZZZZ               | Batch ID: 325   | Τe              | stNo: SW7470        | (SW7470)              |                   | Analysis Date           | : 2/18/200         | 3           | SeqNo: 620 | 007      |      |
| Analyte    |                     | Res             | sult" PQL       | . SPK value         | SPK Ref Val           | %REC              | LowLimit H              | HighLimit f        | RPD Ref Val | %RPD       | RPDLimit | Qual |
| Mercury    |                     | 0.10            | 0.000400        | 0.0994              | 0                     | 103               | 70                      | 130                | 0.1119      | 8.67       | 0        |      |
| Sample ID  | 0302004-003AMS      | SampType: MS    | Test            | Code: 1311_HG       | Units: mg/L           |                   | Prep Date:              | : 2/18/200         | 3           | Run ID: AA | _030218A |      |
| Client ID: | Sand Blasting I.M.I | Batch ID: 325   | <sup>1</sup> Te | stNo: SW7470        | (SW7470)              |                   | Analysis Date:          | : <b>2/18/2</b> 00 | 3           | SeqNo: 620 | )15      |      |
| Analyte    |                     | Res             | sult PQL        | SPK value           | SPK Ref Val           | %REC              | LowLimit H              | -lighLimit F       | RPD Ref Val | %RPD       | RPDLimit | Qual |
| Mercury    |                     | 0.15            | 642 0.000625    | 0.1232              | 0.000175              | 125               | · 70                    | 130                | `0          | <u> </u>   |          |      |
| Sample ID  | 0302011-001AMS      | SampType: MS    | Test            | Code: 1311_HG       | Units: mg/L           | <u> </u>          | Prep <sup>'</sup> Date: | 2/18/200           | 3           | Run ID: AA | _030218A |      |
| Client ID: | ZZZZZ               | Batch ID: 325   | Te              | stNo: SW7470        | (SW7470)              |                   | Analysis Date:          | : 2/18/200         | 3           | SeqNo: 620 | 18       |      |
| Analyte    |                     | Re              | sult PQL        | . <u>Ş</u> PK value | SPK Ref Val           | %REC              | LowLimit F              | HighLimit F        | RPD Ref Val | %RPD       | RPDLimit | Qual |
| Mercury    | \$                  | 0.13            | 0.000500        | 0.1245              | 0.000225              | 110               | 70                      | 130                | 0           | 0          |          |      |

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

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B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

### CLIENT: Duke Energy Field Service

Work Order: Project: 0302004 Val Verde Plant, Bloomfield, NM

## TestCode: 1311\_HG

| Sample ID  | 0302014-002AMS S    | SampType: MS  | TestCode: 1311_HG | Units: mg/L | Prep Date: 2/18/2003                | Run ID: AA_030218A       |
|------------|---------------------|---------------|-------------------|-------------|-------------------------------------|--------------------------|
| Client ID: | ZZZZZ               | Batch ID: 325 | TestNo: SW7470    | (SW7470)    | Analysis Date: 2/18/2003            | SeqNo: 62022             |
| Analyte    |                     | Result        | PQL SPK value     | SPK Ref Val | %REC LowLimit HighLimit RPD Ref Val | `%RPD RPDLimit Qual      |
| Mercury    | · · · ·             | 0.1925        | 0.00200 0.1271    | 0.00185     | 150 70 130 0                        | 0 S                      |
| Sample ID  | 0302004-001CD S     | SampType: DUP | TestCode: 1311_HG | Units: mg/L | Prep Date: 2/18/2003                | Run ID: AA_030218A       |
| Client ID: | Train 5 Waste Water | Batch ID: 325 | TestNo: SW7470    | (SW7470)    | Analysis Date: 2/18/2003            | SeqNo: 62013             |
| Analyte    |                     | Result        | . PQL SPK value   | SPK Ref Val | %REC LowLimit HighLimit RPD Ref Val | %RPD RPDLimit Qual       |
| Mercury    |                     | 0.00045       | 0.000500 0        | 0           | ; 0 0 0 0.00055                     | 0 15 J                   |
| Sample ID  | 0302014-003AD S     | SampType: DUP | TestCode: 1311_HG | Units: mg/L | Prep Date: 2/18/2003                | Run ID: AA_030218A       |
| Client ID: | ZZZZZ               | Batch ID: 325 | TestNo: SW7470    | (SW7470)    | Analysis Date: 2/18/2003            | SeqNo: 62024             |
| Analyte    |                     | Result        | PQL SPK value     | SPK Ref Val | %REC LowLimit HighLimit RPD Ref Val | %RPD RPDLimit Qual       |
| Mercury    |                     | 0.0017        | 0.00200 0         | 0           | 0 0 0 0.0024                        | 0 15 J                   |
| Sample ID  | CCV1_030218 · 5     | SampType: CCV | TestCode: 1311_HG | Units: mg/L | Prep Date: 2/18/2003                | Run ID: AA_030218A       |
| Client ID: | ZZZZZ               | Batch ID: 325 | TestNo: SW7470    |             | Analysis Date: 2/18/2003            | SeqNo: 62008             |
| Analyte    | · .                 | Result        | PQL SPK value     | SPK Ref Val | %REC LowLimit HighLimit RPD Ref Val | ·· %RPD ,, RPDLimit Qual |
| Mercury    |                     | 0.1066        | 0.000500 0.1003   | 0           | 106 80 120 0                        | 0                        |
| Sample ID  | CCV2_030218 5       | ampType: CCV  | TestCode: 1311_HG | Units: mg/L | Prep Date: 2/18/2003                | Run ID: AA_030218A       |
| Client ID: | <b>ZZZZZ</b> ;      | Batch ID: 325 | TestNo: SW7470    |             | Analysis Date: 2/18/2003            | SeqNo: 62009             |
| Analyte    |                     | Result        | PQL SPK value     | SPK Ref Val | %REC LowLimit HighLimit RPD Ref Val | %RPD RPDLimit Qual       |
| Mercury    | · · ·               | 0.0932        | 0.000500 0.1003   | 0           | 92.9 80 120 0                       | 0                        |
| Sample ID  | CCV3_030218         | SampType: CCV | TestCode: 1311_HG | Units: mg/L | Prep Date: 2/18/2003                | Run ID: AA_030218A       |
| Client ID: | ZZZZZ               | Batch ID: 325 | TestNo: SW7470    | •           | Analysis Date: 2/18/2003            | SeqNo: 62010             |
| Analyte    |                     | Result        | PQL SPK value     | SPK Ref Val | %REC LowLimit HighLimit RPD Ref Val | %RPD RPDLimit Qual       |

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

I - Analyte detected below quantitation limits

## TestCode: 1311\_HG

|     | Sample ID   | CCV3_030218 S                           | ampType: CCV           | TestCod  | le: 1311_HG | Units: mg/L           | )           | Prep Da      | te: 2/18/20 | 003                | Run ID: AA        | _030218A      | `    |
|-----|-------------|-----------------------------------------|------------------------|----------|-------------|-----------------------|-------------|--------------|-------------|--------------------|-------------------|---------------|------|
|     | Client ID:  | 22222                                   | Batch ID: 325          | · TestN  | io: SW7470  |                       |             | Analysis Da  | te: 2/18/20 | 003                | SeqNo: 620        | 110           |      |
|     | Analyte     | 2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - | Result                 | PQL      | SPK value   | SPK Ref Val           | %REC        | LowLimit     | HighLimit   | RPD Ref Val        | %RPD              | RPDLimit      | Qual |
| •   | Mercury     | ì                                       | 0.118                  | 0.000500 | 0.1003      | 0                     | i 118       | · 80         | 1,20        | , 0                | 0                 |               |      |
|     |             |                                         | -4                     | •        |             |                       |             |              |             |                    |                   |               |      |
|     |             | <b>,</b>                                |                        | 1        |             | •                     |             |              |             |                    | u.                |               |      |
| . · |             | · ,                                     | -<br>L                 |          |             | í<br>•                | t           |              |             |                    |                   |               |      |
|     |             |                                         |                        |          |             | ÷                     |             |              |             |                    |                   |               |      |
|     |             |                                         |                        |          |             |                       |             | ×            |             | N.                 |                   |               |      |
|     |             |                                         |                        |          |             |                       |             |              |             |                    |                   |               |      |
|     | •           | . •                                     |                        |          |             |                       |             |              |             | •                  |                   |               |      |
|     |             |                                         | if.                    |          |             |                       |             |              |             |                    |                   |               |      |
|     |             |                                         | 1                      |          |             |                       |             |              |             |                    |                   |               |      |
|     |             | ~                                       |                        | 4        |             |                       |             |              |             |                    |                   |               |      |
|     |             |                                         |                        |          |             |                       | •           |              |             | u                  |                   |               |      |
|     |             |                                         |                        |          |             |                       |             | ,            |             |                    |                   |               |      |
|     | ·           |                                         |                        |          |             |                       |             |              |             |                    | x                 | *             |      |
|     |             |                                         |                        |          |             |                       |             |              |             |                    |                   |               |      |
| •   |             |                                         |                        |          |             |                       |             |              |             |                    |                   |               |      |
|     |             |                                         |                        |          | *           | ¢*                    |             |              |             |                    |                   |               |      |
|     |             |                                         |                        |          |             |                       |             |              |             |                    |                   |               |      |
|     |             |                                         |                        |          |             |                       | 5           |              |             |                    |                   |               |      |
|     |             |                                         |                        |          |             |                       |             |              |             |                    |                   |               |      |
| · . | Qualifiers: | ND - Not Detected                       | at the Reporting Limit |          | S - Spil    | e Recovery outside ac | cepted reco | overy limits | 1           | 3 - Analyte detect | ed in the associa | ted Method Bl | ank  |

J - Analyte detected below quantitation limits

**CLIENT:** 

Project:

Work Order:

Duke Energy Field Service

Val Verde Plant, Bloomfield, NM

0302004

## CLIENT: Duke Energy Field Service

Work Order: 0302004

Project: Val Verde Plant, Bloomfield, NM

## TestCode: 1311\_M

| Sample ID MBLK_030210 | SampType: MBLK | TestCode: 13 | 11_M       | Units: mg/L | •            | Prep Dat     | e: 2/11/20 |                | Run ID: ICF       | -1_030212A  | N        |
|-----------------------|----------------|--------------|------------|-------------|--------------|--------------|------------|----------------|-------------------|-------------|----------|
| Client ID: ZZZZZ      | Batch ID: 322  | TestNo: SV   | V1311/6010 | (SW3005A)   |              | Analysis Dat | e: 2/12/20 | 03             | SeqNo: 618        | 801         |          |
| Analyte               | Result         | PQL SPH      | value SPF  | KRef Val    | %REC         | LowLimit     | HighLimit  | RPD Ref Val    | `%RPD             | RPDLimit    | Qual     |
| Arsenic               | . ND           | 0.00800      | 0          | 0           | 0            | 0            | 0          | 0              | 0                 |             |          |
| Barium                | ND             | 0.00200      | 0          | · 0         | 0            | 0            | 0          | ' 0            | 0                 |             |          |
| Cadmium               | ND             | 0.00100      | 0          | . 0         | . 0          | 0            | 0          | 0              | 0                 | •           |          |
| Chromium              | ND             | 0.0280       | 0          | 0.          | 0            | 0            | 0          | ъ О            | 0                 |             |          |
| Lead                  | ND             | 0.00300      | 0          | 0           | 0            | 0            | . 0        | 0              | 0                 |             |          |
| Selenium.             | ND             | . 0.00600    | 0          | 0           | 0            | 0            | 0          | 0              | 0                 |             |          |
| Silver                | ND             | 0.00100      | 0          | 0           | 0            | Ó            | 0          | 0              | 0                 | ·           |          |
| Sample ID LCS_030211  | SampType: LCS  | TestCode: 13 | 11_M       | Units: mg/L |              | Prep Dat     | e: 2/11/20 | 103            | Run ID: ICF       | P_1_030212A | <b>\</b> |
| Client ID: ZZZZZ      | Batch ID: 322  | TestNo: SV   | V1311/6010 | (SW3005A)   |              | Analysis Dat | e: 2/12/20 | 03             | SeqNo: 618        |             |          |
| Analyte               | Result         | PQL SPH      | value SPł  | KRef Val    | %REC         | LowLimit     | HighLimit  | RPD Ref Val    | %RPD              | RPDLimit    | Qual     |
| Arsenic               | 0.0901         | 0.00800      | 0.1041     | 0           | 86.6         | 75           | 125        | 0              | 0                 |             |          |
| Barium                | 0.9454         | 0.00200      | 1.041      | 0           | 90.8         | 75           | 125        | 0              | 0                 |             |          |
| Cadmium               | 0.0516         | 0.00100      | 0.0521     | 0           | 99           | 75           | 125        | . 0            | 0                 |             |          |
| Chromium              | 0.0989         | 0.0280       | 0.1041     | 0           | 95           | : 75         | 125        | 0              | 0                 |             |          |
| Lead                  | 0.0945         | 0.00300      | ).1021     | 0           | 92.6         | 75           | 125        | <sup>3</sup> 0 | 0                 |             |          |
| Selenium              | 0.0521         | 0.00600      | 0.0511     | 0           | ' 102        | 75           | 125        | 0              | 0                 | I*          |          |
| Silver                | 0.1066         | 0.00100      | 0.1041     | 0           | 102          | . 75         | 125        | 0              | 0                 |             |          |
| Sample ID LCSD_030211 | SampType: LCSD | TestCode: 13 | 11_M       | Units: mg/L |              | Prep Dat     | e: 2/11/20 | 03             | Run ID: ICP       | _1_030212A  |          |
| Client ID: ZZZZZ      | Batch ID: 322  | TestNo: SV   | /1311/6010 | (SW3005A)   |              | Analysis Dat | e: 2/12/20 | 03             | SeqNo: 618        | 03          | ,        |
| Analyte               | Result         | PQL SPK      | value SPk  | Ref Val     | %REC         | LowLimit     | HighLimit  | RPD Ref Val    | %RPD              | RPDLimit    | Qual     |
| Arsenic               | 0.0916         | 0.00800      | ).1021     | 0           | 89.7         | 75           | 125        | 0.0901         | 1.65              | 20          |          |
| Barium                | 0.9566         | 0.00200      | 1.021      | · 0 .       | 93.7         | 75           | 125        | 0.9454         | 1.18              | 20          |          |
| Cadmium               | 0.0523         | 0.00100      | ).0511     | 0 ;         | 102          | 75           | 125        | 0.0516         | <sup>°</sup> 1.35 | 20          |          |
| Chromium              | 0.0996         | 0.0280       | ).1021     | 0.          | <b>9</b> 7.6 | 75           | 125        | 0.0989         | 0.705             | 20          |          |
| Lead                  | 0.0964         | 0.00300      | ).1021     | 0           | 94.4         | 75           | 125        | 0.0945         | 1.99              | 20          |          |
| Selenium              | 0.0565         | 0.00600      | 0.0511     | 0           | 111          | 75           | 125        | 0.0521         | 8.10              | 20          |          |
| Silver                | 0.1054         | 0.00100      | ),1021     | 0           | 103          | 75           | 125        | 0.1066         | 1.13              | 20          |          |
|                       |                |              |            |             |              |              |            |                |                   |             |          |

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

55

### CLIENT: Duke Energy Field Service

Work Order: 0

der: 0302004

Project: Val Verde Plant, Bloomfield, NM

## ANALYTICAL QC SUMMARY REPORT

## TestCode: 1311\_M

| Sample ID  | 0302004-003AMS                        | SampType: MS        | TestCo   | de: 1311_M           | Units: mg/L              | Prep Date: 2/11/2003 |              |             | Run ID: ICP_1_030212A |             |             |      |
|------------|---------------------------------------|---------------------|----------|----------------------|--------------------------|----------------------|--------------|-------------|-----------------------|-------------|-------------|------|
| Client ID: | Sand Blasting I.M.I                   | Batch ID: 322       | Testi    | No: <b>SW1311</b> /6 | 5010 (SW3005A)           |                      | Analysis Da  | te: 2/12/20 | 003                   | SeqNo: 61   | 807         |      |
| Analyte    | • '                                   | Result              | PQL      | SPK value            | SPK Ref <sup>®</sup> Val | %REC                 | LowLimit     | HighLimit   | RPD Ref Val           | %RPD        | RPDLimit    | Qual |
| Arsenic    | ì                                     | 0.0934              | 0.00800  | 0.1006               | 0                        | 92.8                 | 75           | 125         | 0                     | . 0         |             |      |
| Barium     |                                       | 1.167               | 0.00200  | 1.006                | 0.2403                   | 92.1                 | 75           | 125         | ' 0                   | 0           |             |      |
| Cadmium    |                                       | 0.0489              | 0.00100  | 0.0503               | 0.0005                   | 96.2                 | 75           | 125         | 0                     | 0           |             |      |
| Chromium   |                                       | 0.0989              | 0.0280   | 0.1006               | 0.0072                   | 91.2                 | 75           | 125         | . 0                   | 0           |             |      |
| Lead       |                                       | 0.0993              | 0.00300  | 0.1006               | 0.0084 ፡                 | , 90.4               | 75           | 125         | 0                     | 0           | i.          |      |
| Selenium   |                                       | 0.0523              | 0.00600  | 0.0503               | 0.                       | 104                  | 75           | 125         | 0                     | 0           |             |      |
| Silver     | · · · · · · · · · · · · · · · · · · · | 0.099               | 0.00100  | 0.1006               | 0.0004                   | 98                   | 75           | 125         | 0                     | 0           |             |      |
| Sample ID  | 0302004-003AMSD S                     | SampType: MSD       | TestCo   | le: 1311_M           | Units: mg/L              |                      | Prep Dat     | e: 2/11/20  | 003 \                 | Run ID: ICI | P_1_030212/ | 4    |
| Client ID: | Sand Blasting I.M.I                   | Batch ID: 322       | Test     | lo: <b>SW1311/6</b>  | 6010 (SW3005A)           |                      | Analysis Dat | ie: 2/12/20 | 003                   | SeqNo: 61   | 808         |      |
| Analyte    |                                       | Result              | PQL      | SPK value            | SPK Ref Val              | %REC                 | LowLimit     | HighLimit   | RPD Ref Val           | %RPD        | RPDLimit    | Qual |
| Arsenic    |                                       | 0.0986 <sup>;</sup> | 0.00800  | 0.1007               | 0                        | 97.9                 | 75           | 125         | 0.0934                | 5.42        | 20          |      |
| Barium     |                                       | 1.199               | 0.00200  | 1.007                | 0.2403                   | 95.2                 | 75           | 125         | 1.167                 | 2.66        | 20          |      |
| Cadmium    |                                       | 0.051               | 0.00100  | 0.0503               | 0.0005                   | 100                  | 75           | 125         | 0.0489                | 4.20        | 20          |      |
| Chromium   |                                       | 0.1059              | 0.0280   | 0.1007               | 0.0072                   | 98                   | 75           | 125         | 0.0989                | 6.84        | 20          |      |
| Lead       |                                       | 0.1046              | ,0.00300 | 0.1007               | 0.0084                   | 95.5                 | - 75         | 125         | 0.0993                | 5.20        | 20          |      |
| Selenium   |                                       | 0.0558              | 0.00600  | 0.0503               | . 0                      | 111                  | 75           | 125         | 0.0523                | 6.48        | . 20        |      |
| Silver     | •                                     | 0.1038              | 0.00100  | 0.1007               | 0.0004                   | 103                  | 75           | 125         | 0.099                 | 4:73        | 20          |      |
| Sample ID  | 0302004-001CD S                       | SampType: DUP       | TestCo   | le: 1311_M           | Units: mg/L              |                      | Prep Dat     | e: 2/11/20  | 03                    | Run ID: ICI | P_1_0302124 |      |
| Client ID: | Train 5 Waste Water                   | Batch ID: 322       | Test     | lo: <b>SW1</b> 311/6 | i010 (SW3005A)           |                      | Analysis Dal | e: 2/12/20  | 03                    | SeqNo: 618  | 305         |      |
| Analyte    |                                       | Result              | PQL      | SPK value            | SPK Ref Val              | %REC                 | LowLimit     | HighLimit   | RPD <b>Re</b> f Val   | %RPD        | RPDLimit    | Qual |
| Arsenic    |                                       | ND                  | 0.00800  | 0                    | · 0                      | . 0                  | 0            | 0           | 0                     | 0           | 20          |      |
| Barium     |                                       | 0.0554              | 0.00200  | · 0                  | ́О                       | · 0                  | 0            | 0           | 0.0619                | 11.1        | 20          |      |
| Cadmium    |                                       | ND                  | 0.00100  | 0                    | 0                        | 0                    | 0            | 0           | 0.0004                | 0           | 20          |      |
| Chromium   |                                       | 0.0768              | • 0.0280 | 0                    | 0                        | 0                    | .0           | 0           | 0.0805                | 4.70        | 20          |      |
| Lead       |                                       | ND                  | 0.00300  | 0                    | 0                        | . 0                  | 0            | 0           | 0                     | 0           | 20          |      |
| Selenium   |                                       | 0.011               | 0.00600  | 0                    | 0                        | . 0                  | 0            | 0           | 0.0138                | 22.6        | 20          | R    |
| Silver     |                                       | ND                  | 0.00100  | 0                    | 0                        | 0                    | 0            | 0           | 0                     | 0           | 20          |      |
|            | ,                                     |                     |          |                      |                          |                      |              |             |                       |             |             |      |

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

### TestCode: 1311\_M

Sample ID CCB1 030212 \$ampType: CCB TestCode: 1311 M Units: mg/L Prep Date: Run ID: ICP\_1\_030212A Batch ID: 322 TestNo: SW1311/6010 Analysis Date: 2/12/2003 SeqNo: 61810 Client ID: ZZZZZ PQL SPK Ref Val %REC LowLimit HighLimit RPD Ref Val Analyte Result SPK value %RPD RPDLimit Qual ND 0.00800 0 0 0 0 0 0 Arsenic 0 ND 0.00200 0 0 0 0 0 0 0 Barium 0.00100 0 0 0 0 0 0 Cadmium 0.0008 n 0.0280 0 0 ND 0 0 0 0 Chromium ۵ 0 0.00300 0 Ð 0 0 ND 0 Lead 0 ND 0.00600 0 Ω 0 0 0 0 n Selenium 0 0.00100 0 0 Ω 0 0 Silver 0.0001 0 TestCode: 1311 M Prep Date: Sample ID CCB2 030212 SampType: CCB Units: mg/L Run ID: ICP\_1\_030212A Client ID: ZZZZZ TestNo: SW1311/6010 Analysis Date: 2/12/2003 SeqNo: 61812 Batch ID: 322 , %REC Analyte Result PQL SPK value SPK Ref Val LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual 0 ND 0.00800 0 0 0 0 0 0 Arsenic 0.00200 0 0 0 0 0 0 Barium ND n 0.0013 0.00100 0 0 0 0 0 0 0 Cadmium 0.0001 0.0280 0 0 0 0 0 0 Chromium 0 0 0.00300 0 0 0 ND 0 0 0 Lead 0 ND 0.00600 0 0. 0 0 0 Selenium 0 0.00100 ND 0 0 0 0 0 0 0 Silver Prep Date: Run ID: ICP\_1\_030212A Sample ID CCV1 030212 SampType: CCV TestCode: 1311 M Units: mg/L TestNo: SW1311/6010 Analysis Date: 2/12/2003 SeqNo: 61811 Batch ID: 322 Client ID: ZZZZZ ; Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Analyte 0.00800 0.2066 0.2068 0 99.9 90 110 0 0 Arsenic 0.00200 2.068 110 0 0 92.9 90 Barium 1.921 0 0.0969 0.00100 0.1034 0 93.7 90 110 0 Cadmium 0 0.0280 0.2068 96.7 90 110 0 0.2 0 Chromium n 0.1922 0.00300 0:2068 Ó 92.9 90 110 0 Lead 0.1052 0.00600 0.1034 ល 102 .90 110 0 Selenium Û 0.2068 0.193 0.00100 0 93.3 90 110 0 0 Silver S - Spike Recovery outside accepted recovery limits ND - Not Detected at the Reporting Limit B - Analyte detected in the associated Method Blank Qualifiers: R - RPD outside accepted recovery limits J - Analyte detected below quantitation limits Page 6 of 8

CLIENT:

Work Order: 0302004.

Project: Val Verde Plant, Bloomfield, NM

Duke Energy Field Service

## TestCode: 1311\_M

| Sample ID                                                                                          | CCV2_030212         |                                       | SampType: CCV                                                                            | Tes                                                                             | Code: 1311_M                                                                                   | Units: mg/L                                                                     |                                                    | Prep Dat                                                                         | e:                                                                     |                                                       | Run ID: IC                                                                                       | P_1_030212                                                                                                       | 4         |
|----------------------------------------------------------------------------------------------------|---------------------|---------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|
| Client ID:                                                                                         | ZZZZZ               | • ,."                                 | Batch ID: 322                                                                            | Т                                                                               | estNo: <b>SW1311</b> /                                                                         | 6010 <u>,</u>                                                                   |                                                    | Analysis Dat                                                                     | e: 2/12/20                                                             | 003                                                   | SeqNo: 61                                                                                        | 813                                                                                                              |           |
| Analyte                                                                                            | ì                   |                                       | Resu                                                                                     | lt PC                                                                           | L SPK value                                                                                    | SPK Ref Val                                                                     | <sup>°</sup> %REC                                  | LowLimit                                                                         | HighLimit                                                              | RPD Ref Val                                           | %RPD                                                                                             | RPDLimit                                                                                                         | Qual      |
| Arsenic                                                                                            |                     |                                       | 0.192                                                                                    | 1 0.0080                                                                        | 0 0.2068                                                                                       | 0                                                                               | 92.9                                               | 90                                                                               | 110                                                                    | 0                                                     | 0                                                                                                |                                                                                                                  |           |
| Barium                                                                                             |                     |                                       | 2.10                                                                                     | 3 ( 0.0020                                                                      | 0 2.068                                                                                        | 0                                                                               | 102                                                | 90                                                                               | 110                                                                    | ,<br>0                                                | 0                                                                                                |                                                                                                                  |           |
| Cadmium                                                                                            |                     |                                       | 0.102                                                                                    | 8 0.0010                                                                        | 0 0.1034                                                                                       | 0 '                                                                             | 99.4                                               | 90                                                                               | 110                                                                    | 0                                                     | , О                                                                                              |                                                                                                                  |           |
| Chromium                                                                                           |                     | • ,                                   | 0.223                                                                                    | 6 0.028                                                                         | 0 0.2068                                                                                       | 0 '                                                                             | r 108                                              | 90                                                                               | 110                                                                    | 0                                                     | 0                                                                                                |                                                                                                                  |           |
| Lead                                                                                               |                     |                                       | 0.203                                                                                    | 5 0.0030                                                                        | 0 0.2068                                                                                       | U                                                                               | 98.4                                               | 90                                                                               | 110                                                                    | 0                                                     | 0                                                                                                |                                                                                                                  |           |
| Selenium                                                                                           | ·<br>·              |                                       | 0.095                                                                                    | 6 0.0060                                                                        | 0 0.1034                                                                                       | Q                                                                               | 92.5                                               | 90                                                                               | 110                                                                    | 0                                                     | 0                                                                                                |                                                                                                                  |           |
| Silver                                                                                             |                     |                                       | 0.220                                                                                    | 1 0.0010                                                                        | 0 0.2068                                                                                       | 0                                                                               | 106                                                | 90                                                                               | 110                                                                    | 、       0                                             | 0                                                                                                |                                                                                                                  |           |
|                                                                                                    |                     |                                       |                                                                                          |                                                                                 |                                                                                                |                                                                                 |                                                    |                                                                                  |                                                                        |                                                       |                                                                                                  | and the second second second second second second second second second second second second second second second |           |
| Sample ID                                                                                          | ICV_030212          |                                       | SampType: ICV                                                                            | Tes                                                                             | Code: 1311_M                                                                                   | Units: mg/L                                                                     |                                                    | Prep Date                                                                        | e:                                                                     |                                                       | Run ID: IC                                                                                       | P_1_030212/                                                                                                      | 4         |
| Sample ID<br>Client ID:                                                                            | ICV_030212<br>zzzzz |                                       | SampType: ICV<br>Batch ID: 322                                                           | Tes<br>T                                                                        | Code: 1311_M<br>estNo: SW1311/                                                                 | Units: mg/L                                                                     |                                                    | Prep Date<br>Analysis Date                                                       | e:<br>2/12/20                                                          | 003                                                   | Run ID: IC                                                                                       | P_1_030212/<br>819                                                                                               | A.        |
| Sample ID<br>Client ID:<br>Analyte                                                                 | ICV_030212<br>ZZZZZ |                                       | SampType: ICV<br>Batch ID: 322<br>Resu                                                   | Tes<br>T                                                                        | Code: 1311_M<br>estNo: SW1311/0<br>L SPK value                                                 | Units: mg/L<br>6010<br>SPK Ref Val                                              | %REC                                               | Prep Date<br>Analysis Date<br>LowLimit                                           | e:<br>e: <b>2/12/20</b><br>HighLimit                                   | 003<br>RPD Ref Val                                    | Run ID: <b>IC</b><br><sup>-</sup> SeqNo: 61<br>%RPD                                              | P_1_030212/<br>819<br>RPDLimit                                                                                   | A<br>Qual |
| Sample ID<br>Client ID:<br>Analyte<br>Arsenic                                                      | ICV_030212<br>ZZZZZ |                                       | SampType: ICV<br>Batch ID: 322<br>Resu<br>1.00                                           | Tes<br>T<br>It PQ<br>2 0.0080                                                   | Code: 1311_M<br>estNo: SW1311/<br>L SPK value<br>0 1                                           | Units: mg/L<br>5010<br>SPK Ref Val<br>0                                         | %REC<br>100                                        | Prep Date<br>Analysis Date<br>LowLimit<br>90                                     | e:<br>e: 2/12/20<br>HighLimit<br>110                                   | 003<br>RPD Ref Val<br>0                               | Run ID: <b>IC</b><br>`SeqNo:. <b>61</b><br>%RPD<br>0                                             | P_1_030212/<br>819<br>RPDLimit                                                                                   | A<br>Qual |
| Sample ID<br>Client ID:<br>Analyte<br>Arsenic<br>Barium                                            | ICV_030212<br>ZZZZZ |                                       | SampType: ICV<br>Batch ID: 322<br>Resu<br>1.00<br>0.987                                  | Tes<br>T<br>It PO<br>2 0.0080<br>2 0.0020                                       | Code: 1311_M<br>estNo: SW1311/r<br>L SPK value<br>0 1<br>0 1                                   | Units: mg/L<br>5010<br>SPK Ref Val<br>0<br>0                                    | %REC<br>100<br>98.7                                | Prep Date<br>Analysis Date<br>LowLimit<br>90<br>90                               | e:<br>e: 2/12/20<br>HighLimit<br>110<br>110                            | 003<br>RPD Ref Val<br>0<br>0                          | Run ID: IC<br>SeqNo: 61<br>%RPD<br>0<br>0                                                        | P_1_030212/<br>819<br>RPDLimit                                                                                   | Qual      |
| Sample ID<br>Client ID:<br>Analyte<br>Arsenic<br>Barium<br>Cadmium                                 | ICV_030212<br>ZZZZZ |                                       | SampType: ICV<br>Batch ID: 322<br>Resu<br>1.00<br>0.987<br>1.00                          | Tes<br>T<br>It PQ<br>2 0.0080<br>2 0.0020<br>1 0.0010                           | Code: 1311_M<br>estNo: SW1311/0<br>L SPK value<br>0 1<br>0 1<br>0 1                            | Units: mg/L<br>5010<br>SPK Ref Val<br>0<br>0<br>0                               | %REC<br>100<br>98.7<br>100                         | Prep Date<br>Analysis Date<br>LowLimit<br>90<br>90<br>90                         | e:<br>E: 2/12/20<br>HighLimit<br>110<br>110<br>110                     | 003<br>RPD Ref Val<br>0<br>0<br>0                     | Run ID: IC<br>SeqNo: 61<br>%RPD<br>0<br>0<br>0                                                   | P_1_030212/<br>819<br>RPDLimit                                                                                   | Qual      |
| Sample ID<br>Client ID:<br>Analyte<br>Arsenic<br>Barium<br>Cadmium<br>Chromium                     | ICV_030212<br>ZZZZZ | · · · · · · · · · · · · · · · · · · · | SampType: ICV<br>Batch ID: 322<br>Resu<br>1.00<br>0.987<br>1.00<br>1.04                  | Tes<br>T<br>1t PC<br>2 0.0080<br>2 0.0020<br>1 0.0010<br>2 0.028                | Code: 1311_M<br>estNo: SW1311/0<br>L SPK value<br>0 1<br>0 1<br>0 1<br>0 1                     | Units: mg/L<br>5010<br>SPK Ref Val<br>0<br>0<br>0<br>0                          | %REC<br>100<br>98.7<br>100<br>104                  | Prep Date<br>Analysis Date<br>LowLimit<br>90<br>90<br>90<br>90                   | e:<br>HighLimit<br>110<br>110<br>110<br>110<br>110                     | 003<br>RPD Ref Val<br>0<br>0<br>0<br>0                | Run ID: IC<br>SeqNo: 61<br>%RPD<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0           | P_1_030212/<br>819<br>RPDLimit                                                                                   | Qual      |
| Sample ID<br>Client ID:<br>Analyte<br>Arsenic<br>Barium<br>Cadmium<br>Chromium<br>Lead             | ICV_030212<br>ZZZZZ |                                       | SampType: ICV<br>Batch ID: 322<br>Resu<br>1.00<br>0.987<br>1.00<br>1.04<br>0.991         | Tes<br>T<br>2 0.0080<br>2 0.0020<br>1 0.0010<br>2 0.028<br>8 0.0030             | Code: 1311_M<br>estNo: SW1311/0<br>L SPK value<br>0 1<br>0 1<br>0 1<br>0 1<br>0 1<br>0 1       | Units: mg/L<br>5010<br>SPK Ref Val<br>0<br>0<br>0<br>0<br>0<br>0<br>0           | %REC<br>100<br>98.7<br>100<br>104 -<br>99.2        | Prep Date<br>Analysis Date<br>LowLimit<br>90<br>90<br>90<br>90<br>90<br>90       | e: 2/12/20<br>HighLimit<br>110<br>110<br>110<br>110<br>110<br>110      | 003<br>RPD Ref Val<br>0<br>0<br>0<br>0<br>0           | Run ID: IC<br>SeqNo: 61<br>%RPD<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | P_1_030212/<br>819<br>RPDLimit                                                                                   | Qual      |
| Sample ID<br>Client ID:<br>Analyte<br>Arsenic<br>Barium<br>Cadmium<br>Chromium<br>Lead<br>Selenium | ICV_030212<br>ZZZZZ |                                       | SampType: ICV<br>Batch ID: 322<br>Resu<br>1.00<br>0.987<br>1.00<br>1.04<br>0.991<br>1.01 | Tes<br>T<br>2 0.0080<br>2 0.0020<br>1 0.0010<br>2 0.028<br>8 0.0030<br>2 0.0060 | Code: 1311_M<br>estNo: SW1311/<br>L SPK value<br>0 1<br>0 1<br>0 1<br>0 1<br>0 1<br>0 1<br>0 1 | Units: mg/L<br>5010<br>SPK Ref Val<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | %REC<br>100<br>98.7<br>100<br>104 -<br>99.2<br>101 | Prep Date<br>Analysis Date<br>LowLimit<br>90<br>90<br>90<br>90<br>90<br>90<br>90 | e:<br>HighLimit<br>110<br>110<br>110<br>110<br>110<br>110<br>110<br>11 | 003<br>RPD Ref Val<br>0<br>0<br>0<br>0<br>0<br>0<br>0 | Run ID: IC<br>SeqNo: 61<br>%RPD<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0                     | P_1_030212/<br>819<br>RPDLimit                                                                                   | Qual      |

Qualifiers:

CLIENT:

Work Order:

**Project:** 

ND - Not Detected at the Reporting Limit

Duke Energy Field Service

Val Verde Plant, Bloomfield, NM

0302004

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

Page 7 of 8

## CLIENT:Duke Energy Field ServiceWork Order:0302004

## Project: Val Verde Plant, Bloomfield, NM

## ANALYTICAL QC SUMMARY REPORT

## TestCode: PH\_W

| • .    | Sample ID   | LCS_030210       | S     |                           | TestCoc | le: PH_W      | Units: pH un          | nits         | Prep Da      | te:         |                          | Run ID: WE        | T CHEM_03    | 0210A  |
|--------|-------------|------------------|-------|---------------------------|---------|---------------|-----------------------|--------------|--------------|-------------|--------------------------|-------------------|--------------|--------|
| .      | Client ID:  |                  |       | Batch ID: R4240           | TestN   | IO: E150.1    |                       |              | Analysis Da  | ie: 2/10/20 | 103                      | SeqNo: 617        | 99           |        |
|        | Analyte     |                  |       | Result                    | PQL     | SPK value     | SPK Ref Val           | %REC         | LowLimit     | HighLimit   | RPD Ref Val              | %RPD              | RPDLimit     | Qual   |
|        | pН          |                  |       | 5.21                      | 2.00    | 5.23          | . 0                   | . 99.6       | 90           | 110         | 0                        | 0                 |              |        |
|        | •           |                  |       |                           |         |               | *                     |              |              |             | ۰.                       |                   |              |        |
|        | •           |                  |       |                           |         |               |                       |              |              |             |                          |                   |              |        |
|        |             |                  |       |                           |         |               |                       | ;            |              |             |                          |                   |              |        |
|        |             |                  |       |                           |         |               | ,                     |              |              |             |                          |                   |              |        |
|        |             | ÷                |       |                           |         |               |                       |              |              |             |                          |                   |              | Ň      |
| · .    |             |                  |       |                           |         |               |                       | 4            |              |             |                          |                   |              |        |
| :      |             |                  |       |                           |         |               |                       |              |              |             |                          |                   |              |        |
|        |             |                  |       |                           |         |               |                       |              |              |             |                          |                   |              |        |
| •      |             |                  |       |                           |         |               |                       |              | •            |             | ÿ                        |                   |              |        |
|        |             | -                |       | -<br>-                    |         |               |                       | I            |              |             |                          | <i>"</i>          |              | N.     |
|        |             |                  |       |                           | •       |               | •                     |              | :            |             |                          |                   |              |        |
|        |             | د                | .*    |                           |         |               | 1                     |              |              |             |                          |                   |              |        |
| ·<br>· |             | ì                |       |                           |         |               |                       | i            |              |             | `                        |                   |              | I.     |
|        |             |                  |       | <b>6</b>                  | ,       |               |                       |              | ,            |             |                          |                   |              |        |
|        |             |                  |       | I                         |         |               |                       |              |              |             |                          |                   |              |        |
|        |             | ```              | • ;   |                           |         |               | ł                     | r            |              |             |                          | ¥                 |              |        |
|        |             |                  |       | 1                         |         |               | •                     |              |              |             |                          |                   |              |        |
|        |             |                  |       |                           |         | ¢٠            | ÷                     |              |              |             |                          |                   |              |        |
|        |             |                  |       |                           |         |               |                       |              | х            |             |                          |                   |              |        |
|        |             | 1                | •     |                           |         |               |                       |              |              |             |                          |                   |              |        |
|        | Qualifiers: | ND - Not Detec   | cted  | at the Reporting Limit    |         | -<br>S - Spil | ke Recovery outside a | iccepted rec | overy limits | E           | -<br>3 - Analyte detecte | d in the associat | ed Method Bl | lank   |
|        |             | J - Analyte dete | ected | below quantitation limits |         | R - RP        | Doutside accepted re  | covery limit | S            |             |                          |                   | Page 8       | 8 of 8 |

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2/19/03

IINA BA, LTD 3130, DAVE COX 612 E. MURRAY DRIVE FARMINGTON, NM 87401

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: Project Number: . Laboratory Project Number: 319848.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980.

|                       |                    | Page 1          |
|-----------------------|--------------------|-----------------|
| Sample Identification | Lab Number         | Collection Date |
|                       |                    |                 |
|                       |                    |                 |
| 0302004-001A          | 03-A20519          | 2/ 6/03         |
| 0302004-001B          | 0 <b>3-</b> A20520 | 2/ 6/03         |
| 0302004-002A          | 03-A20521 ,        | 2/ 6/03         |

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By:

Paul E. Lane, Jr., Lab Director Michael H. Dunn, M.S., Technical Director Johnny A. Mitchell, Dir. Technical Serv. Eric S. Smith, Assistant Technical Director Roxanne L. Connor, Technical Services Report Date: 2/19/03

Gail A. Lage, Technical Serv.Glenn L. Norton, Technical Serv.Kelly S. Comstock, Technical Serv.Pamela A. Langford, Technical Serv.



IINA BA, LTD 3130 DAVE COX 612 E. MURRAY DRIVE FARMINGTON, NM 87401

Project: Project Name: Sampler: Lab Number: 03-A20519 Sample ID: 0302004-001A Sample Type: Liquid waste Site ID:

Date Collected: 2/ 6/03 Time Collected: 16:00 Date Received: 2/12/03 Time Received: 9:00 Page: 1

## Val Verde Plant, Train 5 Waste Water

TCLP Results

A) - CA

|                      |            |       | - 1       | Matrix Spike |         |                  | 24        |        |          |
|----------------------|------------|-------|-----------|--------------|---------|------------------|-----------|--------|----------|
| Analyte              | Result     | Units | Reg Limit | Recovery (%) | Date    | Time             | Analyst   | Method | QC Batch |
|                      |            |       |           |              |         | • <del>-</del> - |           |        |          |
| 1                    | т <u>.</u> |       |           |              |         |                  |           |        |          |
| Benzene -            | 0.260      | mg/l  | 0.5       | 112          | 2/18/03 | 7:13             | B. Messay | 8260   | 4582     |
| Carbon tetrachloride | < 0.0200   | mg/l  | 0.5       | 110          | 2/18/03 | 7:13             | B. Messay | 8260   | 4582     |
| Chlorobenzene        | < 0.0200   | mg/l  | 100       | 116          | 2/18/03 | 7:13             | B. Messay | 8260   | 4582     |
| Chloroform           | < 0.0200   | mg/l  | 6.0       | 110          | 2/18/03 | 7:13             | B. Messay | 8260   | 4582     |
| 1,2-Dichloroethane   | < 0.0200   | mg/l  | 0.5       | 100          | 2/18/03 | 7:13             | B. Messay | 8260   | 4582     |
| 1,1-Dichloroethene   | < 0.0200   | mg/l  | 0.7       | 120          | 2/18/03 | 7:13             | B. Messay | 8260   | , 4582   |
| Methylethylketone    | < 0.100    | mg/l  | 200       | 93           | 2/18/03 | 7:13             | B. Messay | 8260   | 4582     |
| Tetrachloroethene    | < 0.0200   | mg/l  | 0.7       | 116          | 2/18/03 | 7:13             | B. Messay | 8260   | 4582     |
| Trichloroethene      | < 0.0200   | mg/l  | 0.5       | 110          | 2/18/03 | 7:13             | B. Messay | 8260   | 4582     |
| Vinyl Chloride       | < 0.0200   | mg/l  | 0.2       | 124 -        | 2/18/03 | 7:13             | B. Messay | 8260   | 4582     |

| Surrogate           | % Recovery | Target Range | ¥. |
|---------------------|------------|--------------|----|
| ······              |            | ······       |    |
| VOA Surr 1,2-DCA-d4 | 92.        | 73 133.      |    |
| VOA Surr Toluene-d8 | 109.       | 80 121.      |    |
| VOA Surr, 4-BFB     | 99         |              |    |

Sample report continued . . .



Laboratory Number: 03-A20519 Sample ID: 0302004-001A Project: Page 2

#### LABORATORY COMMENTS:

ND - Not detected at the report limit.

- B Analyte was detected in the method blank.
- J Estimated Value below Report Limit.
- E Estimated Value above the calibration limit of the instrument.
- # Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.

End of Sample Report.



IINA BA, LTD 3130 DAVE COX 612 E. MURRAY DRIVE FARMINGTON, NM 87401

Project: Project Name: Sampler: Lab Number: 03-A20520 Sample ID: 0302004-001B Sample Type: Liquid waste Site ID:

Date Collected: 2/ 6/03 Time Collected: 16:00 Date Received: 2/12/03 Time Received: 9:00 Page: 1

Val Verde Plant, Train 5 Waste Water

3/4/03

|     | <b>`</b>                                    |                |            | - Report    | Quan      | Dil    |         | •نا .   |            |        |       |
|-----|---------------------------------------------|----------------|------------|-------------|-----------|--------|---------|---------|------------|--------|-------|
| An  | alyte                                       | Result         | Units      | Limit       | Limit     | Factor | Date    | Time    | Analyst    | Method | Batch |
|     |                                             |                |            |             | ·         |        |         | ····· , |            |        |       |
|     | · · · ·                                     |                |            |             |           | ••     |         |         |            |        |       |
| *G  | -<br>ENERAL CHEMISTRY PARAMETE              | IRS*           |            |             |           |        |         |         |            |        | ,     |
| İġ  | nitability                                  | NOT IGNITABI   | LE UP TO 2 | :00F        |           |        | 2/18/03 | 10:31   | T. Beverly | 1010M  | 8424  |
| _   |                                             |                |            |             |           |        |         |         |            |        |       |
|     |                                             | ۲ <b>۳С</b> •  |            |             |           |        |         |         | ð-         |        |       |
|     | LABORATORI COMMEN                           | 112.           |            |             |           |        | 1       |         |            | •      |       |
| ND  | - Not detected at the re                    | eport limit.   |            |             |           |        |         |         |            |        |       |
| В·  | <ul> <li>Analyte was detected in</li> </ul> | the method h   | olank.     |             |           |        | •       |         |            |        |       |
| J·  | <ul> <li>Estimated Value below F</li> </ul> | eport Limit.   |            |             |           |        |         |         |            |        |       |
| Ε·  | - Estimated Value above t                   | he calibratio  | on limit d | of the inst | trument.  |        | *       |         |            |        |       |
| ŧ.  | <ul> <li>Recovery outside Labora</li> </ul> | tory historia  | cal or met | hod presci  | ribed lin | nits.  | -       |         |            |        |       |
| Fla | ash point/ignitability re                   | ported to the  | e nearest  | 10 deg F.   |           |        |         |         |            |        |       |
| Al  | l results reported on a w                   | Net weight bas | sis.       | -           |           |        |         |         |            | . **   |       |
|     | -                                           | 0              |            |             |           |        |         |         |            |        |       |
|     |                                             |                |            |             |           |        | 1       | •       |            |        |       |
|     |                                             |                |            |             |           |        | 1       |         |            |        |       |

End of Sample Report.

*...* 



IINA BA, LTD 3130 DAVE COX -612 E. MURRAY DRIVE FARMINGTON, NM 87401

Project: Project Name: Sampler:

Val Verde Plant, Trip Blank

Lab Number: 03-A20521 Sample ID: 0302004-002A Sample Type: Liquid waste Site ID:

Date Collected: ,2/ 6/03 Time Collected: Date Received: 2/12/03 Time Received: 9:00 Page: 1

| TCLP Results         |            |       |              |              |                  |          |           |        |              |  |
|----------------------|------------|-------|--------------|--------------|------------------|----------|-----------|--------|--------------|--|
| 2                    |            |       | Matrix Spike |              |                  |          |           |        |              |  |
| Analyte              | _Result    | Units | Reg Limit    | Recovery (%) | Date             | Time     | Analyst   | Method | QC Batch     |  |
|                      | ···· ····, |       |              |              |                  |          | ·····     |        | <del>-</del> |  |
| -                    |            |       |              | ,            |                  | <b>v</b> |           |        |              |  |
| Benzene              | < 0.0200   | mg/l  | 0.5          | 112          | 2/1 <u>8</u> /03 | 7:13     | B. Messay | 8260   | 4582         |  |
| Carbon tetrachloride | < 0.0200   | mg/l  | 0.5          | 110          | 2/18/03          | 7:13     | B. Messay | 8260 - | 4582         |  |
| Chlorobenzene        | < 0.0200   | mg∕l  | 100          | 116          | 2/18/03          | 7:13     | B. Messay | 8250   | 4582         |  |
| Chloroform           | 0.0700     | mg/l  | 6.0          | 110          | 2/18/03          | 7:13     | B. Messay | 8260   | 4582         |  |
| l,2-Dichloroethane   | < 0.0200*  | mg/l  | 0.5          | 100          | 2/18/03          | 7:13     | B. Messay | 8260   | 4582         |  |
| l,l-Dichloroethene   | < 0.0200   | mg/l  | • 0.7        | 120          | 2/18/03          | 7:13     | B. Messay | 8260   | 4582         |  |
| Methylethylketone    | < 0.100    | mg∕l  | 200          | 93           | 2/18/03          | 7:13     | B. Messay | 8260   | 4582         |  |
| Tetrachloroethene    | < 0.0200   | mg/l  | 0.7          | 116          | 2/18/03          | 7:13     | B. Messay | 8260   | 4582         |  |
| Trichloroethene ,    | < 0.0200   | mg/l  | 0.5          | 110          | 2/18/03          | 7:13     | B. Messay | 8260   | 4582         |  |
| Vinyl Chloride       | < 0.0200   | mg/l  | 0.2          | 124          | 2/18/03          | 7:13     | B. Messay | 8260   | 4582         |  |

3/4/03

| Surrogate           | % Recovery | Target Range |  |
|---------------------|------------|--------------|--|
|                     |            |              |  |
| •                   |            | · .          |  |
| VOA Surr 1,2-DCA-d4 | 97.        | 73 133.      |  |
| VOA Surr Toluene-d8 | 104.       | 80 121.      |  |
| VOA-Surr, 4-BFB     |            | 801.28       |  |

Sample report continued . . .



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### ANALYTICAL REPORT

Laboratory Number: 03-A20521 Sample ID: 0302004-002A Project: Page 2

#### LABORATORY COMMENTS:

ND - Not detected at the report limit.

B - Analyte was detected in the method blank.

J - Estimated Value below Report Limit.

E - Estimated Value above the calibration limit of the instrument.

# - Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.

End of Sample Report.


# PROJECT QUALITY CONTROL DATA Project Number: Project Name: Page: 1 Laboratory Receipt Date: 2/12/03

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

| Analyte .            | units  | Orig. Val. | MS Val | Spike Conc | Recovery | Target Range | Q.C. Batch | Spike Sample |
|----------------------|--------|------------|--------|------------|----------|--------------|------------|--------------|
|                      |        |            |        |            |          | ······       |            |              |
| **VOA PARAMETERS**   |        |            |        |            |          |              |            |              |
|                      | i.e    |            |        |            | •        |              | -          | -            |
| Benzene              | . mg/l | < 0.00000  | 0.0560 | 0.0500     | 112      | 78 132.      | 4582       | 03a21405     |
| Carbon tetrachloride | mġ/1   | < 0.00000  | 0.0550 | 0.0500     | 110      | 64 146.      | 4582       | 03a21405     |
| Chlorobenzene        | mg/l   | < 0.00000  | 0.0580 | 0.0500     | 116 `    | 79 124.      | 4582       | 03a21405     |
| Chloroform           | mg/l   | < 0.00000  | 0.0550 | 0.0500     | -110     | 73 133.      | 4582       | 03a21405     |
| l.2-Dichløroethane   | mg/l   | < 0.00000  | 0.0500 | 0.0500     | 100      | 70 140.      | 4582       | 03a21405     |
| l.l-Dichløroethene   | mg/l   | < 0.00000  | 0.0600 | 0.0500     | 120      | 68 141.      | 4582       | 03a21405     |
| Methylethylketone    | mg/l   | < 0.00000  | 0.232  | 0.250      | 93       | 69 142.      | 4582       | 03a21405     |
| Tetrachloroethene    | mg/1 ~ | < 0.00000  | 0.0580 | 0.0500     | 116      | 72 136.      | 4582       | 03a21405     |
| Trichloroethene      | mg/l   | < 0.00000  | 0.0550 | 0.0500     | 110      | 73 137.      | 4582       | 03a21405     |
| Vinyl Chloride       | mg/l   | < 0.00000  | 0.0620 | 0.0500     | 124      | 52 156.      | 4582       | 03a21405     |
|                      |        |            |        |            |          |              |            |              |

Matrix Spike Duplicate

| Analyte            | .=             | units | Orig. Val. | Duplicate | RPD    | Limit | Q.C. Batch |   |
|--------------------|----------------|-------|------------|-----------|--------|-------|------------|---|
|                    |                |       | <br>v      |           |        |       |            |   |
| **VOA PARAMETERS   | * *<br>i<br>** | ,     |            |           |        |       |            |   |
| Benzene            | •              | mg∕l  | 0.0560     | 0.0550    | 1.80   | 15.   | 4582       |   |
| Carbon tetrachlori | de             | -mg∕l | 0.0550     | 0.0550    | · 0.00 | 21.   | 4582       |   |
| Chlorobenzene      |                | mg/1  | • 0.0580   | 0.0580    | 0:00   |       | 4582       |   |
| Chloroform         |                | mg∕l  | ,0.0550    | 0.0560    | 1.80   | 20.   | 4582       | • |
| l,2-Dichľoroethane |                | mg∕l  | 0.0500     | 0.0500    | 0.00   | 16.   | 4582       |   |
| l,l-Dichloroethene |                | mg∕l  | 0.0600     | 0.0600    | 0.00   | 19.   | 4582       |   |
| Methylethylketone  |                | mg∕l  | 0.232      | 0.244     | 5.04   | 21.   | 4582       | - |
| Tetrachloroethene  |                | mg∕l  | 0.0580     | 0.0560    | 3.51   | 23.   | 4582       |   |
| Trichloroethene    |                | mg/l  | 0.0550     | 0.0550    | 0.00   | 20.   | 4582       |   |

Project QC continued . . .

2960 FOSTER CREIGHTON DRIVE / NASHVILLE, TN 37204 / 615-726-0177 / FAX: 615-726-0954 / 800-765-0980



PROJECT QUALITY CONTROL DATA Project Number: Project Name: Page: 2 Laboratory Receipt Date: 2/12/03

Matrix Spike Duplicate

| Analyte          | units | Orig. Val. | Duplicate | RPD  | Limit · | Q.C. Batch |  |
|------------------|-------|------------|-----------|------|---------|------------|--|
| • Vinyl Chloride | mg∕l  | 0.0620     | 0.0610    | 1.63 | 28.     | 4582       |  |
|                  |       |            |           |      |         |            |  |

Laboratory Control Data

| uge Q.C. Batch |
|----------------|
| ····           |
|                |
|                |
| 4582           |
| 4582           |
| 4582           |
| <u>،</u> 4582  |
| 4582           |
| 4582           |
| 4582           |
| 4582           |
| 4582           |
|                |
|                |

Blank Value Q.C. Batch Date Analyzed Time Analyzed Analyte Units ..... -----. . . . . . . . . . . . ..... \*\*VOA PARAMETERS\*\* <-0:0200--mg/-l-4582-2/-18/03-Benzene-7:13 mg/l < 0.0200 4582 2/18/03 7:13 Carbon tetrachloride < 0.0200 mg/l 4582 2/18/03 7:13 Chlorobenzene .

< 0,00000 mg/l 4582 2/-18/03 7:13 Chloroform 1,2-Dichloroethane < 0.0200 mg/l 4582 2/18/03 7:13 < 0.0200 mg∕l ·4582 2/18/03 7:13 l,l-Dichloroethene mg/l 4582 7:13 Methylethylketone < 0.100 2/18/03

Project QC continued . . .

2960 FOSTER CREIGHTON DRIVE / NASHVILLE, TN 37204 / 615-726-0177 / FAX: 615-726-0954 / 800-765-0980

650



PROJECT QUALITY CONTROL DATA Project Number: Project Name: Page: 3 Laboratory Receipt Date: 2/12/03

#### Blank Data

| Analyte                            | Blank Value       | Units         | Q.C. Batch | Analysis Date | Analysis Time |
|------------------------------------|-------------------|---------------|------------|---------------|---------------|
|                                    |                   |               |            |               |               |
| Tetrachloroethene                  | < 0.0200          | mg/l .        | 4582       | 2/18/03       | 7:13          |
| Trichloroethene                    | < 0.0200          | mg/l          | 4582       | 2/18/03       | 7:13          |
| Vinyl Chloride                     | < 0.0200          | mg/l          | 4582       | 2/18/03       | 7:13          |
| VOA Surr 1,2-DCA-d4                | 96.               | % Rec         | 4582       | 2/18/03.      | 7:13          |
| VOA Surr Toluene-d8                | 107.              | % Rec         | 4582       | 2/18/03       | 7:13          |
| VOA Surr, 4-BFB                    | . 101.            | % Rec         | 4582       | 2/18/03       | 7:13          |
| # - Value outside Laboratory histo | rical or method : | prescribed OC | limite     | ٩.            |               |

End of Report for Project 319848

2960. FOSTER CREIGHTON DRIVE / NASHVILLE, TN 37204 / 615-726-0177 / EAX: 615-726-0954 / 800-765-0980

| iina ba, Ltd.<br>612 E. Murray Drive<br>Farmington, NM 87401<br>(505) 327-1072                          | 3196644                                                                  | CHA                                      | IN-OF-CUSTODY                      | RECORD                       | Page 1 of 1 |
|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------|------------------------------------|------------------------------|-------------|
| Subcontractor:<br>Test America, Inc.<br>2960 Foster Creighton Dri<br>Nashville, TN 372040566            | TEL:<br>FAX:<br>Acct #:                                                  | (800) 765-0980<br>(615) 726-3404<br>3130 | ,                                  | 10                           | )-Feb-03    |
| Sample ID Matri                                                                                         | x Collection Date B                                                      | ottle Type SW1010 SW1311                 | Requested Tests<br>SW1311/8260E    |                              |             |
| 0302004-001A         Aqueor           0302004-001B         Aqueor           0302004-002A         Aqueor | us 2/6/2003 4:00:00 PM<br>us 2/6/2003 4:00:00 PM<br>us 2/6/2003          | VOAHCL 1<br>VOAHCL 1<br>VOAHCL 1         | 1 2021<br>1 2021<br>1 2021         |                              |             |
|                                                                                                         |                                                                          | :                                        |                                    |                              |             |
|                                                                                                         |                                                                          |                                          |                                    | -                            |             |
|                                                                                                         |                                                                          | ,                                        |                                    |                              |             |
| Comments: <u>Pleas</u><br>samp                                                                          | e analyze two (2) water samples for<br>le #0302004-001B for ignitability | or TCLP Volatiles. Sample #0302004       | -002A is a trip blank, please do n | ot charge us for it. Analyze |             |
| Relinguished by:                                                                                        | nome                                                                     | Date/Time                                | N: MAL                             | Date/Tim<br>Sholoz 9:er      | e           |
| Relinquished by:                                                                                        | ······                                                                   | Received b                               | y:                                 | <b>0.5</b>                   |             |

# <u>'ESTAN ERICA, INC.-NAS IVILLE</u>

# COOLER RECEIPT FORM

| Client: IINA                                                                                            | вс# <u>31984</u>    |
|---------------------------------------------------------------------------------------------------------|---------------------|
| Cooler Received On: 2/12/03 And Opened On: 2/12/03 By:                                                  | Mark Beasley        |
| (Signature)                                                                                             |                     |
| 1. Temperature of Cooler when opened <u>20 Degrees Cels</u>                                             | sius                |
| 2. Were custody seals on outside of cooler?                                                             | YES NO N/A          |
| a. If yes, how many, what kind and where: Ffor                                                          | +                   |
| b. Were the seals intact, signed, and dated correctly?                                                  |                     |
| 3. Were custody seals on containers and intact?                                                         |                     |
| 4. Were custody papers inside cooler?                                                                   | YES NO N/A          |
| 5. Were custody papers properly filled out (ink,signed,etc)?                                            |                     |
| 6. Did you sign the custody papers in the appropriate place?                                            | YES NO N/A          |
| 7. What kind of packing material used? Bubblewrap Peanuts Verr                                          | miculite Other None |
| 8. Was sufficient ice used (if appropriate)?                                                            | YES NO N/A          |
| 9. Did all bottles arrive in good condition( unbroken)?                                                 | YES NO N/A          |
| 10. Were all bottle labels complete (#,date,signed,pres,etc)?                                           |                     |
| 11. Did all bottle labels and tags agree with custody papers?                                           |                     |
| 12. Were correct bottles used for the analysis requested?                                               | YES NO N/A          |
| 13. a. Were VOA vials received?                                                                         | YES NO N/A          |
| b. Was there any observable head space present in any VOA via                                           | 1? NO YES N/A       |
| 14. Was sufficient amount of sample sent in each bottle?                                                |                     |
| 15. Were correct preservatives used?<br>If not, record standard ID of preservative used here            | NO N/A              |
| <ul><li>16. Was residual chlorine present?</li><li>17. Corrective action taken, if necessary:</li></ul> |                     |

See attached for resolution

| ~   | 1            |         | 1     |
|-----|--------------|---------|-------|
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51  $(e^{i}t) \rightarrow 0$  CHAIN OF CUSTODY RECORD

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | (for life's sake)                   | • 612 E. Murray Dr. • P. O. E<br>(505) 327-1072 | • FAX: (          | • Farming/<br>505) 327-14 | ton NM 87<br>496                      | ' <del>499</del>          |                       |          |           |                                        |         |        |          |        |          |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ,• •                                | i;                                              |                   |                           |                                       |                           |                       |          |           |                                        |         |        | ·        |        |          |            | • •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Purchas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | e Order No.:                        | Job No.                                         |                   |                           |                                       | · · · · · · · · · · · · · |                       | Name     | . 7       | No X                                   | (       |        | Ser este | t int  | Title    | в          | and the second second                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| ₽ <sup>₩</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Company MLIKE Th                    | eld SELVICES                                    |                   | Dept.                     | OPET                                  | S                         |                       | Mailin   | ig Addre  | ISS                                    | <u></u> |        | 411      | 2.77   | Care &   |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NAC SEI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Address 119 Count                   | 44 Runel 4900                                   | 2                 |                           | · · ·                                 |                           |                       | City, 5  | State, Zi | p //                                   | First d | 77     | 161      | Carrie | 1        |            | a tatala                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| Samplin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | g Location: Dutte Env<br>Vist Verde | e MANK BI                                       | DUANA<br>An       | Creedel                   | 11127                                 |                           | - 0                   |          | 3         |                                        |         |        | YSIS     | REQU   | JESTE    | ED         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Sampler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Contract of CLA                     | CUNSTE LU<br>PORO OVERN<br>Hoget                | <u>1949 k</u><br> | 2<br>                     |                                       |                           | Number o<br>Container |          |           |                                        |         |        |          |        | <u> </u> |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| Tra                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | in & waste                          | WUTER                                           |                   | -14 00P                   | 1 mm at the                           |                           | ;                     | X.       | ×         | ×                                      | ×       |        |          |        |          |            | 0302004-001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | of Shipment:                        |                                                 |                   |                           |                                       |                           | Rușt                  | 1        | 1         | 24-48 H                                | ours    | 10 \   | Workinç  | g Ďays | Spec     | ial Instru | uctions:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Authoriz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ed by: (Client Signature !          | Must Accompany Request)                         |                   | Date                      |                                       | · ·                       | -<br>-<br>-           |          |           |                                        |         |        |          |        | 1        |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

612 E. Murray Drive Farmington, NM 87401

Off: (505) 327-1072 March 05, 2003

> Blair Armstrong Duke Energy Field Service 370 17th St., Suite 900 Denver, CO 80202

TEL: (505) 632-6462 ---FAX (505) 632-6485

RE: Val Verde Waste Water Storage Tank

Order No.: 0302012

505

321

P.O. Box 2606

Farmington, NM 87499

Fax: (505) 327-1496

Dear Blair Armstrong:

iiná bá, Ltd. received 1 sample on 2/13/2003 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these test results, please feel free to call.

iiná

Sincerely,

David Cox

| 612 E. Murra<br>Farmington, N<br>Off: (505) 32 | ay Drive<br>IM 87401<br>27-1072 | tiná                 | bá  | P.O. Box 2606<br>Farmington, NM 87499<br>Fax: (505) 327-1496 |
|------------------------------------------------|---------------------------------|----------------------|-----|--------------------------------------------------------------|
| iiná bá, Lí                                    | d.                              |                      | מ   | Date: 05-Mar-03                                              |
| CLIENT:                                        | Duke Energy Fi                  | eld Service          | · · | 2 0                                                          |
| Project:                                       | Val Verde Wast                  | e Water Storage Tank |     | SF NARRATIVE                                                 |
| Lab Order:                                     | 0302012                         |                      | L L |                                                              |

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One (1) aqueous sample was sub-contracted to Test America, Inc. in Nashville, TN for analysis.

13

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

iina ba, Ltd.

# Sample Receipt Checklist

ite leconologies

| Client Name: DUK1001                           |                           |                                       | · Date and T | ime Received:                         |             | 2/13/2003           |
|------------------------------------------------|---------------------------|---------------------------------------|--------------|---------------------------------------|-------------|---------------------|
| Work Order Number: 0302012                     |                           |                                       | Received t   | by: HNR                               |             |                     |
| Checklist completed by: Alecchi                | M 2/13<br>Dale            | 3/03                                  | Reviewed t   | by:                                   | 3/          | <b>4/03</b><br>Dale |
| Matrix:                                        | Carrier name:             | Courier                               |              | U                                     |             |                     |
| Shipping container/cooler in good condition?   |                           | Yes 🗹                                 | No           | Not Present                           |             |                     |
| Custody seals intact on shippping container/co | oler?                     | Yes 🗋                                 | No           | Not Present                           | V           |                     |
| Custody seals intact on sample bottles?        |                           | Yes 📃                                 | No           | Not Present                           |             |                     |
| Chain of custody present?                      |                           | Yes 🗹                                 | No 🗔         |                                       |             | · ·                 |
| Chain of custody signed when relinquished and  | received?                 | Yes 🔽                                 | No           |                                       |             |                     |
| Chain of custody agrees with sample labels?    |                           | Yes 🗹                                 | No 🗌         |                                       |             |                     |
| Samples in proper container/bottle?            |                           | Yes 🗹                                 | No 🛄         | 3                                     |             |                     |
| Sample containers intact?                      | -<br>. ·                  | Yes 🗹                                 | No 🗌         |                                       |             | .=                  |
| Sufficient sample volume for indicated test?   | • •                       | Yes 🗹                                 | No 🗔         |                                       |             |                     |
| All samples received within holding time?      |                           | Yes 🗹                                 | No           |                                       |             | · ·                 |
| Container/Temp Blank temperature in complian   | ce?                       | Yes 🗹                                 | No           | ·····                                 |             |                     |
| Water - VOA vials have zero headspace?         | No VOA vials subm         | nitted 🗹                              | Yes _        | No                                    |             |                     |
| Water - pH acceptable upon receipt?            |                           | Yes 🗹                                 | No           | 1.6 E                                 | ···· · · ·  |                     |
|                                                | Adjusted?                 |                                       | Checked by:  |                                       |             |                     |
|                                                |                           |                                       |              |                                       |             |                     |
| Any No and/or NA (not applicable) response mu  | ist be detailed in the co | omments se                            | ction below. | 111.<br>                              |             |                     |
|                                                |                           |                                       |              |                                       |             |                     |
| Client contacted:                              | Date contacted:           | • .                                   | Per          | son contacted:                        |             |                     |
| Contacted by:                                  | Recardino:                |                                       |              |                                       |             |                     |
|                                                |                           | ·····                                 | ······       | · · · · · · · · · · · · · · · · · · · | <u>_</u> ,, |                     |
| Comments:                                      | ~                         |                                       |              | · · · · · · · · · · · · · · · · · · · |             |                     |
| · · · · · · · · · · · · · · · · · · ·          | · ·                       | · ·                                   | ••••         |                                       |             |                     |
| · · ·                                          |                           |                                       |              |                                       |             |                     |
|                                                |                           | · · · · · ·                           |              |                                       |             | ,                   |
|                                                |                           | · · · · · · · · · · · · · · · · · · · |              |                                       |             | <u></u>             |
|                                                | <u> </u>                  |                                       |              | ·                                     |             |                     |
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|                                                | <del>_</del>              | · ·- ·                                |              |                                       |             |                     |
|                                                | • . •                     | •••                                   |              |                                       |             | :<br>:<br>:         |

2/28/03

IINA BA, LTD 3130 DAVE COX 612 E. MURRAY DRIVE FARMINGTON, NM 87401

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name:

Project Number: . Laboratory Project Number: 320393.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980.

|                       |            | Page 1          |
|-----------------------|------------|-----------------|
| Sample Identification | Lab Number | Collection Date |
|                       |            |                 |
|                       |            |                 |

0302012-001A

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

2/13/03

03-A22937

**Test**America

Allie adae Report Approved By:

Paul E. Lane, Jr., Lab Director Michael H. Dunn, M.S., Technical Director Johnny A. Mitchell, Dir. Technical Serv. Eric S. Smith, Assistant Technical Director Roxanne L. Connor, Technical Services Report Date: 2/27/03

Gail A. Lage, Technical Serv. Glenn L. Norton, Technical Serv. Kelly S. Comstock, Technical Serv. Pamela A. Langford, Technical Serv. - ь-из;ти:4зам;un Site Technologies

;1 505 327 1496 # 6/ 13



### ANALYTICAL REPORT

## IINA BA, LTD 3130 DAVE COX 612 E. MURRAY DRIVE FARMINGTON, NM 87401

Lab Number: 03-A22937 Sample ID: 0302012-001A Sample Type: Liquid waste Site ID:

Project: Project Name: Sampler: Date Collected: 2/13/03 Time Collected: 13:00 Date Received: 2/15/03 Time Received: 9:00 Page: 1

### Val Verde Waste Water Storage Tank

3/4/03 TCLP Results Matrix Spike Analyst Units Reg Limit Recovery (%) Method QC Batch Analvte Result Date Time Cresols < 0.100 mg/l 200 38 2/26/03 23:00 M.Schott 8270 6413 7.5 30 2/26/03 23:00 M.Schott 6413 1,4-Dichlorobenzene mg/l 8270 < 0.0200 2,4-Dinitrotoluene < 0.0200 mg/l 0.13 78 2/26/03 23:00 M.Schott 8270 6413 0.13 2/26/03 23:00 M.Schott Hexachlorobenzene < 0.0200 mg/l 48 8270 6413 0.5 32 2/26/03 23:00 M.Schott 6413 Hexchlor-1, 3-butadien mg/l 8270 < 0.0200 Hexachlorcethane < 0.0200 mg/l 3.0 30 2/26/03 23:00 M.Schott 8270 6413 2/26/03 23:00 N.Schott mg/l 2.0 38 Nitrobenzene < 0.0200 8270 6413 < 0.100' mg/l 100 Pentachlorophenol 12 2/26/03 23:00 M.Schott 8270 6413 Pyridine 0.0262 ™g/l 5.0 22 2/26/03 23:00 M.Schott 8270 6413 2,4,5-Trichlorophenol < 0.100 mg/l 400 2 2/26/03 23:00 M.Schott 8270 6413 2,4,6-Trichlorophenol < 0.100 mg/l 2.0 з 2/26/03 23:00 M.Schott 8270 6413 TCLP Extraction Initiated 2/21/03 14:35 M. Cauthen 1311 7319

M

Sample Extraction Data

4

|            | Wt/Vol    |                 |         |      | •         | •      |  |
|------------|-----------|-----------------|---------|------|-----------|--------|--|
| Parameter  | Extracted | Extract Vol     | Date    | Time | Analyst   | Nethod |  |
|            |           |                 | ÷       | ••*  |           |        |  |
| TCLP BNA's | 500. m    | 1 <u>1.0 ml</u> | 2/25/03 |      | D. Harris | 3510   |  |

Sample report continued . . .

2960 FOSTER CREIGHTON DRIVE / NASHVILLE, TN 37204 / 615-726-0177 / FAX: 615-726-0954 / 800-765-0980

#### 3- 6-03;10:43AM, ON SILE TECHNOLOGIES



#### ANALYTICAL REPORT

Laboratory Number: 03-A22937 Sample ID: 0302012-001A Project: Page 2

| Surrogate                     | & Recovery | Target Range |  |
|-------------------------------|------------|--------------|--|
|                               | 100        |              |  |
|                               |            |              |  |
| BNA Surr-Nitrobenzene-d5      | · 93.      | 40 127.      |  |
| BNA Surr-2-Fluorobiphenyl     | 92.        | 42 113.      |  |
| BNA Surr-Terphenyl-dl4        | 90.        | 41 129.      |  |
| BNA Surr-Phenol-d5            | 0. #       | 1 75.        |  |
| BNA Surr-2-Fluorophenol       | 28.        | 3 97.        |  |
| BNA Surr-2,4,6-Tribromophenol | 114.       | 35 174.      |  |

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.

TCLP BNA surrogates outside QC limits due to sample matrix.

2960 FASTER CONDITION DRIVE / NASHVILLE TN 37204 / 615-726-0177 / FAS- 615.726 0054 / 000 765 0000

з

# Test America

# PROJECT QUALITY CONTROL DATA Project Number: Project Name: Page: 1 Laboratory Receipt Date: 2/15/03

#### Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/NSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

| Analyte                 | units | Orig. Val. | MS Val  | Spike Conc | Recovery | Target Range | Q.C. Batch | Spike Sample       |
|-------------------------|-------|------------|---------|------------|----------|--------------|------------|--------------------|
|                         |       |            |         |            | ·        |              |            |                    |
|                         |       |            |         |            | ·        |              |            | <del>.</del> .     |
| **EXTRACTABLE PARAMETE  | RS++  | _          |         |            |          |              |            |                    |
| •                       | :     | • ••       |         |            |          |              |            |                    |
| Cresols                 | mg/1  | < 0.0100   | 0.228   | 0.600      | 38       | 19 104.      | 6413       | 03-A25719          |
| Cresols                 | mg/l  | < 0.0100   | 0.268   | 0.600      | 45       | 19 104.      | 6413       | 03-A25719          |
| 1,4-Dichlorobenzene     | mg/l  | < 0.0100   | 0.0600  | 0.200      | 30       | 23 103.      | 6413       | 03-A25719          |
| 1,4-Dichlorobenzene     | mg/l  | < 0.0100   | 0.0800  | 0.200      | 40       | 23 103.      | 6413       | 03-A25719          |
| 2,4-Dinitrotoluene      | mg/l  | < 0.0100   | 0.136   | 0.200      | 68       | 24 136.      | 6413       | 03-A25719          |
| 2,4-Dinitrotoluene      | mg/l  | < 0.0100   | 0.140   | 0.200      | 70       | 24 136.      | 6413       | 03-A25719          |
| Hexachlorobenzene       | mg/l  | < 0.0100   | 0.0960  | 0.200      | 48       | 22 78.       | 6413       | 03-A25719          |
| Hexachlorobenzene       | mg/l  | < 0.0100   | 0.100   | 0.200      | 50       | 22 78.       | 6413       | 03-A25719          |
| Hexchlor-1,3-butadien   | mg/l  | < 0.0100   | 0.0640  | 0.200      | 32       | 18 106.      | 6413       | 03-A25719          |
| Hexchlor-1,3-butadien   | mg/l  | < 0.0100   | 0.0840  | p.200      | 42       | 18 106.      | 6413       | 03-A25719          |
| Hexachloroethane        | mg/l  | < 0.0100   | 0.0600  | 0.200      | 30       | 21 103.      | 6413       | 03-A25719          |
| <u>Hexachloroethane</u> | mg/1  | < 0.0100   | 0.0760  | 0.200-     | 38       | 21 103.      | 6413       | 03- <b>A2</b> 5719 |
| Nitrobenzene            | mg/l  | < 0.0100   | 0.0760  | 0.200      | 38       | 30 119.      | 6413       | 03-A25719          |
| Nitrobenzene            | mg/l  | < 0.0100   | 0.104*  | 0.200      | 52       | 30 119.      | 6413       | 03-A25719          |
| Pentachlorophenol       | mg/l  | < 0.0100   | 0.0240  | 0,200      | 12#      | 30 146.      | 6413       | 03-A25719          |
| Pentachlorophenol       | mg/1, | < 0.0100   | 0.124   | 0.200      | 62       | 30 146.      | 6413       | 03-A25719          |
| Pyridine                | mg/l  | < 0.0100   | 0.0440  | 0.200      | 22       | 1 84.        | 6413       | 03-A25719          |
| Pyridine                | mg/l  | < 0.0100   | 0.0520  | 0.200      | 26       | 1 84.        | 6413       | 03-A25719          |
| 2,4,5-Trichlorophenol   | mg/1  | < 0.0100   | 0.00540 | 0.200      | 3#       | 34 135.      | 6413       | 03-A25719          |
| 2,4,5-Trichlorophenol   | mg/l  | < 0.0100   | 0.128   | 0.200      | 64       | 34 135.      | 6413       | 03-A25719          |
| 2,4,6-Trichlorophenol   | mg/l  | < 0.0100   | 0.00650 | 0.200      | 3#       | 32 135.      | 6413       | 03-A25719          |
| 2,4,6-Trichlorophenol   | mg/1  | < 0.0100   | 0.120   | 0.200      | 60       | 32 135.      | 6413       | 03-A25719          |

#### Project QC continued . .

2960 FOSTER CREICHTON DRIVE / NASHVILLE TN 37204 / 615-726-0177 / FAY- 615-726-0954 / 800-765-0980



PROJECT QUALITY CONTROL DATA Project Number: Project Name: Page: 2 Laboratory Receipt Date: 2/15/03

Matrix Spike Duplicate

| Analyte                    | units | Orig. Val. | Duplicate | RPD     | Limit | Q.C. Batch |    |
|----------------------------|-------|------------|-----------|---------|-------|------------|----|
| **EXTRACIABLE PARAMETERS** | •     |            | ,<br>-    | -<br>-  |       | -          | •  |
| Cresols                    | mg/l  | 0.229      | 0.268     | , 16.13 | 36.   | 6413 -     |    |
| 1,4-Dichlorobenzene        | mg/l  | 0.0600     | 0.0800    | 28.57   | 38.   | 6413       | ٠. |
| 2.4-Dinitrotoluene         | mg/1  | 0.136      | 0.140     | 2,90    | 36.   | 6413       |    |
| Hexachlorobenzené          | mg/l  | 0.0960     | 0.100     | 4.08    | 36.   | 6413       |    |
| Hexchlor-1,3-butadien      | mg/l  | 0.0540     | 0.0840    | 27.03   | 41.   | 6413       |    |
| Hexachloroethane           | mg/l  | 0.0600     | 0.0760    | 23.53   | 39.   | 6413       |    |
| Nitrobenzene               | mg/l  | 0.0760     | 0.104     | 31.11   | 43.   | 6413       |    |
| Pentachlorophenol          | mg/l  | 0.0240     | 0.124     | 135.14# | 37.   | 6413       |    |
| Pyridine                   | mg/l  | 0.0440     | 0.0520    | 16.67   | 88.   | 6413       |    |
| 2 4.5-Trichlorophenol      | mg/l  | 0.00540    | 0.128     | 183.81# | 38.   | 6413       |    |
| 2,4,6-Trichlorophenol      | mg/1  | 0.00650    | 0.120     | 179.45# | 38.   | 6413       |    |

#### Laboratory Control Data

| Analyte                | units | Known Val. | Analyzed Val | % Recovery | Target Range  | Q.C. Batch |   |
|------------------------|-------|------------|--------------|------------|---------------|------------|---|
|                        |       |            |              |            |               |            |   |
|                        |       |            |              |            |               | · .        |   |
| **EXTRACTABLE PARAMETE | RS**  |            | · . · .      | •          | <b>ب</b><br>ب |            |   |
| Cresols                | mg/l  | 0.300      | 0.242        | 81         | 19 - 100      | 6413       |   |
| 1.4-Dichlorobenzene    | mg/l  | 0.100      | 0.0900       | 90         | 23 - 103      | 6413       |   |
| 2.4-Dinitrotoluene     | mg/l  | 0.100      | 0.130        | 130 🔩      | 24 - 136      | 6413       |   |
| Hexachlorobenzene      | mg/l  | 0.100      | 0.0940       | 94 #       | 22 - 78       | 6413       |   |
| Herchlor-1,3-butadien  | mg/l  | 0.100      | 0.0940       | 94         | 18 - 106      | , 6413     |   |
| Hexachloroethane       | mg/l  | 0.100      | 0.0860       | 86         | 21 - 103      | 6413       |   |
| Nitrobenzeze           | mg/l  | 0.100      | 0.106        | 106        | 30 - 117      | 6413       |   |
| Pentachlorophenol      | mq/l  | 0,100      | 0.116        | 116        | 30 - 130      | 6413       |   |
| Pyridine               | mq/l  | 0.100      | 0.0400       | 40         | 9 - 71        | 6413       | - |
| 2,4,5-Trichlorophenol  | mg/l  | 0.100      | 0.120        | 120        | 34 - 132      | 6413       |   |

Project QC continued .

2960 FOSTER CREIGHTON DRIVE / NASHVILLE TN 37904 / 615-796-0177 / FAX. 615 796 0054 / 000 765 0000



PROJECT QUALITY CONTROL DATA Project Number: Project Name: Page: 3 Laboratory Receipt Date: 2/15/03

> Known Val. Analyzed Val \* Recovery Target Range Q.C. Batch units Analyte ...... ..... -----------------6413 0.100 0.118 118 32 - 129 2,4,6-Trichlorophenol mg/l Blank Data . --Blank Value Units Q.C. Batch Date Analyzed Time Analyzed Analyte \*\*\*\*\*\* \*\*EXTRACTABLE PARAMETERS\*\* 2/26/03 < 0.0100 mg/l 6413 23:00 Cresols < 0.0100 mg/l 6413 2/26/03 23:00 1,4-Dichlorobenzene 2/26/03 < 0.0100 mg/l 6413 23:00 2,4-Dinitrotoluene 6413 2/26/03 23:00 < 0.0100 mg/l Hexachlorobenzene Hexchlor-1, 3-butadien < 0.0100 mg/l 6413 2/26/03 23:00 . 6413 2/26/03 23:00 < 0.0100 mg/l Hexachloroethane 2/26/03 < 0.0100 mg/l 6413 23:00 Nitrobenzene 2/26/03 6413 23:00 Pentachlorophenol < 0.0100 mg/l Pyridine < 0.0100 mg/l 6413 2/26/03 23:00 . 6413 mg/l 2/26/03 23:00 < 0.0100 2,4,5-Trichlorophenol < 0.0100 mg/l 6413 2/26/03 23:00 2,4,6-Trichlorophenol Value outside Laboratory historical or method prescribed QC limits.

Laboratory Control Data

End of Report for Project 320393

2960 FOSTER CREIGHTON DRIVE / NASHVILLE, TN 37204 / 615-726-0177 / FAX: 615-726-0954 / 800-765-0980

# iina ba, Ltd.

612 E. Murray Drive Farmington, NM 87401 (505) 327-1072

# **CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

13-Feb-03

320393

(800) 765-0980 (615) 726-3404

### Subcontractor: Test America, Inc.

2960 Foster Creighton Drive Nashville, TN 372040566

| Sample ID    | Matrix  | Collection Date      | Bottle Type | SW1311/82700 SW3510 | Requested Tests | l : |
|--------------|---------|----------------------|-------------|---------------------|-----------------|-----|
| 0302012-001A | Aqueous | 2/13/2003 1:00:00 PM | 1LAMGU      | .   <u>1</u>        |                 |     |
| •            | <b></b> |                      | ``          | с.<br>Р             | :               | -   |
|              |         | ł,                   | :           |                     |                 |     |
| ,            |         |                      |             | ,                   |                 |     |
|              |         |                      | .`          |                     |                 | -   |
|              |         |                      |             | 5                   |                 |     |
|              |         |                      |             |                     |                 |     |

#### **Comments:**

Please analyze one (1) water sample for TCLP Semivolatiles.

TEL:

FAX:

Acct #:

3130

Date/Time Date/Time Moon 0314:45 Received by: Relinquished by: / 2/14 9:00 しろ Relinquished by. Received by:

# **TESTAMERICA, INC.-NASHVILLE**

| COOLER RECEIPT FORM                                                                  | 320393               |
|--------------------------------------------------------------------------------------|----------------------|
| Client: Iina Ba Ltd                                                                  | BC#3205 KRB          |
| Cooler Received On: 2/15/03 And Opened On: 2/15/03 By Paul<br>Pl by /<br>(Signature) | R. Buckingham II     |
| 1. Temperature of Cooler when opened <u>2.D</u> Degrees Ce                           | lsius                |
| 2. Were custody seals on outside of cooler?                                          | YES NO N/A           |
| a. If yes, how many, what kind and where:                                            | mart                 |
| b. Were the seals intact, signed, and dated correctly?                               |                      |
| 3. Were custody seals on containers and intact?                                      | NO YES MA            |
| 4. Were custody papers inside cooler?                                                | YES NO N/A           |
| 5. Were custody papers properly filled out (ink,signed,etc)?                         |                      |
| 6. Did you sign the custody papers in the appropriate place?                         |                      |
| 7. What kind of packing material used? Bubblewrap Peanuts Ve                         | rmiculite Other None |
| 8. Was sufficient ice used (if appropriate)?                                         |                      |
| 9. Did all bottles arrive in good condition( unbroken)?                              | YES NO N/A           |
| 10. Were all bottle labels complete (#,date,signed,pres,etc)?                        |                      |
| 11. Did all bottle labels and tags agree with custody papers?                        |                      |
| 12. Were correct bottles used for the analysis requested?                            |                      |
| 13. a. Were VOA vials received?                                                      |                      |
| b. Was there any observable head space present in any VOA vi                         | al?NO YES N/A        |
| 14. Was sufficient amount of sample sent in each bottle?                             |                      |
| 15. Were correct preservatives used?                                                 |                      |
| If not, record standard ID of preservative used here                                 |                      |
| 16 Was residual chloring present?                                                    | NO VES NA            |
| 17. Corrective action taken, if necessary:                                           |                      |
| - <b>v</b>                                                                           |                      |

See attached for resolution

9/17/02

District I 1625 N.<u>French D</u>r., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

# **REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

| 1. RCRA Exempt: Non-Exempt: 🕅                                                                                                                                                                                                                                                                                             | 4. Generator OIL AND GAS EQUIPMENT                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| □Verbal Approval Received: Yes □ No 🕅                                                                                                                                                                                                                                                                                     | 5. Originating Site SHOP SUMP                                                                                                                |
| 2. Management Facility Destination KEY ENERGY DISPOSAL                                                                                                                                                                                                                                                                    | 6. Transporter KEY                                                                                                                           |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM                                                                                                                                                                                                                                                                     | 8. State NM                                                                                                                                  |
| 7. Location of Material (Street Address or ULSTR) 4910 E. Main Farmington NM                                                                                                                                                                                                                                              |                                                                                                                                              |
| 9. <u>Circle One</u> :                                                                                                                                                                                                                                                                                                    |                                                                                                                                              |
| <ul> <li>A. All requests for approval to accept oilfield exempt wastes will be accompanied by one certificate per job.</li> <li>B. All requests for approval to accept non-exempt wastes must be accompanied by n material is not-hazardous and the Generator's certification of origin. No waste cla approved</li> </ul> | a certification of waste from the Generator;<br>eccessary chemical analysis to PROVE the<br>assified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for transp                                                                                                                                                                                                                                    | port.                                                                                                                                        |
| BRIEF DESCRIPTION OF MATERIAL:<br>HOT BATH FOR CLEANING GLYCOL PUMPS AND VALVES USED ON OILFIELD<br>CITY WATER MIXED WITH CLEANING AGENTS AND NEUTRALIZER. SEE AT                                                                                                                                                         | D PRODUCTION EQUIPMENT.<br>TACHED MSDS                                                                                                       |
| LAST FILED 7-23-02                                                                                                                                                                                                                                                                                                        | JAN 2003<br>JAN 2003<br>HI CONST. 3<br>OIL OILST. 3                                                                                          |
| Estimated Volume80 BBLScy Known Volume (to be entered by the operate                                                                                                                                                                                                                                                      | or at the end of the haul)                                                                                                                   |
| SIGNATURE Management Facility Authorized Agent TITLE: FACILITY N                                                                                                                                                                                                                                                          | MANAGER DATE: <u>1-20-03</u>                                                                                                                 |
| TYPE OR PRINT NAME:MICHAEL TALOVICH TELEPHONE                                                                                                                                                                                                                                                                             | NO505-334-6416                                                                                                                               |
| (This space for State Use)                                                                                                                                                                                                                                                                                                |                                                                                                                                              |
| APPROVED BY: Demy Four TITLE: Enjoyvo/                                                                                                                                                                                                                                                                                    | Engr DATE: 1/27/03                                                                                                                           |
| APPROVED BY:                                                                                                                                                                                                                                                                                                              | LA CERAGIST DATE: 1/2/103                                                                                                                    |

District I 1625 N. Filmch D., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

# REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

| DCPA Example [] Non Example [7]                                                                                                                                                                                                                                                                                  | 4. Generator OIL AND GAS EQUIPMENT                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| □ Verbal Approval Received: Yes No K                                                                                                                                                                                                                                                                             | 5. Originating Site SHOP SUMP                                                                                                                            |
| 2. Management Facility Destination KEY ENERGY DISPOSAL                                                                                                                                                                                                                                                           | 6. Transporter KEY                                                                                                                                       |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM                                                                                                                                                                                                                                                            | 8. State NM                                                                                                                                              |
| 7. Location of Material (Street Address or ULSTR) 4910 E. Main Farmington NM                                                                                                                                                                                                                                     | 1                                                                                                                                                        |
| 9. <u>Circle One</u> :                                                                                                                                                                                                                                                                                           |                                                                                                                                                          |
| <ul> <li>A. All requests for approval to accept oilfield exempt wastes will be accompanied one certificate per job.</li> <li>B. All requests for approval to accept non-exempt wastes must be accompanied b material is not-hazardous and the Generator's certification of origin. No waster approved</li> </ul> | d by a certification of waste from the Generator;<br>oy necessary chemical analysis to PROVE the<br>e classified hazardous by listing or testing will be |
| All transporters must certify the wastes delivered are only those consigned for tra                                                                                                                                                                                                                              | ansport.                                                                                                                                                 |
| HOT BATH FOR CLEANING GLYCOL PUMPS AND VALVES USED ON OILFI<br>CITY WATER MIXED WITH CLEANING AGENTS AND NEUTRALIZER. SEE<br>LAST FILED 7-23-02                                                                                                                                                                  | ELD PRODUCTION EQUIPMENT.<br>ATTACHED MSDS                                                                                                               |
| Estimated volume                                                                                                                                                                                                                                                                                                 |                                                                                                                                                          |
| SIGNATURE                                                                                                                                                                                                                                                                                                        | Y MANAGER DATE: <u>1 - 20 - 0 3</u>                                                                                                                      |
| TYPE OR PRINT NAME:MICHAEL TALOVICH TELEPHO                                                                                                                                                                                                                                                                      | NE NO505-334-6416                                                                                                                                        |
| (This space for State Use)                                                                                                                                                                                                                                                                                       | n an an an an an an an an an an an an an                                                                                                                 |
| APPROVED BY: Demy Term TITLE: Envir                                                                                                                                                                                                                                                                              | 0/Engu DATE: 1/27/03                                                                                                                                     |
| APPROVED BY: TITLE:                                                                                                                                                                                                                                                                                              | DATE:                                                                                                                                                    |
| terre and the second second second second second second second second second second second second second second                                                                                                                                                                                                  |                                                                                                                                                          |

**CERTIFICATE OF WASTE STATUS** Generator Name and Address: 2. Destination Name: Oil & Gas Equipment **KEY ENERGY DISPOSAL** Faiming Ton Nu 8740 2 3. Originating Site (name): Location of the Waste (Street address &/or ULSTR): SAME Same Attach list of originating sites as appropriate 4. Source and Description of Waste Hor Bath for cleaning glycol pumps + values used on oil field production equipment - 我感觉是 - 法感受意义 - 中国基本的学生的感觉的 en e setter e setter avec a representative for: to the Resource Conservation and Recovery Act (RCRA) and Environmental Protection Agency's July, 1998, regulatory determination, the above-described waste is: (Check appropriate classification)  $\chi$ \_NON-EXEMPT oilfield waste which is non-hazardous by characteristic **EXEMPT** oilfield waste analysis or by product identification and that nothing has been added to the exempt or non-exempt non-hazardous waste defined above. For NON-EXEMPT waste only the following documentation is attached (check appropriate items): X\_\_\_MSDS Information \_Other (description): PH = 8 RCRA Hazardous Waste Analysis Chain of Custody Name (Original Signature): Pump shop Foreman Title: Date:

| ••• -11 <b>-1</b> 1.••                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | CLEAN ACRÒS<br>THROUGHOUT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | S AMERICA AND<br>THE WORLD"<br>COMPANY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ISSUE DATE:                                                                                                                                                                                                                                                                                                                                                                                                                                  | 02/01/8                                                                                                                                                                                                                                | 9                                                                                                                                                                                                                                    | SUPPLY 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                                                                                                 | TELEPHONE:<br>(404) 352<br>MEDICAL EMERO<br>(770) 439-4<br>(770) 432-2<br>(770) 455-8<br>(770) 552-8<br>(770) 424-2                                                                                                                                                                                                                                                                                                                          | SECTION<br>2-1680<br>GENCY:<br>1200<br>2873<br>3160<br>3836<br>2048                                                                                                                                                                    | NON OFFICE<br>AND HOLIDA<br>LOCAL POIS                                                                                                                                                                                               | ICY CONTACTS<br>OO AM - 5:00 PA<br>HOURS, WEEKA<br>NYS, PLEASE CA<br>ION CONTROL                                                                                                                                                           | M (EST)<br>ENDS<br>ALL YOUR                                                        |       |
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                                                                                                 | (770) 424-4<br>TRANSPORTATI<br>(770) 922-0<br>CHEMTREC:<br>(800) 424<br>DISTRICT OF CO                                                                                                                                                                                                                                                                                                                                                       | 4789<br>ION EMERG<br>0923<br>4-9300<br>OLUMBIA:                                                                                                                                                                                        | ENCY:                                                                                                                                                                                                                                | ALL 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                                                                                                 | 9; RTECS#<br>CTION 313 FCR REL                                                                                                                                                                                                                                                                                                                                                                                                               | LEASE RE                                                                                                                                                                                                                               | (PPM)<br>0.25<br>PORTING_                                                                                                                                                                                                            | ISEE NOTIC                                                                                                                                                                                                                                 | E) PR<br>6(                                                                        | 0-70  |
| re practi<br>CUTE El<br>Corrosive<br>roduce in<br>urning, c<br>hortness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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Severe over                                                                                                                                                                                                                                                                                                                                                                                                                                            | SURE:<br>htact. Eye contact cal<br>and blistering. Inhala<br>in the respiratory tra<br>exposure may lead to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | n produce corneal d<br>ation of spray mist (<br>loct, characterized by<br>fatal lung damage.                                                                                                                                                                                                                                                                                                                                                 | Jamage or<br>or vapors<br>y coughing<br>Ingestion                                                                                                                                                                                      | blindness<br>may produ<br>g choking,<br>can cause                                                                                                                                                                                    | Skin contac<br>Skin contac<br>cain, or<br>e abdominal p                                                                                                                                                                                    | utions<br>t can<br>pain,                                                           |       |
| re practi<br>CUTE El<br>Corrosive<br>Foduce in<br>Jurning, of<br>hortness<br>lausea, v<br>CHRONIC<br>Repeated<br>Repeated<br>attacks of<br>None of 1<br>EST D PE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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Severe overe<br>nd collapse, a<br>OF OVEREXP<br>ged contact w<br>ged exposure<br>infection.<br>ents are listed<br>of established                                                                                                                                                                                                                                                                                                                       | SURE:<br>htact. Eye contact cai<br>and blistering. Inhala<br>in the respiratory tra-<br>exposure may lead to<br>long with tissue dest<br>OSURE:<br>ith spray mist may pr<br>to spray mist may pr<br>I as carcinogens by M<br>PRIMARY BOUTE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | n produce corneal d<br>ation of spray mist o<br>loct, characterized by<br>fatal long damage.<br>rouction in the gastro<br>roduce chronic aye<br>oduce respiratory tr<br>ARC, NTP, cr DSHA<br>S OF ENTRY 14, A                                                                                                                                                                                                                                | Jamage or<br>or vapors<br>y coughing<br>Ingestion<br>ointestina<br>irritation<br>ract irritat                                                                                                                                          | blindness<br>may produ<br>g choking,<br>can cause<br>I tract.<br>and severe<br>ion leading                                                                                                                                           | Skin contac<br>Skin contac<br>cain, or<br>abdominal p<br>skin irritatio<br>to frequent                                                                                                                                                     | utions<br>it can<br>pain,<br>n.                                                    |       |
| re practi<br>CUTE El<br>Corrosive<br>roduce in<br>urning, o<br>hortness<br>ausea, v<br>CHRONIC<br>Repeated<br>Repeated<br>Repeated<br>attacks o<br>None of 1<br>EST D PE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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Inhala<br>in the respiratory tra-<br>exposure may lead to<br>long with tissue dest<br>POSURE:<br>ith spray mist may pr<br>to spray mist may pr<br>I as carcinogens by M<br>PRIMARY ROUTE<br>A. 0; REACT. 2; PE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | n produce corneal d<br>ation of spray mist o<br>loct, characterized by<br>fatal lung damage.<br>truction in the gastro<br>roduce chronic eye<br>oduce respiratory tr<br>ARC, NTP, cr DSHA<br>S OF ENTRY J.A<br>RS, PROTECT, G ;                                                                                                                                                                                                              | Jamage or<br>or vapors<br>y coughing<br>Ingestion<br>ointestina<br>irritation<br>ract irritat                                                                                                                                          | blindness<br>may produ<br>g choking,<br>a can cause<br>l tract.<br>and severe<br>ion leading                                                                                                                                         | Skin contac<br>Skin contac<br>ace irritation,<br>cain, or<br>abdominal p<br>skin irritatio<br>to frequent                                                                                                                                  | utions<br>it can<br>pain,<br>n.                                                    |       |
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HEA<br>inflately<br>itely.<br>mmediately<br>itely.<br>mmediately<br>itely.<br>for exp<br>dical attent<br>: If this pro-<br>et medical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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Severe overe<br>nd collapse, a<br>OF OVEREXP<br>ged contact w<br>ged exposure<br>l infection.<br>ents are listed<br>of established<br>LTH 3; FLAN<br>OURES:<br>flush contami<br>flush eyes wi<br>dical attention<br>ion mmediate<br>oduct is swalld<br>attention at o                                                                                                                                                                                   | SURE:<br>htact. Eye contact cai<br>and blistering. Inhala<br>in the respiratory tra-<br>exposure may lead to<br>long with tissue dest<br>POSURE:<br>ith spray mist may pr<br>to spray mist may pr<br>I as carcinogens by IA<br>PRIMARY ROUTE<br>A. 0; REACT. 2; PER<br>nated skin with plent<br>ith plenty of water for<br>at once.<br>to fresh air at once. I<br>ly.<br>bwed, do not induce<br>once.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | n produce corneal d<br>ation of spray mist of<br>act, characterized by<br>fatal lung damage.<br>rruction in the gastro<br>roduce chronic eye<br>oduce respiratory tr<br>ARC, NTP, cr DSHA<br>S OF ENTRY J, A<br>RS, PROTECT, G ;<br>ty of water for at le<br>or at least 15 south<br>f breathing h stop<br>vomiting, if water i                                                                                                              | Jamage or<br>or vapors<br>y coughing<br>Ingestion<br>ointestina<br>irritation<br>ract irritat<br>A.<br>CHRONIG<br>ast 15 mi<br>es, occasi<br>oped, perf                                                                                | blindness<br>may produ<br>g choking,<br>can cause<br>l tract.<br>and severe<br>ion leading<br>C HAZ. YE<br>nutes. Get<br>onally liftir<br>form artific<br>us give ple                                                                | Skin contact<br>Skin contact<br>ace irritation,<br>cain, or<br>abdominal p<br>skin irritatio<br>to frequent<br>S<br>medical atten<br>g upper and<br>iai respiration                                                                        | utions<br>it can<br>pain,<br>n.<br>n.<br>n.<br>to                                  |       |
| re practi-<br>CUTE El<br>corrosive<br>roduce in<br>urning, o<br>hortness<br>ausea, v<br>CHRONIC<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated     | FFECTS OI<br>e to skin an<br>inflammatic<br>or destruct<br>s of breath<br>vomiting, a<br>C EFFECTS<br>d or prolong<br>d or prolong<br>f bronchia<br>the ingredi<br>EL/TLV: No<br>DDES: HEA<br>DDES: | CVEREXPOS<br>deves on cor<br>on, reddening,<br>ion of tissues<br>. Severe overe<br>nd collapse, a<br>OF OVEREXP<br>ged contact w<br>ged exposure<br>infection.<br>ents are listed<br>of established<br>LTH 3; FLAM<br>OURES:<br>flush contami<br>flush eyes with<br>dical attention<br>iosen person to<br>on immediate<br>oduct is swalld<br>attention at o<br>THING: Wear<br>recommende<br>: Wear splash<br>OTECTION: If<br>vapors are de                                                                                 | SURE:<br>htact. Eye contact cai<br>and blistering. Inhala<br>in the respiratory tra-<br>exposure may lead to<br>long with tissue dest<br>POSURE:<br>ith spray mist may pri-<br>to spray mist may pri-<br>to spray mist may pri-<br>l as carcinogens by I/A<br>PRIMARY ROUTE:<br>A. 0; REACT. 2; PER-<br>nated skin with pient<br>ith plenty of water for<br>at once.<br>SECTION :V - SPEC<br>rubber or neoprene g<br>d.<br>Proof safety goggles<br>ventilation is inaded                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | n produce corneal d<br>ation of spray mist o<br>bot, characterized by<br>fatal lung damage.<br>truction in the gastro<br>roduce chronic aye<br>oduce respiratory tr<br>ARC, NTP, cr DSHA<br>S OF ENTRY J, A<br>RS, PROTECT, G ;<br>ty of water for at le<br>or at least 15 mutte<br>f breathing his stop<br>vomiting. 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| re practi<br>CUTE El<br>Corrosive<br>roduce in<br>urning, o<br>hortness<br>ausea, v<br>CHRONIC<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>Repeated<br>R | iced.<br>FFECTS OI<br>to skin an<br>inflammatic<br>or destruct<br>s of breath<br>vomiting, a<br>C EFFECTS<br>d or prolong<br>the ingredi<br>EL/TLV: No<br>DDES: HEA<br>DDES: r>DDES: HEA<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES<br>DDES                                                                                                                                                                 | CVEREXPOS<br>deves on cor<br>on, reddening,<br>ion of tissues<br>. Severe overe<br>nd collapse, a<br>OF OVEREXP<br>ged contact w<br>ged exposure<br>linfection.<br>ents are listed<br>of established<br>LTH 3; FLAM<br>OURES:<br>flush contami<br>dical attention<br>ioset person to<br>on mmediate<br>duct is swalld<br>attention at o<br>THING: Wear<br>recommende<br>: Wear splash<br>OTECTION: If<br>vapors are dev                                                                                                    | SURE:<br>htact. Eye contact cai<br>and blistering. Inhala<br>in the respiratory tra-<br>exposure may lead to<br>long with tissue dest<br>POSURE:<br>ith spray mist may pri-<br>to spray mist may pri-<br>to spray mist may pri-<br>l as carcinogens by I/<br>PRIMARY ROUTE:<br>A. 0; REACT. 2; PER-<br>nated skin with plent<br>ith plenty of water for<br>at once.<br>to fresh air at once. I<br>ly.<br>bwed, do not induce<br>once.<br>SECTION IV - SPEC<br>rubber or neoprene g<br>d.<br>Fproof safety goggles<br>i ventilation is inadeq<br>tected, ventilate work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | n produce corneal d<br>ation of spray mist o<br>bet, characterized by<br>fatal lung damage.<br>cruction in the gastro<br>roduce chronic aye<br>oduce respiratory tr<br>ARC, NTP, cr DSHA<br>S OF ENTRY J, A<br>RS, PROTECT, G ;<br>ty of water for at le<br>or at least 15 shoute<br>f breathing has stop<br>vomiting. 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| re practi<br>CUTE El<br>CUTE El<br>Corrosive<br>roduce in<br>urning, o<br>hortness<br>lausea, v<br>CHRONIC<br>Repeated<br>Repeated<br>Repeated<br>attacks o<br>None of t<br>EST D PE<br>HMIS CO<br>FIRST AL<br>SKIN: Im<br>mmediat<br>EYES: In<br>lower lid<br>INHALE:<br>Gat med<br>INGEST:<br>drink. G<br>PROTEG<br>boots ar<br>EYE PRO<br>RESPIRA<br>respirate<br>VENTIL<br>SOILING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | FFECTS OI<br>to skin an<br>inflammatic<br>or destruct<br>s of breath<br>vomiting, a<br>C EFFECTS<br>d or prolong<br>of bronchia<br>the ingredi<br>EL/TLV: No<br>DDES: HEA<br>DDES: HEA<br>DDES: HEA<br>DDES: HEA<br>ID PROCED<br>mediately<br>itely.<br>mmediately<br>itely.<br>mmediately<br>itely.<br>STIVE CLO<br>re strongly<br>OTECTION: If<br>G POINT (I<br>S PRESSUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CVEREXPOS<br>deves on cor<br>on, reddening,<br>ion of tissues<br>. Severe overe<br>nd collapse, a<br>OF OVEREXP<br>ged contact w<br>ged exposure<br>infection.<br>ents are listed<br>of exposure<br>infection.<br>ents are listed<br>of exposure<br>infection.<br>Ents are listed<br>of exposure<br>flush contami<br>flush eyes will<br>dical attention<br>of exposition at o<br>contact s swall<br>attention at o<br>THING: Wear<br>recommende<br>: Wear splash<br>OTECTION: If<br>vapors are developed<br>infection at o | SURE:<br>htact. Eye contact cai<br>and blistering. 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A<br>are worn.<br>MSHA or (<br>and using e | Skin contac<br>Skin contac<br>Skin contac<br>skin irritation,<br>cain, or<br>abdominal p<br>skin irritatio<br>to frequent<br>S<br>medical attend<br>iai respiration<br>enty of water<br>rubber apron<br>OSHA-approversity<br>exhaust fans. | utions<br>it can<br>pain,<br>n.<br>intion<br>n.<br>to<br>and<br>ved<br>1.55<br>N/A |       |

# **MATERIAL SAFETY DATA SHEET**

OT IDEDITION

**KRYLON INDUSTRIAL 3160**0 SOLON ROAD 80LON, OH 44199

EMERGENCY TELEPHONE NO. (218) 292-7400 INFORMATION TRLEPHONE NO. (200) 247-3288

DATE OF PREPARATION 20 - JUL - 94

D1994, The Sherwin-Williams Co.

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| P       | rimers |  |
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| · · · · |        |  |

| Primers i                                   |                                                                        | •                      |                     |                         |              |                |                      | • ]                                     | PRIMER/KRI                            |
|---------------------------------------------|------------------------------------------------------------------------|------------------------|---------------------|-------------------------|--------------|----------------|----------------------|-----------------------------------------|---------------------------------------|
|                                             |                                                                        | 1                      | 1.50                | All Purpos              | 0            | Ruot In        | hibitive             |                                         |                                       |
| Ma HAZARDOVO RORE DIENT<br>(parter by widy) | ACOBI OSHA Vapor<br>TLV PEL Units Pressour<br><8TEL> «GTEL> (rtim fig) | 1 340<br>Zino<br>Filch | 1355<br>White       | 1357<br>Rusidy<br>Brown | 1760<br>Gray | 1346<br>Vellow | 1348<br>2'<br>Cireen | 1373<br>Sandebe Filler<br>Svilace Prime |                                       |
| -88-6 Propana (propaliani)                  | 1000 PPM 780.0                                                         | 0 15                   | 17                  | 17                      | 17           | 10             | 16                   | 16                                      | , , , , , , , , , , , , , , , , , , , |
|                                             | 300 300 PPM 12.0                                                       | 1                      | -                   |                         |              |                |                      | •                                       |                                       |
| de-s 9 Telane                               | 50 (100 PFM (Skin) 72.0                                                |                        | 23                  | 27                      | 27           | 0              | 6                    |                                         |                                       |
| -q0-7 Xylene                                | 100 100<br><150> <150> PPM 5.9                                         | 10                     | 1<br>5 <sup>1</sup> |                         |              | 12             | 12                   | ťØ                                      |                                       |
| -C-1 2-Listingi-1-Propensi                  | 50 50 PPM 8.7                                                          |                        |                     | 1                       |              |                | ,                    | 21                                      | ,                                     |
| B Nothyl Ethyl Katona                       | 200 200 PPM 70.0                                                       | 34                     | -                   |                         |              |                |                      |                                         |                                       |
| et-8 + Austone                              | 750 750 PPM 760.0                                                      |                        | 34                  | 34                      | 3.4          | 48             | 48                   | 41                                      |                                       |
|                                             | Not Established                                                        | 36                     | M.                  | 1                       |              |                |                      |                                         | •                                     |
| AN-W Take                                   | 2 2 Mg/M3 as flesp.                                                    |                        | ·/                  | 1                       |              | 5              | 6                    | 9                                       | l                                     |
| 67-7 Thendure Dickide                       | 10 10(5) Mg/MI an Dust<br>[Resp. Fraction]                             |                        | 6                   |                         | 5            |                |                      | 1                                       | · · ·                                 |
| 04-1 Zing Molybetale                        | Not Established                                                        | •                      |                     |                         |              | 2              | 2                    |                                         | ٢                                     |
|                                             |                                                                        | 4                      | A                   |                         |              |                |                      |                                         |                                       |
| VOC as a percent by weight                  | per BAAQMD Rule 49                                                     | 59                     | 82                  | 80                      | 82           | 63             | 83                   | 62                                      |                                       |
| SHIPA Cade 308 Level                        |                                                                        | 3                      |                     | 3                       | э            | 3              | 3                    | з                                       |                                       |
| Million Russes (Haalth - Siles              | mahility, Describely                                                   | 240                    | 18240               | 2.4.0                   | 240          | 2.4.0          | 2.4.0                | 2.4.0                                   |                                       |

el subject lo line reporting requirements of the Superfund Amendments and Requitionization Act (SARA) Socion 313, 40 CFR 372.85 C

| <b>Primers</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                         | PRIMER/KRI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sector H - Physical Data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                         | Section VII - SPILL OR LEAK PROCEDURES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| NAMENCE MELSTET       - H.A.       BVANORATION RATE       - Folder than FL         APPECTIZE CONSTIT       - H.A.       BVANORATION RATE       - Folder than FL         APPECTIZE CONSTIT       - H.A.       VANOR DEMONSTY       - Heavier than FL         BOLEND SAME       - (0-309 °T       NEUTING FOINT       - H.A.         BOLEND SAME       - (0-309 °T       NEUTING FOINT       - H.A.         BOLEND SAME       - (0-309 °T       NEUTING FOINT       - H.A.         BOLENDIATY JW MATER       - H.A.       NEUTING FOINT       - H.A.         BOLENDIATY COMMENTS       - H.A.       - FIRE AND EXPLOSION HAZATID DATA         BOLENDIATY COMMENTS       FLASS FOINT       - 9 PHCC       LBE       1.0       UBL, 12.8         BOLENDIATY COMMENTS       FLASS FOINT       - 1 PHC       LBE       1.0       UBL, 12.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                         | STREES TO BE TAREN IN CASE NATABILL IS RELEASED ON SPILLED<br>Remove all sources of ignition. Ventilate and remove with inert absorbent.<br>MASTE DESECUAL MATHON<br>Maste from this product may he hassadows as defined under the Resource Commervation and<br>Recovery ACL (RCRA) 40 CPA J61. Nexts must be tested for (gnitability to determine the<br>applicable DPA hasardous wasta numbers. Nexts from products containing Wethyl Schul Matan<br>and/or Elson may also require testing for Astroctability.<br>Do not invinerate. Depresenting containing. Dispose of in accordance with Federal, State,<br>and Local regulations regarding pollution.                                                                                                                                                                                                                                                                              |
| The Creater Shoulds, Bry Chenical, Fare                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                         | Bectlon VIII - PROTECTION IN FORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| The set of the basi, contribution of the set, and apon finms, the set of the basis of the basis of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of                                                                                                                                                                                                                                                                                                                                                                                    | y<br>alit i bris<br>ancd<br>y tm                                        | PREVAILTIONS TO BE TAKEN IN USE<br>Use only with Administ Vanitiation, Avaid Himsthing Vapor and myrap mist. Avaid contools<br>with skin and eyes. Mash hands after using.<br>These constings may contain materials classified as reference particulates ()fored "as Dust" in<br>Section EE which may be present at herefore Revels only during mending or strading of the<br>deried film. If an exectly dusts are listed in American II, the applicable limits for missions<br>dusts are AXGUNTIV 10 sm./mi (total dust), ASHA FELIS mg./mP (total dust), 5 mg./mi<br>(creepirable transion).<br>VMMTIGATION                                                                                                                                                                                                                                                                                                                            |
| Section V HEALTH MAZARD DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                         | Bection JJ is multisliked below applicable exposure limits. NeCer to OSTA Standarde 1910.94.<br>1914,107, 1910,109.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Tente of Elfeant<br>Tente of Elfeant<br>Tenteste events, fellow rorrewendations for preper den, ventilation, and pareonal<br>Tenteste evenement.<br>Tenteste of brance.<br>Tenteste of brance.<br>Tenteste of brance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1 <b>4 0 .</b>                                                          | IRAPIRATINAL PROTECTION<br>If personal exposure carning he controlled below applicable limits by ventilation, wear<br>a properly fitted organic vapor/particulate respirator approved by BIOSH/MSHA for protection<br>against materials in Society IT.<br>When eanding or absauling the dried film, wear a dust/mist compirator approved by BIOSH/MSHA<br>for protection against non-volatile materials in Society fil.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Consistential of open, this and respiratory system. Hey cause nervous system depression.<br>Consistent sourcepeaves may result in uncenecloumness and poneibly death.<br>Consistent analysis or overtheoring<br>consistent, distance, neves, multiple of coordination are indications of excessive exp<br>Characters or every mists.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 060Å0                                                                   | PROPERTIVE GLOVES<br>None required for normal application of sererol products shere minimal whin concect<br>is expected. Por long us superted contact, wear chemical resistant gloves.<br>AVE PROPERTIVE<br>Hoar exfety spectacles with unperformed sideshields.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Tradition and leading of berning sometion may indicate over or excession whin exposure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                         | Section IX — PRECAUTIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <ul> <li>Simple generally recognized.</li> <li>Simple generally recognized.</li> <li>Simple generally recognized.</li> <li>Simple generally recognized.</li> <li>Simple generally recognized.</li> <li>Simple generally recognized areas thereughly with econ and state.</li> <li>Simple general state of the state of the state of the state of the state of the state.</li> <li>Simple general state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t</li></ul>                                                                                                                                                                                                                                                                                                                                                                         | ilet v<br>intian.<br>to<br>to<br>to<br>to<br>to<br>to<br>to<br>to<br>to | DOG. STOWARGE CATATOONY - 1A<br>PRECAUTIONS TO BE TAKET IN HANDLIND AND STORING<br>Contents are EXTREMBLY FILMENALT. Neep ever (rom heat, sparks, and open flame.<br>Vapors will accumulate readily and may ignite explosively.<br>Duting we and until all venors tre genes (seep aren ventilated - D) mot menks<br>stinguish sil (lpmes, pilot Hights, and heaters - Turn off stowar, electric Louis sid<br>explimanes, and any other sources of lemition.<br>Consult WFFA Code. Vss epproved Bending and Grounding procedures.<br>Contents under pressure. No not pindute, indiments, or empose to temperature above<br>120 °F. Heat from sunlight, radistors, steves, het water, and other heat sources could camper<br>container to busat. No not take internally. Neep out of the reach of children.<br>OTHER PRECAUTIONS<br>Threntional misuon by deliberntely Concentrating and inhaling the contents con be harmful<br>or fatel. |
| Section VI FIEACTIVITY DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                         | Section X — OTHER REGULATORY INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TRACLITY - Stable<br>Traction<br>The State<br>The State<br>The State<br>The State<br>The State<br>State<br>The State<br>The Stat |                                                                         | CALIFORNIA FROTUNITION 65<br>Several products (sou table) contain a chamical known to the State of California to camee<br>Cancer; birth defects or other: reproductive harm.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                         | The above information pertains to this product as currently formulated, and in based on<br>the information available at this time. Addition of reducers or other additives to this<br>product may substantially siter the composition and baseds of the product. Since conditions<br>of use are outside our control, we make no verrantise, express or implied, and assume no<br>hisbility in connection with any use of this information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | . 19                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3<br>. 1                                                                | 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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TOTAL P. 82

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Material Safety Data Sheet

| Section 1. Chemi                   | cal Product and C                                                                        | Magno                                                                                          | dentificatio                                                                          | NC.                                                                                                                |                                                                                                    |                                                                                                                                                                                |
|------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Common Name                        | Triethylene Gly                                                                          | /col Rep                                                                                       | orocesse                                                                              | י<br>ע                                                                                                             | Code                                                                                               | <b>8</b> 101                                                                                                                                                                   |
| a pplier                           | COASTAL CHEMICAL<br>3320 Veterins Memor<br>ABBEVILLE, LA 7051                            | CO LLC.                                                                                        |                                                                                       |                                                                                                                    | MSDS#<br>Validation Date<br>Print Date                                                             | Not available.<br>80,00<br>511,09                                                                                                                                              |
| je cours fra                       | Not available.                                                                           |                                                                                                |                                                                                       |                                                                                                                    |                                                                                                    |                                                                                                                                                                                |
| rade name                          | Not available.                                                                           |                                                                                                |                                                                                       |                                                                                                                    | ENGLINES.                                                                                          | CHENTINEC BOO-24-9300                                                                                                                                                          |
| Material Uses                      | Not available                                                                            |                                                                                                | e.                                                                                    |                                                                                                                    |                                                                                                    | Other ladomation Call<br>Joa Hudanan<br>21 <u>3-477-4675</u>                                                                                                                   |
| Maufacturer                        | Various -                                                                                |                                                                                                |                                                                                       |                                                                                                                    |                                                                                                    |                                                                                                                                                                                |
| Section 2. Comp                    | osition, and Infom                                                                       | lation on                                                                                      | Ingredient                                                                            |                                                                                                                    |                                                                                                    |                                                                                                                                                                                |
| Name                               | SKD CAS                                                                                  | 4                                                                                              | ". by Weight                                                                          | PAUL.                                                                                                              | , EL.                                                                                              |                                                                                                                                                                                |
| Diethylene alvox                   | · · · · ·                                                                                | :<br>9-3-4                                                                                     | 3.0                                                                                   | Nci available.                                                                                                     |                                                                                                    | 0RAL (LD50) mg/m; Acute:<br>12665 (Hamdar), 14800 (Rat),<br>DERMAL (LD50) mg/m; Acute:<br>11890 (Hamdar), 11900                                                                |
| Triethylene Glycol                 | 112                                                                                      | -27-6                                                                                          | 95-100                                                                                | ï                                                                                                                  | ;                                                                                                  | (Rabbit                                                                                                                                                                        |
| Section 3. Haza                    | rds Identification                                                                       |                                                                                                |                                                                                       |                                                                                                                    |                                                                                                    | And a second strategy and a second strategy and a second strategy and a second strategy and a second strategy a                                                                |
| Emergency Overview                 | CAUTION                                                                                  | а <b>т</b> .                                                                                   |                                                                                       |                                                                                                                    | •                                                                                                  |                                                                                                                                                                                |
|                                    | MAY CAUSE E                                                                              | YE RRITAI                                                                                      | TION. MAY C                                                                           | AUSE SKIN IRRI                                                                                                     | ration,                                                                                            | •<br>•<br>•                                                                                                                                                                    |
|                                    | · · · · · · · · · · · · · · · · · · ·                                                    |                                                                                                |                                                                                       |                                                                                                                    |                                                                                                    | •                                                                                                                                                                              |
| Routes of Entry                    | Eye contact in                                                                           | gestion. Skir                                                                                  | ก ะะกน้อย. ไก้โร                                                                      | aialion                                                                                                            |                                                                                                    |                                                                                                                                                                                |
| Potential Acute Health E           | Cffects Sligntly danger                                                                  | ous to dange<br>his product n                                                                  | arous in case o                                                                       | of skin contect (init:<br>es and skin upon co                                                                      | ant, permeator), ເ<br>ທia⊄.                                                                        | والمتعمد (سلعما), وا سرعه الم                                                                                                                                                  |
| Potential Chranic Healt<br>Effeces | h CARCINOGEN<br>; Not available<br>system: Not av                                        | IIC EFFECT.<br>The sub<br>allable. Rep                                                         | S: Not availab<br>stance is toxi<br>reated or prolo                                   | ale. MUTAGENIC E<br>ic to blood, kidney,<br>inged exposure to th                                                   | EFECTS: Not av<br>s, liver. Toxicity<br>he substance can                                           | railable. TERATOGENIC EFFECT<br>• of the product in the reproductive<br>1 produce tanget organs damage.                                                                        |
| Section 4. First                   | Aid Measures                                                                             |                                                                                                |                                                                                       |                                                                                                                    |                                                                                                    |                                                                                                                                                                                |
| E) e Contact                       | Check for and<br>keeping eyeik                                                           | l remove any<br>1s open. CO                                                                    | y contact lense                                                                       | ca. IMMEDIATELY                                                                                                    | lush cyes with I<br>use an eve oint                                                                | running water brazi izasi 15 minute<br>mant. Seek medice alternion.                                                                                                            |
| Skin Contact                       | If the chemic<br>protacting yo<br>victim's expor<br>and non-abra<br>used. Cover<br>cover | al got onto It<br>tur own han<br>sed skin, suc<br>usive soep. I<br>the irritated<br>c reusing. | ne clothed por<br>ds and body.<br>Ch as the hand<br>Be particuterty<br>skin with an e | lion of the body, re<br>Place the victim ,<br>ds: Gentry and thon<br>careful to dean fol<br>mollignt. If initation | move the contant<br>ander a deluge :<br>oughly wash the<br>ids. crovices, de<br>i persists, seek n | inated chottee as quictly as possible thewar. If the chemical fourches the contamination was contamined wards and great. COLD water may bedical attention. Weath contamination |
| Hazardous Skin Cobu                | ict Wash with a attention.                                                               | disinfactan                                                                                    | t soap and co                                                                         | over the contamina                                                                                                 | ited skin with an                                                                                  | anti-bact <del>erial crean</del> . Seek mod                                                                                                                                    |
| Inhalation                         | Allow the vict                                                                           | tim to rest in                                                                                 | a well vertilat                                                                       | ed area. Seek imm                                                                                                  | iedizie medical a                                                                                  | ttention                                                                                                                                                                       |
| Hzzardous Inhalzium                | No additiona                                                                             | l information                                                                                  |                                                                                       | ,                                                                                                                  |                                                                                                    |                                                                                                                                                                                |
| Ingestion                          | DO NOT in<br>medical atte                                                                | duce vomitir<br>ntion.                                                                         | ng. Heve cor                                                                          | scious person driv                                                                                                 | nk several glass                                                                                   | es of water or milk. Seek immed                                                                                                                                                |
| Confinued of                       | Next Parte                                                                               |                                                                                                |                                                                                       |                                                                                                                    |                                                                                                    |                                                                                                                                                                                |

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# Triathylene Glycol Reprocessed

Hazardous Ingestion

Pope Number: 2

DO NOT incluse vomiting. Examine the lips and mouth to ascentain whether the titesame are duranged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, beit or weistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

| Section 6. Fire and Ex                                 | plosion Data                                                                                                                                                                                                                                                                                                     |  |  |  |  |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| Flammability of the Product                            | Combustible.                                                                                                                                                                                                                                                                                                     |  |  |  |  |
| Amo-Ignition Temperature                               | The lowest known value is 227.78°C (442°F) (Disthyleno glycol).                                                                                                                                                                                                                                                  |  |  |  |  |
| Fach Points                                            | The Howest known value is CLOSED CUP: 138°C (280.4°F) OPEN CUP: 143°C (280.4°F) (Cleveland) (Diethylone glycol)                                                                                                                                                                                                  |  |  |  |  |
| Flammable Limits                                       | The greatest known range is LOWER: 2% UPPER: 12.3% (Diethylene glycol)                                                                                                                                                                                                                                           |  |  |  |  |
| Products of Combustion                                 | These products are carbon oxides (CO, CO2).                                                                                                                                                                                                                                                                      |  |  |  |  |
| Fire Hazards in Presence of<br>Various Substances      | Very slightly to sightly fammable in presence of open flames and sparks, of heat                                                                                                                                                                                                                                 |  |  |  |  |
| Explosion Hazards in Presence<br>of Various Substances | Risks of explosion of the product in presence of mechanical impact. Not available.<br>Risks of explosion of the product in presence of static discharge: Not available.<br>No specific information is available in our database regarding the product's risks of explosion in the presence of various materials. |  |  |  |  |
| Fire Fighting Media ? 200 2                            | SMALL FIRE: Use DRY chemicals, COZ, water spray or foam.<br>LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet                                                                                                                                                                                       |  |  |  |  |
| Special Remarks on<br>Fire Hazards                     | When heated to decomposition, it emits acrid smoke and initiating fumes. (Diethylene group)                                                                                                                                                                                                                      |  |  |  |  |
| Special Remarks on Explosion<br>Hazards                | No addilional remark.                                                                                                                                                                                                                                                                                            |  |  |  |  |
| Section 6. Accidental                                  | Release Measures                                                                                                                                                                                                                                                                                                 |  |  |  |  |
| Small Spill                                            | Dilute with water and mop up, or absorb with an inert DRY material and place in an according to asset disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and fregional authority requirements.                                                 |  |  |  |  |
| Large Spill                                            | Combustible materal                                                                                                                                                                                                                                                                                              |  |  |  |  |

Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Finite: dearing by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

| Section  | <u>1 7. Ha</u> | лdling | and Storage                                                                                                                                                                                                                                                | -            |
|----------|----------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Handling |                |        | Not available.                                                                                                                                                                                                                                             |              |
| Storage  |                | ···    | Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tight dosed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme her and away from strong oxidizing agents: | y<br>81<br>~ |
|          |                |        |                                                                                                                                                                                                                                                            | -            |

#### Section 8. Exposure Controls/Personal Protection

| Engineering Controls                                 | Provide exhaust ver<br>their respective three<br>station location. | ntilation or other<br>shold limit value. | engeneering controls to keep the airborne concentrations of vapors below<br>Ensure that everyash stations and safety showers are prover at to the work- |
|------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal Protection                                  | Salety glasses. Lab                                                | acei. Gloves (in                         | apervious).                                                                                                                                             |
| 4<br>Parsonal Protection in Case of a<br>Large Spill | Splash goggles. F<br>specialist EEFORE                             | ull suit. Boots.<br>handling this proc   | Gioves. Suggested protective clothing might not be sufficient; consult a duct                                                                           |
| Chemical Name or Product Na                          | rie .                                                              | CAS#                                     | Expasure Limits                                                                                                                                         |
| 2,2"-Oxydiethanol<br>Trictitviene Glycol             | ··                                                                 | 111-46-8<br>112-27-6                     | No: avaladw.                                                                                                                                            |

| Triethylene Glycol R         | processed                                  |                                       | Page Number: 3                                                                                                  |
|------------------------------|--------------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Section 9. Physical a        | nd Chemical Properties                     |                                       |                                                                                                                 |
| hysical sists and appearance | Liquid.                                    | Odor                                  | Not available.                                                                                                  |
| lotecular Weight             | Not applicable.                            | Taste                                 | Not available.                                                                                                  |
| H (1% sois/water)            | Neutral                                    | Calor                                 | Not available.                                                                                                  |
| ailing Point                 | The lowest known value is 245.8°C (474.2   | F) (Diethylene glyc                   | xXI). Weighted-average: 284 02°C (543.2°F)                                                                      |
| letting Poist/Pour Point     | May start to solicity at -5°C (23°F) based | on data for: Triethyle                | ene Glycol. Weighted average: -5.09°C (22.8°F)                                                                  |
| ritical Temperature          | Not available.                             |                                       |                                                                                                                 |
| pecific Granity              | Weighted average: 1.12 (Water = 1)         |                                       | • ·                                                                                                             |
| apor Pressure                | The highest known value is 0.01 mm of H    | g (@ 20°C) (Diethyl                   | ena giycol).                                                                                                    |
| apor Density                 | The highest known value is 6.7 (Air = 1)   | (Tetraéthyiene giyo                   | ol). Weighted average: 8.7 (Air = 1)                                                                            |
| lolatility                   | Not available.                             |                                       |                                                                                                                 |
| ouor Threshold               | Not available.                             |                                       |                                                                                                                 |
| Ivaporation rate             | Not avaiable                               |                                       |                                                                                                                 |
| viscosity                    | Not avaiable.                              | · · · · · · · · · · · · · · · · · · · |                                                                                                                 |
| Vater/Oil Dist Cueff.        | Not avaiable.                              |                                       |                                                                                                                 |
| unicity (in Water)           | -Not avaiable                              | ·                                     |                                                                                                                 |
| Dispersion Properties-       | See solubility in water, methanol, diethyl | elber.                                |                                                                                                                 |
| Solubility                   | Easily soluble in cold water, hot water, m | ethanol, dicthyl ethe                 | er, and the second second second second second second second second second second second second second second s |
| Physical Chemical Comments   | Not avaiable.                              |                                       |                                                                                                                 |
| Section 10. Stability        | and Reactivity Data                        |                                       |                                                                                                                 |
| Chemical Stabilly            | The product is stable.                     |                                       |                                                                                                                 |
| Conditions of Instability    | No additional remark                       |                                       |                                                                                                                 |

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| substances                          |                |   |            |  |
|-------------------------------------|----------------|---|------------|--|
| Hazardous Decomposition<br>Products | Not available. | - |            |  |
| Hazardous Polymerization            | Not available, |   | - <u>-</u> |  |

| Section 11. ToxIcological Information               |                                                                                                                                                                                        |  |  |  |  |  |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| Texicity to Animals                                 | Acute gral toxicity (LD50): > 5000 mg/kg: (Hamster.) (Calculated value for the mixture).<br>Acute dermal toxicity (LD50): > 5000 mg/kg. (Hamster.) (Calculated value for the mixture). |  |  |  |  |  |
| Chronic Fillerts on Humans                          | The substance is toxic to blood, kidneys, liver. Toxicity of the product to the reproductive select. Not available.                                                                    |  |  |  |  |  |
| Other Taxic Effects on Humans                       | Slightly dangerous to dangerous in case of skin contact (irritant, permeator), of eye contact (critant), of ingestion, of inhalation.                                                  |  |  |  |  |  |
| Special Remarks un<br>Textletry to Animals          | No additional remark.                                                                                                                                                                  |  |  |  |  |  |
| Special Remarks on<br>Chronic Effects on Humans     | No additional remark.                                                                                                                                                                  |  |  |  |  |  |
| Special Remarks on other Toxic<br>Effects on Humans | Experimentally tumorigen by initialation. Exposure can cause nausea, headache and somiting. (Diethylene<br>giycol)                                                                     |  |  |  |  |  |

# Triethylene Glycol R sprocessed

| Section 12. Ecologic                                 | al Information                                                                                                        |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Ecolozicky                                           | Not available.                                                                                                        |
| BOD5 and COD                                         | Not avaiable.                                                                                                         |
| Products of Blodegradation                           | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. |
| Testicity of the Products<br>af Blodegradiation      | The product itself and its products of degradation are not toxic.                                                     |
| Special Remarks on the<br>Products of Blodegradation | No additional remark                                                                                                  |

Page Number: 4

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# Section 13. Disposal Considerations

Waste Disposal

| والمكركي ويرجع معرفين الكثريت ومراجع محافظ الكرامية |                                                |  |
|-----------------------------------------------------|------------------------------------------------|--|
| Section 14, Transpo                                 | ort Information                                |  |
| Propper Shipping Name                               | NONE                                           |  |
| DOT Classification                                  | Not a DOT controlled material (United States). |  |
| DOT Identification Number                           | Not applicable (PIN and PG).                   |  |
| Packing Group                                       | NONE                                           |  |
| Hazardous Substances                                | Not available.                                 |  |
| de marine a                                         |                                                |  |

Special Provisions for Not applicable. Transport

| Section 15. Regulato                 | ry Information                                                                |          |
|--------------------------------------|-------------------------------------------------------------------------------|----------|
| Federal and State<br>Regulations _:: | The following product(s) is (are) listed by the State of Minnesota: Diethylen | a glycol |
| Other Classifications                | WHMIS (Canada) Not controlled under WHMIS (Canada).                           |          |
|                                      | DSC1. (EEC) Not controlled under DSCL (Europe).                               | ·        |

Section 16. Other Information

| HMIS (U.S. <u>ૣ.)</u>                                                                                 | Fire Hzzard<br>Reactivity<br>Personal Protection | 2 Na<br>1 As<br>0<br>B | tional Fire Protection<br>sociation (U.S.A.) | Нешь |     | Pire Statend<br>Reservice<br>Specific Sazard |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------|----------------------------------------------|------|-----|----------------------------------------------|
| References                                                                                            | Not available.                                   |                        |                                              |      | · . |                                              |
| Other Special<br>Considerations                                                                       | No additional remark.                            |                        |                                              |      | · . | -                                            |
| Validated by Joe Hudan                                                                                | an an 8/8/96.                                    |                        | Verified by Joe Hudman                       | L    |     |                                              |
| <u>.</u>                                                                                              | ······································           |                        | Printed S/12/99.                             |      |     |                                              |
| Transportation Emerge<br>CHEMITREC 800-424-5<br>Other Isformation Call<br>Joe Hadraan<br>713-477-6675 | ncy Call<br>9300                                 |                        |                                              |      |     |                                              |

Continued on Next Page

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## Triethylene Glycol Reprocessed

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District I 1625 N. French Dr., Hobbs, NM 88240 District II 130. W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztee, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 State of New Mexico Energy Minerals and Natural Resources

Form C-138 Revised March 17, 1999

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit Original Plus 1 Copy to Appropriate District Office

CY

## **REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

| BRCRA Exempt                                                                             | 4. Generator HALLIBURTON              |  |  |
|------------------------------------------------------------------------------------------|---------------------------------------|--|--|
| □Verbal Approval Received: Yes □ No                                                      | 5. Originating Site YARD STORAGE TANK |  |  |
| 2. Management Facility Destination KEY ENERGY DISPOSAL                                   | 6. Transporter KEY                    |  |  |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM                                    | 8. State NM                           |  |  |
| 7. Location of Material (Street Address or ULSTR) 4109 EAST MAIN<br>FARMINGTON, NM 87402 |                                       |  |  |
| 0 Circle One:                                                                            |                                       |  |  |

9. <u>Circle One</u>:

A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

All transporters must certify the wastes delivered are only those consigned for transport.

**BRIEF DESCRIPTION OF MATERIAL:** 

**RETURNED FRAC FLIUD THAT IS STORED IN WHAT IS REFERRED TO AS THE JUNK WATER TANK.** 

LAST FILED 10-26-02



Estimated Volume 160 BBLS

\_cy Known Volume (to be entered by the operator at the end of the has

SIGNATURE Waste Management Facility Anthorized Agent

TTTLE: FACILITY MANAGER DATE: 1-14-03

| TYPE OR PRINT NAME: | MICHAEL TALOVICH |
|---------------------|------------------|

TELEPHONE NO. \_505-334-6416\_

| (This space for State Use)               |                                 |
|------------------------------------------|---------------------------------|
| APPROVED BY: Demy Found TITLE: En        | <u>viro/Engr</u> DATE: 1/22/03  |
| APPROVED BY: Muntyn 9 This TITLE: Enviro | mmentel Goologist DATE: 1/27/03 |

| District I                                 |
|--------------------------------------------|
| 1625 N. Freisch Dr., Hobbs, NM 88240       |
| District II                                |
| 1301 W. Grand Avenue, Artesia, NM 88210    |
| District III                               |
| 1000 Rio Brazos Road, Aztec, NM 87410      |
| District IV                                |
| 1220 S. St. Francis Dr., Santa Fe, NM 8750 |

State of New Mexico Energy Minerals and Natural Resources

> Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

> Submit Original Plus 1 Copy to Appropriate District Office

# **REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

| 1 RCRA Exempt Non-Exempt No                                                                                                                                       | 4. Generator HALLIBURTON                                                                                        |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--|--|
| □ Verbal Approval Received: Yes □ No 🕅                                                                                                                            | 5. Originating Site YARD STORAGE TANK                                                                           |  |  |
| 2. Management Facility Destination KEY ENERGY DISPOSAL                                                                                                            | 6. Transporter KEY                                                                                              |  |  |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NM                                                                                                             | 8. State NM                                                                                                     |  |  |
| 7. Location of Material (Street Address or ULSTR) 4109 EAST MAIN<br>FARMINGTON,NM 87402                                                                           |                                                                                                                 |  |  |
| 9. <u>Circle One</u> :                                                                                                                                            |                                                                                                                 |  |  |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied to one certificate per job.                                                     | by a certification of waste from the Generator;                                                                 |  |  |
| B. All requests for approval to accept non-exempt wastes must be accompanied by material is not-hazardous and the Generator's certification of origin. No waste c | necessary chemical analysis to PROVE the<br>classified hazardous by listing or testing will be                  |  |  |
| approved                                                                                                                                                          | The Company of the second second second second second second second second second second second second second s |  |  |
| All transporters must certify the wastes delivered are only those consigned for tran                                                                              | sport.                                                                                                          |  |  |
| BRIEF DESCRIPTION OF MATERIAL:                                                                                                                                    | • • • • •                                                                                                       |  |  |

RETURNED FRAC FLIUD THAT IS STORED IN WHAT IS REFERRED TO AS THE JUNK WATER TANK.

LAST FILED 10-26-02

APPROVED BY:

APPROVED BY



DATE:

DATE

| Estimated Volume _160 BBLS cy Known Volume           | (to be entered by the operator at the end of the haul)cy |
|------------------------------------------------------|----------------------------------------------------------|
| SIGNATURE Waste Management Facility Authorized Agent | TITLE:FACILITY MANAGER DATE: _1-14-03                    |
| TYPE OR PRINT NAME:MICHAEL TALOVICH                  | TELEPHONE NO505-334-6416                                 |
| (This space for State Use)                           |                                                          |

TITLE:

TITLE

1010-646 (Chen - 1 2010-0101 New Mexico Form C-143 1625 N. French Dr Hobbs, NM 88240 3/15/00 inerals and Natural Resources Lightment Energy District 11 - (505) 748-1283 811 S. First Oil Conservation Division Anesa, NM 8810 Submit to OCD District III - (505) 334-6178 2040 South Pacheco Street 1000 Rio Brazos Road Santa Fe. New Mexico 87505 Permitted Surface Aztec, NM 87410 District IV - (505) \$27-7131 (505) 827-7131 Waste Management 2040 S Pacheco Facility Santa Fe, NMI 87505 GENERATOR CERTIFICATE OF WASTE STATUS 1. Waste Generator Name and Address: 2.Permit Number (if waste generated at an OCD Hall burton Energy Services 4109 E Main ST permitted facility) Farming Ton NM 87402 3. Description of Waste and Generating Process: 4. Location of Waste (Street address &/or ULSTR): HalliburTon ENergy Services ReTURN Frac FLuids That 4109 EMain ST Werre Stored IN Walis TeFerred Toasa Junk Water Farmington NM. 87422 Tunk That was sampled 12/10/02 Destination (Surface Waste Management Facility): Transporter: **的第一次**一次的第三人称单数 ENERGY Services 7. Estimated Volume \_//\_\_\_ cy/bbls For NON-EXEMPT waste only, the following documentation is attached (check appropriate items): RCRA Hazardous Waste Analysis (With Chain of Custody). MSDS Information Other (Description) KNUWLEdStOFRICESS 4 F Senerator certifies that, according to the Resource Conservation and Recovery Act (RCRA) and the Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (check appropriate classification) NON-EXEMPT oilfield waste that is non-hazardous **EXEMPT** oilfield waste. pursuant to 40 CFR Part 261. (Attach appropriate documentation) n addition. Generator certifies that nothing has been added to this exempt or non-exempt non-hazardous waste and that this raste does not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403. Senerator Signature: // Date: rint Name: 1/1/21 itle:

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# SUSPECTED HAZARDOUS WASTE ANALYSIS

|                  | . <u>.</u>                     |                                                                                                                                                                                                                                  | ··                                |                                     |                                        |           |  |
|------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------|----------------------------------------|-----------|--|
| Client:          | Hallib                         | urton Energy Service                                                                                                                                                                                                             | s Projec                          | ct #:                               |                                        | 92132-001 |  |
| Sample ID:       | D - 1                          |                                                                                                                                                                                                                                  | Date                              | Reported:                           |                                        | 12-16-02  |  |
| , Lab ID#:       | 24415                          | j                                                                                                                                                                                                                                | Date                              | Sampled:                            |                                        | 12-12-02  |  |
| Sample Matrix:   | Water                          |                                                                                                                                                                                                                                  | Date                              | Received:                           |                                        | 12-12-02  |  |
| Preservative:    | Cool                           |                                                                                                                                                                                                                                  | Date /                            | Analyzed:                           |                                        | 12-16-02  |  |
| Condition:       | Cool a                         | ind Intact                                                                                                                                                                                                                       | Chain                             | of Custody:                         |                                        | 10465     |  |
| Parameter        | Resu                           | llt                                                                                                                                                                                                                              | · ···· ·· ····                    |                                     |                                        |           |  |
| IGNITABILITY:    | Nega                           | itive                                                                                                                                                                                                                            |                                   |                                     |                                        |           |  |
| CORROSIVITY:     | Nega                           | itive _                                                                                                                                                                                                                          | pH =                              | 10.1                                |                                        |           |  |
| REACTIVITY:      | Nega                           | itive                                                                                                                                                                                                                            |                                   |                                     |                                        |           |  |
| RCRA Hazardous W | aste Criteria                  | ting and the second                                                                                                                                                                                                              |                                   | in entre                            |                                        |           |  |
| Parameter        | Hazar                          | dous Waste Criterior                                                                                                                                                                                                             | 1                                 | ,                                   |                                        |           |  |
| IGNITABILITY     | : Chara<br>(i.e. S             | cteristic of Ignitability<br>ample ignition upon                                                                                                                                                                                 | as defined by<br>direct contact w | 40 CFR, Subpa<br>vith flame or fla: | art C, Sec. 261.2<br>sh point < 60° C. | 1.<br>J   |  |
| CORROSIVIT       | Y: Chara                       | cteristic of Corrosivit                                                                                                                                                                                                          | v as defined by                   | 40 CER Subn                         | art C. Sec. 261.2                      | 22        |  |
|                  | (i.e. pl                       | H less than or equal                                                                                                                                                                                                             | to 2.0 or pH gre                  | eater than or eq                    | ual to 12.5 )                          |           |  |
| REACTIVITY:      | Chara<br><i>(i.e. V</i> i<br>c | Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23.<br>(i.e. Violent reaction with water, strong base, strong acid, or the generation<br>of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5) |                                   |                                     |                                        |           |  |
| Reference:       | 40 CF                          | R part 261 Subpart (                                                                                                                                                                                                             | Sections 261.                     | 21 - 261.23, Ju                     | ıly 1, 1992.                           |           |  |
| Comments:        | Halli                          | burton Bulk Plar                                                                                                                                                                                                                 | nt.                               |                                     | 2                                      | · ·       |  |

Analyst P. africa

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# ENVIROTECH LABS

# EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

| Client:            | Halliburton Energy Services | Project #:          | 92132-001 |
|--------------------|-----------------------------|---------------------|-----------|
| Sample ID:         | D - 1                       | Date Reported:      | 12-16-02  |
| Laboratory Number: | 24415                       | Date Sampled:       | 12-12-02  |
| Chain of Custody:  | 10465                       | Date Received:      | 12-12-02  |
| Sample Matrix:     | Water                       | Date Extracted:     | N/A       |
| Preservative:      | Cool                        | Date Analyzed:      | 12-16-02  |
| Condition:         | Cool & Intact               | Analysis Requested: | TCLP      |
|                    |                             |                     |           |

|                      |               | Detection                             | Regulatory :                 |
|----------------------|---------------|---------------------------------------|------------------------------|
|                      | Concentration | Limit                                 | Limits                       |
| Parameter            | (mg/L)        | (mg/L)                                | (mg/L)                       |
| Vinyl Chloride       | ND            | 0.0001                                | 0.2                          |
| 1,1-Dichloroethene   | ND            | 0.0001                                | 0.7                          |
| 2-Butanone (MEK)     | 0.0129        | 0.0001                                | 200                          |
| Chloroform           | ND            | 0.0001                                |                              |
| Carbon Tetrachloride | ,ND           | 0.0001                                | 0.5                          |
| Benzene              | 0.0459        | 0.0001                                | 0.5                          |
| 1,2-Dichloroethane   | ND            | 0.0001                                | 0.5                          |
|                      | ND            | · · · · · · · · · · · · · · · · · · · | 0.5 The second second second |
| Tetrachloroethene    | ND            | 0.0005                                | 0.7                          |
| Chlorobenzene        | ND            | 0.0003                                | 100                          |
| 1,4-Dichlorobenzene  | ND (          | 0.0002                                | 7.5                          |
|                      |               |                                       |                              |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter            | Percent Recovery |   |
|---------------------------|----------------------|------------------|---|
| · · · · · · · · ·         | Fluorobenzene        | 100%             | ' |
|                           | 1,4-difluorobenzene  | 100%             |   |
|                           | 4-bromochlorobenzene | 100%             |   |

| References: | Method 1311; Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. |
|-------------|------------------------------------------------------------------------------------|
| -           | Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.                             |
|             | Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.              |
|             | Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.                |

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

Halliburton Bulk Plant.

Analyst

Walter Mistin Review

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

# ENVIROTECH LABS

# EPA METHOD 8040 PHENOLS

| Client:            | Halliburton Energy Services | Project #:          | 92132-001 |
|--------------------|-----------------------------|---------------------|-----------|
| Sample ID:         | D - 1                       | Date Reported:      | 12-17-02  |
| Laboratory Number: | 24415                       | Date Sampled:       | 12-12-02  |
| Chain of Custody:  | 10465                       | Date Received:      | 12-12-02  |
| Sample Matrix:     | Water                       | Date Extracted:     | N/A       |
| Preservative:      | Cool                        | Date Analyzed:      | 12-17-02  |
| Condition:         | Cool & Intact               | Analysis Requested: | TCLP      |

| Parameter             | Concentration<br>(mg/L) | Detection<br>Limit<br>(mg/L) | Regulatory<br>Limit<br>(mg/L) |
|-----------------------|-------------------------|------------------------------|-------------------------------|
| o-Cresol              | ND                      | 0.020                        | 200                           |
| p,m-Cresol            | 0.101                   | 0.040                        | 200                           |
| 2,4,6-Trichlorophenol | 0.273                   | 0.020                        | 2.0                           |
| 2,4,5-Trichlorophenol | 0.401                   | 0.020                        | 400                           |
| Pentachlorophenol     | 0.375                   | 0.020                        | 100                           |
|                       |                         | \$19-29 <b>第一十</b> 一条数42-9号  | THE REAL PROPERTY OF          |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter            | Percent Recovery |  |  |
|-----------------------|----------------------|------------------|--|--|
| •<br>•                | 2-Fluorophenol       | 99%              |  |  |
|                       | 2,4,6-Tribromophenol | 99%              |  |  |

References:

Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note:

Comments:

Halliburton Bulk Plant.

Analyst

ten Review

# PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

# EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics

| Client:                               | Halliburton Energy Services | Project #:          | 92132-001  |
|---------------------------------------|-----------------------------|---------------------|------------|
| Sample ID:                            | D - 1                       | Date Reported:      | 12-17-02   |
| Laboratory Number:                    | 24415                       | Date Sampled:       | 12-12-02   |
| Chain of Custody:                     | 10465                       | Date Received:      | 12-12-02   |
| Sample Matrix:                        | Water                       | Date Extracted:     | N/A        |
| Preservative:                         | Cool                        | Date Analyzed:      | 12-17-02   |
| Condition:                            | Cool and Intact             | Analysis Requested: | TCLP       |
| · · · · · · · · · · · · · · · · · · · |                             | Det.                | Regulatory |
| i                                     | Concentration               | Limit               | Limit      |
| Parameter                             | (mg/L)                      | (mg/L)              | (mg/L)     |
| Pyridine                              | ND                          | 0.020               | 5.0        |
| Hexachloroethane                      | 0.149                       | 0.020               | 3.0        |
| Nitrobenzene                          | 0.022                       | 0.020               | 2.0        |
| Hexachlorobutadiene                   | 0.054                       | 0.020               | 0.5        |
| 2,4-Dinitrotoluene                    | 0.046                       | 0.020               | 0.13       |
| HexachloroBenzene                     | 0.021                       | 0.020               | 0.13       |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria |                                                                            | Parameter                                                                                                           | Percent Recovery                                                           |   |
|---------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---|
|                           |                                                                            | 2-fluorobiphenyl                                                                                                    | 98%                                                                        |   |
| References:               | Method 1311, Toxicity (<br>Method 3510, Separato<br>Method 8090, Nitroaron | Characteristic Leaching Procedure, S<br>ry Funnel Liquid-Liquid Extraction, S<br>natics and Cyclic Ketones, SW-846, | W-846, USEPA, July 1992.<br>W-846, USEPA, July 1992.<br>USEPA, Sept. 1986. |   |
| <u>Note:</u>              | Regulatory Limits based                                                    | d on 40 CFR part 261 Subpart C sec                                                                                  | tion 261.24, July 1, 1992.                                                 |   |
| Comments:                 | Halliburton Bulk P                                                         | lant.                                                                                                               | •<br>•                                                                     |   |
|                           | , r<br>, · · .                                                             |                                                                                                                     | · · · ·                                                                    | · |

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# EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

|   |                    | Halliburton Energy Services           | Project #:       | 92132-001   |      |
|---|--------------------|---------------------------------------|------------------|-------------|------|
|   | Sample ID:         | D1                                    | Date Reported:   | 12-16-02    |      |
|   | Laboratory Number: | 24415                                 | Date Sampled:    | 12-12-02    |      |
|   | Chain of Custody:  | 10465                                 | Date Received:   | 12-12-02    |      |
|   | Sample Matrix:     | Water                                 | Date Analyzed:   | 12-16-02    |      |
|   | Preservative:      | Cool                                  | Date Extracted:  | N/A         |      |
| • | Condition:         | Cool & Intact                         | Analysis Needed: | TCLP metals |      |
|   | ·                  | , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | Det.             | Regulatory  |      |
|   |                    | Concentration                         | Limit            | Level       |      |
|   | Parameter          | (mg/L)                                | (mg/L)           | (mg/L)      |      |
|   |                    |                                       |                  |             |      |
|   | Arsenic            | 0.041                                 | 0.001            | 5.0         |      |
|   | Barium             | 0.862                                 | 0.001            | 100         |      |
|   | Cadmium            | 0.004                                 | 0.001            | 1.0         |      |
|   | Chromium           | 0.002                                 | 0.001            | 5.0         |      |
|   | Lead               | 0.001                                 | 0.001            | 5.0         |      |
| 颜 | Mercury            | ND 👘 👘                                | 0.001            | 0.2         |      |
|   | Selenium           | 0.030                                 | 0.001            | 1.0         | ·. · |
|   | Silver             | ND                                    | 0:001            | 5.0         |      |

References: Method 1311, Toxic

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

Halliburton Bulk Plant.

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### QUALITY ASSURANCE / QUALITY CONTROL

### DOCUMENTATION

16

# ENVIROTECH LABS

#### EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

| Client                                | OAIOC            | Draiget #:          |            |            |
|---------------------------------------|------------------|---------------------|------------|------------|
| Sample ID:                            | Laboratory Black | Project #.          |            |            |
| Sample ID.                            | Laboratory blank |                     | 12-16-02   |            |
| Laboratory Number:                    | 12-16-TCV        | Date Sampled:       | N/A        |            |
| Sample Matrix:                        | Water            | Date Received:      | N/A        |            |
| Preservative:                         | N/A              | Date Analyzed:      | 12-16-02   |            |
| Condition:                            | N/A              | Analysis Requested: | TCLP       |            |
| · · · · · · · · · · · · · · · · · · · |                  | Detection           | Regulatory |            |
|                                       | Concentration    | Limit               | Limits     |            |
| Parameter                             | (mg/L)           | (mg/L)              | (mg/L)     |            |
| Vinyl Chloride                        | ND               | 0.0001              | 0.2        |            |
| 1,1-Dichloroethene                    | ND               | 0.0001              | 0.7        |            |
| 2-Butanone (MEK)                      | ND               | 0:0001              | 200        |            |
| Chloroform                            | ND               | 0.0001              | 6.0        | i          |
| Carbon Tetrachloride                  | ND               | 0.0001              | • 0.5      | :          |
| Benzene                               | ND               | 0.0001              | 0.5        | :          |
| 1.2-Dichloroethane                    | ND               | 0.0001              | 0.5        |            |
| Trichloroethene                       | ND               | 0.0003              | 0.5        |            |
| Tetrachloroethene                     | ND               | - 0.0005            | 0.7        |            |
| Chlorobenzene                         | ND               | 0.0003              | 100        | ¥,         |
| 1,4-Dichlorobenzene                   | ND               | 0.0002              | 7.5        | . <b>.</b> |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter            | Percent Recovery |  |
|---------------------------|----------------------|------------------|--|
|                           | Fluorobenzene        | 100%             |  |
|                           | 1,4-difluorobenzene  | 100%             |  |
|                           | 4-bromochlorobenzene | 100%             |  |
|                           | 4-bromochiorobenzene | 100 /6           |  |

| References: | Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. |
|-------------|------------------------------------------------------------------------------------|
|             | Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.                             |
|             | Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.              |
|             | Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.                |
|             |                                                                                    |
|             |                                                                                    |

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

QA/QC for sample 24415.

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#### EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

|   | Client:                               | QA/QC         |                  | Project #:      | N/A                                   |
|---|---------------------------------------|---------------|------------------|-----------------|---------------------------------------|
|   | Sample ID:                            | Matrix Duplic | ate              | Date Reported:  | 12-16-02                              |
|   | Laboratory Number:                    | 24415         |                  | Date Sampled:   | N/A                                   |
|   | Sample Matrix:                        | Water         |                  | Date Received:  | N/A                                   |
|   | Analysis Requested:                   | TCLP          |                  | Date Analyzed:  | 12-16-02                              |
|   | Condition:                            | N/A           |                  | Date Extracted: | N/A                                   |
|   | · · · · · · · · · · · · · · · · · · · |               | Duplicate        |                 | · · · · · · · · · · · · · · · · · · · |
|   |                                       | Sample        | Sample           | Detection *     |                                       |
|   |                                       | Result        | Result           | Limits          | Percent                               |
|   | Parameter                             | (mg/L)        | (mg/L)           | (mg/L)          | Difference                            |
|   | Vinyl Chloride                        | ND            | ND               | 0.0001          | 0.0%                                  |
|   | 1,1-Dichloroethene                    | ND            | ND               | 0.0001          | 0.0%                                  |
|   | 2-Butanone (MEK)                      | 0.0129        | 0.0131           | 0.0001          | 1 1%                                  |
|   | Chloroform                            | , ND          | ND               | 0.0001          | 0.0%                                  |
|   | Carbon Tetrachloride                  | ND            | ND               | 0.0001          | 0.0%                                  |
|   | Benzene                               | 0.0459        | 0.0456           | 0.0001          | 0.6%                                  |
|   | 1,2-Dichloroethane                    | ND            | - * ND - * * * * | 0.0001          | - 0.0%                                |
|   | Trichloroethene                       | ND            | ND               | 0.0003          | 0.0%                                  |
| - | Tetrachloroethene                     | ND            | ND               | 0.0005          | 0.0%                                  |
|   | Chlorobenzene                         | ND            | ND               | 0.0003          | 0.0%                                  |
|   | 1,4-Dichlorobenzene                   | ND            | ND               | 0.0002          | 0.0%                                  |

ND - Parameter not detected at the stated detection limit.

References:

. . . . .

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.

Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for sample 24415.

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## ENVIROTECH LABS

#### EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

| Client:              | QA/QC                                    |        |        | Project #:    |          | N/A         |
|----------------------|------------------------------------------|--------|--------|---------------|----------|-------------|
| Sample ID:           | Matrix Spike                             |        |        | Date Reporte  | ed:      | 12-16-02    |
| Laboratory Number:   | 24415                                    |        |        | Date Sample   | d:       | N/A         |
| Sample Matrix:       | Water                                    |        |        | Date Receive  | ed:      | N/A         |
| Analysis Requested:  | TCLP                                     |        |        | Date Analyze  | ed:      | 12-16-02    |
| Condition:           | N/A                                      |        |        | Date Extracte | ed:      | N/A         |
|                      | •. •. •. •. •. •. •. •. •. •. •. •. •. • |        | Spiked |               | ······   | SW-846      |
| ,<br>,               | Sample                                   | Spike  | Sample | Det.          |          | % Rec.      |
|                      | Result                                   | Added  | Result | Limit         | Percent  | Accept.     |
| Parameter            | (mg/L)                                   | (mg/L) | (mg/L) | (mg/L)        | Recovery | Range       |
| Vinyl Chloride       | ND                                       | 0.050  | 0.0495 | 0.0001        | 99.0%    | 28-163      |
| 1,1-Dichloroethene   | ND                                       | 0.050  | 0.0494 | 0.0001        | 98.8%    | 43-143      |
| 2-Butanone (MEK)     | 0.0129                                   | 0.050  | 0.0627 | 0.0001        | . 99.7%  | 47-132      |
| Chloroform           | . ND                                     | 0.050  | 0.0500 | 0.0001        | 99.9%    | 49-133      |
| Carbon Tetrachloride | ND                                       | 0.050  | 0.0490 | 0.0001        | 98.0%    | 43-143      |
| Benzene              | 0.0459                                   | 0.050  | 0.0957 | 0.0001        | 99.8%    | 39-150      |
| 1;2-Dichloroethane   | ND                                       | 0.050  | 0.0490 | 0.0001        | 98.0%    | 51-147      |
| Trichloroethene      | ND                                       | 0.050  | 0.0495 | 0.0003        | 99.0%    | 35-146      |
| Tetrachloroethene    | ND                                       | 0.050  | 0.0495 | 0.0005        | 99.0%    | 26-162      |
| Chlorobenzene        | ND                                       | 0.050  | 0.0495 | 0.0003        | 99.0%    | 38-150      |
| 1,4-Dichlorobenzene  | ND                                       | 0.050  | 0.0495 | 0.0002        | 99.0%    | 42-143      |
|                      |                                          |        |        |               |          | · · · · · · |

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ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for sample 24415.

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## PRACTICAL SOLUTIONS YFOR A BETTER TOMORROW

#### EPA METHOD 8040 PHENOLS Quality Assurance Report Laboratory Blank

| Client:               | QA/QC            | Project #:          | N/A        |  |
|-----------------------|------------------|---------------------|------------|--|
| Sample ID:            | Laboratory Blank | Date Reported:      | 12-17-02   |  |
| Laboratory Number:    | 12-17-TCA        | Date Sampled:       | N/A        |  |
| Sample Matrix:        | 2-Propanol       | Date Received:      | N/A        |  |
| Preservative:         | N/A              | Date Analyzed:      | 12-17-02   |  |
| Condition:            | N/A              | Analysis Requested: | TCLP       |  |
| Analytical Results    |                  | Detection           | Regulatory |  |
|                       | Concentration    | Límit               | Limit      |  |
| Parameter             | (mg/L)           | (mg/L)              | (mg/L)     |  |
| o-Cresol              | ND               | 0.020               | 200        |  |
| p,m-Cresol            | ND               | 0.040               | 200        |  |
| 2,4,6-Trichlorophenol | ND               | 0.020               | 2.0        |  |
| 2,4,5-Trichlorophenol | ND               | 0.020               | 400        |  |
|                       |                  |                     |            |  |

ND - Parameter not detected at the stated detection limit.

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|------------------------|----------------------|----------------------|
| -Surrogate Recoveries: | Parameter            | Percent Recovery     |
|                        | 2-fluorophenol       | 98 %                 |
|                        | 2,4,6-tribromophenol | 99 %                 |

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Note:

Comments: QA/QC for sample 24415.

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#### PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

#### EPA METHOD 8040 PHENOLS Quality Assurance Report

|       | Client:          |                              | QA/QC              |                           | Project #:                   | N/A              |
|-------|------------------|------------------------------|--------------------|---------------------------|------------------------------|------------------|
|       | Sample ID:       |                              | Matrix Duplicate   | e                         | Date Reported:               | 12-17-02         |
|       | Laboratory Numb  | per:                         | 24415              |                           | Date Sampled:                | N/A              |
|       | Sample Matrix:   |                              | Water              |                           | Date Received:               | N/A              |
|       | Preservative:    |                              | Cool               |                           | Date Extracted:              | N/A              |
|       | Condition:       |                              | Cool & Intact      |                           | Date Analyzed:               | 12-17-02         |
|       |                  | · <b>y</b> -                 |                    |                           | Analysis Requested:          | TCLP             |
|       |                  |                              | Sample             | Duplicate                 | Detection                    |                  |
|       |                  |                              | Result             | Result                    | Limit                        | Percent          |
|       | Parameter        | a <b>a.</b>                  | (mg/L)             | (mg/L)                    | (mg/L)                       | Difference       |
|       | o-Cresol         |                              | ND                 | ND                        | 0.020                        | 0.0%             |
|       | p,m-Cresol       |                              | 0.101              | 0.099                     | 0.040                        | 2.0%             |
|       | 2,4,6-Trichlor   | ophenol                      | 0.273              | 0.270                     | 0.020                        | 1.0%             |
|       | 2,4,5-Trichlor   | ophenol                      | 0.401              | 0.397                     | 0.020                        | 1.1%             |
| 4、增量的 | Pentachlorop     | henol                        | 0.375              | 0.372                     | 0.020                        | 0.8%             |
|       | ND - Parameter i | not detected at the          | stated detection l | imit.                     |                              | · · · ·          |
|       |                  |                              |                    |                           |                              | · .              |
|       | QA/QC Accep      | otance Criteria:             |                    | Parameter                 | Max                          | imum Difference  |
|       |                  | н<br>                        |                    | 8040 Comp                 | ounds                        | 30.0%            |
|       | References:      | Method 1311,<br>Waste, SW-84 | Toxicity Characte  | ristic Leaching P<br>992. | Procedure Test Methods for   | Evaluating Solid |
|       |                  |                              |                    | -                         |                              |                  |
|       |                  | Method 3510,                 | Separatory Funn    | el Liquid-Liquid E        | Extraction, Test Methods for | Evaluating Solid |
|       |                  | Waste, SW-84                 | 16, USEPA, July 1  | 992.                      |                              |                  |

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments:

QA/QC for sample 24415.

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#### PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

#### EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics Quality Assurance Report

| Client:            | QA/QC            | Project #:          | N/A      |
|--------------------|------------------|---------------------|----------|
| Sample ID:         | Laboratory Blank | Date Reported:      | 12-17-02 |
| Laboratory Number: | 12-17-TBN        | Date Sampled:       | N/A      |
| Sample Matrix:     | Hexane           | Date Received:      | N/A      |
| Preservative:      | N/A              | Date Extracted:     | N/A      |
| Condition:         | N/A              | Date Analyzed:      | 12-17-02 |
| •                  |                  | Analysis Requested: | TCLP     |

|                     | Concentration | Det.<br>Limit | Regulatory<br>Limit |
|---------------------|---------------|---------------|---------------------|
| Parameter           | (mg/L)        | (mg/L)        | (mg/L)              |
| Pyridine            | ND            | 0.020         | 5.0                 |
| Hexachloroethane    | ND            | 0.020         | 3.0                 |
| Nitrobenzene        | ND            | 0.020         | 2.0                 |
| Hexachlorobutadiene | ND            | 0.020         | 0.5                 |
| 2,4-Dinitrotoluene  | ND            | 0.020         | 0.13                |
| HexachloroBenzene   | ND            | 0.020         | 0.13                |

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ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter        | Percent Recovery |  |
|---------------------------|------------------|------------------|--|
|                           |                  |                  |  |
|                           | 2-fluorobiphenyl | 97%              |  |

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992. Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

QA/QC for sample 24415.

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#### EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QA/QC Matrix Duplicate Report

| Client:             | QA/QC            | Project #:      |            | N/A      |
|---------------------|------------------|-----------------|------------|----------|
| Sample ID:          | Matrix Duplicate | Date Reported:  |            | 12-17-02 |
| Laboratory Number:  | 24415            | Date Sampled:   | •          | N/A      |
| Sample Matrix:      | Water            | Date Received:  |            | N/A      |
| Preservative:       | N/A              | Date Extracted: |            | N/A      |
| Condition:          | N/A              | Date Analyzed:  |            | 12-17-02 |
|                     |                  | Analysis Reques | sted:      | TCLP     |
|                     | Sample           | Duplicate       |            | Det.     |
|                     | Result           | Result          | Percent    | Limit    |
| Parameter           | (mg/L)           | (mg/L)          | Difference | (mg/L)   |
| Pyridine            | ND               | ND              | 0.0%       | 0.020    |
| Hexachloroethane    | 0.149            | 0.148           | 1.0%       | 0.020    |
| Nitrobenzene        | 0.022            | 0.022           | . 0.0%     | 0.020    |
| Hexachlorobutadiene | 0.054            | 0.053           | 1.1%       | 0.020    |
| 2,4-Dinitrotoluene  | 0.046            | 0.046           | 0.0%       | 0.020    |
| HexachloroBenzene   | 0.021            | <u>a.</u> ≜≪    | 0.0%       | 0.020    |

ND - Parameter not detected at the stated detection limit. .

| QA/QC Acceptance Criteria |                                                                             | Parameter                                                                                                            | Maximum Difference                                                         |
|---------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
|                           |                                                                             | 8090 Compounds                                                                                                       | 30%                                                                        |
| References:               | Method 1311, Toxicity C<br>Method 3510, Separator<br>Method 8090, Nitroarom | haracteristic Leaching Procedure, S'<br>y Funnel Liquid-Liquid Extraction, S\<br>atics and Cyclic Ketones, SW-846, L | W-846, USEPA, July 1992.<br>N-846, USEPA, July 1992.<br>JSEPA, Sept. 1986. |
| Note:                     | Regulatory Limits based                                                     | on 40 CFR part 261 Subpart C sect                                                                                    | ion 261.24, July 1, 1992.                                                  |

Comments:

QA/QC for sample 24415.

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#### EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

| Client:             |            | QA/QC       |           | Project #: |           |       | N/A        |
|---------------------|------------|-------------|-----------|------------|-----------|-------|------------|
| Sample ID:          |            | 12-16-TCM   | QA/QC     | Date Rep   | orted:    |       | 12-16-02   |
| Laboratory Number   |            | 24415       |           | Date Sam   | noled:    |       | N/A        |
| Sample Matrix:      |            | Water       |           | Date Rece  | eived:    |       | N/A        |
| Analysis Requested: |            | TCLP Metals | s         | Date Anal  | vzed:     |       | 12-16-02   |
| Condition:          |            | N/A         | -         | Date Extra | acted:    |       | N/A        |
| Blank & Duplicate   | Instrument | Method      | Detection | Sample     | Duplicate | %     | Acceptance |
| Conc. (mg/L)        | Blank      | Biank       | A 001     | 0.041      |           | 2 AO/ | Nº/ 200/   |
| Arsenic             |            |             | 0.001     | 0.041      | 0.040     | 2.470 | 0% 30%     |
| Barium              |            |             | 0.001     | 0.002      | 0.004     | 0.2%  | 0% -30%    |
| Cadmium             | ND         |             | 0.001     | 0.004      | 0.004     | 0.0%  |            |
| Chromium            | ND         | ND          | 0.001     | 0.002      | 0.002     | 0.0%  | 0% - 30%   |
| Lead                | ND         | ND          | 0.001     | 0.001      | 0.001     | 0.0%  | 0% - 30%   |
| Mercury             | ND         | ND          | 0.001     | ND         | ND        | 0.0%  | 0% - 30%   |
| Selenium            | ,ND        | ND          | 0.001     | 0.030      | 0.030     | 0.0%  | 0% - 30%   |
| Silver              | ND         | ND          | 0.001     | ND         | ND        | 0.0%  | 0% - 30%   |
| Spike               | ater es    | Spike       | Sample    | Soiked     | Percent   |       | Acceptance |
| Conc. (mg/L)        |            | Added       |           | Sample     | Recovery  |       | Range      |
| Arsenic             | ,          | 0.500       | 0.041     | 0.540      | 99.8%     |       | 80% - 120% |
| Barium              |            | 0.500 .     | 0.862     | 1.35       | 99.1%     |       | 80% - 120% |
| Cadmium             |            | 0.500       | 0.004     | 0.503      | 99.8%     |       | 80% - 120% |
| Chromium            |            | 0.500       | 0.002     | 0.501      | 99.8%     |       | 80% - 120% |
| Lead                |            | 0.500       | 0.001     | 0.500      | 99.8%     |       | 80% - 120% |
| Mercurv             |            | 0.050       | ND        | 0.049      | 98.0%     |       | 80% - 120% |
| Selenium            |            | 0.500       | 0.030     | 0.528      | 99.6%     |       | 80% - 120% |

ND - Parameter not detected at the stated detection limit.

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ND

References:

Silver

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

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Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission, SW-846, USEPA, December 1996.

Comments:

QA/QC for samples 24415 - 24416.

Analyst

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99.8%

80% - 120%

### **CHAIN OF CUSTODY RECORD**

Project Location Bulk Plant Client / Project Name **ANALYSIS / PARAMETERS** HALIBURIA Every Services Sampler: Melissa M. Hoursey Client No. Remarks Containers 92132-001 No. of 1010 Sample No./ Sample Sample Sample Lab Number Identification Date Time Matrix PRESCRUEN J BINE H2 D 1155 HK D-1 12/12/02 5 24415 1 . Received by: (Signature) Time Relinquished by: (Signature Date Time Date 1230 110 בואכואבן 12/12/02 T 1230 Relinguished by: (Signature) Received by: (Signature) Received by: (Signature) Relinquished by: (Signature) ENVIROTECH INC. Sample Receipt Y Ν N/A 5796 U.S. Highway 64 **Received Intact** ٢. Farmington, New Mexico 87401 (505) 632-0615 Cool - Ice/Blue Ice

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District 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico **Energy Minerals and Natural Resources** 

> **Oil Conservation Division** 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-138 Revised March 17, 1999

Submit Original Plus 1 Copy to Appropriate District Office

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#### **REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

| 1. RCRA Exempt: Non-Exempt: 🕅                                                             | 4. Generator ELPASO FIELD SERVICE               |  |  |
|-------------------------------------------------------------------------------------------|-------------------------------------------------|--|--|
| Uverbal Approval Received: Yes No                                                         | 5. Originating Site CHACO PLANT                 |  |  |
| 2. Management Facility Destination KEY ENERGY DISPOSAL                                    | 6. Transporter KEY ENERGY                       |  |  |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NEW MEXICO                             | 8. State NM                                     |  |  |
| 7. Location of Material (Street Address or ULSTR) SW/4,SEC16,T26N,R12W<br>San Juan Co.,NM |                                                 |  |  |
| 9. <u>Circle One</u> :                                                                    |                                                 |  |  |
| A. All requests for approval to accept oilfield exempt wastes will be accompanied         | by a certification of waste from the Generator: |  |  |

- one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

All transporters must certify the wastes delivered are only those consigned for transport.

#### BRIEF DESCRIPTION OF MATERIAL:

CONTACT WASTE WATER FROM GAS PLANT OPERATIONS.

#### **ANNUAL RENEWAL FOR 2003**



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Estimated Volume 500-1000BBLS PER MONTH Known Volume (to be entered by the operator at the end of the haul)

| SIGNATURE Moral Faile Antoined Amer        | TITLE:MANAGER | DATE: _1-13-03 |
|--------------------------------------------|---------------|----------------|
| waste Management Facility Authorized Agent |               |                |
|                                            |               | 1              |
|                                            |               | M              |

TYPE OR PRINT NAME: \_MICHAEL TALOVICH\_\_\_\_\_ TELEPHONE NO. 505-334-6416\_\_

| (This space for State Use) |                                |                       |
|----------------------------|--------------------------------|-----------------------|
| APPROVED BY: Denny found   | TITLE: Enviro/Engr             | date: <u>1/27/0</u> 3 |
| APPROVED BY: Manhan + 24   | TITLE: Environmental Geologist | DATE: 1/29 /83        |
|                            |                                |                       |

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grind Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-138 Revised March 17, 1999

Submit Original Plus 1 Copy to Appropriate District Office

#### **REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

| 1 PCPA Evenut                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 4. Generator ELPASO FIELD SERVICE                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| □ Verbal Approval Received: Yes □ No 🕅                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 5. Originating Site CHACO PLANT                                                             |
| 2. Management Facility Destination KEY ENERGY DISPOSAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 6. Transporter KEY ENERGY                                                                   |
| 3. Address of Facility Operator #345 CR 3500 AZTEC NEW, MEXICO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 8. State NM                                                                                 |
| 7. Location of Material (Street Address or ULSTR) SW/4,SEC16,T26N,R12W<br>San Juan Co.,NM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                             |
| <ul> <li>9. <u>Circle One</u>:</li> <li>A. All requests for approval to accept oilfield exempt wastes will be accompanied to one certificate per job.</li> <li>B. All requests for approval to accept non-exempt wastes must be accompanied by</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | by a certification of waste from the Generator;<br>necessary chemical analysis to PROVE the |
| All transporters must certify the wastes delivered are only those consigned for tran                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | classified hazardous by listing or testing will be sport.                                   |
| BRIEF DESCRIPTION OF MATERIAL:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | •••••                                                                                       |
| CONTACT WASTE WATER FROM GAS PLANT OPERATIONS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                             |
| ANNUAL RENEWAL FOR 2003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 11 12 (S ) (S ) (S ) (S ) (S ) (S ) (S ) (S                                                 |
| No. 10 AND AND AND AND AND AND AND AND AND AND                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 292.57                                                                                      |
| Estimated Volume 500-1000BBLS PER MONTH Known Volume (to be entered by the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | e operator at the end of the haul)cy                                                        |
| SIGNATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DATE: _1-13-03                                                                              |
| TYPE OR PRINT NAME: _MICHAEL TALOVICH TELEPHONE NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ). 505-334-6416                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                             |
| (This space for State Use)<br>APPROVED BY: Demy Jam TITLE: Environ<br>APPROVED BY: TITLE:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | o/Engr DATE: 1/27/03<br>DATE:                                                               |
| Construction and an antiparticle for the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the set of the | <u>na na na kata kata kata kata kata kata k</u>                                             |

### **CERTIFICATE OF WASTE STATUS**

| 1 Generator Name and Address                                                          | 2 Destination Name:                                  |
|---------------------------------------------------------------------------------------|------------------------------------------------------|
|                                                                                       |                                                      |
| El Paso Field Services Co.                                                            | Key Energy Services, Inc.                            |
| 614 Reilly Avenue                                                                     | Disposal Well – 345 CR 3500                          |
| Farmington, NM 8/401                                                                  | Farmington, NM                                       |
| 3. Originating Site (name):                                                           | Location of Waste(Street address &/or ULSTR):        |
| Chaco Plant                                                                           | SW/4 of Section 16, T26N, R12W, San Juan Co., NM     |
| ۲                                                                                     | 2<br>2                                               |
|                                                                                       |                                                      |
| Attach list of originating sites as appropriate<br>4. Source and Description of Waste |                                                      |
|                                                                                       |                                                      |
| Contact waste water from Cryogenic Plant and                                          | Compressor Station operations                        |
|                                                                                       |                                                      |
|                                                                                       |                                                      |
|                                                                                       |                                                      |
|                                                                                       | an an an an an an an an an an an an an a             |
| I, David Days (Print Name)                                                            | representative for:                                  |
|                                                                                       |                                                      |
| El Paso Field Service                                                                 | es Co do hereby certify that,                        |
| 1988 regulatory determination, the above descr                                        | NON-EXEMPT oilfield waste which is non-hazardous by  |
| EXEMPT Oilfield waste X                                                               | characteristic analysis or by product identification |
|                                                                                       | ·                                                    |
| and that nothing has been added to the exempt                                         | t or non-hazardous waste defined above.              |
| ·                                                                                     |                                                      |
| For NON-EXEMPT waste only, the following do                                           | cumentation is attached (check appropriate items):   |
|                                                                                       |                                                      |
| MSDS Information                                                                      | Other (description)                                  |
| Chain of Custody                                                                      |                                                      |
|                                                                                       |                                                      |
|                                                                                       | · , ·                                                |
| Name (Original Signature)                                                             | 10 Rous                                              |
|                                                                                       | -x our                                               |
| Title: Princip                                                                        | al Environmental Scientist                           |
|                                                                                       |                                                      |
| Date: Januar                                                                          | v 6. 2003                                            |
|                                                                                       |                                                      |
|                                                                                       |                                                      |
|                                                                                       |                                                      |
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#### SUSPECTED HAZARDOUS WASTE ANALYSIS

| Client:                    | El Paso Field Services                                                                        | Project #:                                                                                                            | 97057-072                                                                                                      |
|----------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Sample ID:                 | Waste Water Tank                                                                              | Date Reported:                                                                                                        | 12-06-02                                                                                                       |
| Lab ID#:                   | 24358                                                                                         | Date Sampled:                                                                                                         | 12-05-02                                                                                                       |
| Sample Matrix:             | Water                                                                                         | Date Received:                                                                                                        | 12-05-02                                                                                                       |
| Preservative:              | Cool                                                                                          | Date Analyzed:                                                                                                        | 12-06-02                                                                                                       |
| Condition:                 | Cool and Intact                                                                               | Chain of Custody:                                                                                                     | 10447                                                                                                          |
| Parameter                  | Result                                                                                        |                                                                                                                       |                                                                                                                |
|                            |                                                                                               |                                                                                                                       |                                                                                                                |
| IGNITABILITY:              | Negative                                                                                      |                                                                                                                       |                                                                                                                |
| CORROSIVITY:               | Negative                                                                                      | pH = 5.10                                                                                                             |                                                                                                                |
| REACTIVITY:                | Negative                                                                                      | •                                                                                                                     |                                                                                                                |
| RCRA Hazardous Waste Crite | eria                                                                                          |                                                                                                                       | and the standard and the second second second second second second second second second second second second s |
| Parameter                  | Hazardous Waste Criterion                                                                     |                                                                                                                       | · · ·                                                                                                          |
| IGNITABILİTY:              | Characteristic of Ignitability a (i.e. Sample ignition upon dir                               | s defined by 40 CFR, Subpart C, Sec<br>ect contact with flame or flash point <                                        | 5. 261.21.<br>5 60° C.)                                                                                        |
| CORROSIVITY:               | Characteristic of Corrosivity a (i.e. pH less than or equal to                                | as defined by 40 CFR, Subpart C, Se<br>2.0 or pH greater than or equal to 12                                          | c. 261.22.<br>5)                                                                                               |
| REACTIVITY:                | Characteristic of Reactivity a<br>(i.e. Violent reaction with wat<br>of Sulfide or Cyanide ga | s defined by 40 CFR, Subpart C, Sec<br>er, strong base, strong acid, or the ge<br>ases at STP with pH between 2.0 and | . 261.23.<br>eneration<br>12.5)                                                                                |
| Reference:                 | 40 CFR part 261 Subpart C s                                                                   |                                                                                                                       | 2.                                                                                                             |

Comments:

Chaco Plant.

Analyst

Review

## PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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#### EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

| <b>O</b> H <b>O H</b> | ·                      |                     |           |
|-----------------------|------------------------|---------------------|-----------|
| Client:               | El Paso Field Services | Project #:          | 97057-072 |
| Sample ID:            | Waste Water Tank       | Date Reported:      | 12-06-02  |
| Laboratory Number:    | 24358                  | Date Sampled:       | 12-05-02  |
| Chain of Custody:     | 10447                  | Date Received:      | 12-05-02  |
| Sample Matrix:        | Water ,                | Date Extracted:     | N/A       |
| Preservative:         | Cool                   | Date Analyzed:      | 12-06-02  |
| Condition:            | Cool & Intact          | Analysis Requested: | TCLP      |

|                      |               | Detection | Regulatory |
|----------------------|---------------|-----------|------------|
|                      | Concentration | Limit     | Limits     |
| Parameter            | (mg/L)        | (mg/L)    | (mg/L)     |
| •                    |               |           |            |
| Vinyl Chloride       | ND            | 0.0001    | 0.2        |
| 1,1-Dichloroethene   | ND            | 0.0001    | 0.7        |
| 2-Butanone (MEK)     | 0.114         | 0.0001    | 200        |
| Chloroform           | ND            | 0.0001    | 6.0        |
| Carbon Tetrachloride | . ND          | 0.0001    | 0.5        |
| Benzene              | 0.447         | 0.0001    | 0.5        |
| 1,2-Dichloroethane   | ND            | 0.0001    | 0.5        |
| Trichloroethene      | ND            | 0.0003    |            |
| Tetrachloroethene    | ND            | 0.0005    | 0.7        |
| Chlorobenzene        | ND            | 0.0003    | 100        |
| 1,4-Dichlorobenzene  | ND (          | 0.0002    | 7.5        |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria             | Parameter            | Percent Recovery |
|---------------------------------------|----------------------|------------------|
| · · · · · · · · · · · · · · · · · · · | Fluorobenzene        | 100%             |
|                                       | 1,4-difluorobenzene  | 100%             |
|                                       | 4-bromochlorobenzene | 100%             |

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

References:

Chaco Plant.

Analyst

Sete Review

#### EPA METHOD 8040 PHENOLS

|                    | N                      |                     |           |
|--------------------|------------------------|---------------------|-----------|
| Client:            | El Paso Field Services | Project #:          | 97057-072 |
| Sample ID:         | Waste Water Tank       | Date Reported:      | 12-10-02  |
| Laboratory Number: | 24358                  | Date Sampled:       | 12-05-02  |
| Chain of Custody:  | 10447                  | Date Received:      | 12-05-02  |
| Sample Matrix:     | Water                  | Date Extracted:     | N/A       |
| Preservative:      | Cool                   | Date Analyzed:      | 12-10-02  |
| Condition:         | Cool & Intact          | Analysis Requested: | TCLP      |

| Parameter             | Concentration<br>(mg/L) | Detection<br>Limit<br>(mg/L) | Regulatory<br>Limit<br>(mg/L) |
|-----------------------|-------------------------|------------------------------|-------------------------------|
| o-Cresol              | ND                      | 0.020                        | 200                           |
| p,m-Cresol            | ND                      | 0.040                        | 200                           |
| 2,4,6-Trichlorophenol | ND                      | 0.020                        | 2.0                           |
| 2,4,5-Trichlorophenol | ND -                    | 0.020                        | 400 ·                         |
| Pentachlorophenol     | ND                      | 0.020                        | 100                           |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter            | Percent Recovery |
|-----------------------|----------------------|------------------|
| • .                   |                      |                  |
|                       | 2-Fluorophenol       | 99%              |
|                       | 2,4,6-Tribromophenol | 99%              |

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Éxtraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Note:

Comments:

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Chaco Plant.

Analyst

Review

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#### EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics

| Chain of Custody:   | 10447                                   | Date Received:      | 12-05-02   |
|---------------------|-----------------------------------------|---------------------|------------|
| Sample Matrix:      | Water                                   | Date Extracted:     | N/A        |
| Preservative:       | Cool                                    | Date Analyzed:      | 12-10-02   |
| Condition:          | Cool and Intact                         | Analysis Requested: | TCLP       |
| ······              | - · · · · · · · · · · · · · · · · · · · | Det.                | Regulatory |
|                     | Concentration                           | Limit               | Limit      |
| Parameter           | (mg/L)                                  | (mg/L)              | (mg/L)     |
| Pyridine            | ND                                      | 0.020               | 5.0        |
| Hexachloroethane    | ND                                      | 0.020               | 3.0        |
| Nitrobenzene        | 0.125                                   | 0.020               | 2.0        |
| Hexachlorobutadiene | ND                                      | 0.020               | 0.5        |
| 2,4-Dinitrotoluene  | ND                                      | 0.020               | 0.13       |
|                     | ND                                      | 0 0 2 0             | 0.42       |

| QA/QC Acceptance Criteria | Parameter        | Percent Recovery |
|---------------------------|------------------|------------------|
|                           | -                |                  |
|                           | 2 fluorahinhanul | 0.09/            |

2-fluorobiphenyl

99%

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

Chaco Plant.

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## PRAGMICAL SOLUTIONS FOR A BETTER TOMORROW

#### EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS

| Client:            | El Paso Field Services | Project #:       | 97057-072   |
|--------------------|------------------------|------------------|-------------|
| Sample ID:         | Waste Water Tank       | Date Reported:   | 12-06-02    |
| Laboratory Number: | 24358                  | Date Sampled:    | 12-05-02    |
| Chain of Custody:  | 10447                  | Date Received:   | 12-05-02    |
| Sample Matrix:     | Water                  | Date Analyzed:   | 12-06-02    |
| Preservative:      | Cool                   | Date Extracted:  | N/A         |
| Condition:         | Cool & Intact          | Analysis Needed: | TCLP metals |

| Parameter           | Concentration<br>(mg/L) | Det.<br>Limit<br>(mg/L)        | Regulatory<br>Level<br>(mg/L) |   |
|---------------------|-------------------------|--------------------------------|-------------------------------|---|
| Arsenic             | 0.017                   | 0.001                          | 5.0                           |   |
| Barium              | 2.39                    | 0.001                          | 100                           |   |
| Cadmium             | 0.003                   | 0.001                          | 1.0                           |   |
| Chromium            | 0.006                   | 0.001                          | 5.0 ·                         |   |
| Lead                | 0.004                   | 0.001                          | 5.0                           |   |
| Mercury<br>Selenium | ND<br>                  | 0.00 <u>1</u><br>0.00 <b>1</b> | 0.2<br>1.0                    | 1 |
| Silver              | ND                      | 0.001                          | 5.0                           |   |
|                     |                         |                                |                               |   |

ND - Parameter not detected at the stated detection limit.

References:

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Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

Chaco Plant.

Analyst

Review



### QUALITY ASSURANCE / QUALITY CONTROL

### DOCUMENTATION

## PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

#### EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

1865

| Client                            | 04/00                                 | Decident #          | 81/4       |
|-----------------------------------|---------------------------------------|---------------------|------------|
|                                   |                                       | Project #:          | N/A        |
| Sample ID:                        | Laboratory Blank                      | Date Reported:      | 12-06-02   |
| Laboratory Number:                | 12-06-TCV                             | Date Sampled:       | N/A        |
| Sample Matrix:                    | Water                                 | Date Received:      | N/A        |
| Preservative:                     | N/A                                   | Date Analyzed:      | 12-06-02   |
| Condition:                        | N/A                                   | Analysis Requested: | TCLP       |
|                                   | • • • • • • • • • • • • • • • • • • • | Detection           | Regulatory |
|                                   | Concentration                         | Limit               | Limits     |
| Parameter                         | (mg/L)                                | (mg/L)              | (mg/L)     |
| Vinyl Chloride                    | ND                                    | 0.0001              | 0.2        |
| 1,1-Dichloroethene                | ND                                    | 0.0001              | 0.7        |
| 2-Butanone (MEK)                  | ND                                    | 0.0001              | 200        |
| Chloroform                        | ND                                    | 0.0001              | 6.0        |
| Carbon Tetrachloride              | ND                                    | 0.0001              | 0.5        |
| Benzene                           | ND *                                  | 0.0001              | 0.5        |
| 1.2-Dichloroethane                | ND                                    | 0.0001              | 0.5        |
| Trichloroethene                   | ND                                    | 0.0001              | 0.5        |
| Tetrachloroethene                 | ND                                    | 0,0005              | 0.7        |
| Chlorobonzono                     |                                       | 0.0003              | 0.7        |
| chiorobenzene<br>4:4 Diatawaka an |                                       | • 0.0003            | 100        |
| 1;4-Dichlorobenzene               |                                       | 0.0002              | 7.5        |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria |                                                                                                    | Parameter                                                                                                                                                       | Percent Recovery                                  |
|---------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
|                           | · ·                                                                                                | Fluorobenzene                                                                                                                                                   | 100%                                              |
| ,                         |                                                                                                    | 1,4-difluorobenzene                                                                                                                                             | 100%                                              |
|                           |                                                                                                    | 4-bromochlorobenzene                                                                                                                                            | 100%                                              |
| References:               | Method 1311, Toxicity C<br>Method 5030, Purge-an<br>Method 8010, Halogena<br>Method 8020, Aromatic | Characteristic Leaching Procedure, SW-8<br>d-Trap, SW-846, USEPA, July 1992.<br>ted Volatile Organic, SW-846, USEPA, S<br>Volatile Organics, SW-846, USEPA, Set | 346, USEPA, July 1992.<br>Sept. 1994<br>pt. 1994. |
| Note:                     | Regulatory Limits based                                                                            | I on 40 CFR part 261 Subpart C section                                                                                                                          | 261.24, July 1, 1992.                             |

Comments:

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QA/QC for sample 24358:

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### PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

#### EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

| Client:              | QA/QC         |           | Project #:      | N/A        |
|----------------------|---------------|-----------|-----------------|------------|
| Sample ID:           | Matrix Duplic | ate       | Date Reported:  | 12-06-02   |
| Laboratory Number:   | 24358         |           | Date Sampled:   | N/A        |
| Sample Matrix:       | Water         |           | Date Received:  | N/A        |
| Analysis Requested:  | TCLP          | •         | Date Analyzed:  | 12-06-02   |
| Condition:           | N/A           |           | Date Extracted: | N/A        |
|                      | ····· ······  | Duplicate |                 |            |
|                      | Sample        | Sample    | Detection       | 1          |
|                      | Result        | Result    | Limits          | Percent    |
| Parameter            | (mg/L)        | (mg/L)    | (mg/L)          | Difference |
| Vinyl Chloride       | ND            | ND        | 0.0001          | 0.0%       |
| 1,1-Dichloroethene   | ND            | ND        | 0.0001          | 0.0%       |
| 2-Butanone (MEK)     | 0.114         | 0.114     | 0.0001          | 0.0%       |
| Chloroform           | ND            | ND        | 0.0001          | 0.0%       |
| Carbon Tetrachloride | 'ND           | ND        | 0.0001          | 0.0%       |
| Benzene              | 0.447         | 0.454     | 0.0001          | 1.6%       |
| 1,2-Dichloroethane   | ND            | ND        | 0.0001          | 0.0%       |
| Trichloroethene      | ND            | ND        | 0.0003          | 0.0%       |
| Tetrachloroethene    | ND            | ND        | 0.0005          | 0.0%       |
| Chlorobenzene        | ND            | ND 🕤      | 0.0003          | 0.0%       |
| 1,4-Dichlorobenzene  | ND            | ND        | 0.0002          | 0.0%       |
| .,                   |               |           | 0.0001          | 0.070      |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994.
Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for sample 24358.

Analyst

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#### EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS QUALITY ASSURANCE REPORT

| Client:              | QA/QC        |                                       | ·       | Project #:    |          | N/A      |
|----------------------|--------------|---------------------------------------|---------|---------------|----------|----------|
| Sample ID:           | Matrix Spike |                                       |         | Date Reporte  | d:       | 12-06-02 |
| Laboratory Number:   | 24358        | ·                                     |         | Date Sampleo  | d:       | N/A      |
| Sample Matrix:       | Water        |                                       |         | Date Receive  | d:       | N/A      |
| Analysis Requested:  | TCLP         |                                       |         | Date Analyze  | d:       | 12-06-02 |
| Condition:           | N/A          |                                       |         | Date Extracte | ed:      | N/A      |
|                      |              |                                       |         |               |          |          |
|                      |              | · · · · · · · · · · · · · · · · · · · | Spiked, |               |          | SW-846   |
|                      | °Sample      | Spike                                 | Sample  | Det.          |          | % Rec.   |
|                      | Result       | Added                                 | Result  | Limit         | Percent  | Accept.  |
| Parameter            | (mg/L)       | (mg/L)                                | (mg/L)  | (mg/L)        | Recovery | Range    |
| March Olderst La     |              |                                       |         |               |          |          |
| Vinyi Chioride       | ND           | 0.050                                 | 0.0495  | 0.0001        | 99.0%    | 28-163   |
| 1,1-Dichloroethene   | ND           | 0.050                                 | 0.0494  | 0.0001        | 98.8%    | 43-143   |
| 2-Butanone (MEK)     | 0.114        | 0.050                                 | 0.1640  | 0.0001        | 99.9%    | 47-132   |
| Chloroform           | ND -         | 0.050                                 | 0.0500  | 0.0001        | 99.9%    | 49-133   |
| Carbon Tetrachloride | ND           | 0.050                                 | 0.0490  | 0.0001        | 98.0%    | 43-143   |
| Benzene              | 0.447        | 0.050                                 | 0,496   | 0.0001        | 99.8%    | 39-150   |
| 1,2-Dichloroethane   | ND           | 0.050                                 | 0.0490  | 0.0001        | 98.0%    | 51-147   |
| Trichloroethene      | ND           | 0.050                                 | 0.0495  | 0.0003        | 99.0%    | 35-146   |
| Tetrachloroethene    | ND           | 0.050                                 | 0.0495  | 0.0005        | 99.0%    | 26-162   |
| Chlorobenzene        | ND           | 0.050                                 | 0.0495  | 0.0003        | 99.0%    | 38-150   |
| 1,4-Dichlorobenzene  | ND           | 0.050                                 | 0.0495  | 0.0002        | 99.0%    | 42-143   |
|                      |              |                                       |         |               |          |          |

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992. Method 8010, Halogenated Volatile Organic, SW-846, USEPA, Sept. 1994. Method 8020, Aromatic Volatile Organics, SW-846, USEPA, Sept. 1994.

Comments:

QA/QC for sample 24358.

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#### EPA METHOD 8040 PHENOLS Quality Assurance Report Laboratory Blank

| Client:<br>Sample ID:<br>Laboratory Number:<br>Sample Matrix:<br>Preservative:                | QA/QC<br>Laboratory Blank<br>12-10-TCA<br>2-Propanol<br>N/A | Project #:<br>Date Reported:<br>Date Sampled:<br>Date Received:<br>Date Analyzed: | N/A<br>12-10-02<br>N/A<br>N/A<br>12-10-02 |  |
|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------|--|
| Condition:                                                                                    | N/A                                                         | Analysis Requested:                                                               | TCLP                                      |  |
| Analytical Results<br>Parameter                                                               | Concentration<br>(mg/L)                                     | Detection<br>Limit<br>(mg/L)                                                      | Regulatory<br>Limit<br>(mɡ/L)             |  |
| o-Cresol<br>p,m-Cresol<br>2,4,6-Trichlorophenol<br>2,4,5-Trichlorophenol<br>Pentachlorophenol | ND<br>ND<br>ND<br>ND                                        | 0.020<br>0.040<br>0.020<br>0.020<br>0.020                                         | 200<br>200<br>2.0<br>400<br>100           |  |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter            | Percent Recovery |  |
|-----------------------|----------------------|------------------|--|
|                       | 2-fluorophenol       | 98 %             |  |
|                       | 2,4,6-tribromophenol | 99 %             |  |

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Règulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note:

Comments: QA/QC for sample 24358.

Analyst

Review

### PRACTICAL SOLUTIONS FOR A BELLER TOMORROW

#### EPA METHOD 8040 PHENOLS Quality Assurance Report

| Client:            | QA/QC         | Project #:          | N/A      |
|--------------------|---------------|---------------------|----------|
| Sample ID:         | Method Blank  | Date Reported:      | 12-10-02 |
| Laboratory Number: | 12-09-TCA     | Date Sampled:       | N/A      |
| Sample Matrix:     | Water         | Date Received:      | N/A      |
| Preservative:      | Cool          | Date Extracted:     | N/A      |
| Condition:         | Cool & Intact | Date Analyzed:      | 12-10-02 |
|                    |               | Analysis Requested: | TCL P    |

| Parameter             | Concentration<br>(mg/L) | Det.<br>Limit<br>(mg/L) | Regulatory<br>Limit<br>(mg/L) |
|-----------------------|-------------------------|-------------------------|-------------------------------|
| o-Cresol              | ND                      | 0.020                   | 200                           |
| p,m-Cresol            | " ND                    | 0.020                   | 200                           |
| 2,4,6-Trichlorophenol | ND                      | 0.020                   | · 2.0                         |
| 2,4,5-Trichlorophenol | ND                      | 0.020                   | 400                           |
| Pentachlorophenol     | ND                      | 0.020                   | 100                           |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter            | Percent Recovery |  |
|-----------------------|----------------------|------------------|--|
|                       | 2-Fluorophenol       | ,<br>99%         |  |
|                       | 2,4,6-Tribromophenol | 99%              |  |

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments:

QA/QC for sample 24358.

Analyst

#### EPA METHOD 8040 PHENOLS Quality Assurance Report

|                                 |                                                  | ···              |                           |                    |
|---------------------------------|--------------------------------------------------|------------------|---------------------------|--------------------|
| Client:                         | QA/QC                                            |                  | Project #:                | N/A                |
| Sample ID:                      | Matrix Duplicate                                 |                  | Date Reported:            | 12-10-02           |
| Laboratory Number:              | 24358                                            |                  | Date Sampled:             | N/A                |
| Sample Matrix:                  | Water                                            |                  | Date Received:            | N/A                |
| Preservative:                   | Cool                                             |                  | Date Extracted:           | N/A                |
| Condition:                      | Cool & Intact                                    |                  | Date Analyzed:            | 12-10-02           |
|                                 | ŧ                                                |                  | Analysis Requested:       | ,<br>,             |
|                                 | Sample                                           | Duplicate        | Detection                 |                    |
|                                 | Result                                           | Result           | Limit                     | Percent            |
| Parameter                       | (mg/L)                                           | (mg/L)           | (mg/L)                    | Difference         |
| o-Cresol                        | ND                                               | ND               | 0.020                     | 0.0%               |
| p,m-Cresol                      | · ND                                             | ND               | 0.040                     | 0.0%               |
| 2,4,6-Trichlorophenol           | ND                                               | ND               | 0.020                     | 0.0%               |
| 2,4,5-Trichlorophenol           | ND                                               | ND _             | 0.020                     | 0.0%               |
| Pentachlorophenol               | ND                                               | ND               | 0.020                     | 0.0%               |
| ND - Parameter not detected a   | t the stated detection lir                       | nit. ×           |                           |                    |
| OA/OC Acceptance Crite          | eria:                                            | Parameter        | Ma                        | ximum Difference   |
|                                 |                                                  |                  |                           |                    |
|                                 |                                                  | 8040 Comp        | ounds                     | 30.0%              |
| References: Method 1<br>Waste S | 311, Toxicity Character<br>W-846, USEPA, July 19 | istic Leaching F | Procedure Test Methods fo | r Evaluating Solid |
| Waste, S                        | W-846, USEPA, July 19                            | 992.             |                           |                    |

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

. Comments:

Note:

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· QA/QC for sample 24358.

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#### TER TOMORROW ALSOLUTIONS FOR А .A F C

#### EPA Method 8090 **Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics Quality Assurance Report**

| Client:             | QA/QC            | Project #:          | N/A              |
|---------------------|------------------|---------------------|------------------|
| Sample ID:          | Laboratory Blank | Date Reported:      | 12-10-02         |
| Laboratory Number:  | 12-10-TBN        | Date Sampled:       | N/Â              |
| Sample Matrix:      | Hexane           | Date Received:      | N/A              |
| Preservative:       | N/A              | Date Extracted:     | N/A              |
| Condition:          | N/A              | Date Analyzed:      | 12-10-02         |
|                     |                  | Analysis Requested: | TCLP             |
|                     |                  | Det.                | Regulatory       |
|                     | Concentration    | Limit               | Limit            |
| Parameter           | (mg/L)           | (mg/L)              | (mg/L)           |
| Pyridine            | ND               | 0.020               | 5.0              |
| Hexachloroethane    | ND               | 0.020               | 3.0              |
| Nitrobenzene        | . ND             | 0.020               | <sup>·</sup> 2.0 |
| Hexachlorobutadiene | ND               | 0.020               | 0.5              |
| 2,4-Dinitrotoluene  | ND               | 0.020               | 0.13             |
| HexachloroBenzene   | ND               | 0.020               | 0.13             |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter        | Percent Recovery |
|---------------------------|------------------|------------------|
|                           | 2-fluorobiphenyl | 98%              |

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992. Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

QA/QC for sample 24358.

Review

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• Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 5796 U.S. Highway 64

### FAVIRO ECHLABS

#### EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QUALITY ASSURANCE REPORT

| Client:            | QA/QC           | Project #:         | N/A      |
|--------------------|-----------------|--------------------|----------|
| Sample ID:         | Method Blank    | Date Reported:     | 12-10-02 |
| Laboratory Number: | 12-09-TBN       | Date Sampled:      | N/A      |
| Sample Matrix:     | Water           | Date Received:     | N/A      |
| Preservative:      | Cool            | Date Extracted:    | N/A      |
| Condition:         | Cool and Intact | Date Analyzed:     | 12-10-02 |
|                    | •               | Analysis Requested | TCLP     |

| Parameter           | Concentration<br>(mg/L) | Det.<br>Limit<br>(mg/L) | Regulatory<br>Limit<br>(mg/L) | -          |
|---------------------|-------------------------|-------------------------|-------------------------------|------------|
| Pvridine            | ND                      | 0.020                   | 5.0                           |            |
| Hexachloroethane    | ND                      | 0.020                   | 3.0                           |            |
| Nitrobenzene        | ND                      | 0.020                   | 2.0                           |            |
| Hexachlorobutadiene | ND                      | 0.020                   | 0.5                           |            |
| 2,4-Dinitrotoluene  | ND                      | 0.020                   | 0.13                          |            |
| HexachloroBenzene   | ND                      | 0.020                   |                               | the second |

ND - Parameter not detected at the stated detection limit.

| ,                         |           | •T               |
|---------------------------|-----------|------------------|
| QA/QC Acceptance Criteria | Parameter | Percent Recovery |

#### 2-fluorobiphenyl

102%

References:Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986.

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

QA/QC for sample 24358.

Analyst

Review

#### EPA Method 8090 Nitroaromatics and Cyclic Ketones TCLP Base/Neutral Organics QA/QC Matrix Duplicate Report

| Client:                               | QA/QC            | Project #:      |                                        | N/A      |
|---------------------------------------|------------------|-----------------|----------------------------------------|----------|
| Sample ID:                            | Matrix Duplicate | Date Reported:  |                                        | 12-10-02 |
| Laboratory Number:                    | 24358            | Date Sampled:   |                                        | N/A      |
| Sample Matrix:                        | Water            | Date Received:  |                                        | N/A      |
| Preservative:                         | N/A              | Date Extracted: |                                        | N/A      |
| Condition:                            | N/A              | Date Analyzed:  |                                        | 12-10-02 |
|                                       |                  | Analysis Reques | ted:                                   | TCLP     |
| · · · · · · · · · · · · · · · · · · · | Sample           | Duplicate       | ······································ | Det.     |
|                                       | Result           | Result          | Percent                                | Limit    |
| Parameter                             | (mg/L)           | (mg/L)          | Difference                             | (mg/L)   |
| Pyridine                              | ND               | ND              | 0.0%                                   | 0.020    |
| Hexachloroethane                      | ND               | ND              | 0.0%                                   | 0:020    |
| Nitrobenzene                          | 0.125            | 0.124           | 0.9%                                   | 0.020    |
| Hexachlorobutadiene                   | - ND             | ND              | 0.0%                                   | 0.020    |
| 2,4-Dinitrotoluene                    | ND               | ND              | 0.0%                                   | 0.020    |
| HexachloroBenzene                     | ND .             | ND              | 0.0%                                   | 0.020    |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria                                                  |                                                                                    | Parameter                                                            | Maximum Difference |  |  |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------|--|--|
| •                                                                          |                                                                                    | 8090 Compounds                                                       | 30%                |  |  |
| References:                                                                | Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992. |                                                                      |                    |  |  |
|                                                                            | Method 3510, Separato                                                              | eparatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992. |                    |  |  |
| Method 8090, Nitroaromatics and Cyclic Ketones, SW-846, USEPA, Sept. 1986. |                                                                                    |                                                                      | JSEPA, Sept. 1986. |  |  |

Note:

Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments:

QA/QC for sample 24358.

Analyst

Review

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### PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

#### EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

| Client:                           |                     | QA/QC           |                    | Project #:   |           |                 | N/A        |
|-----------------------------------|---------------------|-----------------|--------------------|--------------|-----------|-----------------|------------|
| Sample ID:                        |                     | 12-06-TCM       | QA/QC              | Date Report  | ed:       |                 | 12-06-02   |
| Laboratory Number:                |                     | 24357           |                    | Date Sample  | ed:       |                 | N/A        |
| Sample Matrix:                    |                     | Water           |                    | Date Receiv  | ed:       |                 | N/A        |
| Analysis Requested:               |                     | TCLP Metal      | s                  | Date Analyz  | ed:       |                 | 12-06-02   |
| Condition:                        |                     | N/A             |                    | Date Extract | ed:       |                 | N/A        |
| Blank & Duplicate<br>Conc. (mg/L) | Instrument<br>Blank | Method<br>Blank | Detection<br>Limit | Sample       | Duplicate | %<br>Difference | Acceptance |
| Arsenic                           | ND                  | ND              | 0.001              | 0.017        | 0.017     | 0.0%            | 0% - 30%   |
| Barium                            | ND                  | ND              | 0.001              | 2.39         | 2.37      | 0.8%            | 0% - 30%   |
| Cadmium                           | ND                  | ND              | 0.001              | 0.003        | 0.003     | 0.0%            | 0% - 30%   |
| Chromium                          | ND                  | ND              | 0.001              | 0.006        | 0.006     | 0.0%            | 0% - 30%   |
| Lead                              | ND                  | ND              | 0.001              | 0.004        | 0.004     | 0.0%            | 0% - 30%   |
| Mercury                           | ND                  | ND              | 0.001              | ND           | ND        | 0.0%            | 0% - 30%   |
| Selenium                          | ND                  | ND              | 0.001              | 0.009        | 0.009     | 0.0%            | 0% - 30%   |
| Silver                            | ND ·                | ND              | 0.001              | ND           | ND        | 0.0%            | 0% - 30%   |

Arsenic 0.500 0.017 0.516 99.8% 80% - 120% Barium 0.500 2.39 2.86 99.0% 80% - 120% Cadmium 0.003 0.500 0.502 99.8% 80% - 120% Chromium 0.500 0.006 0.505 99.8% 80% - 120% Lead 0.500 0.004 0.503 99.8% 80% - 120% Mercury 0.050 ND 0.049 98.0% 80% - 120% Selenium 0.500 0.009 0.507 99.6% 80% - 120% Silver 0.500 ND 0.499 99.8% 80% - 120%

Sample.

ND - Parameter not detected at the stated detection limit.

References:

Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission, SW-846, USEPA, December 1996.

Comments:

Analyst -

QA/QC for sample 24358.

Review

Percent

Acceptance

16

Spiked

### CHAIN OF CUSTODY RECORD

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| -                | Client / Project Name<br>El Paso Field Survices |                              |                |                | Project Location<br>Chaco Plant       |                  |                                        | , ANALYSIS / PARAMETERS |                         |         |              |                |                                       |                 |            |              |              |               |          |
|------------------|-------------------------------------------------|------------------------------|----------------|----------------|---------------------------------------|------------------|----------------------------------------|-------------------------|-------------------------|---------|--------------|----------------|---------------------------------------|-----------------|------------|--------------|--------------|---------------|----------|
|                  | Sampler:<br>JL S                                | ampler:<br>JLS               |                |                | Client No.<br>97057-072               |                  |                                        | of<br>iners             | d                       |         |              |                |                                       |                 |            | Remark       | s            |               |          |
|                  | Sample No                                       | o./<br>on                    | Sample<br>Date | Sample<br>Time | Lab Number                            |                  | Sample<br>Matrix                       |                         | No.<br>Conta            | 701     |              |                |                                       |                 |            |              |              | <del></del>   |          |
| 2 - S            | Waste Watu                                      | Junk                         | 12-05-02       | 315            | 24358                                 |                  | Valu                                   |                         | 55                      | ~       | <u>.</u>     |                |                                       |                 |            |              |              |               |          |
| ъ. 2             |                                                 | • · ·                        |                |                |                                       |                  |                                        |                         | 1                       |         |              |                |                                       |                 |            |              |              | · · · · ·     |          |
| 1.1              |                                                 |                              |                |                |                                       |                  |                                        |                         |                         | 1       |              |                |                                       | _               |            |              |              |               | <b>-</b> |
|                  | к.<br>                                          |                              |                |                |                                       |                  |                                        | <u>.</u>                | i                       |         |              |                |                                       |                 |            |              |              | -,            | ·        |
|                  |                                                 | ;                            |                |                |                                       |                  |                                        | ······                  |                         |         |              |                |                                       |                 |            | - <u> </u> · |              |               |          |
| 7<br>- 11<br>- 1 |                                                 |                              |                |                | <u> </u>                              |                  |                                        |                         |                         |         |              |                |                                       |                 |            |              |              |               |          |
| s i<br>S         |                                                 | ,                            | 1              |                | · · · · · · · · · · · · · · · · · · · |                  |                                        | •                       |                         |         |              |                |                                       |                 |            |              |              |               |          |
|                  |                                                 |                              |                |                |                                       |                  | ······································ |                         |                         |         |              |                | ,<br>,                                |                 |            |              |              |               |          |
| -                |                                                 |                              |                |                |                                       |                  |                                        |                         |                         |         |              |                |                                       |                 |            |              | r            |               |          |
|                  | Relinquished by:                                | Relinquished by: (Signature) |                |                | 17                                    | Date<br>12-05-02 | Date Time R<br>2-05-02 450             |                         | leceived by: (Signature |         | - C. Ception |                |                                       |                 |            |              | Tir<br>24 /6 | 1 ime<br>ノムコン |          |
| s                | Reinquished by: (Signature)                     |                              |                |                |                                       |                  | Received by: (Signature)               |                         |                         |         |              |                |                                       |                 |            |              |              |               |          |
|                  | Relinquished by:                                | (Signatur                    | re)            |                |                                       |                  |                                        | Receiv                  | ved by: (               | Signatu | re)          |                | · · · · · · · · · · · · · · · · · · · |                 |            |              | <br> <br>    |               |          |
| - /              |                                                 |                              |                |                |                                       | FOVIROTECHIOC    |                                        |                         |                         |         |              | Sample Receipt |                                       |                 |            |              |              |               |          |
|                  |                                                 |                              |                |                |                                       |                  |                                        |                         |                         |         |              | ,              |                                       | Y               | N          | N/A          |              |               |          |
|                  |                                                 |                              |                |                | 5796 U.S. Hig<br>Farmington, New M    |                  |                                        | S. High<br>New M        | way 64<br>exico 87401   |         |              |                |                                       | Received Intact |            |              | -            |               |          |
|                  |                                                 |                              |                |                |                                       | (505) 632-06     |                                        |                         |                         | 615     |              |                |                                       | Cool            | - Ice/Blue | Ice          | -            |               |          |

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#### 0303W00173 ab ID:

Water Matrix:

Condition: Intact Date Analyzed: 01/27/03

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| -                | Analytical                            |       |          |       |   |
|------------------|---------------------------------------|-------|----------|-------|---|
| Parameter        | Result                                | PQL   | MCL      | Units |   |
| RCI              | · · · · · · · · · · · · · · · · · · · |       | ·        |       |   |
| Corrosivity -pH  | 7.9                                   |       | 2 - 12.5 | s.u.  |   |
| Flash Point      | >140                                  |       | >140     | ۴F    |   |
| Reactivity - HCN | <1                                    | 1     | 250      | mg/Kg |   |
| Reactivity-H2S   | <1                                    | 1     | 500      | mg/Kg | , |
| TOTAL METALS     |                                       |       |          |       |   |
| Arsenic          | < 0.005                               | 0.005 |          | mg/L  |   |
| Barium           | 0.59                                  | 0.01  |          | mg/L  |   |
| Cadmium          | 0.005                                 | 0.001 |          | mg/L  |   |
| Chromium         | <0.01                                 | 0.01  |          | mg/L  |   |
| Lead             | 5.99                                  | 0.005 | .**      | mg/L  |   |
| Mercury          | <0.001                                | 0.001 |          | mg/L  |   |
| Selenium         | <0.005                                | 0.005 |          | mg/L  |   |
| Silver           | <0.01                                 | 0.01  |          | mg/L  |   |

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Reference: SW-846 - "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", United States Environmental Protection Agency, Final Update 1, July 1992.

SW-846 - "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", United States Environmental Protection Agency, November, 1986.

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| Parameter        | Analytical<br>Result | PQL               | MCL      | Units |  |
|------------------|----------------------|-------------------|----------|-------|--|
| RCI              |                      |                   |          |       |  |
| Corrosivity -pH  | 5.7                  |                   | 2 - 12.5 | s.u.  |  |
| Flash Point      | >140                 |                   | >140     | °F    |  |
| Reactivity - HCN | <1                   | . 1               | 250      | mg/Kg |  |
| Reactivity-H2S   | <1                   | 1                 | 500      | mg/Kg |  |
| TOTAL METALS     |                      |                   |          | 0 0   |  |
| Arsenic          | <0.005               | 0.005             |          | mg/L  |  |
| Barium           | 0.26                 | 0.01              |          | mg/L  |  |
| Cadmium          | 0.001                | 0.001             |          | mg/L  |  |
| Chromium         | <0.01                | <sup>-</sup> 0.01 |          | mg/L  |  |
| Lead             | * 6.74               | 0.005             |          | mg/L  |  |
| Mercury          | 0.003                | 0.001             |          | mg/L  |  |
| Selenium         | < 0.005              | 0.005             |          | mg/L  |  |
| Silver           | <0.01                | 0.01              |          | mg/L  |  |
|                  |                      |                   |          |       |  |

Reference: SW-846 - "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", United States Environmental Protection Agency, Final Update 1, July 1992. SW-846 - "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", United States Environmental Protection Agency, November, 1986.

Reviewed By: