NM1-09

C-138

Date: 2001-2003

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 [illegible] 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: [X] Non-Exempt: [ ]

Verbal Approval Received: Yes [ ] No [ ]

4. Generator CIP INC.
#51Rd 5570 Farmington NM 87401

5. Originating Site

2. Management Facility Destination Key ENERGY DISPOSAL

6. Transporter Key

3. Address of Facility Operator CR 3500 #345

8. State NM

7. Location of Material (Street Address or ULSTR)

9. Circle One:

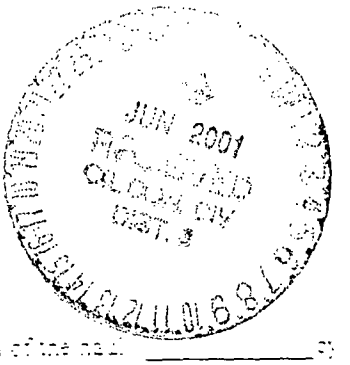
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is non-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 Water from Separators and Tanks



Estimated Volume 500 BBL/yr Known Volume to be entered by the operator at the end of the haul: _____/yr

SIGNATURE Jimmy Bankston TITLE: _____ DATE: 6-27-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Jimmy BANKSTON TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 6/28/01

APPROVED BY: [signature] TITLE: Dist Supv DATE: 7/2/01

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

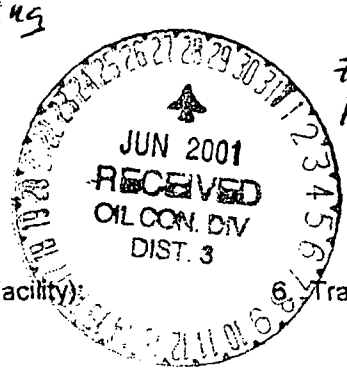
GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
CIP Inc.
#51 Rd 5570
Farmington, NM 87401

2. Permit Number (if waste generated at an OCD permitted facility)
GW-228

3. Description of Waste and Generating Process:
Wash water from washing separator and tanks

4. Location of Waste (Street address &/or ULSTR):
CIP INC
#51 CR 5570
Farmington N.M. 87401



5. Destination (Surface Waste Management Facility):
Key Energy Disposal

6. Transporter:
Key Energy

7. Estimated Volume less than 500 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)

X **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: Carl Padilla Date: 6-27-2001

Print Name: Carl Padilla

Title: President

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	JIC #3E	WFS
2479	7-7-00	4 MM DEHY	234	JIC #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

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	JIC 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	JIC 103 #64	BURLINGTON
2575	9-11-00	REPAIR SEP.	32716	JIC 103 #7	BURLINGTON
2588	9-15-00	REPAIR TANK	8549	JIC G9A	BURLINGTON

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

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

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	3998	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

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

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

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: ☒

Verbal Approval Received: Yes ☐ No ☒

2. Management Facility Destination: KEY DISPOSAL

3. Address of Facility Operator: #345 CR 3500 AZTEC NM

4. Generator: COASTAL CHEMICAL

5. Originating Site: YARD

6. Transporter: KEY

8. State: NM

7. Location of Material (Street Address or ULSTR): #10 RD 5911 FARMINGTON, NM 87401

JUN 2001 RECEIVED OIL CON. DIV DIST. 3

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 UNUSED TREATING chemicals

Last Filed 12-15-2000

PLEASE Refer to MSDS INFORMATION with C-138 APPROVAL

-DATED 1-16-01

Estimated Volume 160bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: _____ TITLE: MGR DATE: 6-12-01

Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TAFOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 6/12/01

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 6-15-01

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

Energy, Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

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Revised March 17, 1999

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒
   Verbal Approval Received: ☐ Yes ☐ No ☒
2. Management Facility Destination: KEY DISPOSAL
3. Address of Facility Operator: #345 CR 3500 AZTEC NM
4. Generator: COASTAL CHEMICAL
5. Originating Site: YARD
6. Transporter: KEY
8. State: NM
7. Location of Material (Street Address or ULSTR): #10 RD 5911 FARMINGTON, NM 87401

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 non-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 UNUSED TREATING chemicals

Last Filed 12-15-2000

PLEASE Refer to MSDS INFORMATION with C-138 APPROVAL

-Dated 1-16-01

JUN 2001
RECEIVED
OIL CONS. DIV.
DIST. 3

Estimated Volume 160 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: _____ TITLE: MCA DATE: 6-12-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL THOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 6/12/01

APPROVED BY: _____ TITLE: _____ DATE: _____

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): Attach list of originating sites as appropriate	**Location of the Waste (Street address &/or ULSTR):** COASTAL CHEMICAL CO., INC. #10 RD 5911 FARMINGTON, NM 87401
4. Source and Description of Waste RINSE WATER FROM PUMP, HOSES AND TANKS USED TO DELIVER VIRGIN CHEMICALS. ALL CHEMICALS RINSED OUT ARE VIRGIN?UNUSED CHEMICALS. CHEMICALS MAY INCLUDE: ALKANOLAMINE, GLYCOL (TEG & EG) ANTIFREEZE.	

I, MIKE EBERHARD (Print Name) representative for: COASTAL CHEMICAL CO, INC. 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

XX **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 only the following documentation is attached (check appropriate items):

XX MSDS Information
___ RCRA Hazardous Waste Analysis
___ Chain of Custody
___ Other (description):

Name (Original Signature): Greg Hellacky

Title: FACILITY MANAGER

Date: 6-11-01

District I
1625 N. French Dr., Hobbs, NM 88240
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Energy [illegible] and [illegible]ural [illegible]rces

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

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REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

JUN 2001 RECEIVED OIL CON. DIV DIST. 3

1. RCRA Exempt: ☐ Non-Exempt: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator Burlington
	Originating Site Valverde 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) Unit SE Sec 11 T29N Range 11W	

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:

Amine to Amine Heat Exchanger; Plate and Frame Cleaning Solution.

Is Testing still Valid.

JUN 2001 RECEIVED OIL CON. DIV DIST. 3

This wask Stream Must Be re-tested Before Next Submittal. It will Have Been 2 yrs. July 26, 2001

MJK

Estimated Volume 350 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MGR DATE: 6-6-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 6/07/01

APPROVED BY: Martyn J. Kitz TITLE: Environmental Geolgst DATE: 6-25-01

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 Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator BURLINGTON
	5. Originating Site VALVERDE 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) UNIT SE SEC 11 T29N RANGE 11W	

9. Circle One:

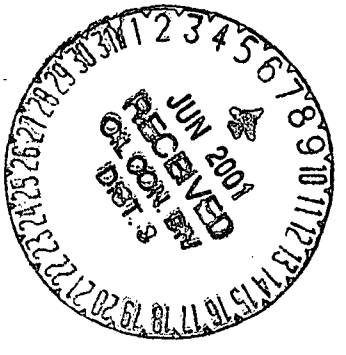
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

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:

AMINE TO AMINE HEAT EXCHANGER ; PLATE AND FRAME CLEANING SOLUTION



Estimated Volume 350 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MGR DATE: 6-6-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 6/07/01

APPROVED BY: _____ TITLE: _____ DATE: _____

NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISIO
AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 8741(
(505) 334-6178 FAX (505)334-6

GARY E. JOHNSON
GOVERNOR

JENNIFER A. SALISBURY
CABINET SECRETARY

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
Burlington Resources 3401 East 30th St. Farmington, NM 87401	Key Energy Services 5651 US Highway 64
3. Originating Site (name): Val Verde Plant Attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR): Unit: SE Section: 11 Township: 29N Range: 11W
4. Source and Description of Waste: Amine to Amine heat exchanger. Plate and frame cleaning solution	

I, Gregg Wurtz (Print Name) representative for: Burlington Resources 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

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):

X MSDS Information
X RCRA Hazardous Waste Analysis
___ 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): Gregg Wurtz

Title: Sr. Environmental Rep.

Date: 6/6/01

BURLINGTON RESOURCES

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 Wurtz
Environmental Representative

cc: Correspondence
Val Verde Plant waste file

Attachment: Waste profile

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

Inter-Mountain Laboratories, Inc.
Phone (505) 326-4737 Fax (505) 326-4182
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 "Toxicity Characteristic Leaching Procedure", Method 1311, SW-846, Rev. 0, July 1992.

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

Trace metal analysis were performed on the samples by"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods" , 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.

Sincerely,

Sharon Williams
Organic Analyst

Inter-Mountain Laboratories, Inc.
Phone (505) 326-4737 Fax (505) 326-4162
2506 West Main Street, Farmington, NM 87401

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

Date Reported: 08/02/99
Date Sampled: 07/26/99
Date Received: 07/26/99
Date Analyzed: 07/30/99

Parameter	Analytical Result	PQL	MCL	Units
TCLP METALS - EPA METHOD 1311				
Arsenic	<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
Lead	<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	<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: Sharon Williams
Sharon Willams, Organic Lab Supervisor

Inter-Mountain Laboratories, Inc.
Phone (505) 326-4737 Fax (505) 326-4182
2536 West Main Street, Farmington, NM 87401

Client: Burlington Resources
Project: TCLP's
Sample ID: V V P Plate Cleaning Waste #2
Lab ID: 0399W03765
Matrix: Liquid
Condition: Cool/Intact

Date Reported: 08/02/99
Date Sampled: 07/26/99
Date Received: 07/26/99
Date Analyzed: 07/30/99

Parameter	Analytical 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
Cadmium	<0.2	0.2	1.0	mg/L
Chromium	<0.5	0.5	5.0	mg/L
Lead	<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	<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: Sharon Williams
Sharon Williams, Organic Lab Supervisor

IML Inter-Mountain Laboratories, Inc.
Phone (505) 326-4737 Fax (505) 326-4161
2506 West Main Street, Farmington, NM 87401

QUALITY CONTROL / QUALITY ASSURANCE

Inter-Mountain Laboratories, Inc.
Phone (505) 326-4737 Fax (505) 326-4781 2506 West Main Street, Farmington, NM 87401

Quality Control / Quality Assurance

Spike Analysis / Blank Analysis

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

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

Spike Analysis

Parameter	Spike Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent 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	Detection 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 _____

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

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

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

Date Reported: 08/02/99
Date Analyzed: 07/30/99
Date Received: 07/26/99

Known Analysis

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

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
[illegible] Water	UIP	
Sampler: (Signature)	**Chain of Custody Tape No.**	

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers						Remarks
#1	7/16/99		0799W03764	Light oil	1	✓					
#2	X		3765	Light oil	1	✓					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	7/16/99	11:00			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]			[signature]	7/16/99	7:10
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

Inter-Mountain Laboratories, Inc.

1633 Terra Avenue	1701 Phillips Circle	2506 West Main Street	1160 Research Drive	11183 State Hwy. 30
Sheridan, Wyoming 82801	Gillette, Wyoming 82718	Farmington, NM 87401	Bozeman, Montana 59718	College Station, TX 77845
Telephone (307) 672-8945	Telephone (307) 682-8945	Telephone (505) 326-4737	Telephone (406) 586-8450	Telephone (409) 776-8945

51911

imi
Inter- Mountain
Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
Sampler; (Signature)	Chain of Custody Tape No.	

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers						Remarks

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

Inter-Mountain Laboratories, Inc.

☐ 1633 Terra Avenue
Sheridan, Wyoming 82801
Telephone (307) 672-8945

☐ 1701 Phillips Circle
Gillette, Wyoming 82718
Telephone (307) 682-8945

☐ 2506 West Main Street
Farmington, NM 87401
Telephone (505) 326-4737

☐ 1160 Research Drive
Bozeman, Montana 59718
Telephone (406) 586-8450

☐ 11183 State Hwy. 30
College Station, TX 77845
Telephone (409) 776-8945

51911

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 87401

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 Burlington 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 sludge (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.

Sincerely,

Shawn A. Adams
Contract Environmental Services, Inc.

cc: Val Verde Plant
Plate Exchange, Wash

ASSAIGAI ANALYTICAL LABORATORIES, INC.
7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Weagewood, E-3 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

Report Generated:
March 12, 1997 14:42

CERTIFICATE OF ANALYSIS
RESULTS BY SAMPLE

SENT CONTRACT ENVIRONMENTAL SERV
TO: PO BOX 3376
FARMINGTON, NM 87499

ATTN: SHAWN ADAMS

WORKORDER # : 9703041
WORK ID : MOI-VAL VERDE
CLIENT CODE : CONT01
DATE RECEIVED : 03/06/97

Lab ID: 9703041-01A
Sample ID: VALV-100
Collected: 03/05/97 12:00:00
Matrix: LIQUID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
FLASH POINT/SW846 1010						
Flash Point	>60	Deg Centigrade	20	1.0	03/10/97	WFLASH204
REACTIVITY/SW846 7-3						
Sulfide	NON-REACT	mg/Kg of Waste	500	1.0	03/11/97	W97114
Cyanide	NON-REACT	mg/Kg of Waste	250	1.0	03/11/97	W97114

Lab ID: 9703041-01B
Sample ID: VALV-101
Collected: 03/05/97 12:00:00
Matrix: LIQUID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
CORROS(NACE)/SW846 1110						
Corrosivity (NACE)	ND	mm/yr	6.0	1.0	03/07/97	WNACE035

Lab ID: 9703041-01C
Sample ID: VALV-102/103
Collected: 03/05/97 12:00:00
Matrix: LIQUID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
TCLP SV/METHOD 1311/8270B						
1,4-Dichlorobenzene	ND	mg/L	0.0010	290	03/08/97	TSVOA186
2-Methylphenol / O-Cresol	ND	mg/L	0.0010	290	03/08/97	TSVOA186
3/4-Methylphenol / M/P-Cresol	ND	mg/L	0.0010	290	03/08/97	TSVOA186
Hexachloroethane	ND	mg/L	0.0010	290	03/08/97	TSVOA186
Nitrobenzene	ND	mg/L	0.0010	290	03/08/97	TSVOA186
Hexachlorobutadiene	ND	mg/L	0.0010	290	03/08/97	TSVOA186
2,4,6-Trichlorophenol	ND	mg/L	0.010	290	03/08/97	TSVOA186
2,4,5-Trichlorophenol	ND	mg/L	0.010	290	03/08/97	TSVOA186
2,4-Dinitrotoluene	ND	mg/L	0.010	290	03/08/97	TSVOA186
Hexachlorobenzene	ND	mg/L	0.0010	290	03/08/97	TSVOA186
Pentachlorophenol	ND	mg/L	0.020	290	03/08/97	TSVOA186
Pyridine	ND	mg/L	0.010	290	03/08/97	TSVOA186
TCLP SVOA XT/1311/3520	03/07/97	N/A				

Member: American Council of Independent Laboratories, Inc.

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THIS REPORT MAY NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM PRODUCT ENDORSEMENT BY THE NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM.

Lab ID: 9703041-01D
Sample ID: VALV-104
Collected: 03/05/97 12:00:00
Matrix: LIQUID

TEST / METHOD	RESULT	UNITS	LIMIT	D_F	DATE ANAL	BATCH_ID
pH/EPA 150.1						
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	% (Percent)				
TCLP (ICP) DIG/1311/3005	03/09/97	N/A				
TCLP EXTRACTION/TCLP 1311	03/06/97	N/A				
TCLP METALS/1311/SW8466010						
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	M97180.97178
Cadmium, Cd	ND	mg/L	0.0050	1.0	03/10/97	M97180.97178
Chromium, Cr	ND	mg/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	03/10/97	M97180.97178
Silver, Ag	ND	mg/L	0.040	1.0	03/10/97	M97180.97178
TCLP(CVAA)Hg XT/SW846 7471	03/10/97	N/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	03/06/97	N/A				
ZHE/VOA/METHOD 1311/8240B						
Vinyl Chloride	ND	mg/L	0.0050	5.0	03/07/97	TVOA278
1,1-Dichloroethene	ND	mg/L	0.0010	5.0	03/07/97	TVOA278
Chloroform	ND	mg/L	0.0010	5.0	03/07/97	TVOA278
1,2-Dichloroethane	ND	mg/L	0.0010	5.0	03/07/97	TVOA278
2-Butanone (MEK)	ND	mg/L	0.0050	5.0	03/07/97	TVOA278
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	03/07/97	TVOA278
Tetrachloroethene	ND	mg/L	0.0010	5.0	03/07/97	TVOA278
Chlorobenzene	ND	mg/L	0.0010	5.0	03/07/97	TVOA278

Fred L. Shore, Ph.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:

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.

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. ***
***
*** This report is not to be reproduced except in full, without the written approval of Assaigai Analytical Inc. ***

REPORT COMMENTS

Chain of Custody Record

ASSAIGAI ANALYTICAL LABORATORIES

Lab Job no. 2411 Date 3/5/97

Page 1 of 1

7300 JEFFERSON, N.E.
ALBUQUERQUE, NEW MEXICO 87109
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

1910 N. BIG SPRING
MIDLAND, TEXAS 79705
(915) 570-1116

MELQUIADES ALANIS
6411 LOCAL UNO
CIUDAD JUAREZ, CHIHUAHUA MEXICO 32320

Client CONTRACT ENVIRONMENTAL

Address P. Box 3376

City / State / Zip Farmington, NM 87499

Project Name / Number JMCI - VAL VERDE

Contract / Purchase Order / Quote

Project Manager / Contact Shawn Adams

Telephone No. (505) 325-1198

Fax No. (same)

Samplers: (Signature)

AAL FRACTION NUMBER	Field Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation: Temp.	Preservation: Chemical	No. of Containers	Analysis Required	Remarks
1E	VALV 100	3/5/97	12:00	Liq	8 oz glass		no	1	X	Composite Leak Sample
1B	VALV-101	"	"	"	2½ x 7" Plastic		no	1		"
1C	VALV-102	"	"	"	4 x 6" Amber		no	1		"
1C	VALV-103	"	"	"	4 x 6" Amber		no	1		"
1D	VALV-104	"	"	"	2 x 5¼" Plastic		no	1		"
1E	VALV-105	"	"	"	3¾ x 6" Plastic		no	1		"
1F	VALV-106-A/B	"	"	"	VOA's		no	2		"
	VALV-100 A/B	"	"	"	VOA's		no	2		"

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature	3/5/97	Signature	Signature	3/6/97	Signature
Printed Shawn Adams	Time 2:30	Printed	Printed	Time 10:15	Printed
Company Contract Env Svcs		Company Fed-Ex	Company Fed-Ex		Company
Reason Analyses		Reason	Reason		Reason

Method of Shipment: Fed-Ex

Shipment No.

Special Instructions:

Comments: "Rush" 5-DAY
Results Due By 3/12/97
Blanket
State Anions analyses by ion chromatography only
not soluble fluoride

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☒ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

iml Inter-Mountain Laboratories, Inc.
Phone (505) 326-4737 Fax (505) 325-4182 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,

Sharon Williams
Organics Lab Supervisor

Enclosure

xc: File

imi Inter-Mountain Laboratories, Inc.
Phone (505) 326-4737 Fax (505) 325-4182 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 "Standard Test Methods for Flash Point By Pensky-Martens Closed Tester". 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.

Sincerely,

Sharon Williams

Sharon Williams
Organics Lab Supervisor

Inter-Mountain Laboratories, Inc.
Phone (505) 326-4737 Fax (505) 325-4182
2506 West Main Street, Farmington, NM 87401

Flash Point

Client:	**Burlington Resources**		
Project:	Val Verde Plant	Date Reported:	03/15/00
Sample ID:	VVP Plate/Frame Wash	Date Sampled:	03/14/00
Laboratory ID:	0300W01112	Date Received:	03/14/00
Sample Matrix:	Liquid	Date Analyzed:	03/14/00
Condition:	Intact		

Analyte	Result	Units
Flash Point	>140	°F

References: Annual Book of ASTM Standards. Method D93-80.

Reported by: _____

Reviewed by: _____

imi Inter·Mountain Laboratories, Inc.
Phone (505) 326-4737 Fax (505) 325-4182 2506 West Main Street, Farmington, NM 87401

QUALITY CONTROL / QUALITY ASSURANCE

imi 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 Resources**
Project: Val Verde Plant
Sample Matrix: Liquid

Date Reported: 03/15/00
Date Analyzed: 03/14/00
Date 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 _____

imi
Inter-Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
Burlington Resources	Val Verde Plant	

Sampler: (Signature): J. Gregg Wurtz for Val Verde Plant

Chain of Custody Tape No.:

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	Flash Point					Remarks
VVP Plate/Frame Wash	~~3/13/00~~ 3/13/00	10:00	030aw01112	Liquid	1	X					Report results to Gregg Wurtz 326-9537

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
J. Gregg Wurtz	3/14/00	9:51			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time
				3/14/00	9:51

Inter-Mountain Laboratories, Inc.

☐ 555 Absaraka, Sheridan, Wyoming 82801, Telephone (307) 674-7506
☐ 1633 Terra Avenue, Sheridan, Wyoming 82801, Telephone (307) 672-8945
☐ 1701 Phillips Circle, Gillette, Wyoming 82718, Telephone (307) 682-8945
☒ 2506 West Main Street, Farmington, NM 87401, Telephone (505) 326-4737
☐ 11183 State Hwy. 30, College Station, TX 77845, Telephone (409) 776-8945

63353

Material Safety Data Sheet

RESINEX

Material Identification and Use

MANUFACTURER'S NAME.....
MANUFACTURER'S ADDRESS.....
EMERGENCY PHONE NUMBER.....
SUPPLIER IDENTIFIER..... Sierra Chemicals L.C.
SUPPLIER'S ADDRESS..... BOX 1492
2000 Highway 88, Globe, Arizona 85501
SUPPLIER EMERGENCY PHONE NUMBER. 520 425-0224
PRODUCT IDENTIFIER..... RESINEX

PRODUCT USE..... ALKALINE CLEANER

Hazardous Ingredients of Materials

Chemical Identity	Concentration	CAS#/NA#/UN#	LD(50)	LC(50)
Sodium hydroxide	10-30	1310-73-2	500mg/Kg (rat oral)	Not available
Monoisopropanolamine	1-5	78-96-6	2098mg\kg (rat oral)	Not available
Sodium laureth sulfate	1-5	9004-82-4	1200mg/Kg (rat oral)	Not available

Physical Data For Product

PHYSICAL STATE..... Liquid
ODOUR AND APPEARANCE..... Light amber to colourless liquid with a mild odour
ODOUR THRESHOLD..... Not available
SPECIFIC GRAVITY..... 1.21
VAPOUR PRESSURE..... Not available
VAPOUR DENSITY (air=1)..... Not available
EVAPORATION RATE..... Not available
BOILING POINT..... Not available
FREEZING POINT..... Not available
pH..... 13.5(concentrate)
13(1% solution)
DENSITY (g/ml)..... 1.21
COEFFICIENT OF WATER/OIL DISTRIBUTION..... Not available

CARCINOGENICITY, REPRODUCTIVE EFFECTS.....	None of the ingredients are listed as such
TERATOGENICITY, MUTAGENICITY....	None of the ingredients are listed as such.
TOXICOLOGICALLY SYNERGISTIC PRODUCTS.....	Not available

Preventive Measures

PERSONAL PROTECTIVE EQUIPMENT...	Use chemical goggles and wear rubber gloves when handling this product to prevent eye and skin contact.
SPECIFIC ENGINEERING CONTROLS...	Should not be required
LEAK AND SPILL PROCEDURES.....	Pick up with absorbent material. Dispose of contaminated absorbent in accordance with all local environmental regulations.
WASTE DISPOSAL.....	Dispose of waste material in accordance with all local environmental regulations
HANDLING PROCEDURES AND EQUIPMENT.....	Use recommended protective equipment when handling this material.Contaminated clothing must be laundered before wearing
STORAGE REQUIREMENTS.....	Keep container closed and keep from freezing
SPECIAL SHIPPING INFORMATION....	NA1760 Class 8 Packing Group II Compounds, cleaning liquid (Sodium hydroxide)

First 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

PREPARED BY.....	Mark Chaisson Chemist
PHONE NUMBER OF PREPARER.....	403-998-3771
DATE PREPARED.....	July 17, 1995

Material Safety Data Sheet

REACT 102

PRODUCT IDENTIFICATION

SUPPLIER'S NAME: Sierra Chemicals L.C.
SUPPLIER'S ADDRESS: Box 1492, 2000 Highway 88, Globe, AR 85501
SUPPLIER'S EMERGENCY PHONE NUMBER: (520) 425-0224

PRODUCT USE: ACIDIC CLEANER

HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENT	PERCENT	CAS NUMBER	LD_{50}	LC_{50}
Phosphoric acid	60 -100	7664-38-2	4400 mg/Kg (Rat Oral)	Not available
Nonoxynol	1-5	9016-45-9	2600 mg/Kg (Rat Oral)	Not available
Dipropyleneglycol methyl ether	1-5	34590-94-8	5430 mg/Kg (Rat Oral)	Not available
Alkyl dimethylbenzylammonium chloride	1-5	68424-85-1	4000 mg/Kg (Rat Oral)	Not available

PHYSICAL DATA

PHYSICAL STATE: Liquid
ODOUR AND APPEARANCE: Colourless to pale yellow liquid with a mild odour.
ODOUR THRESHOLD: Not available
BOILING POINT: Not available
VAPOUR PRESSURE: Not available
VAPOUR DENSITY (AIR=1): Not available
SPECIFIC GRAVITY: 1.5
EVAPORATION RATE: Not available
FREEZING POINT: Not available
pH: 1-2 depending on dilution.
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

Material Safety Data Sheet

REACT 102

REACTIVITY DATA

STABILITY: Stable under normal conditions of storage and use.
CONDITIONS OF REACTIVITY: Contact with aluminum or zinc will generate hydrogen.
INCOMPATIBLE MATERIALS: Avoid contact with strong alkalis and strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: 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: Severe irritation and chemical burns can occur.
INHALATION: Mists generated from the product may be irritating to the nose, throat, and respiratory tract.
INGESTION: May cause corrosion of the mouth, throat, and G.I. tract.
ACUTE OVER EXPOSURE: Severe burns to skin and eyes. Inhalation of mist or vapour may cause irritation of the respiratory tract.
CHRONIC OVER EXPOSURE: Dermatitis may occur with repeated exposure.
EXPOSURE LIMITS: Phosphoric acid: ACGIH TWA = 1 mg/m3
Dipropylene glycol methyl ether: ACGIH TWA = 100 ppm (skin)
IRRITANCY: Severe irritant to the eyes, skin, and mucous membranes.
SENSITIZATION: Not available
CARCINOGENICITY AND REPRODUCTIVE EFFECTS: None of the ingredients 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 eye and skin contact.
ENGINEERING CONTROLS: Should not be required.
LEAK AND SPILL PROCEDURES: Pick up small spills with absorbent material and neutralize residue with baking soda, and flush with water. Dispose of contaminated absorbent in accordance with all local environmental regulations.
WASTE DISPOSAL: Dispose of waste material in accordance with all local environmental regulations.
HANDLING PROCEDURES AND EQUIPMENT: Use recommended protective equipment when handling this material. Contaminated clothing must be laundered before wearing.
STORAGE REQUIREMENTS: Keep container closed and keep from freezing
SPECIAL SHIPPING INFORMATION: PIN UN1805

Material Safety Data Sheet

REACT 102

Phosphoric acid solution
Class 8(9.2) Packing Group III

FIRST AID MEASURES

SPECIFIC FIRST AID MEASURES: ..... In case of skin contact, flush promptly with abundant water. In case of ingestion, do not induce vomiting. Call a physician. On eye contact flush with abundant water and consult a physician.

PREPARATION INFORMATION

PREPARED BY: .....Mark Chaisson Chemist
PHONE NUMBER:.....(403) 998-3771
DATE PREPARED: .....May 12, 1998

DISCLAIMER

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

PRODUCT NAME: SULFURIC ACID, 77 TO 100%

MSDS #: DQ4950CR

EFFECTIVE DATE: 8/11/99

SUPERSEEDES: 7/10/98

ISSUED BY: 004690

01 CHEMICAL PRODUCT/COMPANY IDENTIFICATION

MATERIAL IDENTIFICATION

CAS NUMBER	: 7664-93-9
FORMULA	: H2SO4
MOLECULAR WEIGHT	: 98.08
CAS NAME	: SULFURIC ACID
GRADE	: 77 TO 100%

TRADENAMES AND SYNONYMS

DIHYDROGEN SULFATE
OIL OF VITRIOL
SULPHURIC ACID
VITRIOL BROWN OIL

02 COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS

MATERIAL	CAS NUMBER	%
SULFURIC ACID	7664-93-9	
60 DEG TECHNICAL		77.7
66 DEG TECHNICAL		93.2
1.835 ELECTROLYTE		93.2
98% TECHNICAL		98
99% TECHNICAL		99
100% TECHNICAL		100
WATER	7732-18-5	0-22

03 HAZARDS IDENTIFICATION

POTENTIAL HEALTH 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.

EYE CONTACT

CONTACT WITH LIQUID 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

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

INGESTION

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

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.

VENDORS EMERGENCY EXPOSURE LIMITS (EEL) ARE ESTABLISHED 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 ESCAPE. 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.

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 PRESSURE 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

SULFURIC ACID, 77 TO 100%

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

AEL IS VENDORS ACCEPTABLE EXPOSURE LIMIT. WHERE GOVERNMENTALLY 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 HG
VAPOR PRESSURE	: <0.3 MM HG @ 25 C (77 F) <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

GRADE	BOILING PT. DEG C	BOILING PT. DEG F	MELTING PT. DEG C	MELTING PT. DEG 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

A MODERATE EYE IRRITA 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

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

13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

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
HAZARD CLASS	: 8
UN NO.	: 1830
DOT/IMO LABEL	: CORROSIVE
PACKING GROUP	: II
REPORTABLE QUANTITY	: 1000 LB (454 KG)

SHIPPING CONTAINERS

TANK CARS.
TANK TRUCKS.
BARGE.

SHIPPING INFORMATION - CANADA

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

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

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* * * E N D O F M S D S * * *

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator Burlington
2. Management Facility Destination KEY Disposal	5. Originating Site See List
3. Address of Facility Operator #345 CR 3500 Aztec NM	6. Transporter KEY
7. Location of Material (Street Address or ULSTR) SEE LIST	8. State NM

JUN 2001 RECEIVED OIL CON. DIV DIST. 3

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:

OIL TANK WATER FROM COMPRESSOR STATIONS STORED AT McGRATH SWD

Refer: C-138 APPROVAL DATED 1-11-01 Analytical GOOD till 12-1-2001 SIGNED M. Kieling this is that waste stream mjk

Is testing still valid.

JUN 2001 RECEIVED OIL CON. DIV DIST. 3

Estimated Volume < 1000 bbls cy MONTHLY Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: Manager DATE: 6-6-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TAFOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 6/7/01

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 6-15-01

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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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 Burlington
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site See List
2. Management Facility Destination Key Disposal	6. Transporter Key
3. Address of Facility Operator #345 CR 3500 Aztec NM	8. State N.M.
7. Location of Material (Street Address or ULSTR) SEE LIST	

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.

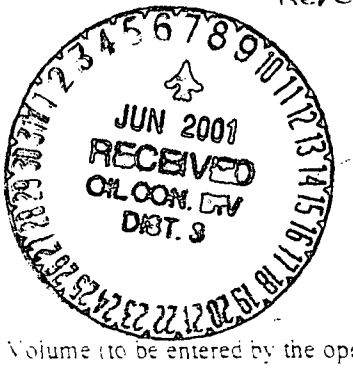
B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

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

BRIEF DESCRIPTION OF MATERIAL:

Oil tank water from compressor stations stored at McGrath SWD

Refer: C-138 Approval Dated 1-11-07 Analytical Good till 12-1-2001 Signed M. Kielin this is that waste stream M.D.



Estimated Volume < 1000 bbls cy monthly Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE [signature] TITLE: Manager DATE: 6-6-07
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Tafoya TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 6/7/01

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)334-6

GARY E. JOHNSON
GOVERNOR

JENNIFER A. SALISBURY
CABINET SECRETARY

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
Burlington Resources 3401 East 30th Street Farmington, NM 87401	Key Energy Services 5651 U.S. Highway 64 Farmington, NM 87401
3. Originating Site (name): ~~[illegible] Plant~~ Compressor Sites Attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR): Unit: SE Section: 11 Township: 29N Range: 11W SEE List
4. Source and Description of Waste Oil tank water from used oil tanks at McGrath SWD Water from oil tanks at compresson station	

I, Gregg Wurtz (Print Name) representative for:

Burlington Resources 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

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):

X MSDS Information
X RCRA Hazardous Waste Analysis
___ 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): Gregg Wurtz

Title: Sr. Environmental Rep.

Date: 6/6/

BURLINGTON
RESOURCES

SAN JUAN DIVISION

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 the water does **not** 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,

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

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	7W
4.	Manzanares	SE	4	29N	8W
5.	Pump Canyon	NE	24	30N	9W
6.	Hart Canyon	SE	20	31N	10W
7.	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	7W
13.	Simms Mesa	NE	22	30N	7W
14.	Rudy	SE	35	29N	11W
15.	Zachry	SW	34	29N	10W
16.	Albright	NW	22	29N	10W
17.	Rattlesnake	SW	10	31N	7W
18.	Cox	SW	20	32N	10W
19.	Lateral 311	NE	17	29N	10W
20.	Lateral 355	SE	25	30N	11W
21.	Ute	SW	14	32N	11W
22.	State	NW	16	28N	9W

Int Mountain Laboratories, Inc
Phone (505) 326-4737 Fax (505) 325-4182 2506 West Main Street, Farmington, NM 87

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.

Sincerely,

Sharon Williams

Sharon Williams
Organics Lab Supervisor

Enclosures

xc: file

Inter-Mountain Laboratories, Inc.
2506 West Main Street, Farmington, NM 87401
Phone (505) 326-4737 Fax (505) 325-4182

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-846, 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 feel free to call me at your conveneince.

Sincerely,

Sharon Williams
Organic Analyst/Farmington

Inter Mountain Laboratories, Inc.

ne (505) 326-4737 Fax (505) 325-4182 2506 West Main Street, Farmington, NM 87401

Client: Burlington Resources
Project: Compressor Stations
Sample ID: Water From Used Oil Tank
Lab ID: 0399W05762
Matrix: Liquid
Condition: Cool/Intact

Date Reported: 12/13/99
Date Sampled: 11/23/99
Date Received: 11/23/99
Date Analyzed: 12/03/99

Parameter	Analytical 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	mg/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	5.0	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

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

Inter-Mountain Laboratories, Inc.
2506 West Main Street, Farmington, NM 87401

Flash Point

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

Analyte	Result	Units
Flash Point	>140	°F

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-Mountain Laboratories, Inc.
Phone (505) 326-4737 Fax (505) 325-4182 2506 West Main Street, Farmington, NM 87401

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:	0399W05762	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	12/01/99

Parameter	Analytical Result	Detection Limit	Regulatory Level	Units
Benzene	ND	0.05	0.5	mg/L
Carbon Tetrachloride	ND	0.05	0.5	mg/L
Chlorobenzene	ND	0.05	100	mg/L
Chloroform	ND	0.05	6.0	mg/L
1,2-Dichloroethane	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
Tetrachloroethylene	ND	0.05	0.7	mg/L
Trichloroethylene	ND	0.05	0.5	mg/L
Vinyl Chloride	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	80 - 120
Toluene-d8	90	88 - 110
4-Bromofluorobenzene	92	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

Reviewed

Inter-Mountain Laboratories, Inc
Phone (505) 326-4737 Fax (505) 325-4182
2506 West Main Street, Farmington, NM 874

QUALITY CONTROL / QUALITY ASSURANCE

imt

Inter-Mountain Laboratories, Inc.

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

2506 West Main Street, Farmington, NM 87401

Quality Control / Quality Assurance

Spike Analysis / Blank Analysis

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

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

Spike Analysis

Parameter	Spike Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery
Arsenic	0.97	<0.1	1.00	97%
Barium	0.98	<0.5	1.00	98%
Cadmium	0.79	<0.01	1.00	79%*
Chromium	0.88	<0.01	1.00	88%
Lead	0.68	<0.1	1.00	68%*
Mercury	0.005	<0.001	0.005	102%
Selenium	1.20	<0.1	1.00	120%*
Silver	0.74	<0.05	1.00	74%*

Method Blank Analysis

Parameter	Result	Detection 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	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 _____

imL 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

TOXICITY CHARACTERISTIC LEACHING PROCEDURE

Client:	Burlington Resources	Date Reported:	12/13/99
Project:	Compressor Stations	Date Analyzed:	12/03/99
Sample Matrix:	Liquid	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 _____

imd

Inter-Mountain Laboratories, Inc.

2506 West Main Street, Farmington, NM 87401

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

EPA METHOD 8260B
VOLATILE ORGANIC COMPOUNDS BY GC/MS
Method Blank Analysis

Sample ID	Method Blank	Date Reported:	12/08/99
Laboratory ID.	V3MB99-335	Date Extracted:	NA
Sample Matrix	Water	Date Analyzed:	12/01/99

Parameter	Analytical Result	Detection Limit	Regulatory 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
Chloroform	ND	0.01	6.0	mg/L
1,2-Dichloroethane	ND	0.01	0.5	mg/L
1,1-Dichloroethylene	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
Vinyl Chloride	ND	0.01	0.2	mg/L

ND - Compound not detected at stated Detection Limit.

Surrogate Recovery	%	Limits
Dibromofluoromethane	94	86 - 118
Dichloroethane-d4	93	80 - 120
Toluene-d8	89	88 - 110
4-Bromofluorobenzene	92	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

Reviewed

Inter-Mountain Laboratories, Inc.
Phone (505) 325-4737 Fax (505) 325-4780 2506 West Main Sheet, Farmington, NM 87401

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
EPA METHOD 8260B
VOLATILE ORGANIC COMPOUNDS BY GC/MS
Blank Spike/Duplicate Analysis

Sample ID: Blank Spike Duplicate
Laboratory ID: BSD99-336
Sample Matrix: Water

Date Reported: 12/08/99
Date Extracted: NA
Date Analyzed: 12/02/99

Parameter	Analytical Result mg/L	Spike Added mg/L	Spike Results mg/L	Spike Recovery %	Duplicate Results mg/L	Duplicate Recovery %	Relative Difference %RSD
Benzene	ND	0.050	0.050	99	0.053	106	7
Carbon Tetrachloride	ND	0.050	0.054	109	0.057	113	4
Chlorobenzene	ND	0.050	0.050	99	0.053	106	7
Chloroform	ND	0.050	0.056	112	0.060	121	7
1,2-Dichloroethane	ND	0.050	0.049	98	0.057	113	15
1,1-Dichloroethylene	ND	0.050	0.046	91	0.047	94	3
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	4
Trichloroethylene	ND	0.050	0.052	103	0.055	111	7
Vinyl Chloride	ND	0.050	0.052	105	0.052	104	0

ND - Compound not detected at stated Detection Limit.

Surrogate Recoveries	Spike %	Duplicate %	Limits
Dibromofluoromethane	96	102	86 - 118
Dichloroethane-d4	90	101	80 - 120
Toluene-d8	92	92	88 - 110
4-Bromofluorobenzene	95	94	86 - 115

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

Analyst

Reviewed

Int. Mountain Laboratories, Inc.
Phone (505) 326-4737 Fax (505) 325-4737 2506 West Main Street, Farmington, NM 87401

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
EPA METHOD 8260B
VOLATILE ORGANIC COMPOUNDS BY GC/MS
Matrix Spike Analysis

Sample ID	Matrix Spike	Date Reported:	12/08/99
Laboratory ID:	0199W19088MS	Date Extracted:	NA
Sample Matrix:	Water	Date Analyzed:	12/02/99

Parameter	Analytical Result mg/L	Spike Added mg/L	Spike Results mg/L	Spike Recovery %
Benzene	ND	0.050	0.054	108
Carbon Tetrachloride	ND	0.050	0.059	118
Chlorobenzene	ND	0.050	0.054	108
Chloroform	ND	0.050	0.061	122
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
Trichloroethylene	ND	0.050	0.057	114
Vinyl Chloride	ND	0.050	0.054	108

ND - Compound not detected at stated Detection Limit.

Surrogate Recovery	%	Limits
Dibromofluoromethane	98	86 - 118
Dichloroethane-d4	96	80 - 120
Toluene-d8	92	88 - 110
4-Bromofluorobenzene	95	86 - 115

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

Analyst

Reviewed

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 Resources	Date Reported:	12/13/99
Project:	Compressor Stations	Date Analyzed:	12/07/99
Sample Matrix:	Liquid	Date Received:	11/23/99

Parameter	Found Result	Known 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 by _____

Reviewed by _____

inl
Inter-Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
Burlington Resources/Oil Tank Water	Compressor Stations	
Sampler: (Signature)	**Chain of Custody Tape No.**	**Remarks**

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TCLP Metals	TCLP Benzene	Flash	Remarks
Water from Used Oil Tank	11/23		W05762	Liquid	3	✓			IML to make composite in lab
"	"			"	6		✓		
"	"			"	3			✓	
Carter Pump Rock Arch Canyon Hart Canyon									

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Ed Hasely	11/23/99	12 Noon			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	11/29/99	11:15			
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

Inter-Mountain Laboratories, Inc.

1633 Terra Avenue, Sheridan, Wyoming 82801, Telephone (307) 672-8945
1701 Phillips Circle, Gillette, Wyoming 82718, Telephone (307) 682-8945
2506 West Main Street, Farmington, NM 87401, Telephone (505) 326-4737
1160 Research Drive, Bozeman, Montana 59718, Telephone (406) 586-8450
11183 State Hwy. 30, College Station, TX 77845, Telephone (409) 776-8945

69463

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator Halliburton
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site MAIN YARD
2. Management Facility Destination KEY DISPOSAL	6. Transporter Key
3. Address of Facility Operator #345 C2 3500 Aztec NM	8. State NM
7. Location of Material (Street Address or ULSTR) 4109 E. MAIN ST FARMINGTON, NM 87402	

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:

UNUSED Frac Fluid Gel

JUN 2001 RECEIVED OIL CON. DIV DIST. 3

JUN 2001 RECEIVED OIL CON. DIV DIST. 3

Estimated Volume 160 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: MOR DATE: 6-1-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 6/4/01

APPROVED BY: Martyne J. Kieling TITLE: Environmental Geologist DATE: 6-8-01

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: ☒

Verbal Approval Received: Yes ☐ No ☒

2. Management Facility Destination: KEY DISPOSAL

3. Address of Facility Operator: #349 CR 3500 AZTEC NM

4. Generator: HALLIBURTON

5. Originating Site: MAIN YARD

6. Transporter: KEY

8. State: NM

7. Location of Material (Street Address or ULSTR): 4109 E. MAIN ST FARMINGTON, NM 87402

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:

UNUSED FRAC FLUID GEL

JUN 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume: 160 bbls cy Known Volume (to be entered by the operator at the end of the haul): _____ cy

SIGNATURE: _____ TITLE: MGR DATE: 6-1-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: GEOLOGIST DATE: 6/4/01

APPROVED BY: _____ TITLE: _____ DATE: _____

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

Energy, Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

~~Submit to OCD~~
Permitted Surface
Waste Management
Facility

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
HALLIBURTON ENERGY SERVICES
4109 E. MAIN ST
FARMINGTON, NM 87402

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
FRAC RETURN FLUIDS
3 Loads

4. Location of Waste (Street address &/or ULSTR):
HALLIBURTON ENERGY SERVICES
4109 E. MAIN ST.
FARMINGTON, NM 87402

5. Destination (Surface Waste Management Facility):
KEY ENERGY SERVICES
345 County Rd 3500
Farmington, NM 87402

6. Transporter:
KEY ENERGY SERVICES
5651 Hwy. 64
Farmington, NM 87402

7. Estimated Volume 143 cy/bbls

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

X 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.

X ~~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: Allen Rodrigue Date: 5-18-01

Print Name: ALLEN J. RODRIGUE

Title: SHARED SERVICES FACILITIES SUPERVISOR

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Halliburton Energy Services	Project #:	92132-001
Sample ID:	Junk Water Tank	Date Reported:	05-02-01
Lab ID#:	19788	Date Sampled:	04-25-01
Sample Matrix:	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 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 sections 261.21 - 261.23, July 1, 1992.
Comments:	**4109 E. Main St., Farmington, New Mexico.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

METHODS 8010/8020
AROMATIC / HALOGENATED VOLATILE ORGANICS

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

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)	0.749	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon 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	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: **4109 E. Main St.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA 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	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

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-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.**

Analyst

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ENVIROTECH LABS

CRITICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL ANALYSIS

Client:	Halliburton Energy Services	Project #:	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

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (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.**

Analyst

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ENVIROTEC. . LABS

CRITICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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ENVIROTECH LABS

ANALYTICAL 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:	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

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 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: **QA/QC for sample 19788.**

Analyst

Review

100

ENVIRO-TECH 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:	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

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent 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: **QA/QC for sample 19788.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	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

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)	0.749	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: **QA/QC for sample 19788.**

Analyst

Review

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ENVIROTECH LABS

ENVIRONMENTAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040
PHENOLS
Quality Assurance Report
Laboratory Blank

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

Analytical Results

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: **QA/QC for sample 19788.**

Analyst

Review

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ENVIROTECH LABS

TECHNICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040
PHENOLS
Quality Assurance Report

Client:	QA/QC	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

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Detection Limit (mg/L)	Percent Difference
o-Cresol	0.296	0.293	0.020	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 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

Review

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ENVIRO-TECH LABS

ANALYTICAL 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:	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

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: **QA/QC for sample 19788.**

Analyst

Review

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ENVIROTECH LABS

CRITICAL 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:	05-03-01
Laboratory Number:	19788	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	05-02-01
		Analysis Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	ND	ND	0.0%	0.020
Hexachloroethane	ND	ND	0.0%	0.020
Nitrobenzene	0.077	0.076	0.9%	0.020
Hexachlorobutadiene	ND	ND	0.0%	0.020
2,4-Dinitrotoluene	0.088	0.088	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, 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 19788.

Analyst

Review

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ENVIROTECH LABS

ACTIVE 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:	05-02-TCM QA/QC	Date Reported:	05-02-01
Laboratory Number:	19788	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	05-02-01
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	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 Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance 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	100.2%	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: **QA/QC for sample 19788.**

Analyst

Review

CHAIN OF CUSTODY RECORD

08625

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
Halliburton Energy Services	4109 E Main St.	
Sampler: Harlan M. Brown	Client No. 92132-001	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TCLP w/o HEP						Remarks
Junk Water Tank	4.25.01	13:45	19788	Water	5	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Harlan M Brown	4.25.01	14:40	Christa Walter	4-25-01	14:40
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

District I - (505) 393-6161
P. O. Box 1980
Hobbs, NM 88241-1980
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

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-138
Originated 8/8/95

Submit Original
Plus 1 Copy
to appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: [X] Non-Exempt: [ ] Verbal Approval Received: Yes [ ] No [X]	4. Generator Baker Oil Tools
	5. Originating Site shop sump
2. Management Facility Destination Key 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) 2495 Inland St. 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:

cuttings used to wash downhole tools

MAY 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume <100 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: _____ TITLE: M62 DATE: 5-2-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 5/14/01

APPROVED BY: _____ TITLE: " DATE: 5/14/1

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
Doug Bowers for Baker Oil Tools
2795 Inland St.
Farmington NM 87401

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
Water Used to wash downhole tools

4. Location of Waste (Street address &/or ULSTR):
2795 Inland St.

5. Destination (Surface Waste Management Facility):
Key Energy Disposal

6. Transporter: Key Energy

7. Estimated Volume < 100 cy/bbls

MAY 2001
RECEIVED
OIL CON. DIV
DIST. 3

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.

_____ **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: R Douglas Bowers Date: 5-2-01

Print Name: R. Douglas Bowers

Title: District Manager

District I - (505) 393-6161
P. O. Box 1980
Hobbs, NM 88241-1980
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

New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
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Santa Fe, New Mexico 87505
(505) 827-7131

Form C-138
Originated 8/8/95

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: [X] Non-Exempt: [ ]	4. Generator Baker Oil Tools
Verbal Approval Received: Yes [ ] No [X]	5. Originating Site old shop yard
2. Management Facility Destination #[redacted] Key Disposal	6. Transporter Key
3. Address of Facility Operator #345 CR 3500 12 Lee NM	8. State NM
7. Location of Material (Street Address or ULSTR) 1732 E. Main 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:

Water used to wash Down hole tools

MAY 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume <100 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: _____ TITLE: MGR DATE: 5-2-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 5/14/01

APPROVED BY: _____ TITLE: " DATE: 5-14-1

1393-6161
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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
Doug Bowers for Baker Oil Tools
PO Box 718 327-3266
Farmington NM 87499

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
Water Used to wash downhole tools

4. Location of Waste (Street address &/or ULSTR):
1732 East Main
Farmington NM 87401

5. Destination (Surface Waste Management Facility): Key Energy Disposal

Transporter: Key Energy

7. Estimated Volume ~150 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.

_____ **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: R Douglas Bowers Date: 5-2-01

Print Name: R Douglas Bowers

Title: District Manager

District I - (505) 393-6161
P. O. Box 1980
Hobbs, NM 88241-1980
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

New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
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Santa Fe, New Mexico 87505
(505) 827-7131

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REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: [X] Non-Exempt: [ ]	4. Generator WFS
Verbal Approval Received: Yes [ ] No [X]	5. Originating Site ECED20 Comp/Exp
2. Management Facility Destination Key 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) Hwy 64 mm 100.5	

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:

Amine Treating Fluid

Estimated Volume 1000 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: _____ TITLE: Mgr DATE: 5-1-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Trevino TELEPHONE NO: 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 5/14/01

APPROVED BY: _____ TITLE: " DATE: 5/14/1

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
WILLIAMS EL CEDRO COMPLEX HWY 64 MILE MARKER 100.5	KEY DISPOSAL

3. Originating Site (name): EL CEDRO COMPLEX

Location of the Waste (Street address &/or ULSTR):

Attach list of originating sites as appropriate

4. Source and Description of Waste

AMINE TREATING – 95% RAIN WATER
2.5% AMINE
2.5% TREATING TEG

I, WILL SMITH representative for:
(Print Name)

WILLIAMS FIELD SERVICE 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)

X **EXEMPT** oilfield waste
TREATING PLANT

___ **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 only the following documentation is attached (check appropriate items):

___ MSDS Information
___ RCRA Hazardous Waste Analysis
___ Chain of Custody
___ Other (description):

Name (Original Signature): WILL SMITH

Title: RSM COORDINATOR (505) 632-4879

Date: 4-23-01

1625 N. F 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 Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-138
Rev March 17, 1999

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator Federated Environmental Services
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site In Pit YARD
2. Management Facility Destination KEY 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) 5928 US Hwy 64 FARMINGTON, NM 87401	

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 From Hydro shop Sump

MAR 2001 RECEIVED OIL CON. DIV.

APR 2001 RECEIVED OIL CON. DIV. DIST. 3

Estimated Volume 2 20bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE [signature] TITLE: MGR DATE: 3-27-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: [signature] TITLE: Geologist DATE: 3/27/01

APPROVED BY: [signature] TITLE: Environmental Geologist DATE: 4-3-01

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

Form C-138
Revised March 17, 1999

Submit Original
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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator Federated Environmental Services
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site In Lab YARD
2. Management Facility Destination KEY 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) 5828 US Hwy 64 Farmington, NM 87401	

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 From Hydro shop Sump

MAR 2001
RECEIVED
OIL CON. DIV.
DIST. 3

Estimated Volume ~ 20bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MOL DATE: 3-27-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 3/27/01

APPROVED BY: _____ TITLE: _____ DATE: _____

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
GOVERNOR

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

JENNIFER A. SALISBURY
CABINET SECRETARY

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
Federated Environmental Services Bedford Square, 1314 Bedford Ave. Baltimore, Maryland 21208	Key Energy Services, Disposal Facility #345 County Road 3500 Aztec, NM 87410
3. Originating Site (name): INFAB 5928 US Hwy 64 Farmington, NM 87410 Attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR):
4. Source and Description of Waste Water from Hydro shop Sump < 20 bbls	

I, Harland M. Brown (Print Name) representative for: Federated Environmental Services / INFAB 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

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 TCLP w/o H&P
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): Harland M. Brown

Title: Geologist / Project Manager

Date: 3.26.01

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Federated Environmental	Project #:	01007-001
Sample ID:	Hydro Shop Sump	Date Reported:	03-01-01
Lab ID#:	19317	Date Sampled:	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:	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 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 sections 261.21 - 261.23, July 1, 1992.

Comments: **INFAB.**

Christine M Walters
Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER 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

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)	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-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: **INFAB.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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: **INFAB.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

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 and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
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 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: **INFAB.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER 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 (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	**0.019**	**0.001**	**5.0**
Barium	**0.431**	**0.001**	**100**
Cadmium	**0.018**	**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.

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: **INFAB.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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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 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 Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	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: **QA/QC for samples 19316 - 19318.**

Analyst

Review

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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:	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

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent 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.**

Analyst

Review

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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:	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.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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 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: **QA/QC for samples 19316 - 19318.**

Analyst

Review

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ENVIROTECH LABS

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

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 Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

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

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ENVIROTECH 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 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 samples 19316 - 19318.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL 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:	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 Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (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: 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 samples 19316 - 19318.**

Analyst

Review

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ENVIROTECH LABS

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:	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

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% 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%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance 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

Review

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CHAIN OF CUSTODY RECORD

08530

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
FEDERATED ENVIRONMENTAL	INFAB	
Sampler: HARLAN M. BROWN	Client No. 01007-001	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TCLP 3/0 H&A						Remarks
Hydro Stop Sump	02.27.01	11:05	19317	Liquid	5	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Harlan M Brown	02.27	11:15	Glenn L. Coleman	2/27/01	11:15
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt			
	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

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 Reso

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: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator Federated Environmental Services 5. Originating Site INFAB YARD
2. Management Facility Destination Key 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) 5928 US Hwy 64 Farmington, NM 87401	

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 from Hydrotest tanks, Code Shop Floor sump, Main Shop floorsump, AND DRUMS labled ~~Antifreeze~~

APR 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume 1 1000bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MOR DATE: 3-27-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TACKETT TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 3/27/01

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 4-3-01

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 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 SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator Federated Environmental Services
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site INFAB YARD
2. Management Facility Destination Key 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) 5928 US Hwy 64 Farmington, NM 87401	

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 non-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 tanks, Code Shop Floor sump, Main Shop Floor sump, and Drums labled Antifreeze

MAR 2001

Estimated Volume ~ 1000 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MOR DATE: 3-27-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 3/27/01

APPROVED BY: _____ TITLE: _____ DATE: _____

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
GOVERNOR

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

JENNIFER A. SALISBURY
CABINET SECRETARY

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
Federated Environmental Services Bedford Square, 1314 Bedford Ave Baltimore, Maryland 21208	Key Energy Services - Disposal Facility #345 County Rd 3500 Aztec, NM. 87410
3. Originating Site (name):	Location of the Waste (Street address &/or ULSTR):
INFAB 5928 US Hwy 64 Farmington, NM 87401 Attach list of originating sites as appropriate	
4. Source and Description of Waste	
Water from Hydrostatic Test Tanks, Code Shop Floor Sump, Main Shop Floor Sump, and drums Labeled Anti-Freeze.	

I, Harland M. Brown (Print Name) representative for: _____ 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

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
___ Other (description):
X RCRA Hazardous Waste Analysis (Total Metals)
X 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): Harland M Brown

Title: Geologist - Project Manager

Date: 3-26-01

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER 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: **INFAB.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER 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 Metals

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: **INFAB.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Federation Environmental	Project #:	01007-001
Sample ID:	Main Shop Sump	Date Reported:	03-01-01
Laboratory Number:	19312	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	**0.003**	**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

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS
Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	03-01-TM QA/QC	Date Reported:	03-01-01
Laboratory Number:	19310	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	03-01-01
Condition:	N/A	Date Digested:	03-01-01

Blank & Duplicate Conc. (mg/L)	Instrument Blank (mg/L)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance 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 Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance 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%
Selenium	0.500	0.012	0.511	99.8%	80% - 120%
Silver	0.500	0.031	0.530	99.8%	80% - 120%

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.

Comments: **QA/QC for samples 19310 - 19315.**

Analyst

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CHAIN OF CUSTODY RECORD

08529

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
FEDERATED ENVIRONMENTAL	INFAB	
Sampler: HARLAN M. BROWN	Client No. 01007-001 ~~98065~~	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	RCRA 8 Metals	RCRA RCT					Remarks
ANTI-FREEZE Drums	2-27-01	9:55	19310	Liquid	1	✓						
Codes Hop Sump	2-27	10:00	19311	Liquid	1	✓						
Main Shop Sump	2-27	10:05	19312	Liquid	1	✓						
Upper Paint Area	2-27	10:25	19313	Soil	1	✓						
Lower Paint Area	2-27	10:30	19314	Soil	1	✓						
Hill top Stains	2-27	10:40	19315	Soil	1	✓	✓					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Harlan M Brown	2-27-01	10:53	Glenn L. Alexander	2-27-01	10:53
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: [X] Non-Exempt: [ ] Verbal Approval Received: Yes [ ] No [X]	4. Generator Federated Environmental Services 5. Originating Site TANK YARD
2. Management Facility Destination KEY 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) 5928 US HWY 64 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:

Water from washing Exempt field production equipment.

MAR 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume 240 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: MGR DATE: 3-27-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 3/27/01

APPROVED BY: [illegible] TITLE: geologist 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
(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 Environmental Services BEDFORD Square, 1314 BEDFord Ave. Baltimore, MARYLAND 21208	Key Energy Services, Disposal Facility. #345 County ROAD 3500 AZTEC, NM 87410
3. Originating Site (name): INFAB 5928 US HWY 64 FARMINGTON, NEW MEXICO Attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR):
4. Source and Description of Waste WATER from WASHING EXEMPT field production equipment (TANK @ WASH PAD - Hill Top GAS Area). < 240 bbls	

I, HARLAN M BROWN (Print Name) representative for:
FEDERATED Environmental / INFAB 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)

X **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.

For **NON-EXEMPT** waste the following documentation is attached (check appropriate items):

___ MSDS Information
___ RCRA Hazardous Waste Analysis
___ 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): Harlan M Brown

Title: GEOLOGIST - Proj. MANAGER

Date: 3.26.01

88240

811 South NM 88210 Oil on 999

1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

Santa e,

Submit Orig Plus 1 Copy to Appropriate District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ Verbal Approval Received: Yes ☒ No ☐	4. Generator Halliburton Energy Serv.
	5. Originating Site MAIN YARD
2. Management Facility Destination #345 CR 3500 Aztec NM	6. Transporter Key
3. Address of Facility Operator Key Disposal	8. State NM
7. Location of Material (Street Address or ULSTR) 4109 E. MAIN ST FARMINGTON, N.M 87401	

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:

UNUSED Gel water

MAR 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume 300 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talarick TITLE: MGR DATE: 3-16-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALARICK TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 3/20/01

APPROVED BY: Martyne J. Kelly TITLE: Environmental Geologist DATE: 3/26/01

Aztec, NM 87410

2040 Santa Fe, NM 87505

Plus 1 to Distrct

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator Halliburton Energy Serv.
Verbal Approval Received: Yes ☒ No ☐	5. Originating Site MAIN YARD
2. Management Facility Destination #345 CR 3500 Aztec NM	6. Transporter Key
3. Address of Facility Operator Key Disposal	8. State NM
7. Location of Material (Street Address or ULSTR) 4109 E. Main St. Farmington, NM 87401	

9. Circle One:

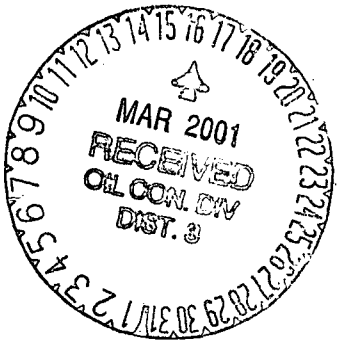
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator: one certificate per job.

(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:

UNUSED Gel water



Estimated Volume 300 bbls cy Known Volume (to be entered by the operator at the end of the haul _____ cy

SIGNATURE Michael Talavich TITLE: MGR DATE: 3-16-01

Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Talavich TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 3/20/01

APPROVED BY: _____ TITLE: _____ DATE: _____

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
Halliburton Energy Services
4109 E. Main St.
Farmington, NM 8740

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
waste water

4. Location of Waste (Street address &/or ULSTR):
4109 E. Main St.
Farmington, NM 87401

5. Destination (Surface Waste Management Facility):

6. Transporter: Key Energy

7. Estimated Volume 238 cy/bbls

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

____ MSDS Information

X RCRA Hazardous Waste Analysis (With Chain of Custody).

X Other (Description) waste water.

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.

X **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: Karla Weaver Date: 3/14/01

Print Name: Karla Weaver

Title: _____

ENVIROTECH LABS

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:	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

Parameter	Result	
IGNITABILITY:	**Negative**	
CORROSIVITY:	**Negative**	**pH = 8.24**
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 sections 261.21 - 261.23, July 1, 1992.

Comments: **4109 E. Main St., Farmington.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL ANALYSIS

Client:	Halliburton Energy Services	Project #:	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)
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.**

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ENVIROTECH LABS

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:	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 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	**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: **4109 E. Main St., Farmington**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

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)	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
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	0.0693	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-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: **4109 E. Main St., Farmington.**

Analyst

Review

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ENV ROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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 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: **QA/QC for samples 19316 - 19318.**

Analyst

Review

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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:	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.**

Analyst

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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:	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

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent 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.**

Analyst

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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 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 Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	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: **QA/QC for samples 19316 - 19318.**

Analyst

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ENVIROTECH LABS

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:	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

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% 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%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance 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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ENVIROTECH LABS

PRACTICAL 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:	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 Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (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: 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 samples 19316 - 19318.**

Analyst

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ENVIROTECH 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 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 samples 19316 - 19318.**

Analyst

Review

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ENVIROTECH LABS

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

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 Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

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

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CHAIN OF CUSTODY RECOR)

08532

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
HALLIBURTON Energy Services	4109E Main St. Farmington	
Sampler: Harlon M. Brown	Client No. 92132-001	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TCLP w/o 4 & 5						Remarks
Field liquids Tank	2-27-01	16:10	19318	Liquid	5	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Harlon M Brown	02-27-01	16:35	Christa M Walter	2/27/01	16:35
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64

Farmington, New Mexico 87401

(505) 632-0615

Sample Receipt			
	Y	N	N/A
Received Intact	✓		
Cool - Iced/Temp	✓		

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

Energy

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form 138
[illegible] 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 Key Energy Services
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site MAIN YARD
2. Management Facility Destination KEY DISPOSAL	6. Transporter Key
3. Address of Facility Operator #345 CR3500 Aztec NM	8. State NM
7. Location of Material (Street Address or ULSTR) 5651 US Hwy 64 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:

Wash water off oilfield equipment

MAR 2001
RECEIVED
OIL CON. DIV
DIST. 3

MAR 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume 800bbls cy Known Volume (to be entered by the operator at the end of the haul _____ cy

SIGNATURE Michael J. Talovich TITLE: MGR DATE: 3-16-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 3/20/01

APPROVED BY: Martyne J. Kieling TITLE: Environmental Geologist DATE: 3/21/01

882 Oil Santa e, Plus 1
1000 Rio Road, Aztec, NM 87410 to
District IV
2040 South Pacheco, Santa Fe, NM 87505

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator Key Energy Services
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site MAIN YARD
2. Management Facility Destination KEY DISPOSAL	6. Transporter Key
3. Address of Facility Operator #345 CR3500 Aztec NM	8. State NM
7. Location of Material (Street Address or ULSTR) 5651 US Hwy 64 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:

Wash water off oilfield equipment

Estimated Volume 800bbls cy Known Volume (to be entered by the operator at the end of the haul ____ cy

SIGNATURE Michael Talovich TITLE: MGR DATE: 3-16-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 3-20-01

BY: ____ TITLE: ____

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 ...nerals 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 CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
KEY ENERGY Services
5651 US Hwy 64
FARMINGTON, NM 87401

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
Wash Water

4. Location of Waste (Street address &/or ULSTR):
5651 US Hwy 64
FARMINGTON, NM

5. Destination (Surface Waste Management Facility):
KEY DISPOSAL

6. Transporter:
Key

7. Estimated Volume _____ cy/bbls

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

_____ MSDS Information

X 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.

X **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: _____ Date: 3-15-01

Print Name: Bob James

Title: Equipment & Environmental Manager

ENVIROTECH LABS

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
Lab ID#:	19316	Date Sampled:	02-27-01
Sample Matrix:	Water	Date Received:	02-27-01
Preservative:	Cool	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
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 sections 261.21 - 261.23, July 1, 1992.
Comments:	**5651 US Hwy 64.**

Christine M Walters
Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER 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:	8528	Date Received:	02-27-01
Sample Matrix:	Water	Date Extracted:	NA
Preservative:	Cool	Date Analyzed:	03-02-01
Condition:	Cool & Intact	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)	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.

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-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: **5651 US Hwy 64.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040
PHENOLS

Client:	Key Energy	Project #:	98065-001
Sample ID:	Wash Water Tank	Date Reported:	03-12-01
Laboratory Number:	19316	Date Sampled:	02-27-01
Chain of Custody:	8528	Date Received:	02-27-01
Sample Matrix:	Water	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	0.123	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
	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: **5651 US Hwy 64.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

Client:	Key Energy	Project #:	98065-001
Sample ID:	Wash Water Tank	Date Reported:	03-12-01
Laboratory Number:	19316	Date Sampled:	02-27-01
Chain of Custody:	8528	Date Received:	02-27-01
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	03-12-01
Condition:	Cool and Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (mg/L)
Pyridine	0.061	0.020	5.0
Hexachloroethane	0.051	0.020	3.0
Nitrobenzene	0.054	0.020	2.0
Hexachlorobutadiene	0.184	0.020	0.5
2,4-Dinitrotoluene	0.030	0.020	0.13
HexachloroBenzene	0.086	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 based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: **5651 US Hwy 64.**

Analyst

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ENVIROTECH 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 (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
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.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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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 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 Acceptance Criteria	Parameter	Percent Recovery
	Trifluorotoluene	100%
	Bromofluorobenzene	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: **QA/QC for samples 19316 - 19318.**

Analyst

Review

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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:	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

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent 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.

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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:	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.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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 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: **QA/QC for samples 19316 - 19318.**

Analyst

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ENVIROTECH LABS

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

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 Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

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

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ENVIROTECH 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 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 samples 19316 - 19318.**

Analyst

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ENVIROTECH LABS

PRACTICAL 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:	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 Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (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: 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 samples 19316 - 19318.**

Analyst

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ENVIROTECH LABS

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:	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

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% 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%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance 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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CHA N OF C JSTODY RECOR)

08528

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
KEY ENERGY	5651 US Hwy 64	
Sampler: HARLAN M. BROWN	Client No. 98065-001	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TCLP 3/D HEM						Remarks
Wash Water Tank	2.27.01	9:30	19316	water	5	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Harlan M Brown	2.27.01	10:48	Dawn L. Ogletree	2/27/01	1048
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64

Farmington, New Mexico 87401

(505) 632-0615

Sample Receipt			
	Y	N	NA
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

1625 N. F 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 Origi
Plus 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator WFS
Verbal Approval Received: Yes ☐ No ☒ Hense	5. Originating Site Horse Canyon CDP
2. Management Facility Destination KEY 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) UNIT A SEC 27 TWN 30N RNG 9W	

9. Circle One:

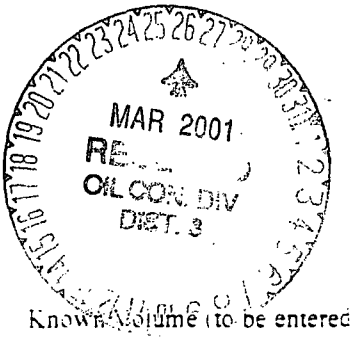
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

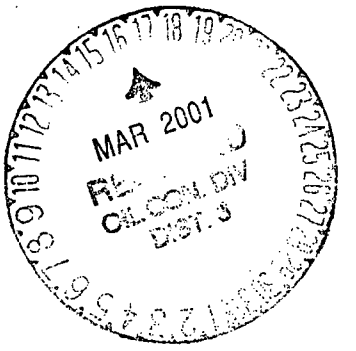
B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

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

BRIEF DESCRIPTION OF MATERIAL:

Wash water + Run off water





Estimated Volume 1000 monthly cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: Mgr DATE: 3-16-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Talovich TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 3/20/01

APPROVED BY: Marilyn J. Kay TITLE: Environmental Geologist DATE: 3/21/01

N. French Dr., Hobbs, NM 88240
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

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒

Verbal Approval Received: Yes ☐ No ☒

2. Management Facility Destination KEY DISPOSAL

3. Address of Facility Operator #345 CR 3500 AZTEC NM

4. Generator WFS

5. Originating Site HORSE CANYON CDP

6. Transporter Key

8. State NM

7. Location of Material (Street Address or ULSTR) UNIT A SEC 27 TWN 30N RNG 9W

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 non-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 WATER + RUN OFF WATER

Estimated Volume 1000 monthly cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: Mgr DATE: 3-16-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 3/20/01

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
WILLIAMS
187 C.R. 4980
BLOOMFIELD, NM 87413

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
WASH WATER & RUNOFF WATER
GENERATED BY WASH DOWN OF EQUIPMENT + PRECIPITATION

4. Location of Waste (Street address &/or ULSTR):
HORSE CANYON CDP
UNIT A, SEC 27, TWN 30N, RNG 9W
LONGITUDE: -107.759933
LATITUDE: 36.787046
FROM AZTEC, NM EAST ON STATE HWY 173 APPROX. 14 MILES

5. Destination (Surface Waste Management Facility):
KEY DISPOSAL / ENERGY
OR OTHER NMOCD PERMITTED FACILITY

6. Transporter:
VARIOUS SJA SERVICE PROVIDERS

7. Estimated Volume 1000 X/bbls MONTHLY

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

_____ MSDS Information

X 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.

X **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: M K Harvey ON BEHALF OF WILLIAMS 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

SENT TO: ***WILLIAMS GAS PIPELINE***
187 COUNTY ROAD # 4980
BLOOMFIELD, NM 87413
JIM STRUHS

DATE REPORTED: 03/07/01
DATE COLLECTED: **02/21/01**
DATE RECEIVED: **02/23/01**

PROJECT: WFS/~~WILD~~ HORSE CANYON CDP

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

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 3010IL010226A				02/26/01	JH
SILVER, TOTAL	SW 846 6010B	<0.05	MG/L	0.05	02/27/01	XM
ARSENIC, TOTAL	SW 846 6010B	0.62	MG/L	0.05	02/27/01	XM
BARIUM, TOTAL	SW 846 6010B	1.321	MG/L	0.025	02/27/01	XM
CADMIUM, TOTAL	SW 846 6010B	<0.025	MG/L	0.025	02/27/01	XM
CHROMIUM, TOTAL	SW 846 6010B	0.06	MG/L	0.05	02/27/01	XM
MERCURY, TOTAL	SW 846 7470	<0.0002	MG/L	0.0002	02/27/01	XM
LEAD, TOTAL	SW 846 6010B	0.15	MG/L	0.05	02/27/01	XM
SELENIUM, TOTAL	SW 846 6010B	1.24	MG/L	0.05	02/27/01	XM
TOTAL CHLORINE/HALOG	SW 846 9020M	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	SW846-8015AZ			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:

TERRY KOESTER
LABORATORY 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

Form C-138
Revised March 17, 1999

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: [X] Non-Exempt: [ ]	4. Generator WFS
Verbal Approval Received: Yes [ ] No [X] House	5. Originating Site Doe Canyon CDP
2. Management Facility Destination KEY DISPOSAL	6. Transporter Key
3. Address of Facility Operator #345 CR3500 Aztec NM	8. State NM
7. Location of Material (Street Address or ULSTR) Horse Canyon CDP UNIT A, SEC 27, TWN 30N, RNG 9W	

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:

Produced water generated by removal of aqueous liquids from natural gas.

MAR 2001
RECEIVED
OIL CON. DIV.
DIST. 3

Estimated Volume 1000 monthly cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: mgr DATE: 3-16-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Talovich TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 3/20/01

APPROVED BY: _____ TITLE: geologist DATE: 3/20/01

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
WILLIAMS
187 C.R. 4480
BLOOMFIELD, NM 87413

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
PRODUCED WATER
GENERATED BY THE REMOVAL OF AQUEOUS LIQUIDS FROM NATURAL GAS

4. Location of Waste (Street address &/or ULSTR):
HORSE CANYON CDP
UNIT A, SEC 27, TWN 30N, RNG 9W
LONGITUDE = -107.759933
LATITUDE = 36.787046
FROM AZTEC, NM EAST ON STATE HWY 173 APPROX. 14 MILES.

5. Destination (Surface Waste Management Facility):
KEY DISPOSAL / ENERGY
OR OTHER NMOCD PERMITTED FACILITY

6. Transporter:
VARIOUS SJA SERVICE PROVIDERS

7. Estimated Volume 1000 ~~bbl~~/bbls MONTHLY

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)

X **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: [signature] ON BEHALF OF WILLIAMS Date: 3-09-01

Print Name: MARK HARVEY

Title: PROJECT COORDINATOR

Q W A L L A B O R A T O R I E S, I N C.

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

LABORATORY REPORT: **REFERENCE #:** 0102592

SENT TO: *WILLIAMS GAS PIPELINE*
187 COUNTY ROAD # 4980
BLOOMFIELD, NM 87413
JIM STRUHS JPS

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

PROJECT: WFS/~~WILD~~ HORSE CANYON CDP

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

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
PH	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 3010IL010226A				02/26/01	JH
SILVER, TOTAL	SW 846 6010B	<0.05	MG/L	0.05	02/27/01	XM
ARSENIC, TOTAL	SW 846 6010B	0.0445	MG/L	0.05	02/27/01	XM
BARIUM, TOTAL	SW 846 6010B	<0.025	MG/L	0.025	02/27/01	XM
CADMIUM, TOTAL	SW 846 6010B	<0.025	MG/L	0.025	02/27/01	XM
CHROMIUM, TOTAL	SW 846 6010B	<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 6010B	0.0475	MG/L	0.05	02/27/01	XM
SELENIUM, TOTAL	SW 846 6010B	0.065	MG/L	0.05	02/27/01	XM
TOTAL CHLORINE/HALOG	SW 846 9020M	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	SW846-8015AZ			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: _____
TERRY KOESTER
LABORATORY 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 Resou

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-138
Revised March 17, 1999

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: [X] Non-Exempt: [ ] Verbal Approval Received: Yes [X] No [ ]	4. Generator Williams 5. Originating Site La Maquina 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 East 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:

DI water mixed with Amine, Triethylene Glycol and Rain water

Estimated Volume 2000 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MOR DATE: 2-21-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TAFOYA TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 2/22/01

APPROVED BY: _____ TITLE: Dist Supv DATE: 2/22/01

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
WILLIAMS ENERGY SERVICES 3.8 MILES EAST ON CR 2770 AZTEC 192 CR 4900 BLOOMFIELD N.M. 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 3.8 MILES EAST CR 2770

4. Source and Description of Waste

90% DI WATER
5% AMINE
5% TRIETHYLENE GLYCOL

I, CHARLES TEMPLETON 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

_____ **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 only the following documentation is attached (check appropriate items):

_____ MSDS Information

_____ RCRA Hazardous Waste Analysis

_____ Chain of Custody

_____ Other (description):

Name (Original Signature): Charles Templeton

Title: OPERATOR III

Date: 2-21-01

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
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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator VTN Wilters + Rogers
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site YARD
2. Management Facility Destination KEY 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) #15 CR 5860 FARMINGTON, NM 87401	

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:

Rainwater mixed with Ethylen Glycol

FEB 2001

FEB 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume 80bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: Mgr DATE: 2-14-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Tavolacci TELEPHONE NO. 505-334-6182

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 2/15/01

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 2/17/01

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 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 Williams & Rogers
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site YARD
2. Management Facility Destination KEY 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) #15 CR 5860 FARMINGTON NM 87401	

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:

Drilling Mud mixed with Ethylene Glycol

Estimated Volume 80 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: Mgr DATE: 2-14-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Tacovich TELEPHONE NO. 505-334-6178

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 2/15/01

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 ,erals 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:
VAN WATERS & ROGERS
@ 15 CR 5860
FARMINGTON NM
87401

2. Permit Number (if waste generated at an OCD permitted facility)
VAN WATERS & ROGERS

3. Description of Waste and Generating Process:
3000 GAL OF RAIN WATER
mixed with 100 GAL OF Ethylen
GLYCOL

4. Location of Waste (Street address &/or ULSTR):
TANK FARM PIT

5. Destination (Surface Waste Management Facility):
KEY ENERGY DISPOSAL

6. Transporter:
KEY

7. Estimated Volume 80 cy/bbls

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

X 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.

X **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: Lawrence Long Date: 2-19-01

Print Name: LAWRENCE LONG

Title: Lead man

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 #: 0Z30478

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

****
* COLORLESS, VISCOUS LIQUID. SLIGHT ODOR. MAY BE FATAL IF *
* SWALLOWED. TOXIC FUMES ARE RELEASED IN FIRE SITUATIONS. *
* SLIPPING HAZARD. *
****

POTENTIAL HEALTH EFFECTS (SEE SECTION 11 FOR TOXICOLOGICAL DATA.)

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

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.

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

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 PERSONNEL FROM AREA.

PROTECT THE ENVIRONMENT: CONTAIN MATERIAL TO PREVENT CONTAMINATION 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

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

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.

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 3OZ. 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. BIOCONCENTRATION 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 (THOD) IS CALCULATED TO BE 1.29 P/P. BIODEGRADATION MAY OCCUR UNDER BOTH AEROBIC AND ANAEROBIC CONDITIONS (IN EITHER THE PRESENCE OR ABSENCE OF OXYGEN). 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

WATER FLEA (DAPHNIA MAGNA) IS 46300-51100 MG/L. ACUTE LC50 FOR THE CLADOCERAN 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 CHARACTERIZATIONS AND COMPLIANCE WITH APPLICABLE LAWS ARE THE RESPONSIBILITY 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

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 NAME	CAS NUMBER	CONCENTRATION
ETHYLENE GLYCOL	000107-21-1	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 NJ2

NJ2=NEW JERSEY ENVIRONMENTAL HAZARDOUS SUBSTANCE (PRESENT AT GREATER THAN OR EQUAL TO 1 %)

NJ3=NEW JERSEY WORKPLACE HAZARDOUS SUBSTANCE (PRESENT AT GREATER THAN OR EQUAL TO 1.0%).
PA1=PENNSYLVANIA HAZARDOUS SUBSTANCE (PRESENT AT GREATER THAN OR EQUAL TO 1.0%).
PA3=PENNSYLVANIA ENVIRONMENTAL 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):

THIS PRODUCT CONTAINS THE FOLLOWING SUBSTANCE(S) LISTED AS "HAZARDOUS SUBSTANCES" UNDER CERCLA WHICH MAY REQUIRE REPORTING OF RELEASES:

CHEMICAL NAME	CAS#	RQ	% IN PRODUCT
ETHYLENE GLYCOL	000107-21-1	5000 LBS	› 99%

CANADIAN REGULATIONS

WHMIS INFORMATION: THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CLASSIFICATION FOR THIS PRODUCT IS:

D2A - MATERIAL IS TERATOGENIC, EMBRYOTOXIC, OR FETOTOXIC
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.

HAZARDOUS PRODUCTS ACT INFORMATION: THIS PRODUCT CONTAINS THE FOLLOWING

PRODUCT: ETHYLENE GLYCOL

ORDER NO:
PROD NO :

INGREDIENTS WHICH ARE CONTROLLED PRODUCTS AND/OR ON THE INGREDIENT DISCLOSURE LIST (CANADIAN HPA SECTION 13 AND 14):

COMPONENTS:	CAS #	AMOUNT(%W/W)
ETHYLENE GLYCOL	[illegible]	[illegible]

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.

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

** VAN WATERS & ROGERS INC. ("VW&R"), A ROYAL VOPAK COMPANY, 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 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 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.

* * * E N D O F M S D S * * *

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: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator TRANSWESTERN
	5. Originating Site NEAR THOREAU N.M ADJACENT PIPELINE
2. Management Facility Destination KEY 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) PREWIT N.M ON TRANSWESTERN RIGHT OF WAY	

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:

Pipeline test water (old line)

RECEIVED
JAN 2001
OIL CONS. DIV.
DIST. 3

Estimated Volume 2000 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MGR DATE: 1-26-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TAVOIL TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 1/29/01

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 2-9-01

Verbal approval 1/26/01 as discussed with MK

District I
1625 N. F 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
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(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 1/29/01

APPROVED BY: _____ TITLE: _____ DATE: _____

Verbal approval 1/26/01 as discussed with MK

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
TRANSWESTERN PIPELINE
4001 INDIAN SCHOOL RD
ALBUQUERQUE N.M
87110

2. Permit Number (if waste generated at an OCD permitted facility)
GW-325

3. Description of Waste and Generating Process:
HYDROSTATIC TEST
WATER

4. Location of Waste (Street address &/or ULSTR):
PERMIT N. MEX ON
TRANSWESTERN PIPELINE
RIGHT OF WAY

5. Destination (Surface Waste Management Facility):
KEYS ENERGY FACILITY

6. Transporter:
KEY ENERGY

7. Estimated Volume 80,000 gal _____ 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.

_X_ **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: James R. Russell Date: 1-26-01

Print Name: JAMES R. RUSSELL

Title: ENVIRONMENTAL SPEC

ASSAIGAI ANALYTICAL LABORATORIES, INC.
7300 Jefferson, NE • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood Dr., Suite N • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820
127 Eastgate Drive, 212-C • Los Alamos, New Mexico 87544 • (505) 662-2556

Explanation of codes

B	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

TRANSWESTERN PIPELINE CO.
attn: EUGENE SOLIZ
PO BOX 1019
THOREAU, NM 87323

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

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

William P. Biava, President of Assaigai Analytical Laboratories, Inc

Client Sample ID: **#1 HYDROWATER** Sample Matrix: **W** Sample Collected: **01/11/01 08:20:00**

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Run Date
0101086-01B		SW846 1311/3010A/6010A ICP TCLP							
M0129	MW.2001.44-29	7440-38-2	Arsenic	ND	mg / L	1	0.1		01/11/01
M0129	MW.2001.44-29	7440-39-3	Barium	0.2	mg / L	1	0.1		01/11/01
M0129	MW.2001.44-29	7440-43-9	Cadmium	ND	mg / L	1	0.02		01/11/01
M0129	MW.2001.44-29	7440-47-3	Chromium	ND	mg / L	1	0.03		01/11/01
M0129	MW.2001.53-36	7439-92-1	Lead	ND	mg / L	1	0.06		01/16/01
M0129	MW.2001.44-29	7782-49-2	Selenium	0.12	mg / L	1	0.05		01/11/01
M0129	MW.2001.44-29	7440-22-4	Silver	ND	mg / L	1	0.04		01/11/01
0101086-01B		SW846 1311/7470 CVAA TCLP							
M0145	MW.2001.61-11	7439-97-6	Mercury	0.0003	mg / L	1	0.0002		01/18/01

Client Sample ID: **#2 HYDROWATER** Sample Matrix: **W** Sample Collected: **01/11/01 08:30:00**

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Run Date
0101086-02B		SW846 1311/3510B/8270B SVOCs by GC/MS TCLP							
X00483	XG.2001.58-2	106-46-7	1,4-Dichlorobenzene	ND	mg / L	1	0.001		01/16/01
X00483	XG.2001.58-2	95-95-4	2,4,5-Trichlorophenol	ND	mg / L	1	0.01		01/16/01
X00483	XG.2001.58-2	88-06-2	2,4,6-Trichlorophenol	ND	mg / L	1	0.01		01/16/01
X00483	XG.2001.58-2	121-14-2	2,4-Dinitrotoluene	ND	mg / L	1	0.01		01/16/01
X00483	XG.2001.58-2	118-74-1	Hexachlorobenzene	ND	mg / L	1	0.001		01/16/01

Member: American Council of Independent Laboratories, Inc.

REPRODUCTION OF THIS REPORT IN LESS THAN FULL, REQUIRES THE WRITTEN CONSENT OF AAL.
THIS REPORT MAY NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM PRODUCT ENDORSEMENT BY ANY ACCREDITATION PROGRAM.

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

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

X00483	XG.2001.58-2	87-68-3	Hexachlorobutadiene	ND	mg / L	1	0.001	01/16/01
X00483	XG.2001.58-2	67-72-1	Hexachloroethane	ND	mg / L	1	0.001	01/16/01
X00483	XG.2001.58-2		m-Cresol & p-Cresol	0.007	mg / L	1	0.001	01/16/01
X00483	XG.2001.58-2	98-95-3	Nitrobenzene	ND	mg / L	1	0.001	01/16/01
X00483	XG.2001.58-2	95-48-7	o-Cresol	0.005	mg / L	1	0.001	01/16/01
X00483	XG.2001.58-2	87-86-5	Pentachlorophenol	ND	mg / L	1	0.01	01/16/01
X00483	XG.2001.58-2	110-86-1	Pyridine	ND	mg / L	1	0.01	01/16/01

0101086-02B SW846 1311/8260A Purgeable VOCs by GC/MS TCLP

X00481	XG.2001.52-3	75-35-4	1,1 Dichloroethylene	ND	mg / L	10	0.001	01/11/01
X00481	XG.2001.52-3	107-06-2	1,2 Dichloroethane	ND	mg / L	10	0.001	01/11/01
X00481	XG.2001.52-3	106-46-7	1,4 Dichlorobenzene	ND	mg / L	10	0.001	01/11/01
X00481	XG.2001.52-3	71-43-2	Benzene	0.26	mg / L	10	0.001	01/11/01
X00481	XG.2001.52-3	56-23-5	Carbon tetrachloride	ND	mg / L	10	0.001	01/11/01
X00481	XG.2001.52-3	108-90-7	Chlorobenzene	ND	mg / L	10	0.001	01/11/01
X00481	XG.2001.52-3	67-66-3	Chloroform	ND	mg / L	10	0.001	01/11/01
X00481	XG.2001.52-3	78-93-3	Methyl ethyl ketone	9.2	mg / L	100	0.005	01/11/01
X00481	XG.2001.52-3	127-18-4	Tetrachloroethylene	ND	mg / L	10	0.001	01/11/01
X00481	XG.2001.52-3	79-01-6	Trichloroethylene	ND	mg / L	10	0.001	01/11/01
X00481	XG.2001.52-3	75-01-4	Vinyl chloride	ND	mg / L	10	0.001	01/11/01

**** Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit ****
**** ND = Not detected; less than the sample specific Detection Limit. Results relate only to the items tested. ****

ASSAIGAI ANALYTICAL LABORATORIES, INC. TRAQ 1/18/01 BRU 1R

Chain of Custody Record

Lab job No.: D101086 Date: 1-11-01

Page 1 of 1

7300 JEFFERSON N.E.
ALBUQUERQUE, NEW MEXICO 87109
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 858-6000

127 EASTGATE DRIVE, 212-C
LOS ALAMOS, NEW MEXICO 87544
(505) 662-2538

Client: TRANSWESTERN PIPELINE CO.

Address: PO BOX 1089

City / State / Zip: FARMINGTON, NM 87499

Project Name / Number: FRUITLAND TRANSMIXT

Contract / Purchase Order / Quote:

Project Manager / Contact: EUGENE SOUZA

Telephone No.: 505-842-7463

Fax No.: 505-842-7820

Samplers: (signature)

Analysis Required

Assaigai Analysis Number	Client Sample Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation: Temp.	Preservation: Chemical	No. of Containers	Complete Metals (RCRA)	Volatiles 8260											Remarks
1A,B	#1 HYDROMETER	1-11-01	6:28	W	1 LTR G	—	—	1	X												
2A,B	#2 HYDROMETER	1	1	1	1	—	—	1		X											

Relinquished by:	Date	Received by:	Relinquished by:	Date	Received by:
Signature: Eugene Souza	1-11-01	Signature:	Signature:		Signature:
Printed: EUGENE SOUZA	Time: 9:28am	Printed: STEVEN CRANDELL	Printed:	Time:	Printed:
Company: TRANSWESTERN		Company: AAL	Company:		Company:
Reason:		Reason: Analysis	Reason:		Reason:

Method of Shipment:

Shipment No.

Special Instructions:

Comments: * TAT 1-12-01 *
Fax Reports to 505-862-7826 & 505-259-1437 Attn: Butch Russell

After analysis, samples are to be:
- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

ASSAIGAI PROJECT FILE

JAN 22 '01 17:00 TO-7505867 FROM-ASSAIGAI LAB T-078 P.04/04 F-750 PAGE 04

District I
1625 N. French Dr., [redacted]
District II
811 South First, Artesia, 10
District III
1000 Rio Brazos Road, A 87410
District IV
2040 South Pacheco, Sant[illegible] NM 87505

[illegible]ate o[illegible]ew [illegible]exico
Energy [illegible]inerals and Natural Reso[illegible]s

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

FEB 2001
RECEIVED
OIL CON. DIV.

Form C-138
Revised March 17, 1999

Submit Original
Plus 1 Copy
to Appropriate
District Office

UEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒

   Verbal Approval Received: Yes ☒ No ☐

4. Generator Al Thoeton

5. Originating Site

2. Management Facility Destination KEY ENERGY DISPOSAL

6. Transporter U

3. Address of Facility Operator #345 CR3500 Aztec NM

8. State NM

7. Location of Material (Street Address or ULSTR) 4109 E. MAIN ST. FARMINGTON, NM 87402

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 trans[illegible]orters must cert[illegible] the wastes delivered are only those consi[illegible]ned for trans[illegible]t.

BRIEF DESCRIPTION OF MATERIAL:

UNUSED BEL water, brought in from the field

JAN 2001
RECEIVED
OIL CON. DIV.
DIST. 3

They are looking for a knowledge of process by including all the additives, drop 5-10 bbls in yard collection tank after jobs.

Estimated Volume 120 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE [signature] TITLE: MOR DATE: 1-17-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: [signature] TITLE: Geologist DATE: 1/19/01

APPROVED BY: [signature] TITLE: Environmental Geologist DATE: 2/9/01

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 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: ☒ Verbal Approval Received: Yes ☒ No ☐	4. Generator Halliburton 5. Originating Site XARO
2. Management Facility Destination VEY ENERGY DISPOSAL	6. Transporter VEY
3. Address of Facility Operator #345 CR3500 Aztec NM	8. State NM
7. Location of Material (Street Address or ULSTR) 4109 E. MAIN ST. FARMINGTON, NM 87402	

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:

UNUSED BEC water, brought in from the field

JAN 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume 120bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MOC DATE: 1-17-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 01/19/01

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

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:

Stimulation fluids returned from field.

4. Location of Waste (Street address &/or ULSTR):

4109 East Main Street
Farmingon, NM 87402

5. Destination (Surface Waste Management Facility):
Key Energy Disposal Facility

6. Transporter: KEY

7. Estimated Volume 120 bbls

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

X 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.

x **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: James T. Haney Date: 1-3-2001

Print Name: James C. Haney

Title: Supervisor Shared Services

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: KCL POTASSIUM CHLORIDE PART NUMBER: 070153020
PKG QTY: 50 LB BAG APPLICATION: INHIBIT CLAY SWELLING
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
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	1.990
BULK DENSITY	72.80 LB/CU.FT.
PH	9.2 FOR 1% SOL
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	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)	/0 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 ND F / ND C
FLAMMABLE LIMITS (OZ. PER CU. FT.) 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.

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 VI - 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.

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
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
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

* *

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: K-34 PART NUMBER: 070151860
PKG QTY: 50 LB BAG APPLICATION: BUFFER
SERVICE USED: WATER CONTROL

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

COMPONENT+ + + + + + + + +	PERCENT	TLV	PEL
SODIUM BICARBONATE	> 60 %	10 MG/M3	15 MG/M3

* * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	FREE FLOWING, WHITE SOLID, POWDER
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	2.159
BULK DENSITY	60.00 LB/CU.FT.
PH	8.3 FOR 1% SOLUTION
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	7
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)	N/D
POUR POINT	N/A
FREEZE POINT	N/A
SOLUBILITY IN SEAWATER	SOLUBLE
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
HEALTH 0 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
FLASH POINT NONE
AUTOIGNITION TEMPERATURE ND F / 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:
RELEASES CARBON DIOXIDE ON DECOMPOSITION.

* * * * * * * * * * * 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-HMN 30 MG/3D-I 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 VI - 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.

* * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * * *

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 * * * * * * * * * * *

PRECAUTIONARY LABELING K-34 070.151860

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
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

* *

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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 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: CLAYFIX MATERIAL PART NUMBER: 070152060
PKG QTY: 50 LB BAG APPLICATION: INHIBIT CLAY SWELLING
SERVICE USED: CHEMICAL SER., WATER&SAN

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
AMMONIUM CHLORIDE	> 60 %	10 MG/M3	10 MG/M3

* * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	WHITE TO YELLOW SOLID, CRYSTALS
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	1.529
BULK DENSITY	96.10 LB/CU.FT.
PH	5.5 FOR 1% SOL
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	27
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	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 2 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
FLASH POINT N/A
AUTOIGNITION TEMPERATURE ND F / ND C
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:

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 TLV: 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 * * * * * * * * * *

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 (IMMEDIATE): 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 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

* *

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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: 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 III - PHYSICAL DATA * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	YELLOW LIQUID
ODOR	SLIGHT SUGARY
SPECIFIC GRAVITY (H2O=1)	1.240
BULK DENSITY	10.33 LB/GAL
PH	2.2 FOR 0.1N SOL
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	MISCIBLE
BIODEGRADABILITY	READILY
PERCENT VOLATILES	<50
EVAPORATION RATE(BUTYL ACETATE=1)	<1
VAPOR DENSITY	9.6
VAPOR PRESSURE (MMHG)	11.16
BOILING POINT(760 MMHG)	2219 F / C103 C
POUR POINT	-011 F / --17 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 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.

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: 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.
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):
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 * * * * * * * *

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

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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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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-1A ACIDIZING COMPOSITION - BULK PART NUMBER: 070154180
PKG QTY: CARGO TANK APPLICATION: ACIDIZING MATERIAL
SERVICE USED: CHEMICAL SERVICES

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
ACETIC ANHYDRIDE	31-60 %	5 PPM	5 PPM
GLACIAL ACETIC ACID	31-60 %	10 PPM	10 PPM

* * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR, COLORLESS LIQUID
ODOR	PUNGENT ACRID
SPECIFIC GRAVITY (H2O=1)	1.065
BULK DENSITY	8.87 LB/GAL
PH	1
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	COMPLETE
BIODEGRADABILITY	READILY
PERCENT VOLATILES	100
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	3.5
VAPOR PRESSURE (MMHG)	11.40
BOILING POINT(760 MMHG)	/245 F / 118 C
POUR POINT	D015 F / -9 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 2 FLAMMABILITY 2 REACTIVITY 1 SPECIAL NONE
FLASH POINT 103 F / 39 C FLASH MTHD TCC
AUTOIGNITION TEMPERATURE 630 F / 332 C
FLAMMABLE LIMITS (% BY VOLUME) LOWER 3.0 UPPER 19.0

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:
AVOID SPRAYING WATER DIRECTLY INTO STORAGE CONTAINERS SINCE THE REACTION MAY RESULT IN VIOLENT RUPTURE OF THE CONTAINER.
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.
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: 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 - II
(ACETIC ANHYDRIDE, ACETIC ACID) -

* * * * * * * * * 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)
930 GALS. - ACETIC ANHYDRIDE

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:

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.

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

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
ROSIN AMINE DERIVATIVE	31-60 %	NOT EST	NOT EST
ETHYLENE GLYCOL	11-30 %	C 50 PPM	C 50 PPM
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 III - PHYSICAL DATA * * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	DARK RED LIQUID
ODOR	PUNGENT
SPECIFIC GRAVITY (H2O=1)	1.090
BULK DENSITY	9.08 LB/GAL
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	DISPERSES
BIODEGRADABILITY	N/D
PERCENT VOLATILES	N/D
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	>1
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	N/D
POUR POINT	-D05 F / --15 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 2 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
FLASH POINT 120 F / 48 C FLASH MTHD SETA
AUTOIGNITION TEMPERATURE ND F / ND 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:
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:
INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE, CARBON MONOXIDE 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.

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.

STORE CONTAINER WITH CLOSURES IN PLACE. OFFER EMPTY CONTAINER TO RECONDITIONOR OR RECYCLER FOR RECONDITIONING OR DISPOSAL. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS.

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

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)
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.

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

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
METHANOL	11-30 %	200 PPM S	200 PPM S
PROPARGYL ALCOHOL	1-10 %	1 PPM S	1 PPM S
KEROSENE	1-10 %	5 MG/M3	NOT EST
ETHYL OCTYNOL	1-10 %	NOT EST	NOT EST

* * * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	DARK REDDISH-BROWN LIQUID
ODOR	SWEET AROMATIC
SPECIFIC GRAVITY (H2O=1)	.935
BULK DENSITY	7.79 LB/GAL
PH	3 TO 5
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	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 - FIRE AND EXPLOSION DATA * * * * * * * * * * *

NFPA(704) RATING:
HEALTH 2 FLAMMABILITY 3 REACTIVITY 0 SPECIAL NONE
FLASH POINT 58 F / 14 C FLASH MTHD PMCC
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (% BY VOLUME) LOWER 6.0 UPPER 36.5

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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 TOXIC GASES.
VAPORS ARE HEAVIER THAN AIR AND MAY ACCUMULATE IN LOW AREAS OR AREAS INADEQUATELY 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
ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH".

PRODUCT TOXICITY DATA: NOT DETERMINED

PRODUCT TLV: NOT DETERMINDED

---------- EFFECTS OF EXPOSURE ----------

ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
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

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 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.

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

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.

* * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * * *

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.

* * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * *

PRECAUTIONARY LABELING HAI-81M - HAL-TANK 516.009380

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

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)

METHANOL	67-56-1	11-30 %
PROPARGYL ALCOHOL	107-19-7	1-10 %

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

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 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: FORMIC ACID - 90% - BULK PART NUMBER: 070153660
PKG QTY: CARGO TANK APPLICATION: SOLVENT
SERVICE USED: CHEMICAL SERVICES & I.C.

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
FORMIC ACID	> 60 %	5 PPM	5 PPM
ACETIC ACID	1-10 %	10 PPM	10 PPM

* * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR COLORLESS LIQUID
ODOR	SHARP
SPECIFIC GRAVITY (H2O=1)	1.207
BULK DENSITY	10.05 LB/GAL
PH	1
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	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:
HEALTH 3 FLAMMABILITY 2 REACTIVITY 0 SPECIAL NONE

FLASH POINT	121 F /	49 C	FLASH MTHD TCC
AUTOIGNITION TEMPERATURE	1114 F /	601 C	
FLAMMABLE LIMITS (% BY VOLUME)	LOWER 18	UPPER 57	

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

---------- 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. 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.

---------- 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):
STRONG OXIDIZERS AND STRONG ALKALIES.
HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE AND/OR CARBON DIOXIDE.
CARBON MONOXIDE CAN FORM IN STORAGE.

HAZARD POLYMERIZATION: WON"T OCCUR
CONDITIONS TO AVOID:
HEAT, SPARKS AND OPEN FLAME.

* * * * * * * * * * 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):
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

DANGER!
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 - II
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

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:

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.

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: HYDROCHLORIC ACID - NEAT - 35.21% - BULK PART NUMBER: 070155300
PKG QTY: CARGO TANK APPLICATION: SOLVENT
SERVICE USED: CHEMICAL SERVICES, I. C.

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

COMPONENT+ + + + + + + + +	PERCENT	TLV	PEL
HYDROCHLORIC ACID	31-60 %	C 5 PPM	C 5 PPM

* * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR, COLORLESS LIQUID
ODOR	PUNGENT, ACRID
SPECIFIC GRAVITY (H2O=1)	1.160
BULK DENSITY	9.66 LB/GAL
PH	0.8 FOR 1% SOL
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	MISCIBLE
BIODEGRADABILITY	N/D
PERCENT VOLATILES	35
EVAPORATION RATE(BUTYL ACETATE=1)	>1
VAPOR DENSITY	1.27
VAPOR PRESSURE (MMHG)	26.00
BOILING POINT(760 MMHG)	/230 F / 110 C
POUR POINT	N/D
FREEZE POINT	/D-50 F / -45 C
SOLUBILITY IN SEAWATER	TOTALLY MISCIBLE
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
HEALTH 3 FLAMMABILITY 0 REACTIVITY 1 SPECIAL CORROSIVE
FLASH POINT NONE
AUTOIGNITION TEMPERATURE N/A F / N/A C
FLAMMABLE LIMITS (% BY VOLUME) LOWER N/A UPPER N/A

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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.

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: 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.

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.
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)

* * * * * * * * * * 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)
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.

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: 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 EST	NOT EST

* * * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	WHITE SOLID POWDER
ODOR	N/D
SPECIFIC GRAVITY (H2O=1)	N/D
BULK DENSITY	N/D LB/CU.FT.
PH	4 FOR 20% SOLUTION
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 0 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

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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

---------- EFFECTS 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.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
SWEEP UP MATERIAL AND PLACE IN APPROPRIATE DISPOSAL CONTAINER. USE SWEEPING COMPOUND OR OTHER CLEANING AIDS TO PICK-UP RESIDUES. WASH DOWN AREA THOROUGHLY WITH WATER. USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT AS NECESSARY.
WASTE DISPOSAL METHOD:
SECURE CONTAINER AND TAKE TO AN APPROVED WASTE DISPOSAL SITE. DISPOSE OF IN ACCORDANCE WITH APPLICABLE WASTE MANAGEMENT REGULATIONS.

* * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * *

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
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.
OTHER PROTECTIVE EQUIPMENT:
NORMAL WORK COVERALLS.

* * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * *

PRECAUTIONARY LABELING BE-6 MICROBIOCIDE 516.007710

WARNING!
MAY CAUSE SEVERE EYE AND SKIN IRRITATION.
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
EPA REGISTRATION NUMBER 10707-53-40153
EPA EST. NUMBER 10707-TX-008
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.
SPECIAL PRECAUTIONS:
PRODUCT HAS A SHELF LIFE OF 24 MONTHS.

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

DOT SHIPPING DESCRIPTION:
2-BROMO-2-NITROPROPANE-1,3-DIOL - 4.1 - UN3241 - III

* * * * * * * * * * 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)
NOT EVALUATED

C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES) NOT EVALUATED

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.

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

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
SODIUM PERSULFATE	> 60 %	2 MG/M3	NOT EST

* * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	WHITE SOLID, CRYSTALS
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	2.470
BULK DENSITY	81.90 LB/CU.FT.
PH	6.0 FOR 1% SOL
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	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 0 REACTIVITY 1 SPECIAL NONE
FLASH POINT N/A
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER ND UPPER ND

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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.

* * * * * * * * * * * * 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
TOX 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:

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

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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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: SANDWEDGE - HAL-TANK PART NUMBER: 516011670
PKG QTY: 300 GALLON HALTANK APPLICATION: CONDUCTIVITY ENHANCER
SERVICE USED: FRACTURING

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
ISOPROPANOL	31-60 %	400 PPM	400 PPM
HEAVY AROMATIC NAPHTHA	1-10 %	300 PPM	400 PPM

* * * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	DARK BROWN LIQUID
ODOR	BLAND
SPECIFIC GRAVITY (H2O=1)	.903
BULK DENSITY	7.52 LB/GAL
PH	7.8 TO 9.8
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	INSOLUBLE
BIODEGRADABILITY	NOT DETERMINED
PERCENT VOLATILES	35
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	N/D
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	/0 F / -17 C
POUR POINT	>/A-20 F / >-28 C
FREEZE POINT	>/A-20 F / >-28 C
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
HEALTH 2 FLAMMABILITY 3 REACTIVITY 0 SPECIAL NONE
FLASH POINT 66 F / 18 C FLASH MTHD PMCC
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (% BY VOLUME) LOWER 2 UPPER 12.7

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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 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.

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:

IGNITABILITY

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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: OPTIFLO-HTE PART NUMBER: 516009080
PKG QTY: 50 LB FIBER DRUM APPLICATION: BREAKER
SERVICE USED: FRACTURING

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
SILICA, CRYSTALLINE--QUARTZ	11-30 %	0.1 MG/M3	0.1 MG/M3

* * * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	DARK RED SOLID POWDER
ODOR	TYPICAL FERMENTATION ODOR
SPECIFIC GRAVITY (H2O=1)	1.500
BULK DENSITY	N/D LB/CU.FT.
PH	NOT APPLICABLE
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	READILY
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)	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 1 REACTIVITY 0 SPECIAL NONE
FLASH POINT N/A
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (% BY VOLUME) LOWER N/A UPPER N/A

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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.
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.

* * * * * * * * * * * * 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.
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.

* * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * * * *

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
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.
OTHER PROTECTIVE EQUIPMENT:
NORMAL WORK COVERALLS.

* * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * *

PRECAUTIONARY LABELING OPTIFLO-HTE 516.009080

CAUTION!
MAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS.
AIRBORNE DUST MAY BE EXPLOSIVE!
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:
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 24 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 (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
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

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

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

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 - PHYSICAL DATA * * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	AMBER LIQUID
ODOR	SOLVENT
SPECIFIC GRAVITY (H2O=1)	.910
BULK DENSITY	7.59 LB/GAL
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	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
FLASH POINT 63 F / 17 C FLASH MTHD PMCC
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (% BY VOLUME) LOWER N/D UPPER N/D

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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
ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH".

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

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)

* * * * * * * * * * 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)

ISOPROPANOL	67-63-0	31-60 %
PROPYLENE OXIDE	75-56-9	TRACE %
NAPHTHALENE	91-20-3	1-10 %

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.

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: LGC-VIII CONCENTRATE - BULK PART NUMBER: 516005670
PKG QTY: CARGO TANK APPLICATION: CONCENTRATE
SERVICE USED: STIMULATION

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
GUAR GUM	31-60 %	10 MG/M3	15 MG/M3
ETHOXYLATED NONYLPHENOL	1-10 %	NOT EST	NOT EST
DIESEL	31-60 %	NOT EST	NOT EST

* * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	YELLOWISH LIQUID, GEL
ODOR	DIESEL
SPECIFIC GRAVITY (H2O=1)	1.035
BULK DENSITY	8.62 LB/GAL
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	NIL
BIODEGRADABILITY	SLOWLY
PERCENT VOLATILES	100
EVAPORATION RATE(BUTYL ACETATE=1)	<1
VAPOR DENSITY	5-6
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	1300 F / 148 C
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 2 REACTIVITY 0 SPECIAL NONE
FLASH POINT 128 F / 53 C FLASH MTHD TCC
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:
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 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.
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:
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 * * * * * * * * * *

DOT SHIPPING DESCRIPTION:
DIESEL FUEL SOLUTION - 3 - NA1993 - 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): 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.

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: ISOPROPYL ALCOHOL - 55 GALLONS PART NUMBER: 070155110
PKG QTY: 55 GALLON DRUM APPLICATION: PREFLUSH
SERVICE USED: SAND CONTROL

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
ISOPROPANOL	> 60 %	400 PPM	400 PPM

* * * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	COLORLESS LIQUID
ODOR	ALCOHOLIC
SPECIFIC GRAVITY (H2O=1)	.805
BULK DENSITY	6.70 LB/GAL
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	SOLUBLE
BIODEGRADABILITY	RESISTANT
PERCENT VOLATILES	100
EVAPORATION RATE(BUTYL ACETATE=1)	2.83
VAPOR DENSITY	1.94
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
FLAMMABLE LIMITS (% BY VOLUME) LOWER 2 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 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
ACCORDING TO : "NTP, IARC, OSHA, OR, ACIGH".

PRODUCT TOXICITY DATA:

IRR	EYE-HMN 20 PPM
TOX	ORL-MAN LDLO:8600 MG/KG
TOX	IHL-HMN TCLO:400 PPM
TOX	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.
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.
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
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)
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.

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
APPEARANCE	WHITE SOLID, POWDER
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	1.500
BULK DENSITY	42.00 LB/CU.FT.
PH	6 TO 8 @ 0.5%
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	COMPLETE
BIODEGRADABILITY	READILY
PERCENT VOLATILES	N/A
EVAPORATION RATE(BUTYL ACETATE=1)	N/A
VAPOR DENSITY	N/A
VAPOR PRESSURE (MMHG)	N/A
BOILING POINT(760 MMHG)	N/A
POUR POINT	N/A
FREEZE POINT	N/A
SOLUBILITY IN SEAWATER	27.5 AV GR/100ML
PARTITION 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 (OZ. PER CU. FT.)	LOWER	N/D	UPPER	N/D	

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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:
INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE AND CARBON MONOXIDE.
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. 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.

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:
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.
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)
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 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.

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: BC-140 - HAL-TANK PART NUMBER: 516010890
PKG QTY: 330 GALLON TANK APPLICATION: CROSSLINKING AGENT
SERVICE USED: STIMULATION

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
ETHYLENE GLYCOL	11-30 %	C 50 PPM	C 50 PPM
MONOETHANOLAMINE	1-10 %	3 PPM	3 PPM

* * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * *

PROPERTY	MEASUREMENT	
APPEARANCE	DARK LIQUID	
ODOR	GLYCOL	
SPECIFIC GRAVITY (H2O=1)	1.221	
BULK DENSITY	10.17	LB/GAL
PH	7.28	
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	N/D	
BIODEGRADABILITY	NOT DETERMINED	
PERCENT VOLATILES	N/D	
EVAPORATION RATE(BUTYL ACETATE=1)	N/D	
VAPOR DENSITY	N/D	
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 1 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
FLASH POINT N/D FLASH MTHD TCC
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (% BY VOLUME) LOWER N/D UPPER N/D

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EXTINGUISHING MEDIA:
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 TOXIC GASES.

* * * * * * * * * * 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 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.

---------- 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:
GIVE UP TO TWO (2) QUARTS OF WATER AND INDUCE VOMITING. 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 DEHYDRATING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS:

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 RECONDITIONOR 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 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)
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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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: AQF-2 FOAMING AGENT - HAL-TANK PART NUMBER: 516005190
PKG QTY: 330 GALLON TANK APPLICATION: FOAMING AGENT
SERVICE USED: STIMULATION

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
ETHYLENE GLYCOL MONOBUTYL ETHER	11-30 %	25 PPM S	25 PPM S

* * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR LIGHT YELLOW LIQUID
ODOR	BLAND
SPECIFIC GRAVITY (H2O=1)	1.038
BULK DENSITY	8.65 LB/GAL
PH	6.5-8.5 FOR 10% SOL.
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	SOLUBLE
BIODEGRADABILITY	N/D
PERCENT VOLATILES	73-78
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	N/D
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 1 FLAMMABILITY 2 REACTIVITY 0 SPECIAL NONE
FLASH POINT 142 F / 61 C FLASH MTHD PMCC
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (% BY VOLUME) LOWER N/D UPPER N/D

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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, CARBON MONOXIDE AND SULFUR 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: 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

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

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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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: SSO-21M WINTERIZED - BULK PART NUMBER: 516009250
PKG QTY: CARGO TANK APPLICATION: AQUEOUS FOAMING AGENT
SERVICE USED: STIMULATION

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
METHANOL	11-30 %	200 PPM S	200 PPM S
ETHYLENE GLYCOL MONOBUTYL ETHER	11-30 %	25 PPM S	25 PPM S
2-ETHYL HEXANOL	1-10 %	NOT EST	NOT EST

* * * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR LIQUID
ODOR	SWEET
SPECIFIC GRAVITY (H2O=1)	.986
BULK DENSITY	8.21 LB/GAL
PH	7.7 (5% SOLUTION)
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	SOLUBLE
BIODEGRADABILITY	N/D
PERCENT VOLATILES	50
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	NOT DETERMINED
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	N/D
POUR POINT	N/D
FREEZE POINT	N/D
SOLUBILITY IN SEAWATER	MISCIBLE
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 93 F / 33 C FLASH MTHD PMCC
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (% BY VOLUME) LOWER N/D UPPER N/D

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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 AND CARBON MONOXIDE.

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

CALIFORNIA PROPOSITION 65:
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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: 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 ----------

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 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

DANGER!
MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS. CONTAINS METHANOL, MAY CAUSE BLINDNESS, CENTRAL NERVOUS SYSTEM DEPRESSION OR EVEN DEATH, IF SWALLOWED.

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 INFORMATION * * * * * * * * * *

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 MONOBUTYL	111-76-2	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

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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.

MATERIAL SAFETY DATA SHEET DATE: 01-02-01
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DUNCAN, OKLAHOMA 73536

EMERGENCY TELEPHONE: 800/666-9260 OR 580/251-3359
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* * * * * * * * * * * SECTION I - PRODUCT DESCRIPTION * * * * * * * * * * * * *

CHEMICAL CODE: FR-26LC - BULK PART NUMBER: 516004810
PKG QTY: 330 GALLON TANK APPLICATION: FRACTURING
SERVICE USED: STIMULATION

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
PARAFFINIC/NAPHTHENIC SOLVENT	31-60 %	100 PPM	100 PPM
ETHOXYLATED OCTYLPHENOL	1-10 %	NOT EST	NOT EST

* * * * * * * * * * * * * * SECTION III - PHYSICAL DATA * * * * * * * * * * * * * *

PROPERTY	MEASUREMENT
APPEARANCE	HAZY CREAM COLORED LIQUID
ODOR	SWEET HYDROCARBON
SPECIFIC GRAVITY (H2O=1)	1.090
BULK DENSITY	9.08 LB/GAL
PH	8.7
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	SOLUBLE
BIODEGRADABILITY	SLOWLY
PERCENT VOLATILES	1.3
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	N/D
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	N/D
POUR POINT	<-20 F / <-28 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 1 REACTIVITY 0 SPECIAL NONE
FLASH POINT > 200 F / > 93 C FLASH MTHD PMCC
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:
THIS PRODUCT IN NOT EXPECTED TO BURN UNLESS ALL THE WATER IS BOILED AWAY.
THE REMAINING ORGANICS MAYBE IGNITABLE.
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 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:

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 IRRITATION 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
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)
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
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 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 Williams
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site MILAGRO 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) #187 CR 4980 Bloomfield, NM 87413	

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:

WASTE WATER FROM NATURAL GAS PROCESSING

Refiled ON 11-19-01 M.T.

SEE DISCHARGE PLAN

REQUESTS TESTING WAIVER

NOV 2001 RECEIVED OIL CON. DIV. DIST. 3

RENEWAL FOR MILAGRO PLANT
LAST FILED + APPROVED 11-13-2000

Estimated Volume 1000 bbl per month cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: MGR DATE: 10-29-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Enviro Engr DATE: 11/20/01

APPROVED BY: Martyne Kieling TITLE: Environmental Geologist DATE: 11/27/01

1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
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Energy, Minerals and Natural Resources
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NOV 2001
RECEIVED
OIL CON. DIV
DIST. 3

RENEWAL FOR MILAGRO PLANT
LAST FILED + APPROVED 11-13-2000

Estimated Volume 1000 bbl per month cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: MGR DATE: 10-29-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envirp/Engr DATE: 11/20/01

APPROVED BY: _____ TITLE: _____ DATE: _____

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
GOVERNOR

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

JENNIFER A. SALISBURY
CABINET SECRETARY

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
WILLIAMS (MILAGRO PLANT) #187 CR 4980 BLOOMFIELD, NM 87413	KEY DISPOSAL CR 3150 FARMINGTON, NM
3. Originating Site (name): MILAGRO PLANT Attach list of originating sites as appropriate	**Location of the Waste (Street address &/or ULSTR):** #192 CR 4900 BLOOMFIELD, NM 87413
4. Source and Description of Waste NATURAL GAS PROCESSING WASTE - INCLUDING PRODUCED WATER, AMINE COMPOUNDS AND DE MINIMUS QUANTITIES OF OTHER NON-HAZARDOUS LIQUID WASTES. WASTE HAS BEEN PREVIOUSLY CHARACTERIZED BY ANALYTICAL TESTING - RESULTS ON FILE.	

I, MARK HARVEY representative for:
(Print Name)

_____ 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

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
X Other (description): FACILITY DISCHARGE PLAN AND OCD APPROVAL

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): MH FOR WILLIAMS

Title: PROJECT COORDINATOR

Date: 10-26-01

Q..AL LABORATORIES, INC.

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	
SILVER, TOTAL	SW 846 6010B	<0.01	MG/L	0.01	11/22/00RDC	
ARSENIC, TOTAL	SW 846 6010B	0.12	MG/L	0.05	11/22/00RDC	
BARIUM, TOTAL	SW 846 6010B	0.12	MG/L	0.005	11/22/00RDC	
CADMIUM, TOTAL	SW 846 6010B	0.019	MG/L	0.005	11/22/00RDC	
CHROMIUM, TOTAL	SW 846 6010B	10.0	MG/L	0.01	11/22/00RDC	
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	11/22/00RDC	
SELENIUM, TOTAL	SW 846 6010B	0.29	MG/L	0.05	11/22/00RDC	
REACTIVE CYANIDE	SW846 SEC7.3	<0.001	MG/L	0.001	11/22/00MS2	
REACTIVE SULFIDE	SEC.7.3.4.1	<0.05	MG/L	0.05	11/22/00MS2	
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

APPROVED BY: TERRY KOESTER

TERRY KOESTER
LABORATORY DIRECTOR

REPORT AMENDED TO REFERENCE APPROPRIATE METHODS FOR METALS ANALYSIS. MS2

AMENDED REPORT

Q.W.A.L. LABORATORIES, INC.

Established 1976
2911 Rotary Terrace • Pittsburg, Kansas 66762
TO ORDER: **FAX 1-316-232-7730 OR PHONE 1-316-232-1970**

0011535

QWAL LAB 11/22/00 15:51 FAX 13162327730 003

(1) Company Name: WILLIAMS FIELD SERVICES
Attention: MARK HARVEY
Address:
City, State, Zip Code

(4) Phone #: 505-632-4609
(4) Fax #:

(2) Project Name or Number: MILAGRO PONDS
(5) Purchase Order #:

(3) Sampling Personnel Signature(s): M. Harvey
Sampling Personnel (print name):

(13) TURNAROUND TIME REQUESTED (Additional Charges May Apply)
☐ Standard ☐ 72 Hours ☐ 48 Hours ☒ 24 Hours ☐ SameDay
* Note - Please contact lab for availability of priority service.

(12) ANALYSIS REQUEST
(Write Tests Here)

(6) Sample I.D.	Date (7)	Time (7)	(8) Comp.	(8) Grab	(9) # of Containers	(10) Method Preserved: H2SO4	HNO3	NAOH	HCL	Ice	None	(11) Sample Matrix: Water	Soil	Air	Sludge	Other
MIL-Pond-C-01	11-17	8:05	X		4					X		X				

RCRA 8 LIST METALS
BTEX / TPH 8015 M/DRO
TOX
REACT. SULFIDE / CYANIDE

REMARKS
(If special detection limits are required please note below.)

(14) Relinquished By: M. Harvey — Date: 11-20 — Time: 2:30
Received By: Dee Sobieski — Date: 11/21/00 — Time: 10:15
Relinquished By: — Date: — Time:
Received By: — Date: — Time:
Relinquished By: — Date: — Time:
Received By: — Date: — Time:

(15) Send Report to:
Company: WILLIAMS FIELD SERVICES
Attn:
Address:
City/State:
Phone:
Fax:

(16) Send Invoice to:
(if different form report address)
Company
Attn:
Address:
City/State:
Phone:
Fax:

***FAILURE TO COMPLETE THIS FORM MAY DELAY LABORATORY RESULTS.**

SLC

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State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Key can require what they want.

Roger Anderson
Jack
Maythe
Is waste stream approved for life of permit?

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 Williams
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site MILAGRO 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) #187 CR 4990 Bloomfield, NM 87413	

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

BRIEF DESCRIPTION OF MATERIAL:

WASTE WATER FROM NATURAL GAS PROCESSING

SEE DISCHARGE PLAN
Requests testing WAIVER

OCT 2001
RECEIVED
OIL CON. DIV.
DIST. 3

Renewal for
MILAGRO PLANT
Last Filed + Approved
11-13-2000

Estimated Volume 1000 bbl per month cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: MGR DATE: 10-29-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

Need copy of most Recent Analytical 11-13-2000 ? and statement that Process Has Not Changed

Sent Scott FR

APPROVED BY: DENIED TITLE: _____ DATE: 11/1/01

APPROVED BY: _____ TITLE: _____ DATE: _____

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
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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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REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator Williams
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site MILAGRO 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) #187 CR 4980 Bloomfield, NM 87413	

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BRIEF DESCRIPTION OF MATERIAL:

WASTE WATER FROM NATURAL GAS PROCESSING

SEE DISCHARGE PLAN
REQUESTS TESTING WAIVER

OCT 2001
RECEIVED
OIL CON. DIV
DIST. 3

RENEWAL FOR
MILAGRO PLANT
LAST FILED + APPROVED
11-13-2000

Estimated Volume 100661 per month cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: MGR DATE: 10-29-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

Sent Santa Fe 11/1/01

APPROVED BY: _____ TITLE: _____ DATE: _____

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:
WILLIAMS-(MILAGRO PLANT) #187 CR 4980 BLOOMFIELD, NM 87413	KEY DISPOSAL CR 3500 FARMINGTON, NM
3. Originating Site (name): MILAGRO PLANT Attach list of originating sites as appropriate	**Location of the Waste (Street address &/or ULSTR):** #192 CR 4900 BLOOMFIELD, NM 87413
4. Source and Description of Waste NATURAL GAS PROCESSING WASTE – INCLUDING PRODUCED WATER, AMINE COMPOUNDS AND DE MINIMUS QUANTITIES OF OTHER NON-HAZARDOUS LIQUID WASTES. WASTE HAS BEEN PREVIOUSLY CHARACTERIZED BY ANALYTICAL TESTING – RESULTS ON FILE.	

I, MARK HARVEY representative for:
(Print Name)

_____ 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

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
___ RCRA Hazardous Waste Analysis
___ Chain of Custody
X Other (description): FACILITY DISCHARGE PLAN AND OCD APPROVAL

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): MH FOR WILLIAMS

Title: PROJECT COORDINATOR

Date: 10-26-01

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.

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. Payment of Discharge Plan Fees: 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. Williams Field Services Commitments: 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. Waste Disposal: 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. Drum Storage: 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. Process Areas: 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. Above Ground Tanks: 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. Above Ground Saddle Tanks: 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. Labeling: All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.

9. Below Grade Tanks/Sumps: 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.

10. Underground Process/Wastewater Lines: 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. Class V Wells: 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. Housekeeping: 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. Spill Reporting: All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the OCD Aztec District Office.

14. Transfer of Discharge Plan: 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. Closure: 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. Certification: 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: July 26, 2001

WILLIAMS FIELD SERVICES

by Clara M. Gaca
Title
Environmental Compliance

DISCHARGE PLAN RENEWAL

MILAGRO PLANT
(GW- 60)

Williams Field Services Company

April 2001

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Figure 1 - Site Vicinity / Topographic Map

Figure 2 - Facility Plot Plan

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Appendix A – WES Spill Control Procedures

Appendix B – NMOCD Notification of Fire, Breaks, Spills, Leaks, and Blowouts

I. TYPE OF OPERATION

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 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.

IV. LANDOWNER

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, CO_2 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.

TABLE 1
SOURCE, QUANTITY, AND QUALITY OF EFFLUENT AND WASTE SOLIDS
MILAGRO PLANT

PROCESS FLUID/WASTE	SOURCE	QUANTITY (Ranges)	QUALITY
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. 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

discretion (minimum of once every five years), or more frequently to comply with waste acceptance procedures of the disposal facility.

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.

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 bbl	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.

Stearnate	Above ground storage tank	400 gallons	Berm	N/A	Off-spec material recycled or disposed consistent with applicable regulations.

VIII. STORM WATER PLAN

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.

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 1 16 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

[1]Stone, 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.

[2]Records of Water Wells in San Juan County, 1978-1983.

[3]Online 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
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: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator COMPRESSOR SYSTEMS INC. 5. Originating Site CSI 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) #5995 US HWY 64 FARMINGTON, NM	

9. Circle One:

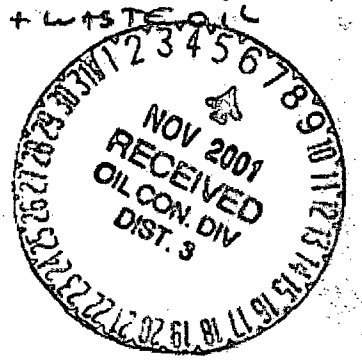
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

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:

PRODUCED WATER MIXED WITH WASH WATER FROM COMPRESSOR SKIDS MAY CONTAIN ANTIFREEZE + WASTE OIL



Estimated Volume < 6000 bbls cy Per month Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Thomas TITLE: MGR DATE: 11-5-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL THOMAS TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Environ/Eng DATE: 11/06/01

APPROVED BY: Martyn J. Bill TITLE: Environmental Geologist DATE: 11-7-01

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 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

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3. Address of Facility Operator #345 CR 3500 AZTEC, NM	8. State NM
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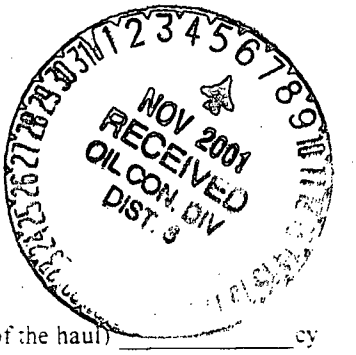

Estimated Volume < 6000 GALLONS per month cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MGR DATE: 11-5-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Envir0/Eng DATE: 11/06/01

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
CSI
PO Box 1886
Bloomfield NM 87413

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
Produced H2O mixed with
various amounts of wash water
from compressor skids,

4. Location of Waste (Street address &/or ULSTR):
US HW 64 # 5995
Farmington, NM

5. Destination (Surface Waste Management Facility):

6. Transporter:
Key

7. Estimated Volume 6000 per month gallons 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.

✓ 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: John W Grisoland Date: 11-5-01

Print Name: John W. Grisoland

Title: Shop Manager

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

Parameter	Result	
IGNITABILITY:	**Negative**	
CORROSIVITY:	**Negative**	**pH = 5.68**
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 sections 261.21 - 261.23, July 1, 1992.

Comments: **CSI Yard.**

Christine M Waeters
Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

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)	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	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.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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
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: **CSI Yard.**

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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 (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	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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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (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	**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: **CSI Yard.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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ENVIRO TECH 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:	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

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 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: **QA/QC for sample 19816.**

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ENVIRO-TECH 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:	Matrix Duplicate	Date Reported:	05-07-01
Laboratory Number:	19816	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	05-04-01
Condition:	N/A	Date Extracted:	N/A

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent Difference
Vinyl Chloride	ND	ND	0.0001	0.0%
1,1-Dichloroethene	ND	ND	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%
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 19816.**

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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:	Matrix Spike	Date Reported:	05-07-01
Laboratory Number:	19816	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	05-04-01
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)	0.0750	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	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 sample 19816.**

Analyst

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ENVIRO TECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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 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: **QA/QC for sample 19816.**

Analyst

Review

ENVIROTECH LABS

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:	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	Date Analyzed:	05-08-01
		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%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

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 19816.**

Analyst

Review

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ENVIRO-TECH 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:	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.

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: **QA/QC for sample 19816.**

Analyst

Review

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ENV ROTECH LABS

PRACTICAL 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:	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 Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (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
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, 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 19816.**

Analyst

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ENVIRO-TECH LABS

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:	05-08-TCM QA/QC	Date Reported:	05-09-01
Laboratory Number:	19816	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	05-08-01
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% 0.105	Acceptance 0.107
Arsenic	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Barium	ND	ND	0.001	0.007	0.007	0.0%	0% - 30%
Cadmium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Chromium	ND	ND	0.001	ND	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 Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance 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%
Lead	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 60108 Analysis of Metals by Inductively Coupled Plasma-Atomic Emission, SW-846, USEPA, December 1996.

Comments: **QA/QC for sample 19816.**

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CHAIN OF CUSTODY RECORD

08639

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
Compressor Systems Inc.	CSI Yard.	
Sampler: D. Algeo	Client No. 01038-001	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TCLP w/o Herb's Pest.						Remarks
Produced Water Tank	5/2/01	14:40	19816	Water	5	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Jeff Hoss	5/3/01	8:30	Adrian L. Apodaca	5/3/01	8:30
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

5- 9-01;10:58AM;ENVIROTECH ;5056321865 # 17/ 17

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: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator OIL + GAS EQUIP. 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 87402	

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 CLEANING AGENTS + NEUTRALIZER

OCT 2001
RECEIVED
OIL CON. DIV.
DIST. 3

LAST Filed
9-19-2000

Estimated Volume < 80661 cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Tafoya TITLE: MGR DATE: 10-30-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TAFOYA TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: ~~Geologist~~ Enviro/Eng DATE: 11/1/2001

APPROVED BY: Martyn J. Kleyn TITLE: Environmental Geologist DATE: 11-5-01

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 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 OIL + GAS EQUIP.
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 87402	

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RECEIVED
OIL CON. DIV
DIST. 3

LAST Filed
9-19-2000

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SIGNATURE _____ TITLE: MGR DATE: 10-30-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Enviro/Eng DATE: 11/1/01

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 88240
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 ...erals 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:
Oil + Gas Equip
4910 E - MAIN
Farmington NM 87402

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
Hot bath for cleaning Glycol Pumps + Values used on oilfield production Equip.

4. Location of Waste (Street address &/or ULSTR):
SAME

5. Destination (Surface Waste Management Facility):
KEY

6. Transporter:
KEY

7. Estimated Volume ~ 80 cy/bbls

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

X 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.

X **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: Phil Cheney Date: 29/oct/2001

Print Name: Philip Cheney

Title: _____

CLEAN ACROSS AMERICA AND THROUGHOUT THE WORLD™

ZEP MANUFACTURING COMPANY
P.O. BOX 2015
ATLANTA, GEORGIA 30301

MATERIAL SAFETY DATA SHEET
AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 02/01/89
SUPERSEDES: 12/30/88
Date printed: 11/17/99

ZEP VAT NEUTRALIZER
Product No: 1465 **Vat Neutralizer**

SECTION I - EMERGENCY CONTACTS

TELEPHONE:
(404) 352-1680 *BETWEEN 8:00 AM - 5:00 PM (EST)*
MEDICAL EMERGENCY:
(770) 439-4200 *NON OFFICE HOURS, WEEKENDS*
(770) 432-2873 *AND HOLIDAYS, PLEASE CALL YOUR*
(770) 455-8160 **LOCAL POISON CONTROL**
(770) 552-8836
(770) 424-2048
(770) 424-4789
TRANSPORTATION EMERGENCY:
(770) 922-0923
CHEMTREC:
(800) 424-9300 TOLL FREE - ALL CALLS RECORDED
DISTRICT OF COLUMBIA:
(202) 483-7616 ALL CALLS RECORDED

SECTION II - HAZARDOUS INGREDIENTS

DESIGNATIONS	(PPM)	EFFECTS (SEE NOTICE)	% IN PROD.
@** SULFURIC ACID ** oil of vitriol; CAS# 7664-93-9; RTECS# WS5600000; OSHA PEL-1 mg/m3 (for mists only).	0.25	TOX COR	60-70

@ IDENTIFIES CHEMICALS LISTED UNDER SARA-SECTION 313 FOR RELEASE REPORTING.

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:
Corrosive to skin and eyes on contact. Eye contact can produce corneal damage or blindness. Skin contact can produce inflammation, reddening, and blistering. Inhalation of spray mist or vapors may produce irritation, burning, or destruction of tissues in the respiratory tract, characterized by coughing choking, pain, or shortness of breath. Severe overexposure may lead to fatal lung damage. Ingestion can cause abdominal pain, nausea, vomiting, and collapse, along with tissue destruction in the gastrointestinal tract.

CHRONIC EFFECTS OF OVEREXPOSURE:
Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

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 3; FLAM. 0; REACT. 2; PERS. PROTECT. G ; CHRONIC HAZ. YES

FIRST AID PROCEDURES:
SKIN: Immediately flush contaminated skin with plenty of water for at least 15 minutes. Get medical attention immediately.
EYES: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Get medical attention at once.
INHALE: Move exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Get medical attention immediately.
INGEST: If this product is swallowed, do not induce vomiting. If victim is conscious give plenty of water to drink. Get medical attention at once.

SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING: Wear rubber or neoprene gloves and a face shield when using. A rubber apron and boots are strongly recommended.
EYE PROTECTION: Wear splash-proof safety goggles especially if contact lenses are worn.
RESPIRATORY PROTECTION: If ventilation is inadequate, wear a properly fitting MSHA or OSHA-approved respirator.
VENTILATION: If vapors are detected, ventilate work area by opening windows and using exhaust fans.

SECTION V - PHYSICAL DATA

BOILING POINT (F):	~ 220	SPECIFIC GRAVITY:	1.55
VAPOR PRESSURE(mmHg):	N/A	EVAPORATION RATE (=1):	N/A
VAPOR DENSITY(AIR=1):	N/A	pH(CONCENTRATE):	< 1.0
SOLUBILITY IN WATER:	COMPLETE	pH(USE DILUTION OF 1% SOLUTION):	1.0
VOC CONTENT (CONCENTRATE):	0.0%		

APPEARANCE AND ODOR: A COLORLESS LIQUID WITH NO ODOR.

(Continued on Page: 2)

MATERIAL SAFETY DATA SHEET

SECTION I — PRODUCT IDENTIFICATION

KRYLON INDUSTRIAL
31500 SOLON ROAD
SOLON, OH 44139

EMERGENCY TELEPHONE NO.
(216) 292-7400
INFORMATION TELEPHONE NO.
(800) 247-3266

DATE OF PREPARATION
20 - JUL - 94

©1994, The Sherwin-Williams Co.

Primers

PRIMER/KRI

No.	HAZARDOUS INGREDIENT (percent by weight)	ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	Vapor Pressure (mm Hg)	1340 Zinc Rich	All Purpose 1355 White	All Purpose 1357 Ruddy Brown	All Purpose 1359 Gray	Rust Inhibitive 1345 Yellow	Rust Inhibitive 1346 Green	1373 Sandable Filler Surface Primer
74-98-6	Propane (propellant)		1000	PPM	760.0	15	17	17	17	16	16	16
742-89-5	V. M. & P. Naphtha	300	300 <400>	PPM	12.0	1						4
88-8 §	Toluene	50	100 <150>	PPM (Skin)	22.0		23	27	27	8	8	
20-7 §	Xylene	100 <150>	100 <150>	PPM	5.0	10				12	12	18
78-83-1	2-Methyl-1-Propanol	50	50	PPM	8.7							2
78-93-3 §	Methyl Ethyl Ketone	200 <300>	200 <300>	PPM	70.0	34						
67-64-1 §	Acetone	750 <1000>	750 <1000>	PPM	760.0		34	34	34	48	48	41
7440-66-6 §	Zinc	Not Established				35						
14807-96-6	Talc	2	2	Mg/M3	as Resp. Dust					5	5	9
13463-67-7	Titanium Dioxide	10	10[5]	Mg/M3	as Dust [Resp. Fraction]		6		3			1
1771-64-1 §	Zinc Molybdate	Not Established								2	2	
	VOC as a percent by weight per BAAQMD Rule 49					59	62	60	62	63	63	62
	NFPA Code 30B Level					3	3	3	3	3	3	3
	HMIS® Ratings (Health - Flammability - Reactivity)					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* →→→

DEXES TOOL SUPPLY 505 327 3172 P.02 NOV-30-1982 21:41 TOTAL P.02

Section III — PHYSICAL DATA

PRODUCT WEIGHT	– N.A.	EVAPORATION RATE	– Faster than Ether
SPECIFIC GRAVITY	– N.A.	VAPOR DENSITY	– Heavier than Air
BOILING RANGE	– <0-289 °F	MELTING POINT	– N.A.
SOLUBILITY IN WATER	– N.A.		

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION FLASH POINT <0 °F PMCC LEL 1.0 UEL 12.8
Extremely Flammable, Flash below 20 °F
EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Foam
SPECIAL FIRE AND EXPLOSION HAZARDS
Ignition from heat, electrical equipment, sparks, and open flame. Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.
SPECIAL FIRE FIGHTING PROCEDURES
[redacted] protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section V — HEALTH HAZARD DATA

ROUTES OF EXPOSURE
Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.
ACUTE Health Hazards
SIGNS OF OVEREXPOSURE
Irritation of eyes, skin and respiratory system. May cause nervous system depression. [redacted] overexposure may result in unconsciousness and possibly death.
SIGNS AND SYMPTOMS OF OVEREXPOSURE
Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.
EMERGENCY AND FIRST AID PROCEDURES
If INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
If on SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
If SWALLOWED: Get medical attention.
CHRONIC Health Hazards
No ingredient in these products is an IARC, NTP or OSHA listed carcinogen.
Methyl Ethyl Ketone may increase the nervous system effects of other solvents.
Prolonged overexposure to solvent ingredients in Section II may cause adverse effects to liver, urinary, blood-forming, cardiovascular, and reproductive systems.
Rats exposed to titanium dioxide dust at 250 mg./m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.
Experts have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section VI — REACTIVITY DATA

STABILITY – Stable
INCOMPATIBILITY
Water.
HAZARDOUS DECOMPOSITION PRODUCTS
By fire: Carbon Dioxide, Carbon Monoxide, Oxides of Metals in Section II
HAZARDOUS POLYMERIZATION – Will Not Occur

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate and remove with inert absorbent.
WASTE DISPOSAL METHOD
Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers. Waste from products containing Methyl Ethyl Ketone and/or Zinc may also require testing for extractability.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

Section VIII — PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.
These coatings may contain materials classified as nuisance particulates (listed "as Dust" in Section II) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section II, the applicable limits for nuisance dusts are ACGIH TLV 10 mg./m3 (total dust), OSHA PEL 15 mg./m3 (total dust), 5 mg./m3 (respirable fraction).
VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for protection against non-volatile materials in Section II.
PROTECTIVE GLOVES
None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.
EYE PROTECTION
Wear safety spectacles with unperforated sideshields.

Section IX — PRECAUTIONS

DOT STORAGE CATEGORY – 1A
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Contents are EXTREMELY FLAMMABLE. Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120 °F. Heat from sunlight, radiators, stoves, 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 inhaling the contents can be harmful or fatal.

Section X — OTHER REGULATORY INFORMATION

CALIFORNIA PROPOSITION 65
Several products (see table) contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

The above information pertains to this product as currently 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 hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Common Name	**Triethylene Glycol Reprocessed**
Supplier	COASTAL CHEMICAL CO.,L.L.C. 3520 Veterans Memorial Drive ABBEVILLE, LA 70510 318-893-3862
Synonym	Not available.
Trade name	Not available.
Material Uses	Not available.
Manufacturer	Various

Code	83101
MSDS#	Not available.
Validation Date	8/8/96
Print Date	5/12/99

In case of Emergency: Transportation Emergency Call
CHEMTREC 800-424-9300
Other Information Call
Joe Hudman
713-477-6875

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	TLV/PEL	LC50/LD50
Diethylene glycol	111-46-6	0-5	Not available.	ORAL (LD50) mg/kg: Acute: 12565 (Hamster.). 14800 (Rat). DERMAL (LD50) mg/kg: Acute: 11890 (Hamster.). 11900 (Rabbit).
Triethylene Glycol	112--27-6	95-100		

Section 3. Hazards Identification

Emergency Overview

CAUTION!

MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION.

Routes of Entry

Eye contact. Ingestion. Skin contact. Inhalation.

Potential Acute Health Effects

Slightly dangerous to dangerous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation. This product may irritate eyes and skin upon contact.

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS : Not available. The substance is toxic to blood, kidneys, liver. Toxicity of the product to the reproductive system: Not available. Repeated or prolonged exposure to the substance can produce target organs damage.

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. DO NOT use an eye ointment. Seek medical attention.

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

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

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 immediate medical attention.

Continued on Next Page

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 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 (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	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.
Special Remarks on Fire Hazards	When heated to decomposition, it emits acrid smoke and irritating fumes. (Diethylene 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. 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.

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 eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Safety glasses. Lab coat. Gloves (impervious).
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Chemical Name or Product Name	CAS #	Exposure Limits
2,2'-Oxydiethanol Triethylene Glycol	111-46-6 112-27-6	No: available.

Continued on Next Page

Triethylene Glycol Reprocessed

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.
Molecular Weight	Not applicable.
pH (1% soln/water)	Neutral.

Odor	Not available.
Taste	Not available.
Color	Not available.

Boiling Point	The lowest known value is 246.8°C (474.4°F) (Diethylene glycol). Weighted average: 284.02°C (543.2°F)
Melting Point/Pour 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 0.01 mm of Hg (@ 20°C) (Diethylene glycol).
Vapor Density	The highest known value is 6.7 (Air = 1) (Tetraethylene glycol). Weighted average: 6.7 (Air = 1)
Volatility	Not available.
Odor Threshold	Not available.
Evaporation rate	Not available.
Viscosity	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, methanol, diethyl ether.
Solubility	Easily soluble in cold water, hot water, methanol, diethyl 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 reactive with oxidizing agents.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Not available.

Section 11. Toxicological Information

Toxicity to Animals	Acute oral 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 toxic to blood, kidneys, liver. Toxicity of the product to the reproductive system: Not available.
Other Toxic 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 inhalation. Exposure can cause nausea, headache and vomiting. (Diethylene glycol)

Continued on Next Page

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 product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	No additional remark.

Section 13. Disposal Considerations

Waste Disposal	

Section 14. Transport Information

Proper 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 Reportable Quantity (kg)	Not available.
Special Provisions for Transport	Not applicable.

Section 15. Regulatory Information

Federal and State Regulations	The following product(s) is (are) listed by the State of Minnesota: Diethylene glycol	
Other Classifications	WHMIS (Canada)	Not controlled under WHMIS (Canada).
	DSCL (EEC)	Not controlled under DSCL (Europe).

Section 16. Other Information

HMIS (U.S.A.)

[illegible]	2
Fire Hazard	1
Reactivity	0
Personal Protection	B

National Fire Protection Association (U.S.A.)

References	Not available.
Other Special Considerations	No additional remark.

Validated by Joe Hudman on 8/8/96.

Verified by Joe Hudman.

Printed 5/12/99.

Transportation Emergency Call
CHEMTREC 800-424-9300
Other Information Call
Joe Hudman
713-477-6675

Continued on Next Page

Triethylene Glycol Reprocessed Page Number: 5

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability 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 hazards that exist.

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: [X] Non-Exempt: [ ] Verbal Approval Received: Yes [X] No [ ]	4. Generator Williams 5. Originating Site LA Maquina Plt
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) 192 CR 4900; 3.8 miles on CR 2770 Bloomfield NM Aztec	

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:

Gas Plant treating Fluid water + Amine mix

OCT 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume 1200 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: Mgr DATE: 10-15-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Talovich TELEPHONE NO. 505-334-6182

(This space for State Use)

APPROVED BY: _____ TITLE: Enviro/Eng DATE: 10/17/01

APPROVED BY: _____ TITLE: geologist DATE: 10-17-1

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
Williams ENERGY SERVICES 3.8 MILES ON C.R. 2770 - Aztec 192 CR 4900 BLOOMFIELD, N. M. 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

4. Source and Description of Waste

90% D.I Water
5% Amine
5% TryETHyLene GLycoL

I, Bruce 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

_____ 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 only the following documentation is attached (check appropriate items):

_____ MSDS Information

_____ RCRA Hazardous Waste Analysis

_____ Chain of Custody

_____ Other (description):

Name (Original Signature): Bruce Altman

Title: OPERATOR III ES

Date: ~~10-19-2001~~ BA 10/25/2001 BA

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Energy Minerals and Natural Resour

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Form C-138
Revised March 17, 1999

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Plus 1 Copy
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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 CHACO PLANT
2. Management Facility Destination KEY DISPOSAL	6. Transporter KEY ENERGY
3. Address of Facility Operator #345 CR 3500 Aztec N.M	8. State NM
7. Location of Material (Street Address or ULSTR) SW/4 of SECTION 16, T26N, R12W, SAN JUAN CO., 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 WASTE WATER FROM GAS PLANT OPERATIONS

RECEIVED
OCT 11 2001
Environmental Bureau
Oil Conservation Division

OCT 2001
RECEIVED
OIL CON. DIV
DIST. 3

Annual Renewal

PER MONTH (AVG)

Estimated Volume 1000 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: manager DATE: 10-1-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: GEOLOGIST DATE: 10/1/01

APPROVED BY: _____ TITLE: Bureau Chief DATE: 10/12/01

1625 N. French Dr., Hobbs, NM 88240
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2040 South Pacheco, Santa Fe, NM 87505

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: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator EL Paso Field Service 5. Originating Site CHACO PLANT
2. Management Facility Destination KEY DISPOSAL	6. Transporter KEY ENERGY
3. Address of Facility Operator #345 CR 3500 · Aztec N.M	8. State NM
7. Location of Material (Street Address or ULSTR) SW/4 of SECTION 16, T26N, R12W, SAN JUAN CO., 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 waste water from gas plant operations

OCT 2001
RECEIVED
OIL CON. DIV
DIST. 3

Annual Renewal

PER MONTH (AVG)

Estimated Volume 1000 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: Manager DATE: 10-1-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 10/1/01

APPROVED BY: _____ TITLE: _____ DATE: _____

EL PASO
FIELD SERVICES

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,

David Bays

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): Chaco Plant Attach list of originating sites as appropriate	Location of Waste(Street address &/or ULSTR): SW/4 of Section 16, T26N, R12W, San Juan Co., NM
4. Source and Description of Waste Contact waste water from Cryogenic Plant and Compressor Station operations	

I, David Bays representative for:
(Print Name)

El Paso Field Services Co. 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

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-hazardous waste defined above.

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

____ MSDS Information
X RCRA Hazardous Waste Analysis
____ Chain of Custody
____ Other (description)

Name (Original Signature): David Bays

Title: Principal Environmental Scientist

Date: September 26, 2001

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Pinnacle Lab ID number **108105**
September 10, 2001

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS CHACO SAMPLING
Project Number 1517-0000-54

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

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

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 ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
108105 - 01	CHACO CONTACT WASTE WATER	AQUEOUS	08/23/01

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : AMEC EARTH & ENVIRONMENTAL PINNACLE I.D.: 108105
PROJECT # : 1517-0000-54
PROJECT NAME : EPFS CHACO SAMPLING

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	CHACO CONTACT WASTE WATE	AQUEOUS	08/23/01	NA	08/30/01	5

PARAMETER	DET. LIMIT	UNITS	CHACO CONTACT WASTE WATER
BENZENE	0.5	**UG/L**	**180**
TOLUENE	0.5	**UG/L**	**280**
ETHYLBENZENE	0.5	**UG/L**	**24**
TOTAL XYLENES	0.5	**UG/L**	**160**

SURROGATE:
BROMOFLUOROBENZENE (%) 107
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 108105
BLANK I. D.	: 083001	DATE EXTRACTED	: NA
CLIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 08/30/01
PROJECT #	: 1517-0000-54	SAMPLE MATRIX	: 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 (%)		89
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8021 MODIFIED		
MSMSD #	: 108120-01	PINNACLE I.D.	: 108105
CLIENT	: AMEC EARTH & ENVIRONMENTAL	DATE EXTRACTED	: NA
PROJECT #	: 1517-0000-54	DATE ANALYZED	: 08/30/01
PROJECT NAME	: EPFS CHACO SAMPLING	SAMPLE MATRIX	: AQUEOUS
		UNITS	: 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

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

SEVERN TRENT SERVICES

STL Pensacola
LOG NO: C1-08684
Received: 25 AUG 01
Reported: 05 SEP 01

Ms. Jacinta Tenorio
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 108105,AMEC-EPFS CHACO SAMPLING
Sampled By: Client
Code: 07551095

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
08684-1	CHACO CONTACT WW/108105-01	08-23-01/14:50

PARAMETER	08684-1
RCRA Metals (6010B)	
Arsenic, mg/l	0.028
Barium, mg/l	0.023
Cadmium, mg/l	<0.0050
Chromium, mg/l	0.73
Lead, mg/l	0.013
Selenium, mg/l	<0.010
Silver, mg/l	<0.0050
Dilution Factor	1
Prep Date	08.29.01
Analysis Date	08.30.01
Batch ID	PW272
Prep 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
Analyst	JDE

SEVERN TRENT SERVICES

STL Pensacola

LOG NO: C1-08684
Received: 25 AUG 01
Reported: 05 SEP 01

Ms. Jacinta Tenorio
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 108105,AMEC-EPFS CHACO SAMPLING
Sampled By: Client
Code: 07551095

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08684-2	Method Blank	
08684-3	Lab Control Standard % Recovery	
08684-4	Matrix Spike % Recovery	
08684-5	Matrix Spike Duplicate % Recovery	

PARAMETER	08684-2	08684-3	08684-4	08684-5
RCRA Metals (6010B)				
Arsenic, mg/l	<0.0050	97 %	99 %	99 %
Barium, mg/l	<0.010	101 %	99 %	100 %
Cadmium, mg/l	<0.0050	100 %	96 %	97 %
Chromium, mg/l	<0.0050	101 %	99 %	99 %
Lead, mg/l	<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.

Lance Larson, Project Manager

SEVERN TRENT SERVICES
STL Pensacola

Data Qualifiers for Final Report

B1	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) (qualifier 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)
E	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 (≤2°C or ≥ 6°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.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present ([1]sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, [2]sample and/or MS/MSD chromatogram(s) had interfering peaks, [3]sample result was > 4 X spike added, [4]metals serial dilution was performed, or [5]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 (≤2°C or ≥ 6°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 NPDES compliance
R4	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R5	Sample collection requirements not met, see case narrative.
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside –50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace >1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The analyte was analyzed for but not detected (at or above the RL or the MDL, whichever is entered next to the "U" value. Value for result will never be below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	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)

Revised. 06/19/01

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

STL Pensacola
PROJECT SAMPLE INSPECTION FORM

SEVERN TRENT SERVICES

Lab Order #: C108684 Date Received: 8-25-01

1.	Was there a Chain of Custody?	(Yes)	No*	
2.	Was Chain of Custody properly filled out and relinquished?	Yes	No*	
3.	Were samples received cold? (Criteria: 2° - 6°C: STL-SOP	(Yes)	No*	N/A
4.	Were all samples properly labeled and identified?	Yes	No*	
5.	Did samples require splitting or compositing*? Req By: PM Client Other*	Yes*	(No)	
6.	Were samples received in proper containers for analysis requested?	(Yes)	No*	
7.	Were all sample containers received intact?	(Yes)	No*	
8.	Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*+	(Yes)	No*	N/A
9.	Is there sufficient volume for analysis requested?	(Yes)	No*	N/A (Can)
10.	Were samples received within Holding Time? (REFER TO STL-SOP 1040)	(Yes)	No*	
11.	Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section.	Yes*	No	(N/A)
12.	If sent, were matrix spike bottles returned?	Yes	No*	(N/A)
13.	Was Project Manager notified of problems? (initials: PSM DMH 8-25-01)	(Yes)	No*	N/A

Airbill Number(s): 1Z 878 168 44 4347 4762

Shipped By: UPS

Cooler Number(s): client

Shipping Charges: N/A

Cooler Weight(s): 40 #

Cooler Temp(s) (°C): 2° (CC(3))

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

8.82 oz P Vessel 2.5 on PH for RCRA metals. DMH 8-25-01

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: DMH Date: 8-25-01 Logged By: LLK Date: 25-Aug-01

+ *Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples(pH, Dissolved O_2, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.*

♦ *If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"*

+ *All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).*

Pinnacle Laboratories, Inc.

Interlab Chain of Custody

Date: 8/24 Page: 1 of 1

Network Project Manager: Jacinta A. Tenorio

Pinnacle Laboratories, Inc.
2709-D Pan American Freeway, NE
Albuquerque, New Mexico 87107
(505) 344-3777 Fax (505) 344-4413

C108684

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals (8) RCRA	RCRA TCLP METALS	Metals-13 PP List	Metals-TAL (23 METALS)		TOX	TOC	Gen Chemistry:		Oil and Grease	Volatile Organics GC/MS (8260)	BOD	COD	PESTICIDES/PCB (608/8082)	Herbicides (615/8151)	PNA (8310)/8270 SIMS	8240 (TCLP 1311) ZHE		Base/Neutral Acid Compounds GC/MS (625/8270)	URANIUM (ICP-MS)	RADIUM 226+228	Gross Alpha/Beta	TO-14	NUMBER OF CONTAINERS
Chaco Contact Waste																												
Water/108105-01	8/23	1450	AQ		X																							

PROJECT INFORMATION		SAMPLE RECEIPT		SAMPLES SENT TO:		RELINQUISED BY: 1.	RELINQUISED BY: 2.
PROJECT #:	108105	Total Number of Containers		PENSACOLA - STL-FL	X	Signature: Time: Francine Trivio 1700	Signature: Time:
PROJ. NAME:	AMEC	Chain of Custody Seals		ESL - OR		Printed Name: Date: Francine Trivio 8/24/01	Printed Name: Date:
QC LEVEL:	STD. IV	Received Intact?		STL - CT		Pinnacle Laboratories, Inc.	Company
QC REQUIRED:	MS MSD BLANK	Received Good Cond./Cold		ATEL - AZ		RECEIVED BY: 1.	RECEIVED BY: 2
TAT:	STANDARD RUSH!!	LAB NUMBER:		ATEL - MARION		Signature: Time: Dorette Howard 1010	Signature: Time:
DUE DATE:	9/7	COMMENTS:		ATEL - MELMORE		Printed Name: Date: Dorette Howard 8.24.01	Printed Name: Date:
RUSH SURCHARGE:	—			BARRINGER		Company STL-DDS	Company
CLIENT DISCOUNT:	—			ENVIRO TEST LABS			
SPECIAL CERTIFICATION REQUIRED:	YES NO			WCAS			
				WOHL			

PINNACLE LABORATORIES

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 8/23/01 PAGE: 1 OF 1

PLI Accession #: 108105

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: ROBERT THOMPSON

COMPANY: AMEC EARTH & ENVIRONMENTAL
ADDRESS: 2060 AFTON PLACE
FARMINGTON, NM 87401
PHONE: (505) 327-7928
FAX: (505) 326-5721

BILL TO: DAVID BAYS
COMPANY: EL PASO FIELD SERVICES
ADDRESS: 614 REILLY AVE.
FARMINGTON, NM 87401

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
CHACO CONTACT WASTEWATER	8/23/01	1450	H_2O	01

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GCMS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by ~~TCLP~~ (Method 1311)	Metals:	NUMBER OF CONTAINERS
		X																				X		6

PROJECT INFORMATION

PROJ. NO.: 1517-0000-~~054~~ ET 54
PROJ. NAME: EPFS CHACO SAMPLING
P.O. NO.: N/A
SHIPPED VIA: GREY HOUND

SAMPLE RECEIPT

NO. CONTAINERS	6
CUSTODY SEALS	Y/N/(NA)
RECEIVED INTACT	Y
BLUE ICE/ICE	3.8°

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

DO NOT FILTER. DISREGARD WHICHEVER BOTTLES ARE NOT NEEDED.
Run totals per Robert T 08.24.01 15:25

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Robert Thompson Time: 1620	Signature: Time:
Printed Name: ROBERT THOMPSON Date: 8/23/01	Printed Name: Date:
Company: AMEC	Company:
See reverse side (Force Majeure)	
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Francine Tarin Time: 0900
Printed Name: Date:	Printed Name: Francine Tarin Date: 8/24/01
Company:	Pinnacle Laboratories Inc.

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: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator Giant Refining
	5. Originating Site Cooling Towers
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) #50 CR4990 Bloomfield NM 87413	

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:

River water mixed with various bio dispersants, cleaners and cooling tower waste.

SEP 2001
RECEIVED
OIL CON. DIV.
DIST. 3

Giant San Juan Refinery
GW-1

Estimated Volume 400-500 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: MGR DATE: 9-25-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 9/25/01

APPROVED BY: [signature] TITLE: Bureau Chief DATE: 10/1/01

District I
1625 N. French Dr., Hobbs, NM 88240
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State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-138
Rev 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 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 AZTEC NM	8. State NM
7. Location of Material (Street Address or ULSTR) #50 CR4990 Bloomfield NM 87413	

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:

River water mixed with various BIO DISPERSANTS, CLEANERS AND Cooling tower waste.

SEP 2001
RECEIVED
OIL CON. DIV.
DIST. 3

Giant San Juan Refinery
GW-1

Estimated Volume 400-500 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: MOE DATE: 9-25-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 9/25/01

APPROVED BY: Brian Chief TITLE: Brian Chief DATE: 9/1/01

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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 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 CR 3500 AZTEC NM	8. State NM
7. Location of Material (Street Address or ULSTR) #50 CR4990 Bloomfield NM 87413	

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:

RIVER WATER MIXED WITH VARIOUS BIO DISPERSANTS, CLEANERS AND COOLING TOWER WASTE.

SEP 2001
RECEIVED
OIL CON. DIV.
DIST. 3

GIANT SAN JUAN REFINERY
GW-1

Estimated Volume 400-500 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: MGR DATE: 9-25-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 9/25/01

APPROVED BY: _____ TITLE: _____ DATE: _____

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
Giant Refining Company #50 CR 4990 Bloomfield, NM 87413	Key Energy Systems Disposel Systems Crouch Mesa New Mexico
3. Originating Site (name): Giant Refining Company #50 CR 4990 Bloomfield, NM 87413 **Attach list of originating sites as appropriate**	**Location of the Waste (Street address &/or ULSTR):** #50 CR 4990 Bloomfield, NM 87413
4. Source and Description of Waste Cooling Tower Water from cleaning tower during Shutdown for repairs.	

I, Barry Holman representative for:
(Print Name)

Giant Refining 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

XX **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 only the following documentation is attached (check appropriate items):

XX MSDS Information
___ RCRA Hazardous Waste Analysis
___ Chain of Custody
___ Other (description):

Name (Original Signature): Barry Holman

Title: Environmental Manager

Date: 9/25/01

NALCO

MATERIAL SAFETY DATA SHEET

PRODUCT: NALCO 71-D5 ANTIFOAM

EMERGENCY TELEPHONE NUMBER:
MEDICAL (800) 462-5378 (24 HOURS)
(800) I-M-ALERT

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 71-D5 ANTIFOAM

DESCRIPTION:
A BLEND OF FATTY ACIDS, POLYGLYCOLS, POLYGLYCOL ESTERS, IN HYDROCARBON 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 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.%
KEROSENE	8008-20-6	10-20
PARAFFIN WAX	8002-74-2	1-5
STRAIGHT RUN MIDDLE DISTILLATES	64741-44-2	40-70

SECTION 3 PRECAUTIONARY LABEL INFORMATION

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

UNLESS PROPERLY RECONDITIONED.

SECTION 4 FIRST AID INFORMATION

EYES: FLUSH WITH WATER FOR 15 MINUTES. CALL A PHYSICIAN.

SKIN:
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 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, 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.

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 DRAIZE RATING: 6.0/110.0 MINIMAL IRRITATION

HUMAN HAZARD CHARACTERIZATION: BASED ON OUR HAZARD CHARACTERIZATION,
THE POTENTIAL HUMAN HAZARD IS: LOW

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: PALE STRAW

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 FIRE AND EXPLOSION INFORMATION

FLASH POINT: 260 DEGREES F (PMCC) 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.

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 RELIQUIFIED.

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.

PROTECTIVE EQUIPMENT:
USE IMPERMEABLE GLOVES AND CHEMICAL SPLASH GOGGLES WHEN ATTACHING FEEDING EQUIPMENT 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 NUMBER (800) I-M-ALERT OR (800) 462-5378.

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

KEROSENE (OIL MIST) = TWA 5 MG/M3, STEL 10 MG/M3 ACGIH/TLV
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:

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 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).

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 CFR 176.210 DEFOAMING AGENTS USED IN THE MANUFACTURE OF PAPER AND PAPERBOARD.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
CONSULT SECTION 13 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 CONTAINS THE FOLLOWING INGREDIENTS COVERED BY THE CLEAN AIR ACT:

POLYPROPYLENE GLYCOL - SECTION 111

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:

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 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):

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 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 INSURE SAFE WORKPLACE OPERATIONS. PLEASE CONSULT YOUR LOCAL SALES REPRESENTATIVE FOR ANY FURTHER INFORMATION.

SECTION 17 BIBLIOGRAPHY

ANNUAL REPORT ON CARCINOGENS, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, PUBLIC HEALTH SERVICE, PB 33-135855, 1983.

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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 SUPPLEMENT OF 1981-1982 EDITION, VOL. 1-3, OH, 1984.

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.

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

REQUIRED BY OSHA'S HAZARD COMMUNICATION RULE 29 CFR 1910.1200.

PREPARED BY: WILLIAM S. [illegible]TLEY, PHD., DABT, MANAGER, PRODUCT SAFETY

DATE CHANGED: 01/23/96
DATE PRINTED: 07/04/96

NALCO CHEMICAL COMPANY
ONE NALCO CENTER
NAPERVILLE, ILLINOIS 60563-1198
AREA 708-305-1000

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.%
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:

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:

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.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: NONE (PMCC) ASTM D-93

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

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 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.

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

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 DAPHNIA 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

PACKING GROUP: III

IMDG PAGE NO: 8147-1

IATA PACKING INSTRUCTION: CARGO: 820

IATA CARGO AIRCRAFT LIMIT: 60 L (MAX NET QUANTITY PER PACKAGE)

FLASH POINT: NONE

HAZARDOUS COMPONENT(S): SODIUM TOLYLTRIAZOLE

RQ LBS (PER PACKAGE): NONE

RQ COMPONENT(S) NONE

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

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).

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:

ACRYLIC POLYMER	TRADE SECRET
SODIUM TOLYLTRIAZOLE	64665-57-2
WATER	7732-18-5

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):

CHEMICAL NAME	CAS #	% CONCENTRATION RANGE
SODIUM TOLYLTRIAZOLE	64665-57-2	1-5

SECTION 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.

PREPARED BY: William S. Utley, PHD., DABT, Manager, Product Safety
DATE CHANGED: 01/22/96 DATE PRINTED: 04/04/98

NALCO CHEMICAL COMPANY
ONE NALCO CENTER
NAPERVILLE, ILLINOIS 60563-11[illegible]
AREA 630-305-1000

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.%
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

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.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

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.

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.

HAZARDOUS WASTE D002.

AS A 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 HAZARDOUS LIQUID WASTE CAN ALSO BE DEEP-WELL INJECTED IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

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 MORTALITY OR ABNORMAL EFFECTS.

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 MORTALITY OR ABNORMAL EFFECTS.

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/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 1760
HAZARD CLASS - PRIMARY:	8 - CORROSIVE
PACKING GROUP:	III
IMDG PAGE NO:	8147
IATA NOTE:	P:818 C:820
IATA LIMIT:	C: 60 L

FLASH POINT: NONE

HAZARDOUS COMPONENT(S): PHOSPHORIC ACID, ZINC CHLORIDE

RQ LBS (PER PACKAGE): 24,000

RQ COMPONENT(S) ZINC CHLORIDE

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 INGREDIENTS IN THIS PRODUCT ARE HAZARDOUS AND THE REASONS ARE SHOWN BELOW.

PHOSPHORIC ACID = TWA 1 MG/M3, STEL 3 MG/M3 ACGIH/TLV
ZINC CHLORIDE (FUME) = TWA 1 MG/M3, STEL 2 MG/M3 ACGIH/TLV

PHOSPHORIC ACID = TWA 1 MG/M3, STEL 3 MG/M3 OSHA/PEL
ZINC CHLORIDE (FUME) = TWA 1 MG/M3, STEL 2 MG/M3 OSHA/PEL

CERCLA/SUPERFUND, 40 CFR 117, 302:
THIS PRODUCT CONTAINS ZINC CHLORIDE A REPORTABLE QUANTITY (RQ) SUBSTANCE AND IF 24,000 POUNDS OF PRODUCT ARE RELEASED, IT REQUIRES NOTIFICATION TO THE NATIONAL RESPONSE CENTER, WASHINGTON, D.C. (1-800-424-8802).

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 SUBSTANCES AND 10,000 POUNDS FOR ALL OTHER HAZARDOUS CHEMICALS.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

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.

INTERNATIONAL REGULATIONS:
THIS IS A WHMIS CONTROLLED PRODUCT UNDER THE HOUSE OF COMMONS OF CANADA BILL C-70. 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
PHOSPHORIC ACID	7664-38-2	5-10
ZINC CHLORIDE	7646-85-7	1-5

SECTION 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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CASARETT AND DOULL'S TOXICOLOGY, THE BASIC SCIENCE OF POISONS, DOULL, J., KLAASSEN, C. D., AND ADMUR, M. O., EDS., MACMILLIAN PUBLISHING COMPANY, INC., N. Y., 2ND EDITION, 1980.

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SUPPLEMENT OF 1981-1982 EDITION, VOL. 1-3, OH, 1984.

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.

PREPARED BY: RICKY A. STACKHOUSE PHD., TOXICOLOGIST

DATE CHANGED: 08/17/93
DATE PRINTED: 11/18/95

NALCO CHEMICAL COMPANY
ONE NALCO CENTER
NAPERVILLE, ILLINOIS 60563-1198
AREA 708-305-1000

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
0 OTHER

0=INSIGNIFICANT
1=SLIGHT
2=MODERATE
3=HIGH
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 CAUSE 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.

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: MAY CAUSE IRRITATION WITH PROLONGED 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.

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.

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):
EYE IRRITATION INDEX DRAIZE RATING: 2.7/110.0 MINIMALLY IRRITATING

COMMENTS:
INSTILLATION OF 0.1 ML INTO THE CONJUNCTIVAL SAC OF ONE EYE OF EACH OF A GROUP OF SIX ALBINO RABBITS PRODUCED VERY SLIGHT REDNESS ONE HOUR AFTER INSTILLATION. BY THE END OF 24-HOURS, ALL EYES HAD ESSENTIALLY RETURNED TO NORMAL.

HUMAN HAZARD CHARACTERIZATION:
BASED ON OUR HAZARD CHARACTERIZATION, THE POTENTIAL HUMAN HAZARD IS: LOW

SECTION 7 PHYSICAL AND CHEMICAL 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 ASTM 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 VALUES FOR THIS PRODUCT.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: GREATER THAN 200 DEGREES F (PMCC) 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.

UNUSUAL FIRE AND EXPLOSION HAZARD: NONE

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.

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 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 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 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

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.

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

SECTION 16 RISK CHARACTERIZATION

DUE 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

ANNUAL REPORT ON CARCINOGENS, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, PUBLIC HEALTH SERVICE, PB 33-135855, 1983.

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SUPPLEMENT OF 1981-1982 EDITION, VOL. 1-3, OH, 1984.

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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

Roger Anderson
Martyne Knows about This.

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 COASTAL CHEMICAL
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site YARD
2. Management Facility Destination KEY ENERGY DISPOSAL	6. Transporter KEY
3. Address of Facility Operator #345 CR 3500 AZTEC, N.M.	8. State NM
7. Location of Material (Street Address or ULSTR) 1130 MADISON LANE FARMINGTON, NM 87401	

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 UNUSED TREATING CHEMICALS
Last Filed 6-12-01
Please Refer to MSDS INFO [illegible] Approval
Dated 1-16-01

SEP 2001
RECEIVED
OIL CON. DIV.
DIST. 3

Estimated Volume ~ 200bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE [signature] TITLE: MOE DATE: 9-10-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TAFOYA TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: [signature] TITLE: Enviro Eng DATE: 9/13/01

APPROVED BY: [signature] TITLE: Environmental Geologist DATE: 11-27-01

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

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator COASTAL CHEMICAL
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site 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) 1130 MADISON LANE FARMINGTON, NM 87401	

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 unused treating chemicals
Last filed 6-12-01
Please Refer to MSDS Info & Approval
Dated 1-16-01

Estimated Volume ~ 200 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MOE DATE: 9-10-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Enviro Eng DATE: 9/13/01

APPROVED BY: _____ TITLE: _____ DATE: _____

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:

COATSAL CHEMICAL CO. LLC.
1130 MADISON LANE
FARMINGTON, NM. 87401

2. Permit Number (if waste generated at an OCD permitted facility)

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, GLYCOL (TEG & EG ANTIFREEZE.

4. Location of Waste (Street address &/or ULSTR):

COASTAL CHEmical co. LLC.
1130 MADISON LANE
FARMINGTON, NM. 87401

5. Destination (Surface Waste Management Facility):

KEY ENERGY Disposal

6. Transporter:

KEY ENERGY

7. Estimated Volume _____ cy/bbls

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

XX 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.

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 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: Robert Burnside Date: 9-10-01

Print Name: ROBERT BURNSIDE

Title: FACILITY MANAGER

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: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator Halliburton 5. Originating Site YARD TANK
2. Management Facility Destination KEY ENERGY DISPOSAL	6. Transporter KEY ENERGY
3. Address of Facility Operator #345 CR 3500 AZTEC NM Bauch MESA	8. State NM
7. Location of Material (Street Address or ULSTR) 4109 E. MAIN ST. FARMINGTON, NM 87402	

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:

RETURNED UNUSED GEL WATER THAT WAS STORED IN YARD "JUNK TANK" AND WAS SAMPLED 7-9-2001

AUG 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume 143 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MGR DATE: 8-1-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 8/03/01

APPROVED BY: _____ TITLE: _____ DATE: 8/7/01

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 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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator Hall, Houston
	5. Originating Site YARD TANK
2. Management Facility Destination KEY ENERGY DISPOSAL	6. Transporter KEY ENERGY
3. Address of Facility Operator #345 CR 3500 Aztec NM Bloomfield Mesa	8. State NM
7. Location of Material (Street Address or ULSTR) 4109 E. Main St. Farmington, NM 87402	

9. Circle One:

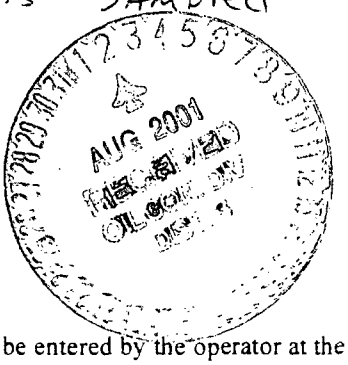
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

(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:

Returned unused Gel water that was stored in yard "Junk Tank" and was sampled 7-9-2001



Estimated Volume 143 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: Mgr DATE: 8-1-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Geologist DATE: 8/03/01

APPROVED BY: _____ TITLE: _____ DATE: _____

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
Halliburton Energy Services
4109 E. Main Street
Farmington, NM 87402

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
Return frac fluids that were stored in what is referred to as a junk water storage tank that was sampled on 7/9/2001.

4. Location of Waste (Street address &/or ULSTR):
Halliburton Energy Services
4109 E. Main Street
Farmington, NM 87402

5. Destination (Surface Waste Management Facility):
Key Energy Services

6. Transporter:
Key Energy Services

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).

X Other (Description) TCLP

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.

X 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: Marvin J. Whitley Date: 8-1-01

Print Name: Marvin Whitley

Title: Supervisor - Materials Control

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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 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 sections 261.21 - 261.23, July 1, 1992.

Comments: **4109 E. Main St., Farmington.**

Analyst

Review

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ENVIRO-CHEM LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

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)	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.

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: **4109 E. Main St., Farmington.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

Review

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ENVIRO-TECH LABS

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:	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 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	**0.670**	**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.

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., Farmington.**

Analyst

Review

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ENVIRO-TECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL ANALYSIS

Client:	Halliburton Energy Services	Project #:	92132-001
Sample ID:	Junk Water Tank	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

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	**ND**	**0.001**	**5.0**
Barium	**0.089**	**0.001**	**100**
Cadmium	**ND**	**0.001**	**1.0**
Chromium	**0.297**	**0.001**	**5.0**
Lead	**0.371**	**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.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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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:	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

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 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: **QA/QC for sample 20231.**

Analyst

Review

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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:	Matrix Duplicate	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)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent 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, 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.**

Analyst

Review

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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:	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.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040
PHENOLS
Quality Assurance Report
Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	07-10-01
Laboratory Number:	07-10-TCA	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-10-01
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results 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: **QA/QC for sample 20231.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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
		Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Det. 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: **QA/QC for sample 20231.**

Analyst

Review

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ENVIROTECH LABS

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:	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

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	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%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

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 20231.**

Analyst

Review

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ENVIROTECH 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:	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**

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

Comments: **QA/QC for sample 20231.**

Analyst

Review

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ENVIROTECH 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:	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**

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: **QA/QC for sample 20231.**

Analyst

Review

400

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ENVIROTECH LABS

PRACTICAL 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:	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 Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	ND	ND	0.0%	0.020
Hexachloroethane	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

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, 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 20231.**

Analyst

Review

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ENVIROTECH LABS

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:	07-09-TCM QA/QC	Date Reported:	07-09-01
Laboratory Number:	20231	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	07-09-01
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Difference	Acceptance Range
Arsenic	ND	ND	0.001	ND	ND	0.0%	0% - 30%
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	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance 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

Review

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CHAIN OF CUSTODY RECORD

09306

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
HALLIBURTON Energy Services	4109 E. Main St. Farmington	

Sampler:	Client No.
Harlan M. Brown	92132-001

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TCLP w/o H&P						Remarks
Junk Water Tank	7.9.01	9:40	20231 ~~20231~~	Water	5	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Harlan M. Brown	7.9.01	10:45	Adrian L. Ogletree	7-9-01	1041
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

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

1. RCRA Exempt: [X] Non-Exempt: [ ] Verbal Approval Received: Yes [ ] No [X]	4. Generator NATCO 5. Originating Site YARD SUMPS
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) 2855 Southside River Rd. Farmington NM 87401	

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:

Wash water from insides of oil + gas production equipment. Only city water used in cleaning process

Estimated Volume 500 bbls per month cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MGR DATE: 8-1-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Geologist DATE: 8/03/01

APPROVED BY: _____ TITLE: " DATE: 8-3-1

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
JAteo - 2855 Southside River Rd. Farmington NM 87401

2. Permit Number (if waste generated at an OCD permitted facility)

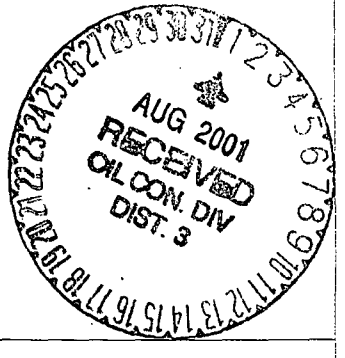
3. Description of Waste and Generating Process:
City water & liquids out of Oil & Gas production units Being washed out, for Repairs Only city water used for washing.

4. Location of Waste (Street address &/or ULSTR):
Farmington NM 2855 Southside River Rd.

5. Destination (Surface Waste Management Facility):
Key Energy Disposal

6. Transporter:
Key Energy

7. Estimated Volume 500 cy/bbls per month



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.

_____ **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: Richard Lambert Date: 8-1-01

Print Name: Richard Lambert V.

Title: Shop Supervisor.

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

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: [X] Non-Exempt: [ ]	4. Generator Williams
Verbal Approval Received: Yes [ ] No [X]	5. Originating Site LA MAQUINA 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) 192 CR 4900 Bloomfield 3.8 m on CR 2770 Aztec	

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:

Deionized water mixed with small Amounts of Amine + TEG

JUL 2001
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume 1500 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: MGR DATE: 7-26-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Bruce Martin TITLE: Field Inspector DATE: 7/30/01

APPROVED BY: Denny Foust TITLE: Geologist DATE: 7/30/01

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
Williams ENERGY SERVICES 3.8 Miles ON C.R. 2770 - AZTEC 192 CR 4900 BLOOMFIELD, N.M 87413	KEY ENERGY DISPOSAL
3. Originating Site (name): Williams ENERGY SERVICES LAMAQUINA Plant Attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR):
4. Source and Description of Waste 90% D.I. WATER 5% Amine 5% TRYETHYLENE GLYCOL	

I, BRUCE 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

_____ **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 only the following documentation is attached (check appropriate items):

_____ MSDS Information

_____ RCRA Hazardous Waste Analysis

_____ Chain of Custody

_____ Other (description):

Name (Original Signature): Bruce Altman

Title: OPERATOR III

Date: 7-25-2001

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
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Energy Minerals and Natural Resources

Oil Conservation Division
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Santa Fe, NM 87505

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Revised March 17, 1999

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☑ ☐ Verbal Approval Received: Yes ☐ No ☑	4. Generator COASTAL CHEMICAL CO.
	5. Originating Site WASH WATER TANK
2. Management Facility Destination KEY ENERGY DISPOSAL	6. Transporter KEY ENERGY
3. Address of Facility Operator #345 C.R. 3500 , AZTEC NM	State NM
7. Location of Material (Street Address or ULSTR) 1130 MADISON LANE, FARMINGTON NM 87401	

DEC 2002
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OIL CONS. DIV.
DIST. 3

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:
RINSE WATER FROM HOSES AND TANKS THAT CONTAINED OR HELD VIRGIN UNUSED TREATING CHEMICALS.

MSDS INFO
LAST Filed 6-17-02
M.T.
√ mjt
OK
On File

Estimated Volume _250BBLS_____cy Known Volume (to be entered by the operator at the end of the haul) _____cy

SIGNATURE _____ TITLE: MANAGER_____ DATE: _12-05-02_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: ___MICHAEL TALOVICH_____ TELEPHONE NO. _505-334-6416_____

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envirog/Engr DATE: 12/06/02

APPROVED BY: Martyne J Kieling TITLE: Environmental Geologist DATE: 12/12/02

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
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Revised March 17, 1999

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☑ ☐ Verbal Approval Received: Yes ☐ No ☐	4. Generator COASTAL CHEMICAL CO.
2. Management Facility Destination KEY ENERGY DISPOSAL	5. Originating Site WASH WATER TANK
3. Address of Facility Operator #345 C.R. 3500 , AZTEC NM	6. Transporter KEY ENERGY
7. Location of Material (Street Address or ULSTR) 1130 MADISON LANE, FARMINGTON NM 87401	8. State NM

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OIL CONS. DIV.
DIST. 3

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:
RINSE WATER FROM HOSES AND TANKS THAT CONTAINED OR HELD VIRGIN UNUSED TREATING CHEMICALS.

MSDS INFO
Last Filed 6-17-02
M.T.

Estimated Volume _250BBLS_____cy Known Volume (to be entered by the operator at the end of the haul) _____cy

SIGNATURE _____ TITLE: MANAGER_____ DATE: _12-05-02_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: ___MICHAEL TALOVICH_____ TELEPHONE NO. _505-334-6416_____

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envir/Engr DATE: 12/06/02

APPROVED BY: _____ TITLE: _____ DATE: _____

obbs, NM 88240
District II - (505) 748-1283
11 S. First
rtesia, NM 88210
District III - (505) 334-6178
000 Rio Brazos Road
ztec, NM 87410
District IV - (505) 827-7131
140 S. Pacheco
anta Fe, NM 87505

New Mexico
Energy ierals 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

Waste Generator Name and Address:

Coastal Chemical C.o. LLC
1130 Madison Ln.
Farmingtnn NM 87401

2 Permit Number (if waste generated at an OCD permitted facility)

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, Glycol (Teg & Eg) Antifreeze.

4. Location of Waste (Street address &/or ULSTR):

Coastal Chemical Co LLC
1130 Madison Lane
Farmingbon NM 87401

Destination (Surface Waste Management Facility):

Key Energy Disposal

6. Transporter:

Estimated Volume _____ cy/bbls

or **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

XX 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 ency's July 1988 regulatory determination, the above described waste 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)

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.

enerator Signature: Mike Farni Date: 12-3-02

nt Name: Mike Farni

le: Facility Manager

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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Form C-138
Revised March 17, 1999

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to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☑ Non-Exempt: ☐ ☐Verbal Approval Received: Yes ☐ No ☑	4. Generator WILLIAMS FIELD SERVICE
	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. 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:
WASTE WATER MIXED WITH AMOUNTS OF AMINE AND GLYCOL

Estimated Volume __1000 bbls_____cy Known Volume (to be entered by the operator at the end of the haul) _____cy

SIGNATURE _____ TITLE: __MANAGER_____ DATE: _10-02-2002_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __MICHAEL TALOVICH_____ TELEPHONE NO. _505-334-6416_____

(This space for State Use)

APPROVED BY: _____ TITLE: Enviro/Engr DATE: 10/07/02

APPROVED BY: _____ TITLE: geologist DATE: 10/8/02

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

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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:
WILLIAMS FIELD SERVICES
190 CR 4980
BLOOMFIELD, NM 87413

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
NATURAL GAS PROCESSING – AQUEOUS WASTE COMPRISED OF PRODUCED WATER W/ AMINE, GLYCOL, & DIMINIMUS QUANTITIES OF NON-HAZ FLUIDS,

4. Location of Waste (Street address &/or ULSTR):
190 CR 4980
BLOOMFIELD, NM 87413

5. Destination (Surface Waste Management Facility):
KEY DISPOSAL
CROUCH MESA

6. Transporter:
KEY ENERGY OR OTHER DESIGNATED OCD APPROVED HAULING COMPANIES

7. Estimated Volume 1000 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)

X **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: [signature], ON BEHALF OF WILLIAMS Date: 10-01-02

Print Name: MARK HARVEY

Title: PROJECT COORDINATOR

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
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Santa Fe, NM 87505

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Revised March 17, 1999

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REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: [X] Non-Exempt: [ ] Verbal Approval Received: Yes [X] No [ ]	4. Generator WILLIAMS ENERGY SERVICES
	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	

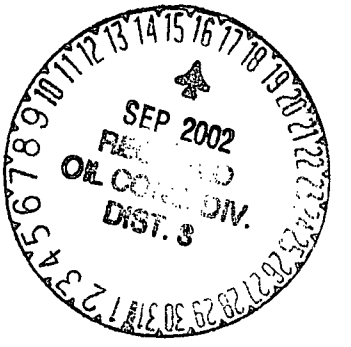
9. Circle One:

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:
D.I. WATER MIXED WITH AMINE AND TEG



Estimated Volume _< 1000bbls_____cy Known Volume (to be entered by the operator at the end of the haul) _____cy

SIGNATURE _____ TITLE: __MANAGER_____ DATE: __9-16-02_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: _MICHAEL TALOVICH_____ TELEPHONE NO. 505-334-6416_____

(This space for State Use)

APPROVED BY: _____ TITLE: Envir/Engr DATE: 9/16/02

APPROVED BY: _____ TITLE: geologist DATE: 9-16-2

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
WILLIAMS ENERGY SERVICES 3.8 MILES ON CR 2770 - AZTEC, N.M. 192 CR. 4900, BLOOMFIELD, N.M. 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

4. Source and Description of Waste

90% D.I WATER
5% AMINE
5% TRYETHYLENE GLYCOL

I, BRUCE 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

_____ 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 only the following documentation is attached (check appropriate items):

_____ MSDS Information

_____ RCRA Hazardous Waste Analysis

_____ Chain of Custody

_____ Other (description):

Name (Original Signature): Bruce Altman

Title: OPT / TECH II

Date: 9-12-02

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
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Energy Minerals and Natural Resources

Oil Conservation Division
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Santa Fe, NM 87505

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Revised March 17, 1999

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REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐ Verbal Approval Received: Yes ☐ No ☒	4. Generator HALLIBURTON
	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 Material (Street Address or ULSTR)4109 E MAIN,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:
VARIOUS UNSED FRAC FLUIDS STORED IN THEIR YARD "JUNK WATER TANK"

LAST FILED 01-04-02

SEE ANALYTICAL DATED 10-26-01

SEP 2002
OIL CONSERVATION DIV.
DIST. 3

Estimated Volume ____250BBLS_____cy Known Volume (to be entered by the operator at the end of the haul)
_____cy

SIGNATURE _____ TITLE: __MGR_____ DATE: 08-04-02 9/4/02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __MICHAEL TALOVICH_____ TELEPHONE NO. __505-334-6416_____

(This space for State Use)

APPROVED BY: _____ TITLE: Enviro/ Engr Geologist DATE: 9/6/02

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 9/9/02

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

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REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐ Verbal Approval Received: Yes ☐ No ☒	4. Generator HALLIBURTON
	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 Material (Street Address or ULSTR)4109 E MAIN,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:
VARIOUS UNSED FRAC FLUIDS STORED IN THEIR YARD "JUNK WATER TANK"

LAST FILED 01-04-02

SEE ANALYTICAL DATED 10-26-01

Estimated Volume ____250BBLS_____cy Known Volume (to be entered by the operator at the end of the haul)
_____cy

SIGNATURE _____ TITLE: ___MGR_____ DATE: _08-04-02_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __MICHAEL TALOVICH_____ TELEPHONE NO. __505-334-6416_____

(This space for State Use)

APPROVED BY: _____ TITLE: Environ/Engr DATE: 9/6/02

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
Halliburton Energy Services
4109 E Main
Farmington NM 87402

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
Returned frac fluids that were stored in what is referred to as Junk water tank completion 10/26/01

4. Location of Waste (Street address &/or ULSTR):
Halliburton Energy Services
4109 E Main St
Farmington NM 87402

5. Destination (Surface Waste Management Facility):
Key Energy Services

6. Transporter:
Key Energy

7. Estimated Volume 6 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).

X Other (Description) Knowledge of Process & Filed previously refer to Analytical #3

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.

X **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: Allen Rodrigue Date: 9-4-02

Print Name: ALLEN Rodrigue

Title: Facility Supervisor

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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 sections 261.21 - 261.23, July 1, 1992.
Comments:	**4109 E. Main St.**

Analyst

Review

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

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)	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.

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: **4109 E. Main St.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040
PHENOLS

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:	11-01-01
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: **4109 E. Main St.**

Analyst

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ENVIROTECH LABS

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:	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:	11-01-01
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.**

Analyst

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ENVIRO-TECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
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: **4109 E. Main St.**

Analyst

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ENVIRO-TECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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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:	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

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 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: **QA/QC for sample 21344.**

Analyst

Review

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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:	Matrix Duplicate	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

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent 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: **QA/QC for sample 21344.**

Analyst

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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:	Matrix Spike	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

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)	0.0235	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%	51-147
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 sample 21344.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA 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 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: **QA/QC for sample 21344.**

Analyst

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ENVIROTECH LABS

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:	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:	11-01-01
		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%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

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.**

Analyst

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ENVIRO-TECH 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:	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: **QA/QC for sample 21344.**

Analyst

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ENVIRO-TECH LABS

PRACTICAL 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)
Pyridine	**ND**	**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 Acceptance Criteria	Parameter	Maximum Difference
	8090 Compounds	**30%**

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 21344.**

Analyst

Review

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ENVIROTECH LABS

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:	10-30-TCM QA/QC	Date Reported:	10-30-01
Laboratory Number:	21344	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	10-30-01
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% 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	ND	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	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 Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
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: **QA/QC for sample 21344.**

Analyst

Review

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

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 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator COASTAL CHEMICAL CO.
	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. 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 SMALL AMOUNTS 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 entered by the operator at the end of the haul)
_____cy

SIGNATURE _____ TITLE: __MANAGER_____ DATE: _08-27-02_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH_____ TELEPHONE NO. 505-334-6416

1-202050

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Enviro/Engr DATE: 8/27/02

APPROVED BY: Martyn J Kilby TITLE: Environmental Geologist DATE: 9/3/02

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 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator COASTAL CHEMICAL CO.
	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. 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.

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

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

AUG 2002
RECEIVED
OIL CONS. DIV.
DIST. 3

Estimated Volume ___ < 200 bbls_____cy Known Volume (to be entered by the operator at the end of the haul)
_____cy

SIGNATURE _____ TITLE: _MANAGER_ DATE: _08-27-02_
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

(This space for State Use)

APPROVED BY: _____ TITLE: Enviro/Engr DATE: 8/27/02

APPROVED BY: _____ TITLE: _____ DATE: _____

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
COASTAL CHEMICAL CO. LLC
1130 MADISON LANE
FARMINGTON NM 87401

2 Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
RINSE WATER FROM PUMP, HOSES, AND TANKS USED TO DELIVER CHEMICALS
ALL CHEMICALS RINSED ARE VIRGIN UNUSED CHEMICALS WHICH MAY INCLUDE ALKANOLAMINE, GLYCOL (TEG, EG), & CHELATES

4. Location of Waste (Street address &/or ULSTR):
COASTAL CHEMICAL CO LLC
1130 MADISON LANE
FARMINGTON NM 87401

5. Destination (Surface Waste Management Facility):
KEY ENERGY - DISPOSAL

6. Transporter:
KEY ENERGY

7. Estimated Volume _____ cy/bbls

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

XX 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.

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 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: _____ Date: 8-23-02

Print Name: JOHN MESSNER

Title: WAREHOUSE MANAGER

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 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator OIL AND GAS EQUIPMENT
	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. 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 CLEANING AGENTS AND NEUTRALIZER

JUL 2002
RECEIVED
OIL CONS. DIV.
DIST. 3

Estimated Volume 80 bbls cy Known Volume (to be entered by the operator at the end of the haul) cy

SIGNATURE _____ TITLE: MANAGER DATE: 7/23/02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

(This space for State Use)

APPROVED BY: _____ TITLE: Envir/Engr DATE: 07/25/02

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 7/30/02

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 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator OIL AND GAS EQUIPMENT 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. 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.

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

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

SIGNATURE _____ TITLE: MANAGER DATE: 7/23/02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6176

(This space for State Use)

APPROVED BY: _____ TITLE: Env Spec/Engr DATE: 07/25/02

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
Oil + Gas Equip.
4910 E. Main
Farmington NM 87402

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
Hot Bath for Cleaning
Glycol pumps + Valves
used on oil field production
Equip.

4. Location of Waste (Street address &/or ULSTR):
Same

5. Destination (Surface Waste Management Facility):
Key

6. Transporter:
Key

7. Estimated Volume 80 cy/bbls

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

X 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.

X **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: Robert Lakey Date: 7-22-02

Print Name: Robert Lakey

Title: _____

CLEAN ACROSS AMERICA AND THROUGHOUT THE WORLD™

ZEP MANUFACTURING COMPANY
P.O. BOX 2015
ATLANTA, GEORGIA 30301

MATERIAL SAFETY DATA SHEET
AND SAFE HANDLING AND DISPOSAL INFORMATION

ISSUE DATE: 02/01/89
SUPERSEDES: 12/30/88
Date printed: 11/17/99

ZEP VAT NEUTRALIZER
Product No: 1465 **Vat Neutralizer**

SECTION I - EMERGENCY CONTACTS

TELEPHONE:
(404) 352-1680 *BETWEEN 8:00 AM - 5:00 PM (EST)*
MEDICAL EMERGENCY:
(770) 439-4200 *NON OFFICE HOURS, WEEKENDS*
(770) 432-2873 *AND HOLIDAYS, PLEASE CALL YOUR*
(770) 455-8160 **LOCAL POISON CONTROL**
(770) 552-8836
(770) 424-2048
(770) 424-4789
TRANSPORTATION EMERGENCY:
(770) 922-0923
CHEMTREC:
(800) 424-9300 TOLL FREE - ALL CALLS RECORDED
DISTRICT OF COLUMBIA:
(202) 483-7616 ALL CALLS RECORDED

SECTION II - HAZARDOUS INGREDIENTS

DESIGNATIONS	(PPM)	EFFECTS (SEE NOTICE)	% IN PROD.
@** SULFURIC ACID ** oil of vitriol; CAS# 7664-93-9; RTECS# WS5600000; OSHA PEL-1 mg/m3 (for mists only).	0.25	TOX COR	60-70

@ IDENTIFIES CHEMICALS LISTED UNDER SARA-SECTION 313 FOR RELEASE REPORTING.

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:
Corrosive to skin and eyes on contact. Eye contact can produce corneal damage or blindness. Skin contact can produce inflammation, reddening, and blistering. Inhalation of spray mist or vapors may produce irritation, burning, or destruction of tissues in the respiratory tract, characterized by coughing choking, pain, or shortness of breath. Severe overexposure may lead to fatal lung damage. Ingestion can cause abdominal pain, nausea, vomiting, and collapse, along with tissue destruction in the gastrointestinal tract.

CHRONIC EFFECTS OF OVEREXPOSURE:
Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.
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 3; FLAM. 0; REACT. 2; PERS. PROTECT. G ; CHRONIC HAZ. YES

FIRST AID PROCEDURES:
SKIN: Immediately flush contaminated skin with plenty of water for at least 15 minutes. Get medical attention immediately.
EYES: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Get medical attention at once.
INHALE: Move exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Get medical attention immediately.
INGEST: If this product is swallowed, do not induce vomiting. If victim is conscious give plenty of water to drink. Get medical attention at once.

SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING: Wear rubber or neoprene gloves and a face shield when using. A rubber apron and boots are strongly recommended.
EYE PROTECTION: Wear splash-proof safety goggles especially if contact lenses are worn.
RESPIRATORY PROTECTION: If ventilation is inadequate, wear a properly fitting MSHA or OSHA-approved respirator.
VENTILATION: If vapors are detected, ventilate work area by opening windows and using exhaust fans.

SECTION V - PHYSICAL DATA

BOILING POINT (F):	~ 220	SPECIFIC GRAVITY:	1.55
VAPOR PRESSURE(mmHg):	N/A	EVAPORATION RATE (=1):	N/A
VAPOR DENSITY(AIR=1):	N/A	pH(CONCENTRATE):	< 1.0
SOLUBILITY IN WATER:	COMPLETE	pH(USE DILUTION OF 1% SOLUTION):	1.0
VOC CONTENT (CONCENTRATE):	0.0%		

APPEARANCE AND ODOR: A COLORLESS LIQUID WITH NO ODOR.

(Continued on Page: 2)

MATERIAL SAFETY DATA SHEET

SECTION I — PRODUCT IDENTIFICATION

KRYLON INDUSTRIAL
31800 SOLON ROAD
SOLON, OH 44139

EMERGENCY TELEPHONE NO.
(216) 292-7400
INFORMATION TELEPHONE NO.
(800) 247-3266

DATE OF PREPARATION
20 - Jul - 94

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Primers

PRIMER/KRI

SECTION II — No.	HAZARDOUS INGREDIENT (percent by weight)	ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	Vapor Pressure (mm Hg)	1340 Zinc Rich	All Purpose 1358 White	All Purpose 1357 Ruddy Brown	All Purpose 1359 Gray	Rust Inhibitive 1345 Yellow	Rust Inhibitive 1346 Green	1373 Sandable Filler Surface Primer
74-98-6	Propane (propellant)		1000	PPM	760.0	15	17	17	17	16	16	16
8052-49-8	V. M. & P. Naphtha	300	300 <400>	PPM	12.0	1						4
108-88-3 $	Toluene	50	100 <150>	PPM (Skin)	22.0		23	27	27	8	8	
20-7 $	Xylene	100 <150>	100 <150>	PPM	5.0	10				12	12	10
78-83-1	2-Methyl-1-Propanol	50	50	PPM	8.7							2
78-93-3 $	Methyl Ethyl Ketone	200 <300>	200 <300>	PPM	70.0	34						
67-64-1 $	Acetone	750 <1000>	750 <1000>	PPM	760.0		34	34	34	48	48	41
1314-98-3 $	Zinc	Not Established				38						
14807-96-6	Talc	2	2	Mg/M3	as Resp. Dust					6	6	9
13463-67-7	Titanium Dioxide	10	10[5]	Mg/M3	as Dust [Resp. Fraction]		6		3			1
1317-34-1 $	Zinc Molybdate	Not Established								2	2	
	VOC as a percent by weight per BAAQMD Rule 49					59	62	60	62	63	63	62
	NFPA Code 30B Level					3	3	3	3	3	3	3
	HMIS® Ratings (Health - Flammability - Reactivity)					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 →→→

Section III — PHYSICAL DATA

PRODUCT WEIGHT	– N.A.	EVAPORATION RATE	– Faster than Ether
SPECIFIC GRAVITY	– N.A.	VAPOR DENSITY	– Heavier than Air
BOILING RANGE	– <0-309 °F	MELTING POINT	– N.A.
VOC IN WATER	– N.A.		

Section IV — FIRE AND EXPLOSION HAZARD DATA

CLASSIFICATION FLASH POINT <0 °F PMCC LEL 1.0 UEL 12.0
Flammable, Flash below 20 °F

EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Foam

FIRE AND EXPLOSION HAZARDS
Keep from heat, electrical equipment, sparks, and open flame. Closed containers may explode in extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section V — HEALTH HAZARD DATA

ROUTES OF EXPOSURE
Contact may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.

Health Hazards
SIGNS OF OVEREXPOSURE
Irritation of eyes, skin and respiratory system. May cause nervous system depression. Overexposure may result in unconsciousness and possibly death.

ADDITIONAL SYMPTOMS OF OVEREXPOSURE
Dizziness, nausea, and loss of coordination are indications of excessive exposure to spray mists.
Tingling or burning sensation may indicate eye or excessive skin exposure.

CONDITIONS AGGRAVATED BY EXPOSURE
Not generally recognized.

FIRST AND FIRST AID PROCEDURES
If Inhaled: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
If on Skin: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
If in Eyes: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
If Swallowed: Get medical attention.

CHRONIC Health Hazards
No ingredient in these products is an IARC, NTP or OSHA listed carcinogen.
Methyl Ethyl Ketone may increase the nervous system effects of other solvents.
Prolonged overexposure to solvent ingredients in Section II may cause adverse effects to liver, urinary, blood-forming, cardiovascular, and reproductive systems.
Rats exposed to titanium dioxide dust at 250 mg./m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.
Experts have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section VI — REACTIVITY DATA

STABILITY – Stable
INCOMPATIBILITY
None known.
HAZARDOUS DECOMPOSITION PRODUCTS
By fire: Carbon Dioxide, Carbon Monoxide, Oxides of Metals in Section II
HAZARDOUS POLYMERIZATION – Will Not Occur

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate and remove with inert absorbent.

WASTE DISPOSAL METHOD
Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers. Waste from products containing Methyl Ethyl Ketone and/or Zinc may also require testing for extractability.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State, and local regulations regarding pollution.

Section VIII — PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.
These coatings may contain materials classified as nuisance particulates (listed "as Dust" in Section II) which may be present at hazardous levels only during sanding or shreading of the dried film. If no specific dusts are listed in Section II, the applicable limits for nuisance dusts are ACGIH TLV 10 mg./m3 (total dust), OSHA PEL 15 mg./m3 (total dust), 5 mg./m3 (respirable fraction).

VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for protection against non-volatile materials in Section II.

PROTECTIVE GLOVES
None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION
Wear safety spectacles with unperforated sideshields.

Section IX — PRECAUTIONS

DOT STORAGE CATEGORY – IA

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Contents are EXTREMELY FLAMMABLE. Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120 °F. Heat from sunlight, radiators, stoves, 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 inhaling the contents can be harmful or fatal.

Section X — OTHER REGULATORY INFORMATION

CALIFORNIA PROPOSITION 65
Several products (see table) contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

The above information pertains to this product as currently 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 hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

TOTAL P.02

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Common Name	**Triethylene Glycol Reprocessed**
Supplier	COASTAL CHEMICAL CO., L.L.C. 3520 Veterans Memorial Drive ABBEVILLE, LA 70510 318-893-3862
Synonym	Not available.
Trade name	Not available.
Material Uses	Not available.
Manufacturer	Various

Code	93101
MSDS#	Not available.
Validation Date	3/8/96
Print Date	5/12/99

In case of Emergency:	Transportation Emergency Call CHEMTREC 800-424-9300 Other Information Call Joe Hudman 713-477-5675

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	TLV/PEL	LC50/LD50
Diethylene glycol	111-46-6	0-5	Not available.	ORAL (LD50) mg/kg: Acute: 12565 (Hamster.). 14800 (Rat). DERMAL (LD50) mg/kg: Acute: 11890 (Hamster.). 11900 (Rabbit).
Triethylene Glycol	112-27-6	95-100		

Section 3. Hazards Identification

Emergency Overview

CAUTION!

MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION.

Routes of Entry

Eye contact. Ingestion. Skin contact. Inhalation.

Potential Acute Health Effects

Slightly dangerous to dangerous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation. This product may irritate eyes and skin upon contact.

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. The substance is toxic to blood, kidneys, liver. Toxicity of the product to the reproductive system: Not available. Repeated or prolonged exposure to the substance can produce target organs damage.

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. DO NOT use an eye ointment. Seek medical attention.

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

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

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 immediate medical attention.

Continued on Next Page

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 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 (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	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.
Special Remarks on Fire Hazards	When heated to decomposition, it emits acrid smoke and irritating fumes. (Diethylene 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. 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.

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 eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Safety glasses. Lab coat. Gloves (impervious).
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Chemical Name or Product Name	CAS #	Exposure Limits
2,2'-Oxydiethanol Triethylene Glycol	111-46-6 112-27-6	No: available.

Continued on Next Page

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.
Molecular Weight	Not applicable.
pH (1% soln/water)	Neutral.

Odor	Not available.
Taste	Not available.
Color	Not available.

Boiling Point	The lowest known value is 245.8°C (474.4°F) (Diethylene glycol). Weighted average: 284.02°C (543.2°F)
Melting Point/Pour 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 0.01 mm of Hg (@ 20°C) (Diethylene glycol).
Vapor Density	The highest known value is 6.7 (Air = 1) (Tetraethylene glycol). Weighted average: 6.7 (Air = 1)
Volatility	Not available.
Odor Threshold	Not available.
Evaporation rate	Not available.
Viscosity	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, methanol, diethyl ether.
Solubility	Easily soluble in cold water, hot water, methanol, diethyl 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 reactive with oxidizing agents.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Not available.

Section 11. Toxicological Information

Toxicity to Animals	Acute oral 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 toxic to blood, kidneys, liver. Toxicity of the product to the reproductive system: Not available.
Other Toxic 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 inhalation. Exposure can cause nausea, headache and vomiting. (Diethylene glycol)

Continued on Next Page

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 product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	No additional remark.

Section 13. Disposal Considerations

Waste Disposal

Section 14. Transport Information

Proper 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 Reportable Quantity (kg)	Not available.
Special Provisions for Transport	Not applicable.

Section 15. Regulatory Information

Federal and State Regulations: The following product(s) is (are) listed by the State of Minnesota: Diethylene glycol

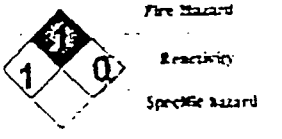
Other Classifications	WHMIS (Canada)	Not controlled under WHMIS (Canada).
	DSCL (EEC)	Not controlled under DSCL (Europe).

Section 16. Other Information

HMIS (U.S.A.)

[illegible]	2
Fire Hazard	1
Reactivity	0
Personal Protection	B

National Fire Protection Association (U.S.A.)



References	Not available.
Other Special Considerations	No additional remark.

Validated by Joe Hudman on 8/8/96.

Verified by Joe Hudman.

Printed 5/12/99.

Transportation Emergency Call
CHEMTREC 800-424-9300
Other Information Call
Joe Hudman
713-477-6675

Continued on Next Page

Triethylene Glycol Reprocessed Page Number: 5

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability 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 hazards that exist.

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 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☒ Non-Exempt: ☐ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator WILLIAMS ENERGY SERVICES
	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:

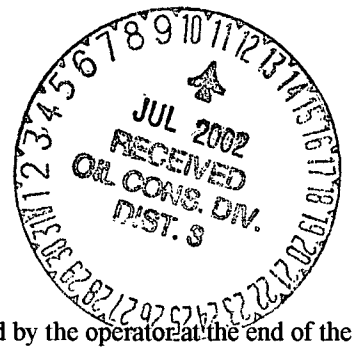
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

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 _____ TITLE: ___Manager_____ DATE: __7-11-02___
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __Michael Talovich_____ TELEPHONE NO. ___505-334-6416_____

(This space for State Use)

APPROVED BY: _____ TITLE: Envir/Engr DATE: 7/11/02

APPROVED BY: _____ TITLE: geologist DATE: 7-11-2

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
WILLIAMS ENERGY SERVICES 3.8 MILES ON CR 2770 - AZTEC, N.M. 192 CR. 4900, BLOOMFIELD, N.M. 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

4. Source and Description of Waste

90% D.I WATER
5% AMINE
5% TRYETHYLENE GLYCOL

I, BRUCE 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

_____ **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 only the following documentation is attached (check appropriate items):

_____ MSDS Information

_____ RCRA Hazardous Waste Analysis

_____ Chain of Custody

_____ Other (description):

Name (Original Signature): Bruce Altman

Title: OPT/TEC II

Date: 7-10-02

marthyne Kieling

District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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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

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Environmental Bureau
Oil Conservation Division

Form C-138
Revised March 17, 1999

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator Coastal Chemical
	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 _____ TITLE: Manager DATE: 06-17-02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Talovich TELEPHONE NO. 505-334-6186

1-20h290

(This space for State Use)

APPROVED BY: _____ TITLE: Envro/ Engr DATE: 06/18/02

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 06/24/02

Martyne Kieling

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
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State of New Mexico
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Environmental Bureau
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REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐ Verbal Approval Received: Yes ☐ No ☒	4. Generator Coastal Chemical
	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.

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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 _____ TITLE: Manager DATE: 06-17-02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Talovich TELEPHONE NO. 505-334-6186

1-20h2 90

(This space for State Use)

APPROVED BY: _____ TITLE: Envro/ Engr DATE: 06/18/02

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 06/24/02

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
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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

	4. Generator Coastal Chemical
1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	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 _____ TITLE: Manager DATE: 06-17-02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Talovich TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envrn/Engr DATE: 06/18/02

APPROVED BY: TITLE: DATE:

450

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:

Coastal Chemical C.o. LLC
1130 Madison Ln.
Farmington NM 87401

2 Permit Number (if waste generated at an OCD permitted facility)

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, Glycol (Teg & Eg) Antifreeze.

4. Location of Waste (Street address &/or ULSTR):

Coastal Chemical Co LLC
1130 Madison Lane
Farmington NM 87401

5. Destination (Surface Waste Management Facility):

Key Energy Disposal

6. Transporter:

7. Estimated Volume 160 cy/bbls

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

XX 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.

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 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: John Messenger Date: 6-17-02

Print Name: JOHN MESSENGER

Title: WAREHOUSEMAN

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)

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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)
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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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8. EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

PERSONAL 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.

9. 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 with various halogenated organic solvents, resulting in temperature and/or pressure increases.

(Continued on Page 5)
* 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

10. STABILITY 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. 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

(Continued on Page 6)
* or (R) Indicates a Trademark of INEOS, Limited Liability Company

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)
* 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

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

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

(Continued on Page 8)

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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.

* 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.

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 Date Printed: 12/04/00 MSD: 002850

INEOS, Limited Liability Company, Plaquimine,LA 70764

Customer Information Center: 1-866-865-4767

2. COMPOSITION/INFORMATION ON INGREDIENTS

Proprietary alkylamine		90 to 100%
Water	CAS# 007732-18-5	Max. 4%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

****

* Colorless liquid. Amine odor. Combustible. Causes severe eye burns. Causes skin burns. Toxic fumes are released in fire situations. *

****

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

SKIN: Short single exposure may cause skin burns. Prolonged exposure may cause severe skin burns. DOT Classification: corrosive. A single prolonged exposure may 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 gastrointestinal irritation or ulceration. Ingestion may cause burns of the mouth and throat. Observations in animals include liver and kidney effects.

INHALATION: At room temperature, vapors are minimal due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: No relevant information found.

(Continued on Page 2)

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3. HAZARDS IDENTIFICATION (CONTINUED)

TERATOLOGY (BIRTH DEFECTS): Birth defects are unlikely. Exposures having no adverse effects on the mother should have no effect on the fetus.

4. FIRST AID

EYE: Immediate and continuous irrigation with flowing water for at least 30 minutes is imperative. Prompt medical consultation is essential.

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 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.

(Continued on Page 3)
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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.

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.

(Continued on Page 4)
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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 cancer-causing 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

(Continued on Page 5)
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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

10. STABILITY AND REACTIVITY

CHEMICAL 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.

(Continued on Page 6)
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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

(Continued on Page 7)

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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 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:

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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REGULATORY 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.

CHEMICAL NAME	CAS NUMBER	LIST
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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REGULATORY INFORMATION: (CONTINUED)

HAZARDOUS PRODUCTS ACT INFORMATION: This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

COMPONENTS:	CAS #	AMOUNT (%w/w)
Proprietary alkylamine		90-100%

HMIRA INFORMATION: A claim for exemption from ingredient disclosure has been approved under the Hazardous Materials Information Review Act (Canada). The Hazardous Materials Information Review Commission registry number, and date, assigned to this claim are:

Claim Registry Number: 4842 Filing Date: September 8, 2000

16. OTHER INFORMATION

PRODUCT USE: Developmental solvent for selective extraction and dissolution.

REVISION INDICATOR: Revised Section 15, Canadian regulatory information.

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The Information Herein Is Given In Good Faith, But No Warranty, Express Or Implied, Is Made. Consult INEOS, Limited Liability Company For Further Information.

Section 1. Chemical Product and Company Identification

Common Name	Coastalguard 100
Supplier	COASTAL CHEMICAL CO., L.L.C. 3520 Veterans Memorial Drive ABBEVILLE, LA 70510 318-893-3862
Synonym	Not available.
Trade name	Not available.
Material Uses	Industrial applications: Coolant and antifreeze.
Manufacturer	Coastal Chemical Co., Inc. 3520 Veterans Memorial Drive Abbeville, La.

Code	37252
MSDS#	Not available.
Validation Date	8/8/96
Print Date	6/2/99

In case of Emergency	Transportation Emergency Call CHEMTREC 800-424-9300 Other Information Call Joe Hudman 713-477-6675

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	TLV/PEL	LC_{50}/LD_{50}
Ethylene Glycol	107-21-1	95	CEIL: 39.4 (ppm) CEIL: 100 (mg/m^3)	ORAL (LD50) mg/kg: Acute: 4700 (Rat). **DERMAL (LD50)** mg/kg: Acute: 9530 (Rabbit.).

Section 3. Hazards Identification

Emergency Overview

[illegible] repeated or prolonged exposure to the substance [illegible]

Routes of Entry	Ingestion.
Potential Acute Health Effects	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 Health Effects	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. First Aid Measures

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.

Continued on Next Page

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 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 medical attention.

Section 5. Fire and 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 NOT 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. 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.

Continued on Next Page

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 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 of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Chemical Name or Product Name	CAS #	Exposure Limits
1,2-Ethanediol	107-21-1	CEIL: 39.4 (ppm) CEIL: 100 (mg/m³)

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.
Molecular Weight	Not applicable.
pH (1% soln/water)	8 to 10 [Basic.]

Odor	Not.available.
Taste	Not available.
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 Glycol.
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 (Air = 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, diethyl ether.
Solubility	Easily soluble in cold water, hot water, methanol, diethyl ether. Very slightly soluble in n-octanol.
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	Slightly reactive to reactive with oxidizing agents, alkalis.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Not available.

Continued on Next Page

Section 11. Toxicological Information

Toxicity to Animals	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 Products of Biodegradation	No additional remark.

Section 13. Disposal Considerations

Waste Disposal

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
Hazardous Substances Reportable Quantity (kg)	5000
Special Provisions for Transport	No additional remark.

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Section 15. Regulatory Information

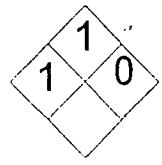
Federal and State Regulations	The following product(s) is (are) listed on SARA 313: , Ethylene Glycol The following product(s) is (are) listed by the State of Massachusetts: Ethylene Glycol The following product(s) is (are) listed on TSCA: Ethylene Glycol
Other Classifications	WHMIS (Canada) WHMIS CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
	DSCL (EEC) Not controlled under DSCL (Europe).

Section 16. Other Information

HMIS (U.S.A.)

Health Hazard *	2
Fire Hazard	1
Reactivity	0
Personal Protection	B

National Fire Protection Association (U.S.A.)



References	Not available.
Other Special Considerations	No additional remark.

Validated by Joe Hudman on 8/8/96.

Verified by Joe Hudman.

Printed 6/2/99.

Transportation Emergency Call
CHEMTREC 800-424-9300
Other Information Call
Joe Hudman
713-477-6675

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability 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 hazards that exist.

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

Effective Date: 03/15/99 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		<1%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

****
* Pale straw colored liquid, amine odor. Toxic fumes are rleased in *
* fire situations. *
* *
****

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.

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4. FIRST AID (CONTINUED)

INGESTION: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

INHALATION: Remove to fresh air if affects 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: >200F
METHOD USED: PMCC
AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABILITY LIMITS
LFL: Not determined.
UFL: Not determined.

HAZARDOUS COMBUSTION PRODUCTS: Under fire conditions polymers decompose. The smoke may contain polymer fragments of varying compositions in addition to unidentified toxic and/or irritating compounds.

OTHER FLAMMABILITY INFORMATION: This material will not burn until the water has evaporated. Residue can burn.

EXTINGUISHING MEDIA: Water fog or fine spray, carbon dioxide, dry chemical, or foam. General purpose synthetic foams (including AFFF type) or protein foams are preferred if availabile. Alcohol resistant foams (ATC type) may function.

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 Environmental" section under "Accidental Release Measures" of this MSDS to determine if material should be allowed to burn out or be extinguished.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire

(Continued on Page 3)
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5. FIRE FIGHTING MEASURES (CONTINUED)

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 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 prolonged or frequently repeated contact could occur.

RESPIRATORY PROTECTION: If respiratory irritation is experienced, use an approved air-purifying repirator.

EXPOSURE GUIDELINE(S): None established.

(Continued on Page 4)
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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)

SKIN: The LD50 for skin absorption in rabbits is expected to be >6000 mg/kg.

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)
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12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call

laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). Biodegradation rate may increase in soil and/or water with acclimation.

ECOTOXICITY: Based on information for methydiethanolamine. Material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species).

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: recycler, reclaimer, 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.): This product is not regulated by D.O.T. when shipped domestically by land.

CANADIAN TDG INFORMATION:
For TDG regulatory information, if required, consult transportation regulations, product shipping papers, or your INEOS representative.

(Continued on Page 6)
* or (R) Indicates a Trademark of INEOS, Limited Liability Company

Product Name: GAS/SPEC* SS SELECTIVE SOLVENT VARIABLE FF
Product Code: 38377

Effective Date: 03/15/99 Date Printed: 12/04/00 MSD: 003135

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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:

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

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:

This product is not a "Controlled Product" under WHMIS.

16. OTHER INFORMATION

MSDS STATUS: Revised Section 13, Disposal.

* 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. Chemical Product and Company Identification

Common Name	**Ethylene glycol**
Supplier	**COASTAL CHEMICAL CO., L.L.C.** **3520 Veterans Memorial Drive** **ABBEVILLE, LA 70510** **318-893-3862**
Synonym	Glycol
Trade name	Not available.
Material Uses	Coatings: Manufacture of asphalt-emulsion paints. Industrial applications: Coolant and antifreeze. Petrochemical industry: Manufacture of brakes fluid. Textile industry: Textile processing. Leather dyeing.
Manufacturer	Various

Code	Not available.
MSDS#	Not available.
Validation Date	08/08/1996
Print Date	12/14/1999

In case of Emergency	1-800-424-9300 (Chemtrec)

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	TLV/PEL	LC_{50}/LD_{50}
1) Ethylene glycol	107-21-1	100	**CEIL:** 39.4 (ppm) **CEIL:** 100 (mg/m^3)	**ORAL (LD50)** mg/kg: Acute: 4700 (Rat). **DERMAL (LD50)** mg/kg: Acute: 9530 (Rabbit.).

Section 3. Hazards Identification

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 Effects

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 Aid Measures

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.

Hazardous Skin Contact

No additional information.

Continued on Next Page

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.

Section 5. Fire and Explosion Data

Flammability 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.
Special Remarks on Fire Hazards	When heated to decomposition, it emits acrid smoke and irritating fumes.
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.
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. 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.Highly toxic or infectious materials should be stored in a separate locked safety storage cabinet or room.

Continued on Next Page

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 eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Safety glasses. Lab coat. Gloves. Wear appropriate respirator when ventilation is inadequate.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Chemical Name or Product Name	CAS #	Exposure Limits
1) 1,2-Ethanediol	107-21-1	CEIL: 39.4 (ppm) CEIL: 100 (mg/m^3)

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid. (Clear viscous liquid.)
Molecular Weight	62.07g/mole
pH (1% soln/water)	7
Odor	Odorless. (Slight.)
Taste	Sweet.
Color	Clear, colorless, syrupy liquid; hygroscopic (absorbs moisture from the (Light.)
Boiling Point	198°C (388.4°F)
Melting Point/Pour Point	-13.5°C (7.7°F)
Critical Temperature	Not available.
Specific Gravity	1.12 (Water = 1)
Vapor Pressure	0.05 mm of Hg (@ 20°C)
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.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, methanol, diethyl ether.
Solubility	Easily soluble in cold water, hot water, methanol, diethyl ether. Very slightly soluble in n-octanol.
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	Slightly reactive to reactive with oxidizing agents, alkalis.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Not available.

Continued on Next Page

Section 11. Toxicological Information

Toxicity 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 Toxicity to Animals	Toxic for humans or animal life.
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.

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 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. Transport 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	III
Hazardous Substances Reportable Quantity (kg)	2268
Special Provisions for Transport	No additional remark.

Continued on Next Page

Section 15. Regulatory Information

Federal and State Regulations	The following product(s) is (are) listed on SARA 313: , **Ethylene glycol** The following product(s) is (are) listed by the State of Massachusetts: **Ethylene glycol** The following product(s) is (are) listed on TSCA: **Ethylene glycol**
Other Classifications	WHMIS (Canada): WHMIS CLASS D-2A: Material causing other toxic effects (VERY TOXIC). DSCL (EEC): R26/28- Very toxic by inhalation and if swallowed.

Section 16. Other Information

HMIS (U.S.A.)

*	2
Fire Hazard	1
Reactivity	0
Personal Protection	B

National Fire Protection Association (U.S.A.)

References

-SAX, N.I. Dangerous Properties of Indutrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984.
-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987.
-The Sigma-Aldrich Library of Chemical Safety Data, Edition II.

Other Special Considerations: No additional remark.

Validated by Joe Hudman on 08/08/1996.

Verified by Joe Hudman.

Printed 12/14/1999.

1-800-424-9300 (Chemtrec)

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability 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 hazards that exist.

HUNTSMAN # MATERIAL SAFETY DATA SHEET

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT

PRODUCT CODE AND NAME	:	***DEALFG DIETHANOLAMINE LFG-85%***
DATE ISSUED	:	**1/29/2002**
DATE PRINTED	:	**3/14/2002**

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

PRODUCT CODE AND NAME

DEALFG DIETHANOLAMINE LFG-85%

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- (Common name - Diethanolamine)	111-42-2	2 mg/m³ TWA-ACGIH (SKIN)	80.00 - 94.99
Water	7732-18-5		10.00 - 19.99

THIS PRODUCT IS CONSIDERED HAZARDOUS ACCORDING TO OSHA (1910.1200).

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Appearance:

Light pale liquid

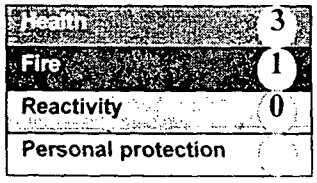
Odor:

Ammonia-like

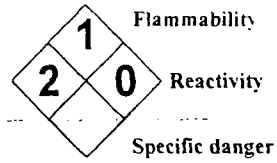
WARNING STATEMENT

WARNING ! CAUSES EYE IRRITATION
MAY CAUSE SKIN IRRITATION
MAY CAUSE BLOOD EFFECTS, LIVER, AND KIDNEY DAMAGE - BASED ON ANIMAL DATA
DO NOT ADD NITRITES - MAY FORM SUSPECTED CANCER CAUSING NITROSAMINES

Hazardous Material Information System (United States)



National Fire Protection Association NFPA (United States)



POTENTIAL HEALTH EFFECTS

Primary Route of Exposure

Eye__X__ Skin__X__ Inhalation__X__ Ingestion____

Effects of Overexposure

Acute:

Eyes: 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.

Skin: 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.

Inhalation: 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.

Ingestion: Moderately toxic. May cause abdominal discomfort, nausea, vomiting, and diarrhea.

Sensitization Properties: Unknown

Chronic:

Repeated skin contact may cause a persistent irritation or dermatitis.

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.

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 by 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.

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):

0 (32°F)

Specific Gravity (water=1):

1.09

pH:

11.8 [Basic]

Vapor Pressure:

Not determined.

Viscosity:

Not determined.

VOC Content:

Not determined.

Vapor Density (Air=1):

Not determined.

Solubility in Water (%):

>10 [Soluble]

Other:

None

10. STABILITY AND REACTIVITY

This Material Reacts Violently With:

Air____ Water____ Heat____ Strong Oxidizers____ Others__X__ None of these____

Comments:

This material reacts violently with acids. This material is incompatible with strong oxidizing agents. This material is corrosive to copper, zinc, aluminum and thier alloys. Do not add or formulate with nitrites. See Section 16, OTHER INFORMATION.

Products Evolved When Subjected to Heat or Combustion:

Toxic levels of ammonia, combustion products of nitrogen, carbon monoxide, carbon dioxide, irritating aldehydes and ketones may be formed on burning in a limited air supply.

Hazardous Polymerizations:

DO NOT OCCUR

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Oral:

LD50 Similar product 1.41 g/kg (rat) moderately toxic

Inhalation:

Not determined.

Dermal:

LD50 Similar product >5.00 g/kg (rabbit) practically non-toxic

IRRITATION INDEX, ESTIMATION OF IRRITATION (SPECIES)

Skin:
(Draize) Believed to be > 3.00 - 5.00 /8.0 (rabbit) moderately irritating

Eyes:
(Draize) Believed to be 50.00 - 80.00 /110 (rabbit) severely irritating

Sensitization:
Not determined.

Other:

Diethanolamine Carcinogenicity:
In a chronic (two year) exposure study, sponsored by the National Toxicology Program (NTP), rats and mice were dermally exposed to Diethanolamine (DEA). Both male and female mice showed an increased incidence of liver tumors, and male mice showed an increased incidence of kidney tumors. In contrast, male and female rats did not show any increased incidence of tumors. NTP concluded, using their standard classification scheme, that there is "no evidence" of cancer in male and female rats, and "clear evidence" of liver and kidney cancer in male mice, and "clear evidence" of liver cancer in female mice.

The American Chemistry Council (ACC) Alkanolamines Panel, with the cooperation of the NTP, investigated the conduct of this study and concluded that the experimental design of the study was seriously flawed in a number of areas. In addition, the results of the NTP study are not consistent with other scientific studies investigating the carcinogenic potential of DEA. The flawed experimental design, as well as the inconsistency of the NTP mouse study results with other studies, have resulted in questions over the relevance of the NTP study to establish the risk of cancer in humans from exposures to DEA.

The ACC Alkanolamines Panel is currently sponsoring mechanistic research on DEA, investigating the role of non-genotoxic mechanisms of carcinogenicity as applied to the DEA exposures in the NTP study. Results from this research program indicate that mice administered DEA via dermal (and oral) routes of exposure had significantly lower levels of choline and phosphocholine. Other research has shown that rodents chronically fed choline deficient diets, resulting in a choline/phosphocholine deficiency, develop liver tumors. In addition, due to the known differences in metabolism between rodents and humans, rodents are expected to be far more sensitive to the effects of choline depletion than humans. Although additional research in this area is still underway, the results to date of our research program indicate that the tumors observed in the NTP mouse study resulted from a mechanism that is not relevant to humans.

Diethanolamine Developmental and Reproductive Toxicity:
Laboratory animal studies investigating the developmental toxicity of DEA have indicated that DEA exposures, either oral (gavage) or dermal, do not result in any specific developmental toxicity. Although some minor developmental delays were observed in rat dermal exposure studies, these effects were secondary to extreme maternal toxicity from exposure to relatively high levels of DEA.

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:

None

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
III

Label Required
Class 9

ICAO

Proper Shipping Name:
Environmentally hazardous substances, liquid, n.o.s. (Diethanolamine)

Hazard Class
9

Identification Number
UN3082

Packing Group
III

Label Required
Class 9

TDG

Proper Shipping Name:
Not regulated.

Hazard Class:
Not regulated.

Identification Number:
Not regulated.

Label Required:
Not regulated.

14. REGULATORY INFORMATION

Federal Regulations:

SARA Title III:

Section 302/304 Extremely Hazardous Substances

Chemical Name	CAS Number	Range in %	TPQ	RQ
None.				

Section 311 Hazardous Categorization:
Acute__X__ Chronic__X__ Fire____ Pressure____ Reactive____ N/A____

Section 313 Toxic Chemical

Chemical Name	CAS Number	Concentration
Ethanol, 2,2'-iminobis- (Common name - Diethanolamine)	111-42-2	80.00-94.99

CERCLA 102(a)/DOT Hazardous Substances:

Chemical Name	CAS Number	Range in %	RQ
Ethanol, 2,2'-iminobis- (Common name - Diethanolamine)	111-42-2	80.00-94.99	100

States Right-to-Know Regulations:

Chemical Name	State Right-to-know
Ethanol, 2,2'-iminobis- (Common name - Diethanolamine)	CT, FL, IL, MA, NJ, PA, RI

State list: CT (Connecticut), FL (Florida), IL (Illinois), MI (Michigan), LA (Louisiana), MA (Massachusetts), NJ (New Jersey), PA (Pennsylvania), RI (Rhode Island)

California Prop. 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.

Chemical Name	CAS Number
None.	

INTERNATIONAL REGULATIONS:

TSCA Inventory Status:
This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

WHMIS Classification:
Class D, Div 2, Subdiv B: Irritant

Canadian Inventory Status:
This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

EINECS Inventory Status:
This product, or its components, are listed on or are exempt from the European Inventory of Existing Chemical Substances (EINECS) or the European List of Notified Chemical Substances (ELINCS).

Australian Inventory Status:

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 SHEEETS 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 PRODUCT, USER SHOULD CONSULT HIS LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. 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 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 Williams Energy Sec.
Verbal Approval Received: Yes ☐ No ☑	5. Originating Site La Maquina PLT
2. Management Facility Destination Key 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:

Plant waste water Removed from Pond

MAR 2002
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume <1000bbl cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MOC DATE: 3-14-02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Falovich TELEPHONE NO. 505 334 6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envir0/Engr DATE: 03/19/02

APPROVED BY: Chad T TITLE: Deputy Oil & Gas Inspector, DATE: 03/15/02

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
Williams ENERGY SERVICES 38 Miles ON CR 2770 - Aztec NM 192 CR 4900, Bloomfield NM 87413	KEY ENERGY DISPOSAL
3. Originating Site (name): Williams ENERGY SERVICES La Maquina Plant Attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR):
4. Source and Description of Waste 90% D.I. Water 5% Amine 5% TryEthylene Glycol	

I, Bruce 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

_____ 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 only the following documentation is attached (check appropriate items):

_____ MSDS Information

_____ RCRA Hazardous Waste Analysis

_____ Chain of Custody

_____ Other (description):

Name (Original Signature): Bruce Altman

Title: OPT / TEC II

Date: 3/14/02

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

RECEIVED
MAR 0 4 2002
Environmental Bureau
Oil Conservation Division

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 KEY ENERGY
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site FARMINGTON YARD
2. Management Facility Destination KEY ENERGY DISPOSAL	6. Transporter Key
3. Address of Facility Operator #349 CR 3500 AZTEC, NM	8. State NM
7. Location of Material (Street Address or ULSTR) 5651 US Highway 64 FARMINGTON, NM 87401	

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:

WASH WATER FROM OILFIELD EQUIPMENT

FEB 2002
RECEIVED
OIL CON. DIV
DIST. 3

Estimated Volume 120 bbls PER month cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MGR DATE: 2-25-02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TAFOVICH TELEPHONE NO. 505-334-6416

(This space for State Use)

APPROVED BY: _____ TITLE: Envirol Engr DATE: 02/27/02

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 3-4-02

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 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 KEY ENERGY
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site FARMINGTON YARD
2. Management Facility Destination KEY ENERGY DISPOSAL	6. Transporter Key
3. Address of Facility Operator #349 CR 3500 AZTEC, NM	8. State NM
7. Location of Material (Street Address or ULSTR) 5651 US HIGHWAY 64 FARMINGTON, NM 87401	

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:

WASH WATER FROM OILFIELD EQUIPMENT

RECEIVED
FEB 2002
OIL CON. DIV.
DIST. 3

Estimated Volume 120 bbls PER MONTH cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE [signature] TITLE: MGR DATE: 2-25-02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TAFOVICH TELEPHONE NO: 505-334-6416

(This space for State Use)

APPROVED BY: [signature] TITLE: Envirol Engr DATE: 02/27/02

APPROVED BY: _____ TITLE: _____ 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 Key Energy Services, Inc. Four Corners Divison 5651 US Highway 64 Farmington, NM 87401	2. Destination Name: Key Energy Services, Disposal San Juan Country, NM
3. Originating Site (name): Key Energy Services, Inc. Four Corners Divison 5651 US Highway 64 Farmington, NM 87401 attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR): Farmington Facility Waste Water Storage Tank
4. Source and Description of Waste Oilfield Service Equipment Waste Wash Water	

I, **Bob James** representative for **Key Energy Services, Four Corners Division** 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

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**

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Key Energy	Project #:	98065-001
Sample ID:	Wash Water Tank	Date Reported:	02-19-02
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

Parameter	Result	
IGNITABILITY:	**Negative**	
CORROSIVITY:	**Negative**	**pH = 8.25**
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 sections 261.21 - 261.23, July 1, 1992.
Comments:	**5651 US Hwy 64, Farmington, NM.**

Christine M Walters
Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

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)	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
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: **5651 US Hwy 64, Farmington, NM.**

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	02-20-02
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: **5651 US Hwy 64, Farmington, NM.**

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

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	**0.133**	**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.

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: **5651 US Hwy 64, Farmington, NM.**

Analyst

Review

ENVIROTECH 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:	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

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (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**	**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, Farmington, NM.**

Analyst

Review

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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

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:	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

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 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: **QA/QC for samples 22037 - 22039 and 22041.**

Analyst

Review

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

ENVIRO-TECH 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:	Method Blank	Date Reported:	02-19-02
Laboratory Number:	02-14-TCV	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-19-02
Condition:	N/A	Date Extracted:	02-14-02
		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 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-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 samples 22037 - 22039 and 22041.**

Analyst

Review

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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:	Matrix Duplicate	Date Reported:	02-19-02
Laboratory Number:	22037	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	02-19-02
Condition:	N/A	Date Extracted:	02-14-02

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent 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	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 22037 - 22039 and 22041.**

Analyst

Review

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

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:	Matrix Spike	Date Reported:	02-19-02
Laboratory Number:	22037	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP	Date Analyzed:	02-19-02
Condition:	N/A	Date Extracted:	02-14-02

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)	0.0087	0.050	0.0577	0.0001	98%	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	0.0018	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
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 22037 - 22039 and 22041.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040
PHENOLS
Quality Assurance Report
Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	02-20-02
Laboratory Number:	02-20-TCA	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-20-02
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results 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: **QA/QC for samples 22037 - 22039 and 22041.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040
PHENOLS
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	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

Parameter	Concentration (mg/L)	Det. 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: **QA/QC for samples 22037 - 22039 and 22041.**

Analyst

Review

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ENVIRO-TECH LABS

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:	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

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%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

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 22037 - 22039 and 22041.**

Analyst

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ENVIROTECH 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:	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

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	**100%**

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 samples 22037 - 22039 and 22041.**

Analyst

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ENVIROTECH 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:	Method Blank	Date Reported:	02-20-02
Laboratory Number:	02-14-TBN-MB	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	Cool	Date Extracted:	02-14-02
Condition:	Cool and Intact	Date Analyzed:	02-20-02
		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	**100%**

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 samples 22037 - 22039 and 22041.**

Analyst

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ENVIROTECH LABS

PRACTICAL 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:	02-20-02
Laboratory Number:	22037	Date Sampled:	N/A
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 Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (mg/L)
Pyridine	**ND**	**ND**	**0.0%**	**0.020**
Hexachloroethane	**ND**	**ND**	**0.0%**	**0.020**
Nitrobenzene	**0.102**	**0.101**	**0.0%**	**0.020**
Hexachlorobutadiene	**ND**	**ND**	**0.0%**	**0.020**
2,4-Dinitrotoluene	**0.034**	**0.034**	**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, 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 samples 22037 - 22039 and 22041.**

Analyst

Review

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ENVIROTECH LABS

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:	02-19-TCM QA/QC	Date Reported:	02-19-02
Laboratory Number:	22037	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	02-19-02
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Difference	Acceptance 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 Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.046	0.545	99.8%	80% - 120%
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%
Selenium	0.500	0.024	0.523	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: **QA/QC for samples 22037 - 22039 and 22041.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

08917

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
KEY ENERGY	5651 US Hwy 64 Farmington, NM	
Sampler: HARLAN M. BROWN	Client No. 98065-001	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TCLP w/o 1&2P						Remarks
WASH WATER TANK	02.14.02	11:40	22038	Water	4	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Harlan M Brown	02.14.02	13:45	Christine M Walte	2-14-02	13:45
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt			
	Y	N	N/A
Received Intact			
Cool - Ice/Blue Ice			

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 Mex.
Energy Minerals and Natural Resources

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Environmental Bureau
Oil Conservation Division

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator COASTAL CHEMICAL
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site YARD TANKS
2. Management Facility Destination KEY DISPOSAL	6. Transporter KEY
3. Address of Facility Operator #345 CR 3500 AZTEC NEW MEXICO	8. State NM
7. Location of Material (Street Address or ULSTR) 1130 MADISON LANE FARMINGTON, NM 87401	

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:

RINSEWATER FROM PUMPS, HOSES AND TANKS
ONLY VIRGIN CHEMICAL IN WASTE (UNUSED TREATING CHEMICALS)

LAST FILED 9-10-01 APPROVAL DATE

SEE MSDS SHEETS FILED 1-16-01

JAN 2002
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OIL CON. DIV
DIST. 3

Estimated Volume < 400 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MGR DATE: 1-9-02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Enviro/Engr DATE: 01/09/02

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 01/15/02

1-2051.0

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 Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-138
Revised March 17, 1999

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒	4. Generator COASTAL CHEMICAL
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site YARD TANKS
2. Management Facility Destination KEY DISPOSAL	6. Transporter KEY
3. Address of Facility Operator #345 CR 3500 AZTEC NEW MEXICO	8. State NM
7. Location of Material (Street Address or ULSTR) 1130 MADISON LANE FARMINGTON, NM 87401	

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:

RINSEWATER FROM PUMPS, HOSES AND TANKS
ONLY VIRGIN CHEMICAL IN WASTE (UNUSED TREATING CHEMICALS)

LAST filed 9-10-01 APPROVAL DATE 11-27-01

See MSDS sheets filed 1-16-01

JAN 2002
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DIST. 3

Estimated Volume < 400 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MOR DATE: 1-9-02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: _____ TITLE: Environ/Engr DATE: 01/09/02

APPROVED BY: _____ TITLE: _____ DATE: _____

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

Energy erals and Natural Resources D ment
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Form C-133
3/15/00

Submit to OCD
Permitted Surface
Waste Management
Facility

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:

COATSAL CHEMICAL CO. LLC.
1130 MADISON LANE
FARMINGTON, NM. 87401

2. Permit Number (if waste generated at an OCD permitted facility)

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, GLYCOL (TEG & EG ANTIFREEZE.

4. Location of Waste (Street address &/or ULSTR):

COASTAL CHEmical co. LLC.
1130 MADISON LANE
FARMINGTON, NM. 87401

5. Destination (Surface Waste Management Facility):

KEY ENERGY Disposal

6. Transporter:

KEY ENERGY

7. Estimated Volume _____ cy/bbls

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

XX 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.

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 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: _____ Date: 1/9/02

Print Name: ROBERT BURNSIDE

Title: FACILITY MANAGER

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
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State of New Mex
Energy, Minerals and Natural Resources

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Oil Conservation Division

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Santa Fe, NM 87505

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District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ Verbal Approval Received: Yes ☐ No ☒	4. Generator COASTAL CHEMICAL
	5. Originating Site YARD TANKS
2. Management Facility Destination KEY DISPOSAL	6. Transporter KEY
3. Address of Facility Operator #345 CR 3500 AZTEC NEW MEXICO	8. State NM
7. Location of Material (Street Address or ULSTR) 1130 MADISON LANE FARMINGTON, NM 87401	

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:

RINSEWATER FROM PUMPS, HOSES AND TANKS
ONLY VIRGIN CHEMICAL IN WASTE (UNUSED TREATING CHEMICALS)

LDST Filed 9-10-01 Approval Date

See MSDS Sheets Filed 1-16-01

JAN 2002
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OIL CON. DIV.
DIST. 3

Estimated Volume < 400 bbls cy Known Volume (to be verified by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: Mgr DATE: 1-9-02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-4486

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envirn/Engr DATE: 01/09/02

APPROVED BY: Martyn J. Kl. TITLE: Environmental Geologist DATE: 01/15/02

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
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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 Halliburton
Verbal Approval Received: Yes ☐ No ☒	5. Originating Site YARD
2. Management Facility Destination Key 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 E. Main Street Farmington NM 87402	

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:

Retrieved Frac fluids that are stored in yard

Analytical previously filed 7-21-01

Analytical Date: 10-26-01

I believe this is two tests.

JAN 2002 RECEIVED OIL CON. DIV. DIST. 3

Estimated Volume 200+ bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: MGR DATE: 1-4-02

Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Tolovich TELEPHONE NO: 505 334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Enviro/Engr DATE: 1/04/02

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 1/7/02

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

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Verbal Approval Received: Yes ☐ No ☒	5. Originating Site yard
2. Management Facility Destination Key Disposal	6. Transporter Key
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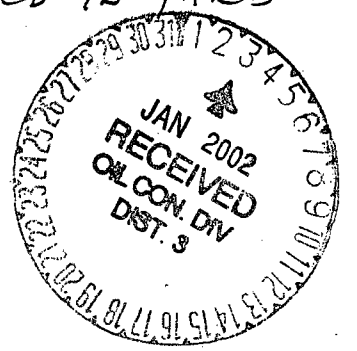


Estimated Volume 200+ bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: mgr DATE: 1-4-02
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Michael Talovich TELEPHONE NO. 505-334-6186

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Enviro/Engr DATE: 01/04/02

APPROVED BY: _____ TITLE: _____ DATE: _____

District I - (505) 393-6161
625 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

Energy M ...rals 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 CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
Halliburton Energy Services
4109 E Main Street
Farmington, NM 87402

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
Return Frac Fluids that were stored in what is referred to as a junk water tank that was sampled on 10/26/01

4. Location of Waste (Street address &/or ULSTR):
Halliburton Energy Services
4109 E Main Street
Farmington

5. Destination (Surface Waste Management Facility):
Key Energy Services

6. Transporter:
Key Energy

7. Estimated Volume _____ 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).

X Other (Description) Knowledge of Process + Filed previously refer to analytical #3

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.

X **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: Allen Rodrigue Date: 1-4-02

Print Name: ALLEN RODRIGUE

Title: SHARED SERVICES SUPERVISOR

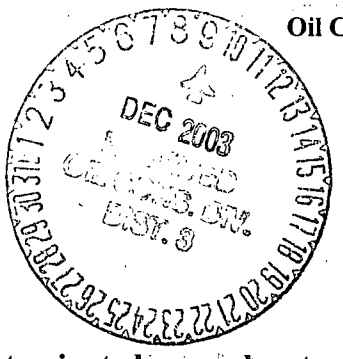
Key

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

December 4, 2003



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

xc: Aztec OCD
Mike Talovich, Key Four Corners, Inc., P.O. Box 900, Farmington, New Mexico 87499

16754 West 75th Place
Arvada, CO 80007
Phone: 303-910-8497
Fax: 303-456-9558

Denver *Ft. Collins*

To: Martyne Kieling **Fax:** 505-476-3462

From: Tom K. Martella **Date:** 12/03/03

Re: Analytical results M&M Truck Stop **Pages (including cover): 15**

CC:

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

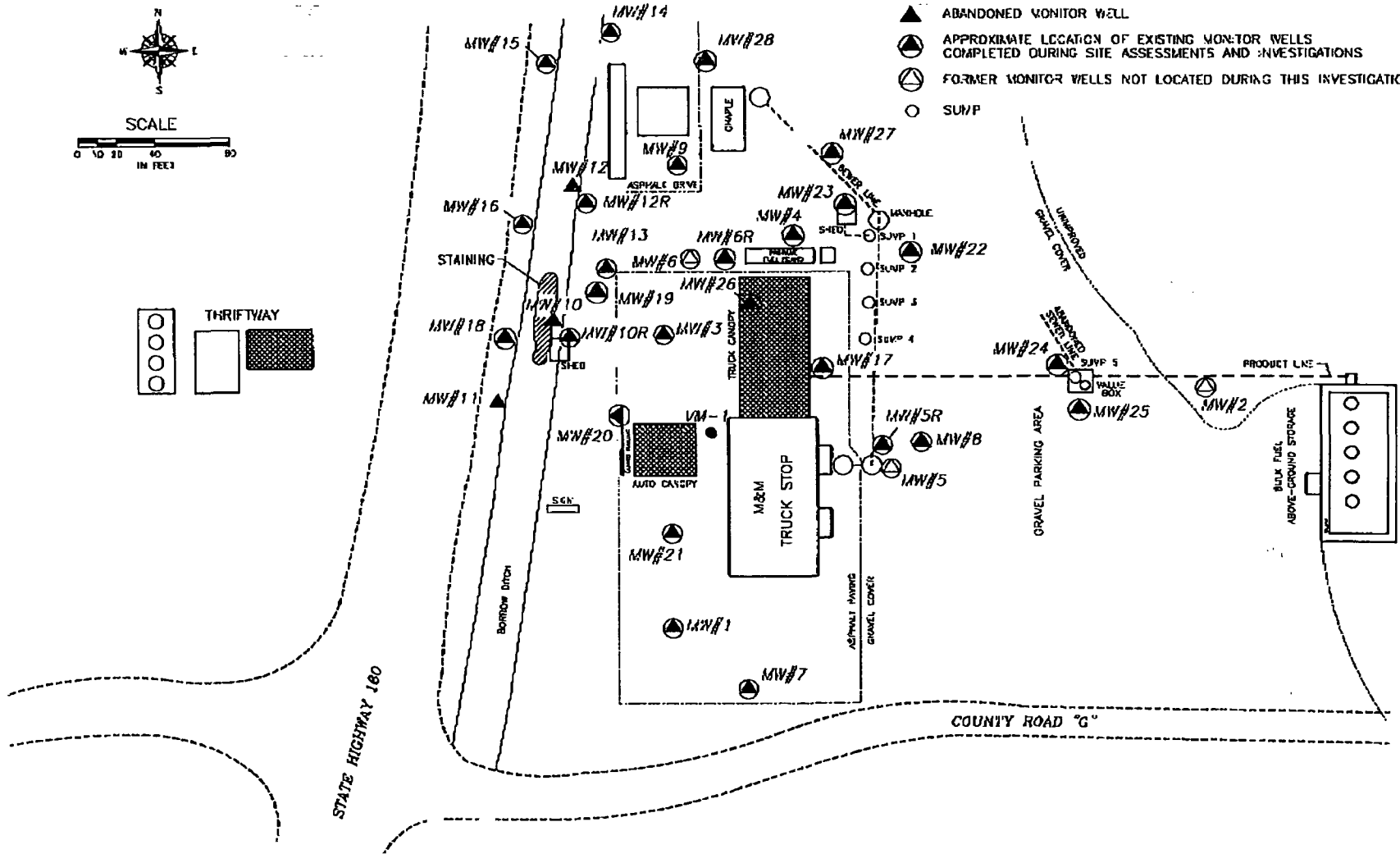
Notes: Attached are the analytical results for June. I haven't received the results from the most recent sampling event. Benzene concentrations are, in most cases, below detection limits or below the MCL. However, monitor well MW-20 does exceed the limit, but is not located near the wells where Enhanced Fluids Recovery (EFR) is performed. I've also enclosed a map of the property. Diesel fuel is recovered from the sumps in back of the property and degraded gasoline is recovered from MW-10R, located in the from of the property.

I'll also e-mail the historic analytical data for your review. Let me know if you need anything else.

Thanks

TK

CONFIDENTIAL



RECOVERY SHED AND WELL LOCATION MAP

SCALE: 1"=80'
DATE: JULY 2003
FIGURE:

INNOVATIVE SOLUTIONS & TECHNOLOGIES, INC.

DRAWN BY: MIRELES
REVISED:

AL SE

002/016

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

RECEIVED
NOV 13 2003
OIL CONSERVATION DIVISION

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: ☑ ☐ Verbal Approval Received: Yes ☐ No ☐	4. Generator Duke Energy Field Services, LP
	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	

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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 RECEIVED OIL CONS. DIV. DIST. 3

Estimated Volume 100 - 800 bbl/yr cy

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

SIGNATURE Michael Talovich TITLE: Mgr DATE: 11-10-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

E-MAIL ADDRESS MTALOVICH@KEYENERGY.COM

(This space for State Use)

APPROVED BY: Denny G. Foust TITLE: Environmental DATE: 11/10/03

APPROVED BY: Monty Sisk TITLE: Engr Environmental Geologist DATE: 11/14/03

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 June 10, 2003

Submit Original
Plus 1 Copy
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	5. Originating Site See attached list
2. Management Facility Destination Key Energy Disposal	6. Transporter Key Energy
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NOV 2003
RECEIVED
OIL CONS. DIV.
DIST. 3

Estimated Volume 100 - 800 bbl/yr cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: Mgr DATE: 11-10-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

E-MAIL ADDRESS MTALOVICH@KEYENERGY.COM

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envir/Engr DATE: 11/10/03

APPROVED BY: _____ TITLE: _____ 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 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

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 attach list of originating sites as appropriate	See attached list
4. Source and Description of Waste	
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 attached.	

I, Michael LEE representative for :
Print Name

Duke Energy Field Services, LP 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

__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):

_X_MSDS Information (soap, coolant, triethylene glycol)
_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): [signature]

Title: Field Supervisor

Date: 10/31/03

Originating Sites	Location
Arch Rock Compressor Station	SW/4 Section 14 Township 31N Range 10W
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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

612 E. Murray Drive
Farmington, NM 87499

Off: (505) 327-1072
FAX: (505) 327-1496

iiná bá

P.O. Box 3788
Shiprock, NM 87420

Off: (505) 368-4065

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.

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.

612 E. Murray Drive
Farmington, NM 87499

Off: (505) 327-1072
FAX: (505) 327-1496

iiná bá

P.O. Box 3788
Shiprock, NM 87420

Off: (505) 368-4065

iiná bá, Ltd.

Date: *04-Nov-03*

CLIENT: Terracon
Project: Pump Canyon Compressor Station
Lab Order: 0310056

CASE NARRATIVE

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.

612 E. Murray Drive
Farmington, NM 87499

Off: (505) 327-1072
FAX: (505) 327-1496

iiná bá

P.O. Box 3788
Shiprock, NM 87420

Off: (505) 368-4065

ANALYTICAL REPORT

Date: *04-Nov-03*

CLIENT:	Terracon	**Client Sample Info:**	Terracon
Work Order:	0310056	**Client Sample ID:**	Compressor Station
Project:	Pump Canyon Compressor Station	**Collection Date:**	10/30/2003 3:15:00 PM
Lab ID:	0310056-001B	**Matrix:**	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP LEACHED		**SW7470**				Analyst: **DWC**
Mercury	ND	0.0010		mg/L	1	11/3/2003
ICP METALS, TCLP LEACHED		**SW1311/6010B**				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

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

612 E. Murray Drive
Farmington, NM 87499

Off: (505) 327-1072
FAX: (505) 327-1496

iiná bá

P.O. Box 3788
Shiprock, NM 87420

Off: (505) 368-4065

ANALYTICAL REPORT

Date: *04-Nov-03*

CLIENT:	Terracon	**Client Sample Info:**	Terracon
Work Order:	0310056	**Client Sample ID:**	Compressor Station
Project:	Pump Canyon Compressor Station	**Collection Date:**	10/30/2003 3:15:00 PM
Lab ID:	0310056-001C	**Matrix:**	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
PH		E150.1				Analyst: HNR
pH	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
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

TestAmerica
ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Drive • Nashville, Tennessee 37204
800-765-0980 • 615-726-3404 Fax

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 accreditation.

Sample Identification	Lab Number	Collection Date
0310056-001D	03-A170781	10/30/03

TestAmerica
ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Drive • Nashville, Tennessee 37204
800-765-0980 • 615-726-3404 Fax

Sample Identification	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: Roxanne L Connor Report Date: 11/ 4/03

Ashley Morris, Lab Director
Michael H. Dunn, M.S., QA/QC Director
Johnny A. Mitchell, Operations Manager Organics
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.

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TestAmerica
ANALYTICAL TESTING CORPORATION

2960 Foster Creighton 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

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

Project:
Project Name:
Sampler:

Pump Canyon Compressor Station

11/5/03

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
GENERAL CHEMISTRY PARAMETERS										
Ignitability	NOT IGNITABLE UP TO 200F					11/ 3/03	10:33	T. Beverly	1010M	7527
Flash Point, Closed Cup	NO FLASH UP TO 200F					11/ 3/03	10:33	T. Beverly	1010	7527

TCLP Results

Analyte	Result	Units	Reg Limit	Matrix Spike Recovery (%)	Date	Time	Analyst	Method	QC Batch
Benzene	< 0.0200	mg/l	0.5	108	11/ 4/03	12:05	C. Spry	8260	9314
Carbon tetrachloride	< 0.0200	mg/l	0.5	85	11/ 4/03	12:05	C. Spry	8260	9314
Chlorobenzene	< 0.0200	mg/l	100	105	11/ 4/03	12:05	C. Spry	8260	9314
Chloroform	< 0.0200	mg/l	6.0	106	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	8260	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/ 4/03	12:05	C. Spry	8260	9314
Trichloroethene	0.230	mg/l	0.5	106	11/ 4/03	12:05	C. Spry	8260	9314
Vinyl Chloride	< 0.0200	mg/l	0.2	99	11/ 4/03	12:05	C. Spry	8260	9314
Zero Headspace Extraction	Initiated				10/31/03	15:00	B.Minor	1311	6263

Sample report continued . . .

CHAIN OF CUSTODY RECORD

3663

Iiná bá
(for life's sake)
612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
Phone: (505) 327-1072 • Fax: (505) 327-1496

Date 10-30-03 Page 1 of 1

REPORT RESULTS TO:
Report to: ROBERT THOMPSON
Company: TERRACON
Address: #4A CR 3499
City: FLORA VISTA, NM 87415
Phone: 334-2700 Fax: 334-9703 Email: rsthompson@terracon.com

SEND INVOICE TO:
PO No.: Job No.:
Name: ROBERT THOMPSON
Company: TERRACON
Address: #4A CR 3499
City: FLORA VISTA, NM 87415

Turnaround Time: 10 days (normal) ___ 24-48 hours (100%) X 3-5 days (50%) ___
Sample Integrity: Intact X On Ice X
Subcontract: Yes X No ___

Sampling Location: PUMP CANYON COMPRESSOR STATION

Analysis Requested

Sample Identification	Sample Date	Sample Time	Matrix	Pres.	Number of Containers	PH	Flash Point	TCLP Volatiles A	TCLP Metals B					Lab ID
PUMP CANYON COMPRESSOR STATION	10-30	1515	H_2O	HNO_3 HCl	6	X	X	X	X					031005L-001
TRIP BLANK	10-30	1330	H_2O	HCl	1			X						L -002A

Relinquished by: Robert Thompson	Date/Time: 10-30-03/1630	Received by: Helen R	Date/Time: 10/30/03 16:30
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Comments: 303-605-1717 (OFFICE) 720-635-9460 (CELL) 303-605-1957 (FAX) COPY KAREN KIMPURA

DISTRIBUTION WHITE - Lab • YELLOW - Client • PINK - Courier

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11- 5-03;11:08AM; IINA BA INC ;1+505+327+1496 # 2/ 2

ZEP MANUFACTURING COMPANY

ISSUE DATE: 05/21/99 ZEP FORMULA 4358
SUPERSEDES: 06/15/88 PRODUCT NUMBER: 0407
Car Wash - Powder

SECTION I - E M E R G E N C Y C O N T A C T S

MEDICAL EMERGENCY: TOLL FREE 1-877-541-2016 ALL CALLS RECORDED

TRANSPORTATION EMERGENCY: CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDED

SECTION II - H A Z A R D O U S I N G R E D I E N T S

DESIGNATIONS	TLV (PPM)	EFFECTS (SEE REVERSE)	% IN PROD.
** NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL ** npe; poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-hydroxy; CAS# 9016-45-9; RTECS# MD0905000; OSHA PEL-N/D	N/D	EIR	10-20

SECTION III - H E A L T H H A Z A R D D A T A

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.

SECTION IV - S P E C I A L P R O T E C T I O N I N F O R M A T I O N

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 - P H Y S I C A L D A T A

BOILING POINT (F)	: N/A	SPECIFIC GRAVITY	:
VAPOR PRESSURE(MMHG)	: N/A	EVAPORATION RATE(N/A	=1): N/A
VAPOR DENSITY(AIR=1)	: N/A	PH(CONCENTRATE)	: N/A
SOLUBILITY IN WATER	: 1.0 #/gal.	PH(USE DILUTION OF 0.25	): 9.3

VOC CONTENT (CONCENTRATE) N/A
APPEARANCE AND ODOR :A RED, FREE-FLOWING, PLEASANTLY SCENTED POWDER.

SECTION VI - F I R E A N D E X P L O S I O N D A T A

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 - R E A C T I V I T Y D A T A

STABILITY : 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 - S P I L L A N D D I S P O S A L P R O C E D U R E S

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

ISSUE DATE: 05/21/99 ZEP FORMULA 4358
SUPERSEDES: 06/15/88 PRODUCT NUMBER: 0407
Car Wash - Powder

SECTION IX - S P E C I A L P R E C A U T I O N S

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 - R E G U L A T O R Y I N F O R M A T I O N

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
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.
CBL: Combustible - At temperatures between 100F and 200F 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.
COR: 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.

PPM: Parts per million - unit of measure for exposure limits.
(S) 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 8-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 (150 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 HMIS 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 aqueous 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 spilled 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
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)

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Common Name	**Triethylene Glycol**
Supplier	Coastal Chemical Co., L.L.C. 3520 Veterans Memorial Drive Abbeville, La. 70510 337-893-3862
Synonym	Not available.
Trade name	Not available.
Material Uses	Not available.
Manufacturer	Coastal Chemical Co., L.L.C. 3520 Veterans Memorial Drive Abbeville, La. 70510 337-893-3862

Code	7970
MSDS#	Not available.
Validation Date	4/8/2002
Print Date	4/8/2002
Responsible Name	Charles Toups

In Case of Emergency	Transportation Emergency Call CHEMTREC 800-424-9300 Other Information Call Charles Toups 337-898-0001

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits
1) Diethylene glycol 2) Triethylene Glycol	111-46-6 112--27-6	0-5 95-100	Not available

Section 3. Hazards Identification

Physical State and Appearance	Liquid.
Emergency Overview	WARNING! CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LIVER.
Routes of Entry	Not available.
Potential Acute Health Effects	
Eyes	Not available.
Skin	Irritation of the product in case of skin contact: Not available. Sensitization of the product: Not available. Slightly hazardous in case of skin contact (permeator).
Inhalation	Slightly hazardous in case of inhalation.
Ingestion	Slightly hazardous in case of ingestion.
Potential Chronic Health Effects	**CARCINOGENIC EFFECTS**: Not available. **MUTAGENIC EFFECTS**: Not available. **TERATOGENIC EFFECTS**: Not available.
Medical Conditions Aggravated by Overexposure:	Repeated or prolonged exposure is not known to aggravate medical condition.
Overexposure Signs/Symptoms	Not available
See Toxicological Information (section 11)	

Continued on Next Page

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.

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 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.
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.
Large 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.

Continued on Next Page

Section 7. Handling and Storage

Handling	Avoid breathing vapors or spray mists.
Storage	Keep container tightly closed Keep 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 Protection	
Eyes	Safety glasses.
Body	Lab coat.
Respiratory	Not applicable.
Hands	Gloves (impervious).
Feet	Not applicable.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name	Exposure Limits
1) 2,2'-Oxydiethanol 2) Triethylene Glycol	Not available.

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.
Molecular Weight	Not applicable.
Molecular Formula	Not applicable.
pH (1% Soln/Water)	Neutral.
Boiling/Condensation Point	The lowest known value is 245.8°C (474.4°F) (Diethylene 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).
Vapor Density	The highest known value is 6.7 (Air = 1) (Tetraethylene glycol). Weighted average: 5.15 (Air = 1)
Volatility	Not available.
Odor Threshold	Not available.
Evaporation Rate	Not available.
VOC	Not available.

Odor	Not available.
Taste	Not available.
Color	Not available.

Continued on Next Page

Viscosity	Not available.
$LogK_{ow}$	Not available.
Ionicity (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	Not available.
Incompatibility with Various Substances	Not available.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Not available.

Section 11. Toxicological Information

Toxicity 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 to 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

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Biodegradable/OECD	Not available.
Mobility	Not available.
	These products are carbon oxides (CO, CO2) and water.
Toxicity 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.

Continued on Next Page

Section 13. Disposal Considerations

Waste Information	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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	Not available.
Marine Pollutant	Not available.
Special Provisions for Transport	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 found. 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 (EEC)	This product is not classified according to the EU regulations..
International Lists	No products were found.
State Regulations	Minnesota: Diethylene glycol California prop. 65: No products were found.

Continued on Next Page

Section 16. Other Information

Label Requirements	CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LIVER.

Hazardous Material Information System (U.S.A.)

Health	2
Fire Hazard	1
Reactivity	0
Personal Protection	B

National Fire Protection Association (U.S.A.)

References	Not available.
Other Special Considerations	Not available.

Validated by Charles Toups on 4/8/2002.

Verified by Charles Toups.

Printed 4/8/2002.

Transportation Emergency Call
CHEMTREC 800-424-9300
Other Information Call
Charles Toups
337-898-0001

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability 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 hazards that exist.

Post-it® Fax Note 7671	Date 11/06	# of pages ▶ 6
To Dale	From Cindy	
Co./Dept. Cooper	Co. Amigo	
	Phone #	
Fax # 325-5979	Fax #	

Mobil® The energy to make a difference™ Print View

605717-00

605717-00 MOBIL PEGASUS 89
MATERIAL SAFETY DATA BULLETIN

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MOBIL PEGASUS 89
SUPPLIER: MOBIL OIL CORP.
NORTH AMERICA MARKETING AND REFINING
3225 GALLOWS RD.
FAIRFAX, VA 22037

24 - Hour Emergency (call collect):	609-737-4411	
Product and MSDS Information:	800-662-4525	856-224-4644
CHEMTREC:	800-424-9300	202-483-7616

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES
INGREDIENTS CONSIDERED HAZARDOUS TO HEALTH:
This product is not formulated to contain ingredients which have exposure limits established by U.S. agencies. It is not hazardous to health as defined by the European Union Dangerous Substances/Preparations Directives. See Section 15 for a regulatory analysis of the ingredients.
See Section 15 for European Label Information.
See Section 8 for exposure limits (if applicable).

3. HAZARDS IDENTIFICATION

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined not to be hazardous.
EFFECTS OF OVEREXPOSURE: No significant effects expected.
EMERGENCY RESPONSE DATA: Amber Liquid. DOT ERG No. - NA

4. FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with water. If irritation occurs, call a physician.
SKIN CONTACT: Wash contact areas with soap and water.
INHALATION: Not expected to be a problem.

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, foam, 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 CHEMTREC (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: See 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 employed.
SKIN PROTECTION: No special equipment required. However, good personal 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical physical properties are given below. Consult Product Data Sheet for specific details.
APPEARANCE: Liquid
COLOR: Amber
ODOR: Mild
ODOR THRESHOLD-ppm: NE
pH: 6.8
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 40 C, cSt: 121.5
VISCOSITY AT 100 C, cSt: 13.0
POUR POINT C(F): -15(5)
FREEZING POINT C(F): NE
VOLATILE ORGANIC COMPOUND: 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 oxidizers.
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 on testing of similar products and/or the components.
INHALATION TOXICITY (RATS): Practically non-toxic (LC50: greater than 5 mg/l). ---Based on testing of similar products and/or the components.
EYE IRRITATION (RABBITS): Practically 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)---

Representative Mobil formulations have been tested at the Mobil Environmental and Health Sciences Laboratory by dermal applications to rats 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 effects 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 (SUMMARY)---

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

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 DOT: NOT REGULATED BY USA DOT.
RID/ADR: NOT REGULATED BY RID/ADR.
IMO: NOT REGULATED BY IMO.

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".
SARA (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
ZINC (ELEMENTAL ANALYSIS) (0.03%)	7440-66-6	22
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2: 1) (ZDDP) (0.26%)	68649-42-3	22

--- REGULATORY LISTS SEARCHED ---

1=ACGIH ALL	6=IARC 1	11=TSCA 4	16=CA P65 CARC	21=LA RTK
2=ACGIH A1	7=IARC 2A	12=TSCA 5a2	17=CA P65 REPRO	22=MI 293
3=ACGIH A2	8=IARC 2B	13=TSCA 5e	18=CA RTK	23=MN RTK
4=NTP CARC	9=OSHA CARC	14=TSCA 6	19=FL RTK	24=NJ RTK
5=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 - MARKETING, SAFE USE: L
EHS Approval Date: 19JUN1999

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TEXACO
MATERIAL SAFETY DATA SHEET

NOTE: Read and understand Material Safety Data Sheet before handling or disposing of product.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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.O. Box 4427
Houston, TX 77210-4427

Telephone Numbers:

Transportation Emergency	-Company	:	(914) 831-3400
	CHEMTREC	:	(800) 424-9300
Health Emergency	-Company	:	(914) 831-3400
General MSDS Assistance		:	(914) 838-7204
Technical Information	-Fuels	:	(914) 838-7336
	-Chemical	:	(512) 459-6543
	-Lubricant/ Antifreezes	:	(800) 782-7852
	-Additives	:	(713) 235-6278
	-Solvents	:	(800) 876-3738

2. COMPOSITION/INFORMATION ON INGREDIENTS

THE CRITERIA FOR LISTING COMPONENTS IN THE COMPOSITION SECTION IS 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 A 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: (Sequence Number and Chemical Name)

Seq.	Chemical Name	CAS Number	Range in %
01 *	1,2 ethanediol	107-21-1	95.00-99.99
02 *	Sodium tetraborate pentahydrate	1330-43-4	1.00-2.99

PRODUCT IS HAZARDOUS ACCORDING TO OSHA (1910.1200).
* COMPONENT IS HAZARDOUS ACCORDING TO OSHA.

Exposure Limits referenced by Sequence Number in the Composition Section

Seq.	Limit	
01	50	ppm CEILING-OSHA
01	39.4	ppm CEILING-ACGIH (AEROSOL) (A4)
02	10	mg/m3 TWA-OSHA
02	1	mg/m3 TWA-ACGIH

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Appearance:
Fluorescent green liquid
Odor:
Mild odor

N.D. - NOT DETERMINED N.A. - NOT APPLICABLE N.T. - NOT TESTED
< - LESS THAN > - GREATER THAN

PRODUCT CODE: 02055
NAME: STARTEX ANTIFREEZE COOLANT

Date Issued: 05-02-96
Supersedes: 03-20-96

3. HAZARD IDENTIFICATION (CONT)

WARNING STATEMENT

WARNING ! HARMFUL IF SWALLOWED
MAY CAUSE DIZZINESS AND DROWSINESS
MAY CAUSE EYE IRRITATION
ASPIRATION HAZARD IF SWALLOWED -
CAN ENTER LUNGS AND CAUSE DAMAGE
FOR INDUSTRIAL USE ONLY
CAN CAUSE KIDNEY DAMAGE
MAY CAUSE LIVER DAMAGE IF SWALLOWED BASED ON ANIMAL DATA

ATTENTION ! 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

HMIS			NFPA		
Health:	2	Reactivity: 0	Health:	2	Reactivity: 0
Flammability:	1	Special : -	Flammability:	1	Special : -

POTENTIAL HEALTH EFFECTS

	EYE	SKIN	INHALATION	INGESTION
Primary Route of Exposure:	X	X	X	-

EFFECTS OF OVEREXPOSURE

Acute:

Eyes:
May cause irritation, experienced as mild discomfort and seen as slight excess redness of the eye.

Skin:
Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling.

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.

Inhalation:
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.

Ingestion:
Contains ethylene glycol and/or diethylene glycol, which are toxic when swallowed. A lethal dose for an adult is 1-2 ml per kilogram, or about 4 ounces (one-half cup). Symptoms include headache, weakness, confusion, dizziness, staggering, slurred speech, loss of coordination, faintness, nausea and vomiting, increased heart rate, decreased blood pressure, difficulty breathing and seeing, pulmonary edema, unconsciousness, convulsions, collapse, and coma. Symptoms may be delayed. Decreased urine output and kidney failure may also occur. Severe poisoning may cause death.

Aspiration may occur during swallowing or vomiting, resulting in lung damage.

Sensitization Properties:
Unknown.

Chronic:
Prolonged and repeated overexposure may cause kidney damage.

Medical Conditions Aggravated by Exposure:
Repeated overexposure may aggravate existing kidney disease.

Because of its irritating properties, repeated skin contact may aggravate an existing dermatitis (skin condition).

N.D. - NOT DETERMINED N.A. - NOT APPLICABLE N.T. - NOT TESTED
< - LESS THAN > - GREATER THAN

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. Get 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. 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.

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 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.

5. FIRE-FIGHTING MEASURES

Ignition Temperature - AIT (degrees F):
Not determined.
Flash Point (degrees F):
240 (COC)
Flammable Limits (%):
Lower: Not determined.
Upper: Not determined.

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

Extinguishing Media Which Must Not Be Used:
Not determined.

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.

N.D. - NOT DETERMINED N.A. - NOT APPLICABLE N.T. - NOT TESTED
< - LESS THAN > - GREATER THAN

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.

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:
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:
Fluorescent green liquid

Odor:
Mild odor

Boiling Point (degrees F):
388

Melting/Freezing point (degrees F):
Not applicable.

Specific Gravity (water=1):
1.13

pH of undiluted product:
10.8

Vapor Pressure:
< .1 mmHg

Viscosity:
< 20 cSt at 40.0 C

N.D. - NOT DETERMINED N.A. - NOT APPLICABLE N.T. - NOT TESTED
< - LESS THAN > - GREATER THAN

PRODUCT CODE: 02055 Date Issued: 05-02-96
NAME: STARTEX ANTIFREEZE COOLANT Supersedes: 03-20-96

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
-	-	-	-	-	X

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

Oral:
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 irritating

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 sewers.

N.D. - NOT DETERMINED N.A. - NOT APPLICABLE N.T. - NOT TESTED
< - LESS THAN > - GREATER THAN

PRODUCT CODE: 02055 Date Issued: 05-02-96
NAME: STARTEX ANTIFREEZE COOLANT Supersedes: 03-20-96

13. TRANSPORT INFORMATION

Transportation
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 RQ notation, or, an otherwise 'Not Regulated' product will be classified as Environmentally Hazardous (solid/liquid) N.O.S., Class 9, unless the product qualifies for the petroleum exemption (49 CFR 171.8).

IMDG:
Proper Shipping Name:
Not evaluated

ICAO:
Proper Shipping Name:
Not evaluated

TDG:
Proper Shipping Name:
Not evaluated

14. REGULATORY INFORMATION

Federal Regulations:
SARA Title III:
Section 302/304 Extremely Hazardous Substances

Seq.	Chemical Name	CAS Number	Range in %
None			

Section 302/304 Extremely Hazardous Substances (CONT)

Seq.	TPQ	RQ
None		

Section 311 Hazardous Categorization:

Acute	Chronic	Fire	Pressure	Reactive	N/A
X	X	-	-	-	-

Section 313 Toxic Chemical

Chemical Name	CAS Number	Concentration
1,2 ethanediol	107-21-1	95.00-99.99

CERCLA 102(a)/DOT Hazardous Substances: (+ indicates DOT Hazardous Substance)

Seq.	Chemical Name	CAS Number	Range in %
01+	1,2 ethanediol	107-21-1	95.00-99.99
02+	Sodium hydroxide	1310-73-2	0.10-0.99
03+	Phosphoric acid	7664-38-2	0.10-0.99

CERCLA/DOT Hazardous Substances (Sequence Numbers and RQ's):

Seq.	RQ
01+	5000
02+	1000
03+	5000

TSCA Inventory Status:
This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

Other:
None.

State Regulations:
California 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.

Chemical Name	CAS Number
None	

States Right-to-know Regulations:
Chemical Name State Right-to-know

N.D. - NOT DETERMINED N.A. - NOT APPLICABLE N.T. - NOT TESTED
< - LESS THAN > - GREATER THAN

14. REGULATORY INFORMATION (CONT)

Phosphoric acid	CT,FL,IL,MA,NJ,PA,RI
Sodium hydroxide	CT,FL,IL,MA,NJ,PA,RI
Sodium tetraborate pentahydrate	FL,MA,PA
1,2 ethanediol	FL,IL,MA,NJ,PA,RI

State list: CT (Connecticut), FL (Florida), IL (Illinois), MI (Michigan), LA (Louisiana), MA (Massachusetts), NJ (New Jersey), PA (Pennsylvania), RI (Rhode Island)

International Regulations:

WHMIS Classification:
Class D, Div 1, Subdiv B: Toxic
Class D, Div 2, Subdiv A: Teratogenic

Canada Inventory Status:
This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

EINECS Inventory Status:
Not determined

Australia Inventory Status:
Not determined.

Japan Inventory Status:
Not determined.

15. ENVIRONMENTAL INFORMATION

Aquatic Toxicity:
Not determined.

Mobility:
Not determined.

Persistence and Biodegradability:
This product is estimated to have a moderate rate of biodegradation: greater than or equal to 30 % degradation over a test period of 28 days or less

Potential to Bioaccumulate:
This product is estimated to have a low potential to bioconcentrate.

Remarks:
None

16. OTHER INFORMATION

Acute or chronic oral consumption of products containing ethylene glycol can produce significant adverse health effects, including death, in humans and animals. Keep out of reach of children and pets. Such products should not be used in potable (drinking) water systems or other systems where contamination of potable water supplies is possible (e.g., recreational vehicles, winterizing potable water systems).

Texaco recommends that all exposures to this product be minimized by strictly adhering to recommended occupational controls procedures to avoid any potential adverse health effects.

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 TEXACO'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 TEXACO PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL TEXACO 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.

N.D. - NOT DETERMINED N.A. - NOT APPLICABLE N.T. - NOT TESTED
< - LESS THAN > - GREATER THAN

PRODUCT CODE: 02055
NAME: STARTEX ANTIFREEZE COOLANT

Date Issued: 05-02-96
Supersedes: 03-20-96

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 APPROPRIATE GOVERNMENT AGENCY. TEXACO DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

Date: 05-02-96 New X Revised. Supersedes: 03-20-96
Date printed: 05-06-96

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

N.D. - NOT DETERMINED N.A. - NOT APPLICABLE N.T. - NOT TESTED
< - LESS THAN > - GREATER THAN

PRODUCT CODE: 02055 Date Issued: 05-02-86
NAME: STARTEX ANTIFREEZE COOLANT Supersedes: 03-20-96

17. PRODUCT LABEL Label Date: 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 COOLANT

WARNING STATEMENT

WARNING ! HARMFUL IF SWALLOWED
MAY CAUSE DIZZINESS AND DROWSINESS
MAY CAUSE EYE IRRITATION
ASPIRATION HAZARD IF SWALLOWED -
CAN ENTER LUNGS AND CAUSE DAMAGE
FOR INDUSTRIAL USE ONLY
CAN CAUSE KIDNEY DAMAGE
MAY CAUSE LIVER DAMAGE IF SWALLOWED BASED ON ANIMAL DATA

ATTENTION ! 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 thoroughly after handling.

FIRST AID

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 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. 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	CAS Number	Range in %

N.D. - NOT DETERMINED N.A. - NOT APPLICABLE N.T. - NOT TESTED
< - LESS THAN > - GREATER THAN

PRODUCT CODE: 02055
NAME: STARTEX ANTIFREEZE COOLANT

Date Issued: 05-02-96
Supersedes: 03-20-96

17. PRODUCT LABEL (CONT)

Label Date: 03-20-96

*	1,2 ethanediol	107-21-1	95.00-99.99
*	Sodium tetraborate pentahydrate	1330-43-4	1.00-2.99

PRODUCT IS HAZARDOUS ACCORDING TO OSHA (1910.1200).
* COMPONENT IS HAZARDOUS ACCORDING TO OSHA.

Pennsylvania Special Hazardous Substance(s)	CAS Number	Range in %
None		

HMIS			NFPA		
Health:	2	Reactivity: 0	Health:	2	Reactivity: 0
Flammability:	1	Special : -	Flammability:	1	Special : -

Transportation
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 RQ notation, or, an otherwise 'Not Regulated' product will be classified as Environmentally Hazardous (solid/liquid) N.O.S., Class 9, unless the product qualifies for the petroleum exemption (49 CFR 171.8).

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

Manufacturer's Name and Address:
TEXACO LUBRICANTS COMPANY
A DIVISION OF TEXACO REFINING AND MARKETING INC.
P.O. Box 4427
Houston, TX 77210-4427

TRANSPORTATION EMERGENCY	Company:	(914) 831-3400
	CHEMTREC:	(800) 424-9300
HEALTH EMERGENCY	Company:	(914) 831-3400

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 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator Key Energy Services, Inc. 5. 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	8. State NM
7. Location of Material (Street Address or ULSTR) Lat: 36 degrees,57 min,16 sec. N Long: 107 degree,46 min,38 sec. W	

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:

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 be entered by the operator at the end of the haul) _____cy

SIGNATURE Michael Talovich TITLE: FACILITY MANAGER DATE: 11-11-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envirn/Engr DATE: 11/11/03

APPROVED BY: Martyn J. Kitty TITLE: Environmental Geologist DATE: 11/13/03

District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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SIGNATURE Michael Talovich TITLE: ___FACILITY MANAGER___ DATE: _11-11-03_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __MICHAEL TALOVICH_____ TELEPHONE NO. _505-334-6416_____

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Enviro/Engr DATE: 11/11/03

APPROVED BY: _____ 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 Key Energy Services, Inc. Four Corners Division 5651 US Highway 64 Farmington, NM 87401	2. Destination Name: Key Energy Services, Disposal 345 C. R. 3500 Aztec, NM 87410
3. Originating Site (name): Key Energy Services, Inc. Four Corners Division 5651 US Highway 64 Farmington, NM 87401 attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR): Latitude: 36 Degrees, 57 Min, 16 Sec. North Longitude: 107 Degree, 46 Min., 38 Sec. West
4. Source and Description of Waste Produced water mixed with diesel and sediments resulting from a 40 bbl Bobtail Water Truck wreck on Navajo Dam Road on September 27, 2003.	

I, **Rick Brazfield** representative for **Key Energy Services, Four Corners Division** 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

_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
___Other (description
_X_ RCRA Hazardous Waste Analysis
_X_ 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): R. Brazfield

Title: **Safety & Environmental Division Manager**

Date: **September 27, 2003** Revised 11-11-03 RB

612 E. Murray Drive
Farmington, NM 87499

Off: (505) 327-1072
FAX: (505) 327-1496

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P.O. Box 3788
Shiprock, NM 87420

Off: (505) 368-4065

ANALYTICAL REPORT

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

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				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
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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Off: (505) 368-4065

ANALYTICAL REPORT

Date: *13-Oct-03*

CLIENT:	Souder, Miller & Associates	**Client Sample Info:**	Key Energy
Work Order:	0310001	**Client Sample ID:**	Upper SO2
Project:	5114321; Key Energy	**Collection Date:**	9/27/2003 4:00:00 PM
Lab ID:	0310001-002A	**Matrix:**	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				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/L	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

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ANALYTICAL REPORT

Date: *13-Oct-03*

CLIENT:	Souder, Miller & Associates	**Client Sample Info:**	Key Energy
Work Order:	0310001	**Client Sample ID:**	Upper SO2
Project:	5114321; Key Energy	**Collection Date:**	9/27/2003 4:00:00 PM
Lab ID:	0310001-002B	**Matrix:**	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015B**		**(SW3510B)**		Analyst: **JEM**
T/R Hydrocarbons: C10-C28	11.1	0.25		mg/L	1	10/7/2003

Qualifiers:

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Off: (505) 368-4065

ANALYTICAL REPORT

Date: *13-Oct-03*

CLIENT:	Souder, Miller & Associates	**Client Sample Info:**	Key Energy
Work Order:	0310001	**Client Sample ID:**	Trip Blank
Project:	5114321; Key Energy	**Collection Date:**	9/27/2003 2:50:00 PM
Lab ID:	0310001-003A	**Matrix:**	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				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
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R - RPD outside accepted precision limits
E - Value above Upper Quantitation Limit - UQL

liná bá, Ltd.

Sample Receipt Checklist

Client Name: **SMA1005**

Date and Time Received: **9/29/2003**

Work Order Number: **0310001**

Received by: HNR

Checklist completed by: Heidi R 9/30/03 (Signature / Date)

Reviewed by: jom 10/2/03 (Initials / Date)

Matrix:

Carrier 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 ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	

Adjusted? _____ Checked by: _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person 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**

Analyte	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 Val	%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
T/R Hydrocarbons: C10-C28	5.118	0.250	5.01	0	102	85	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

375

CLIENT: Souder, Miller & Associates
Work Order: 0310001
Project: 5114321; Key Energy

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DRO_W

Sample ID	CCV2_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:	72812

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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
J - Analyte detected below quantitation limits
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Souder, Miller & Associates
Work Order: 0310001
Project: 5114321; Key Energy

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_W

Sample ID MB_031005	SampType: MBLK	TestCode: BTEX_W	Units: µg/L	Prep Date: 10/6/2003	Run ID: GC-1_031006A
Client ID: ZZZZZ	Batch ID: R5014	TestNo: SW8021B		Analysis Date: 10/6/2003	SeqNo: 72742

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									J

Sample ID LCS_031005	SampType: LCS	TestCode: BTEX_W	Units: µg/L	Prep Date: 10/6/2003	Run ID: GC-1_031006A
Client ID: ZZZZZ	Batch ID: R5014	TestNo: SW8021B		Analysis Date: 10/6/2003	SeqNo: 72741

Analyte	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	TestCode: BTEX_W	Units: µg/L	Prep Date: 10/6/2003	Run ID: GC-1_031006A
Client ID: ZZZZZ	Batch ID: R5014	TestNo: SW8021B		Analysis Date: 10/6/2003	SeqNo: 72743

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	TestCode: BTEX_W	Units: µg/L	Prep Date: 10/6/2003	Run ID: GC-1_031006A
Client ID: ZZZZZ	Batch ID: R5014	TestNo: SW8021B		Analysis Date: 10/6/2003	SeqNo: 72744

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	299.7	2.5	200	102.7	98.5	72	117	301.1	0.468	6.9	

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Souder, Miller & Associates
Work Order: 0310001
Project: 5114321; Key Energy

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_W

Sample ID 0310007-008AMSD	SampType: MSD	TestCode: BTEX_W	Units: µg/L	Prep Date: 10/6/2003	Run ID: GC-1_031006A
Client ID: ZZZZZ	Batch ID: R5014	TestNo: SW8021B		Analysis Date: 10/6/2003	SeqNo: 72744

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	TestCode: BTEX_W	Units: µg/L	Prep Date: 10/6/2003	Run ID: GC-1_031006A
Client ID: ZZZZZ	Batch ID: R5014	TestNo: SW8021B		Analysis Date: 10/6/2003	SeqNo: 72738

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	TestCode: BTEX_W	Units: µg/L	Prep Date: 10/6/2003	Run ID: GC-1_031006A
Client ID: ZZZZZ	Batch ID: R5014	TestNo: SW8021B		Analysis Date: 10/6/2003	SeqNo: 72739

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.93	0.50	20	0	105	85	115	0	0		
Ethylbenzene	22.42	0.50	20	0	112	85	115	0	0		
m,p-Xylene	43.73	1.0	40	0	109	85	115	0	0		
o-Xylene	21.21	0.50	20	0	106	85	115	0	0		
Toluene	21.32	0.50	20	0	107	85	115	0	0		

Sample ID CCV5_031006	SampType: CCV	TestCode: BTEX_W	Units: µg/L	Prep Date: 10/6/2003	Run ID: GC-1_031006A
Client ID: ZZZZZ	Batch ID: R5014	TestNo: SW8021B		Analysis Date: 10/6/2003	SeqNo: 72740

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.86	0.50	20	0	99.3	85	115	0	0		
Ethylbenzene	21.2	0.50	20	0	106	85	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Souder, Miller & Associates
Work Order: 0310001
Project: 5114321; Key Energy

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_W

Sample ID CCV5_031006	SampType: CCV	TestCode: BTEX_W	Units: µg/L	Prep Date: 10/6/2003	Run ID: GC-1_031006A
Client ID: ZZZZZ	Batch ID: R5014	TestNo: SW8021B		Analysis Date: 10/6/2003	SeqNo: 72740

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	TestCode: BTEX_W	Units: µg/L	Prep Date: 10/6/2003	Run ID: GC-1_031006A
Client ID: ZZZZZ	Batch ID: R5014	TestNo: SW8021B		Analysis Date: 10/6/2003	SeqNo: 72745

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.46	0.50	20	0	107	85	115	0	0		
Ethylbenzene	22.65	0.50	20	0	113	85	115	0	0		
m,p-Xylene	43.95	1.0	40	0	110	85	115	0	0		
o-Xylene	21.36	0.50	20	0	107	85	115	0	0		
Toluene	21.77	0.50	20	0	109	85	115	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Souder, Miller & Associates
Work Order: 0310001
Project: 5114321; Key Energy
Test No: SW8015B **Matrix:** W

QC SUMMARY REPORT
SURROGATE RECOVERIES

Sample ID	OT
0309007-006AD	93.0
0310001-002B	94.5
CCV1_031007	105
CCV2_031007	103
LCS_031001	93.6
LCSD_031001	90.8
MB_031001	91.4

Acronym		Surrogate	QC Limits
OT	=	o-Terphenyl	14-146

*** Surrogate recovery outside acceptance limits**

iiná bá, Ltd.

Date: 13-Oct-03

CLIENT: Souder, Miller & Associates
Work Order: 0310001
Project: 5114321; Key Energy
Test No: SW8021B **Matrix:** W

QC SUMMARY REPORT
SURROGATE RECOVERIES

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
0310007-008AMSD	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

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	90-113
4BCBZ	=	4-Bromochlorobenzene	82-137
FLBZ	=	Fluorobenzene	85-115

*** Surrogate recovery outside acceptance limits**

1

CHAIN OF CUSTODY RECORD

3666

Hiná bá
(for life's sake)
612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
Phone: (505) 327-1072 • Fax: (505) 327-1496

Date _____ Page 1 of 1

REPORT RESULTS TO:

Report to: Ken Sinki
Company: SMA
Address:
City:
Phone: Fax: Email:

SEND INVOICE TO:

PO No.: Job No.:
Name: Rick Brazfield
Company: Key ENERGY
Address:
City:

Turnaround Time:
10 days (normal) ✓
24-48 hours (100%) _____
3-5 days (50%) _____

Sample Integrity
Intact X
On Ice X

Subcontract
Yes _____
No _____

Sampling Location:

Sample Identification	Sample Date	Sample Time	Matrix	Pres.	Number of Containers	Analysis Requested: BTEX	Analysis Requested: 8015	Lab ID
Lower 501	9/27	3:34	H_2O	yes	4	X		23160 -001
Upper 502	9/27	4:00	H_2O	yes	5	X	X	-002
Travel Blank	9/27	2:50	H_2O	yes	1	X		-003

Relinquished by:	Date/Time: 9/27/03 0800	Received by:	Date/Time: 9/29/03 0805
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Comments:

DISTRIBUTION WHITE - Lab • YELLOW - Client • PINK - Courier

san juan reproduction-i

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

RECEIVED
OCT 07 2003
OIL CONSERVATION DIVISION

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Martyne Kieling
Check Xylene and Benzene Levels, This analysis looks weird

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: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator SAFETY KLEEN
	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 Known Volume (to be entered by the operator at the end of the haul) _____cy

SIGNATURE _____ TITLE: ___FACILITY MANAGER___ DATE: _10-01-03_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __MICHAEL TALOVICH_____ TELEPHONE NO. _505-334-6416_____

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envir o/Engr DATE: 10/2/03

APPROVED BY: Martyne J Kieling TITLE: Environmental Geologist DATE: 10/7/03

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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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: ☒ ☐ Verbal Approval Received: Yes ☐ No ☒	4. Generator SAFETY KLEEN
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BRIEF DESCRIPTION OF MATERIAL:

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THIS IS THE SECOND ANALYTICAL, ORIGNAL C-138 APPROVED DATE 8-15-03

Estimated Volume 1000 BBLS_for one month_cy Known Volume (to be entered by the operator at the end of the haul) _____cy

SIGNATURE Michael Talovich TITLE: ___FACILITY MANAGER___ DATE: _10-01-03_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __MICHAEL TALOVICH_____ TELEPHONE NO. _505-334-6416_____

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envro/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 Safety Kleen Systems Inc. dba 4210 A Hawkins Road Farmington, NM 87401	2. Destination Name: Key Disposal
3. Originating Site (name): Safety Kleen Yard :ULSTR): Same as above attach list of originating sites as appropriate	Location of the Waste (Street address &/or
4. Source and Description of Waste Oilfield waste water-Non Exempt	

I, Mike Crawford (Print Name) representative for :

Safety Kleen Systems Inc. dba 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

__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
____Other (description
_X__RCRA Hazardous Waste Analysis
_X__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): Mike Crawford

Title: General Manager

Hall Environmental Analysis Laboratory

Date: 30-Sep-03

CLIENT: Safety Kleen
Client Sample ID: SK Various
Lab Order: 0309166
Collection Date: 9/22/2003 1:00:00 PM
Project: Farm
Lab ID: 0309166-02
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	300	100		µg/L	100	9/24/2003
Toluene	750	100		µg/L	100	9/24/2003
Ethylbenzene	ND	100		µg/L	100	9/24/2003
Methyl tert-butyl ether (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-Dibromoethane (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
Bromobenzene	ND	100		µg/L	100	9/24/2003
Bromochloromethane	ND	100		µg/L	100	9/24/2003
Bromodichloromethane	ND	100		µg/L	100	9/24/2003
Bromoform	ND	100		µg/L	100	9/24/2003
Bromomethane	ND	200		µg/L	100	9/24/2003
2-Butanone	ND	1000		µg/L	100	9/24/2003
Carbon disulfide	ND	1000		µg/L	100	9/24/2003
Carbon Tetrachloride	ND	100		µg/L	100	9/24/2003
Chlorobenzene	ND	100		µg/L	100	9/24/2003
Chloroethane	ND	200		µg/L	100	9/24/2003
Chloroform	ND	100		µg/L	100	9/24/2003
Chloromethane	ND	100		µg/L	100	9/24/2003
2-Chlorotoluene	ND	100		µg/L	100	9/24/2003
4-Chlorotoluene	ND	100		µg/L	100	9/24/2003
cis-1,2-DCE	ND	100		µg/L	100	9/24/2003
cis-1,3-Dichloropropene	ND	100		µg/L	100	9/24/2003
1,2-Dibromo-3-chloropropane	ND	200		µg/L	100	9/24/2003
Dibromochloromethane	ND	100		µg/L	100	9/24/2003
Dibromomethane	ND	200		µg/L	100	9/24/2003
1,2-Dichlorobenzene	ND	100		µg/L	100	9/24/2003
1,3-Dichlorobenzene	ND	100		µg/L	100	9/24/2003
1,4-Dichlorobenzene	ND	100		µg/L	100	9/24/2003
Dichlorodifluoromethane	ND	100		µg/L	100	9/24/2003
1,1-Dichloroethane	ND	100		µg/L	100	9/24/2003
1,1-Dichloroethene	ND	100		µg/L	100	9/24/2003
1,2-Dichloropropane	ND	100		µg/L	100	9/24/2003
1,3-Dichloropropane	ND	100		µg/L	100	9/24/2003
2,2-Dichloropropane	ND	100		µg/L	100	9/24/2003
1,1-Dichloropropene	ND	100		µg/L	100	9/24/2003

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *30-Sep-03*

CLIENT: Safety Kleen
Lab Order: 0309166
Project: Farm
Lab ID: 0309166-02

Client Sample ID: SK Various
Collection Date: 9/22/2003 1:00:00 PM
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
Hexachlorobutadiene	ND	100		µg/L	100	9/24/2003
2-Hexanone	ND	1000		µg/L	100	9/24/2003
Isopropylbenzene	ND	100		µg/L	100	9/24/2003
4-Isopropyltoluene	ND	100		µg/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-Butylbenzene	ND	100		µg/L	100	9/24/2003
n-Propylbenzene	ND	100		µg/L	100	9/24/2003
sec-Butylbenzene	ND	100		µg/L	100	9/24/2003
Styrene	ND	100		µg/L	100	9/24/2003
tert-Butylbenzene	ND	100		µg/L	100	9/24/2003
1,1,1,2-Tetrachloroethane	ND	100		µg/L	100	9/24/2003
1,1,2,2-Tetrachloroethane	ND	100		µg/L	100	9/24/2003
Tetrachloroethene (PCE)	ND	100		µg/L	100	9/24/2003
trans-1,2-DCE	ND	100		µg/L	100	9/24/2003
trans-1,3-Dichloropropene	ND	100		µg/L	100	9/24/2003
1,2,3-Trichlorobenzene	ND	100		µg/L	100	9/24/2003
1,2,4-Trichlorobenzene	ND	100		µg/L	100	9/24/2003
1,1,1-Trichloroethane	ND	100		µg/L	100	9/24/2003
1,1,2-Trichloroethane	ND	100		µg/L	100	9/24/2003
Trichloroethene (TCE)	ND	100		µg/L	100	9/24/2003
Trichlorofluoromethane	ND	100		µg/L	100	9/24/2003
1,2,3-Trichloropropane	ND	200		µg/L	100	9/24/2003
Vinyl chloride	ND	200		µg/L	100	9/24/2003
Xylenes, Total	530	100		µg/L	100	9/24/2003
Surr: 1,2-Dichloroethane-d4	108	70.6-124		%REC	100	9/24/2003
Surr: 4-Bromofluorobenzene	108	76.2-122		%REC	100	9/24/2003
Surr: Dibromofluoromethane	103	87.2-131		%REC	100	9/24/2003
Surr: Toluene-d8	105	82.1-123		%REC	100	9/24/2003
EPA METHOD 8270D: SEMIVOLATILES						Analyst: CS
Acenaphthene	ND	500		µg/L	5	9/29/2003
Acenaphthylene	ND	500		µg/L	5	9/29/2003
Aniline	ND	500		µg/L	5	9/29/2003
Anthracene	ND	500		µg/L	5	9/29/2003
Azobenzene	ND	500		µg/L	5	9/29/2003
Benz(a)anthracene	ND	500		µg/L	5	9/29/2003
Benzidine	ND	1000		µg/L	5	9/29/2003
Benzo(a)pyrene	ND	500		µg/L	5	9/29/2003
Benzo(b)fluoranthene	ND	500		µg/L	5	9/29/2003
Benzo(g,h,i)perylene	ND	500		µg/L	5	9/29/2003
Benzo(k)fluoranthene	ND	500		µg/L	5	9/29/2003
Benzoic acid	ND	2500		µg/L	5	9/29/2003

Qualifiers:
ND - Not Detected at the Reporting Limit
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* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied: NELAC ☐ USACE ☐ Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: Safety-kleen

Address: 2720 Girard NE
Albuquerque, NM 87106

884-2277

Phone #: 505-884-2277

Fax #: 883-4870

Project Name: Farm

Project #: [redacted]

Project Manager: mike crawford

Sampler:

Sample Temperature: 9.0

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative K_2CL_2	Preservative HNO_3	HEAL No.
22Sep03	13:00	Oil	SKVS	1-8.5L			03091166-1
22Sep03	13:00	Aq	SK VMWs	1-1L			-2

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)	See list			Air Bubbles or Headspace (Y or N)
													X			
													X			

Date:	Time:	Relinquished By: (Signature)	Remarks:
22Sep03	16:35		9/24/03 4:35
Date:	Time:	Relinquished By: (Signature)	Remarks:

Remarks: Results ASAP

OCT-01-2003(WED) 08:14

P. 002/014

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

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OIL CONSERVATION DIVISION

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: ☒ ☐ Verbal Approval Received: Yes ☐ No ☒	4. Generator SAFETY KLEEN 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 FARMINGTON, NM 87401	

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 Approval is For one month From The Approval Date. Acceptance For this waste Stream can be reapplied For with New Analytical on a monthly basis. After Six months of Analytical Hestory on this waste Stream the OCD will Review the Need For monthly Testing and Make New Recomendations. MJK

AUG 2003

Estimated Volume 120 BBLS per DAY For one month mjk cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE Michael Talovich TITLE: FACILITY MANAGER DATE: 8-4-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Enviro/Engr DATE: 8/11/03

APPROVED BY: Martyne J. Kelly TITLE: Environmental Geologist DATE: 8/15/03

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 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator SAFETY KLEEN
	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 FARMINGTON, NM 87401	

9. Circle One:

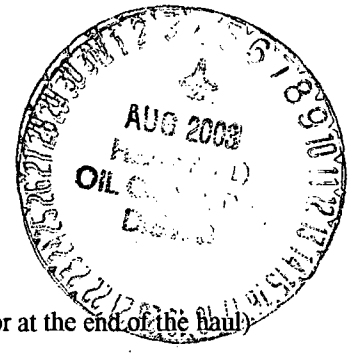
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

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.



Estimated Volume 120 BBLS per DAY_____cy Known Volume (to be entered by the operator at the end of the haul)
_____cy

SIGNATURE Michael Talovich TITLE: FACILITY MANAGER DATE: 8-4-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Enviro/Engr DATE: 8/11/03

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	2. Destination Name:
Safety Kleen Systems Inc. dba 4210 A Hawkins Road Farmington, NM 87401	Key Disposal
3. Originating Site (name): Safety Kleen Yard attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR): same as above
4. Source and Description of Waste Oilfield wastewater - Non Exempt may include produced water	

I, Mike Crawford representative for :
Print Name

Safety Kleen Systems Inc. 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

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): Mike B. Crawford

Title: GM

Date: 7/1/03

ASSAIGAI 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

B	*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*

SAFETY KLEEN
attn: **MIKE CRAWFORD**
2720 GIRARD NE
ALBUQUERQUE NM 87107

STANDARD

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

Client: **SAFETY KLEEN**
Project: **SAFETY KLEEN-VARIOUS PRODUCED WATER**
Order: **0306200 SAF03** Receipt: **06-06-03**

William P. Biava: President of Assaigai Analytical Laboratories, Inc.

Sample: *VARIOUS PRODUCED WATER* Collected: *06-05-03 15:30:00* By: *IH*
Matrix: *C*

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0306200-01B		SW846 1311/3010A/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		06-11-03	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	B	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
0306200-01B		SW846 1311/3010A/7000 series AA-FL TCLP					By: JRE			
M03761	MT.2003.746.48	7440-22-4	Silver	ND	mg / L	1	0.01		06-11-03	06-12-03
0306200-01B		SW846 1311/3510B/8270B SVOCs by GC/MS TCLP					By: DS\DB			
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
X03216	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	1	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
0306200-01B		SW846 1311/7470 CVAA TCLP					By: JRE			
M03763	MT.2003.734.50	7439-97-6	Mercury	ND	mg / L	1	0.0002		06-12-03	06-12-03

SQLCoyote: Reports 1.0.0305281535XX *Report Date 06/19/2003 3:43:07 PM*

ACCREDITED

REPRODUCTION OF THIS REPORT IN LESS THAN FULL REQUIRES THE WRITTEN CONSENT OF AAL.
THIS REPORT MAY NOT BE USED IN ANY MANNER BY THE CLIENT OR ANY OTHER THIRD PARTY TO CLAIM PRODUCT ENDORSEMENT BY THE NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM.

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

Client: **SAFETY KLEEN**

Project: **SAFETY KLEEN-VARIOUS PRODUCED WATER**

Order: **0306200 SAF03** Receipt: **06-06-03**

Sample: *VARIOUS PRODUCED WATER* Collected: *06-05-03 15:30:00* By: *IH*

Matrix: *C*

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0306200-01B			SW846 1311/8260B Purgeable VOCs by GC/MS TCLP					By: JDR		
X03262	XG.2003.978.4	75-35-4	1,1 Dichloroethylene	ND	mg / L	50	0.001	1	06-11-03	06-11-03
X03262	XG.2003.978.4	107-06-2	1,2 Dichloroethane (EDC)	ND	mg / L	50	0.001	1	06-11-03	06-11-03
X03262	XG.2003.978.4	71-43-2	Benzene	0.067	mg / L	50	0.001	1	06-11-03	06-11-03
X03262	XG.2003.978.4	56-23-5	Carbon tetrachloride	ND	mg / L	50	0.001	1	06-11-03	06-11-03
X03262	XG.2003.978.4	108-90-7	Chlorobenzene	ND	mg / L	50	0.001	1	06-11-03	06-11-03
X03262	XG.2003.978.4	67-66-3	Chloroform	ND	mg / L	50	0.001	1	06-11-03	06-11-03
X03262	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, ie 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.

2 A surrogate recovery was outside of QC criteria, suggesting matrix interference problems. This should be taken into account when reviewing the data.

Chain of Custody Record

ASSAIGAI ANALYTICAL LABORATORIES, INC.

4301 Masthead N.E.
ALBUQUERQUE, NEW MEXICO 87109
(505) 345-8964

3332 WEDGEWOOD
EL PASO, TEXAS 79925
(915) 593-6000

127 EASTGATE DRIVE, 212-C
LOS ALAMOS, NEW MEXICO 87544
(505) 662-2558

Lab Job No.: 030600 Date 4/11/03

Page _____ of _____

Client: Safety Kleen.

Project Manager / Contact: Mike

Telephone No.:

Fax No.:

City / State / Zip:

Project Name / Number: Safety Kleen - Various Produced Water

Samplers : (signature):

Order / Quote:

Analysis Required

Field Number / Location	Date	Time	Sample Type	Type / Size of Container	Preservation Temp:	Preservation Chemical	No. of Containers	TCLP ext TCLP SVOA	Remarks
01 te p - ii i	6 5 30	^		L . lass			X		
1 P u ed ster									
2 SK-Var									

by: Lenora
enlerais
C wklean

Date 04-04-03

Time 2560

Received by:
Signature
Printed
Company AAL
Reason Analysis

Relinquished by:
Signature
Printed
Company
Reason

Date

Time

Received by:
Signature
Printed
Company
Reason

of Shipment Cooler temp 4°C

No.

Instructions:

Comments: RUSH ASAP

After analysis, samples are to be:

- ☐ Disposed of (additional fee)
- ☐ Stored (30 days max)
- ☐ Stored over 30 days (additional fee)
- ☐ Returned to customer

R ED

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

JUL 21 2003
Environmental Bureau
Oil Conservation Division

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: ☒ ☐ Verbal Approval Received: Yes ☐ No ☒	4. Generator AMERICAN ENERGY SERVICES
	5. Originating 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	

RECEIVED
JUL 2003
OIL CONS. DIV.
DIST. 3

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 SMALL AMOUNTS OF HCL GENERATED AT THE ACID LOADING STATION.
IF REQUIRED WASTE WILL BE NEUTRALIZED BEFORE TRANSPORT

MSDS INFO ATTACHED

Estimated Volume < 80 BBLS PER MONTH cy Known Volume (to be entered by the operator at the end of the haul) _____cy

SIGNATURE Michael Talovich TITLE: ___FACILITY MANAGER___ DATE: _7-10-03_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __MICHAEL TALOVICH_____ TELEPHONE NO. _505-334-6416_____

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envirn/Engr DATE: 7/14/03

APPROVED BY: Martyne Kilby TITLE: Environmental Geologist DATE: 7-21-03

District I
1625 N. French Dr., Hobbs, NM 88240
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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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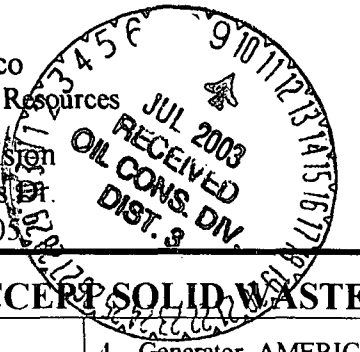
1220 South St. Francis Dr.
Santa Fe, NM 87505



Form C-138
Revised March 17, 1999

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District Office

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1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐ Verbal Approval Received: Yes ☐ No ☒	4. Generator AMERICAN ENERGY SERVICES
	5. Originating 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	

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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.

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IF REQUIRED WASTE WILL BE NEUTRALIZED BEFORE TRANSPORT

MSDS INFO ATTACHED

Estimated Volume < 80 BBLS PER MONTH cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: ___FACILITY MANAGER___ DATE: _7-10-03_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __MICHAEL TALOVICH_____ TELEPHONE NO. _505-334-6416_____

(This space for State Use)

APPROVED BY: _____ TITLE: Envir o/Engr DATE: 7/14/03

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	2. Destination Name:
American Energy Services 708 S Tucker Farmington NM 87401	Key Energy Services 5651 US Hwy 64 Farmington NM 87401
3. Originating Site (name): American Energy Services 708 S. Tucker Farmington NM 87401 attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR):
4. Source and Description of Waste WATER is from overflows when loading water and Acid at Acid Rack. water is then pumped over to waste water tank and re use on loading of Acid.	

I. Ralph Scarberry
Print Name
representative for :

American Energy Services 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

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
___ RCRA Hazardous Waste Analysis
___ 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): Ralph Scarberry

Title: Operations Manager

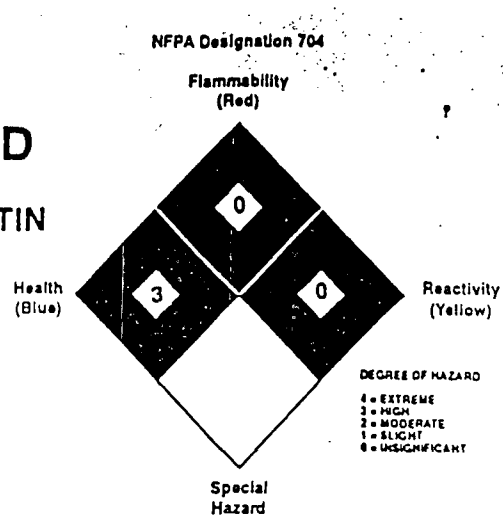
Date: 7 July 2003

HYDROCHLORIC ACID

MATERIAL SAFETY DATA BULLETIN

(CONFORMS TO CFR 1910, 1200g AMENDED)

REAGENT CHEMICAL & RESEARCH INC.
124 River Road
Middlesex, New Jersey 08846



EMERGENCY PHONE 800-231-1807 - 24 HOUR 800-424-9300 - (CHEMTREC)	**TRANSPORTATION INFORMATION** Proper Shipping Name - Hydrochloric Acid Hazard Class - Corrosive Liquid UN/NA Identification - UN1789 Hazard Class - 8 Packaging Group - II HM 181 Poison? - NO Reportable Quantity - RQ 5000 lbs. DOT Labels Required - Corrosive HMIS Labeling - 3-0-0-X
EMERGENCY RESPONSE GUIDEBOOK NUMBER ID# 1789, Guide 60	
PRODUCT NAME Hydrochloric Acid, 20° or 22° Baumé	
PRODUCT CAS NUMBER 7647-01-0	**SARA TITLE III** ☑ Yes Section 312 ☑ Yes Section 313 ☑ Yes
CHEMICAL FORMULA HCl	**RCRA WASTE NUMBER** D002
TRADE NAME & SYNONYMS Hydrochloric Acid - Muriatic Acid	**CHEMICAL FAMILY** Inorganic Acid

HAZARDOUS INGREDIENTS

COMPONENTS	%	THRESHOLD LIMIT VALUE
Hydrogen Chloride	31.45 - 37.0	Ceiling-5.0 ppm

PHYSICAL DATA

APPEARANCE (Solid, Liquid, Gas) Liquid @ 20° C, 1 atm	**MOLECULAR WEIGHT** 36.5	**FREEZING TEMP.** -53° C; -63° F	**SPECIFIC GRAVITY** 1.1600 - 1.1884
VAPOR DENSITY (AIR =1) N.A.	**COLOR** Clear/Slightly Yellow	**BULK DENSITY** 9.671-9.908 lb/gal	**BOILING POINT** 110° C/230° F
VAPOR PRESSURE 50 - 60 mm Hg @ 20° C	**SOLUBILITY (Water)** Very Soluble	**ODOR** Sharp, Pungent, Irritant	**% VOLATILE BY VOL.** N.A.

FIRE & EXPLOSION DATA

FLASH POINT (Method Used)	FLAMMABLE LIMIT	EXTINGUISHING MEDIA
N.A.	Non-flammable	N.A.

SPECIAL FIRE FIGHTING PROCEDURES, UNUSUAL FIRE OR EXPLOSION HAZARDS

Non-flammable, but Hydrochloric Acid reacts with all metals, except gold and platinum, with rapid evolution of Hydrogen which is flammable and explosive in air. Firefighters exposed to Hydrochloric Acid vapors should wear Scott Air-Pak or equivalent. Hydrogen Chloride vapors are extremely irrating to the respiratory tract and may cause breathing difficulty.

TOXICOLOGY

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_{50}: 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	☑ No	OSHA Register	☑ No
IARC Monograph	☑ No	ACGIH 1987-88	☑ 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.

CHEMICAL REACTIVITY

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? ☑ NO

DOES THIS PRODUCT CONTAIN, OR IS MANUFACTURED WITH, CFC's? ☑ NO

SPILL, DISCHARGE OR DISPOSAL

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.

DISCLAIMER OF LIABILITY

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REVISED FEBRUARY 1994

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

RECEIVED
APR 0 9 2003
OIL CONSERVATION DIVISION

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: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator WILLIAMS FIELD SERVICES
	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
7. Location of Material (Street Address or ULSTR) 190 CR 4900 BLOOMFIELD, NM, 87413	

RECEIVED
APR 0 9 2003
Environmental Bureau
Oil Conservation Division

9. Circle One:

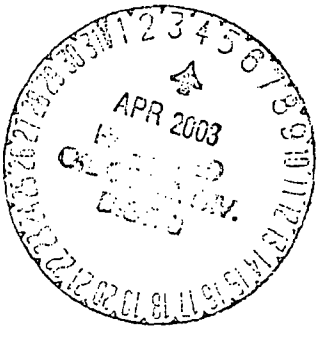
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

(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: WASTEWATER FROM NATURAL GAS PROCESSING.

New Analytical for 2003 Last filed 11-27-01



Estimated Volume _1,200 BBLS per month____cy Known Volume (to be entered by the operator at the end of the haul) _____cy

SIGNATURE _____ TITLE: ___FACILITY MANAGER___ DATE: __4-4-03_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __MICHAEL TALOVICH_____ TELEPHONE NO. _505-334-6416_____

040903-1

(This space for State Use)

APPROVED BY: _____ TITLE: Envirо/ Engr DATE: 4/8/03

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 4/9/03

District I
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Form C-138
Revised March 17, 1999

Submit Original
Plus 1 Copy
to Appropriate
District Office

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New Analytical for 2003 Last filed 11-27-01

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SIGNATURE Michael Talovich TITLE: FACILITY MANAGER DATE: 4-4-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Enviro/Engr DATE: 4/8/03

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	2. Destination Name:
Williams Field Services 188 CR 4900 Bloomfield, NM 87413	Key Energy Disposal Facility 345 CR 3500 Aztec, NM 87410
3. Originating Site (name): Milagro Gas Plant 190 CR 4900 Bloomfield, NM 87413 attach list of originating sites as appropriate	Location of the Waste (Street address &/or ULSTR):
4. Source and Description of Waste Waste Water from Evaporation Ponds	

I, Michael K. Lane representative for :
Print Name

Williams Field Services 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

__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
___ 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: Environmental Specialist

Date: 3/31/03

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

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.

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

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

iiná bá, Ltd.

Date: *18-Mar-03*

CLIENT: Williams Field Services
Project: Milagro Gas Plant
Lab Order: 0302022

CASE NARRATIVE

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

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

Date: *18-Mar-03*

CLIENT:	Williams Field Services	**Client Sample Info:**	Milagro Gas Plant
Work Order:	0302022	**Client Sample ID:**	Waste Water Ponds
Project:	Milagro Gas Plant	**Collection Date:**	2/24/2003 9:55:00 AM
Lab ID:	0302022-001B	**Matrix:**	AQUEQUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP LEACHED		**SW7470**		**(SW7470)**		Analyst: **DJC**
Mercury	ND	0.0020		mg/L	1	3/10/2003
ICP METALS, TCLP 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

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

iina ba, Ltd.

Sample Receipt Checklist

Client Name: **WIL1001** Date and Time Received: **2/24/2003**

Work Order Number: **0302022** Received by: DWC

Checklist completed by: J Moore 2/24/03 (Signature / Date) Reviewed by: DL 2/24/03 (Initials / Date)

Matrix: Carrier name: Myke Lane

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	
All samples received within holding time?	Yes ✓	No	
Container/Temp Blank temperature in compliance?	Yes ✓	No	
Water - VOA vials have zero headspace?	No VOA vials submitted	Yes ✓	No
Water - pH acceptable upon receipt?	Yes ✓	No	

Adjusted? _____ Checked by: _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

CLIENT: Williams Field Services
Work Order: 0302022
Project: Milagro Gas Plant

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_HG

Sample ID	MBLK_031003	SampType:	MBLK	TestCode:	1311_HG	Units:	mg/L	Prep Date:	3/10/2003	Run ID:	AA_030310A
Client ID:	ZZZZZ	Batch ID:	332	TestNo:	SW7470		(SW7470)	Analysis Date:	3/10/2003	SeqNo:	62228

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.00100									

Sample ID	LCS_031003	SampType:	LCS	TestCode:	1311_HG	Units:	mg/L	Prep Date:	3/10/2003	Run ID:	AA_030310A
Client ID:	ZZZZZ	Batch ID:	332	TestNo:	SW7470		(SW7470)	Analysis Date:	3/10/2003	SeqNo:	62231

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00891	0.00100	0.01	0	89.1	70	130	0	0		

Sample ID	0302022-001BMS	SampType:	MS	TestCode:	1311_HG	Units:	mg/L	Prep Date:	3/10/2003	Run ID:	AA_030310A
Client ID:	Waste Water Ponds	Batch ID:	332	TestNo:	SW7470		(SW7470)	Analysis Date:	3/10/2003	SeqNo:	62234

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.01995	0.00200	0.025	0	79.8	70	130	0	0		

Sample ID	0302022-001BMSD	SampType:	MSD	TestCode:	1311_HG	Units:	mg/L	Prep Date:	3/10/2003	Run ID:	AA_030310A
Client ID:	Waste Water Ponds	Batch ID:	332	TestNo:	SW7470		(SW7470)	Analysis Date:	3/10/2003	SeqNo:	62235

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0211	0.00200	0.025	0	84.4	70	130	0.01995	5.60	20	

Sample ID	0302022-001BD	SampType:	DUP	TestCode:	1311_HG	Units:	mg/L	Prep Date:	3/10/2003	Run ID:	AA_030310A
Client ID:	Waste Water Ponds	Batch ID:	332	TestNo:	SW7470		(SW7470)	Analysis Date:	3/10/2003	SeqNo:	62233

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.00200	0	0	0	0	0	0	0	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Williams Field Services
Work Order: 0302022
Project: Milagro Gas Plant

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_HG

Sample ID	CCV1_031003	SampType:	CCV	TestCode:	1311_HG	Units:	mg/L	Prep Date:		Run ID:	AA_030310A
Client ID:	ZZZZZ	Batch ID:	332	TestNo:	SW7470			Analysis Date:	3/10/2003	SeqNo:	62229

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00947	0.00100	0.01	0	94.7	80	120	0	0		

Sample ID	CCV2_031003	SampType:	CCV	TestCode:	1311_HG	Units:	mg/L	Prep Date:		Run ID:	AA_030310A
Client ID:	ZZZZZ	Batch ID:	332	TestNo:	SW7470			Analysis Date:	3/10/2003	SeqNo:	62236

Analyte	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	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Williams Field Services
Work Order: 0302022
Project: Milagro Gas Plant

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_M

Sample ID	MBLK_030303	SampType:	MBLK	TestCode:	1311_M	Units:	mg/L	Prep Date:	3/3/2003	Run ID:	ICP_1_030306A
Client ID:	ZZZZZ	Batch ID:	331	TestNo:	SW1311/6010 (SW3005A)			Analysis Date:	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									
Barium	ND	0.00700									
Cadmium	ND	0.206									
Chromium	ND	0.0230									
Lead	ND	0.0155									
Selenium	ND	0.0440									
Silver	ND	0.00350									

Sample ID	LCS_030303	SampType:	LCS	TestCode:	1311_M	Units:	mg/L	Prep Date:	3/3/2003	Run ID:	ICP_1_030306A
Client ID:	ZZZZZ	Batch ID:	331	TestNo:	SW1311/6010 (SW3005A)			Analysis Date:	3/6/2003	SeqNo:	62195

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	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	99.7	75	125	0	0		
Chromium	0.132	0.0230	0.1325	0	99.6	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	SampType:	MS	TestCode:	1311_M	Units:	mg/L	Prep Date:	3/3/2003	Run ID:	ICP_1_030306A
Client ID:	Waste Water Ponds	Batch ID:	331	TestNo:	SW1311/6010 (SW3005A)			Analysis Date:	3/6/2003	SeqNo:	62198

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.6285	0.0420	0.5995	0	105	75	125	0	0		
Barium	6.21	0.00700	5.997	0.021	103	75	125	0	0		
Cadmium	0.307	0.206	0.3	0	102	75	125	0	0		
Chromium	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	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 at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Williams Field Services
Work Order: 0302022
Project: Milagro Gas Plant

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_M

Sample ID	0302022-001BD	SampType:	DUP	TestCode:	1311_M	Units:	mg/L	Prep Date:	3/3/2003	Run ID:	ICP_1_030306A
Client ID:	Waste Water Ponds	Batch ID:	331	TestNo:	SW1311/6010 (SW3005A)			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	0.021	6.90	20	
Cadmium	ND	0.206	0	0	0	0	0	0	0	20	
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	ND	0.0440	0	0	0	0	0	0	0	20	
Silver	ND	0.00350	0	0	0	0	0	0	0	20	

Sample ID	CCB1_030306	SampType:	CCB	TestCode:	1311_M	Units:	mg/L	Prep Date:	3/3/2003	Run ID:	ICP_1_030306A
Client ID:	ZZZZZ	Batch ID:	331	TestNo:	SW1311/6010			Analysis Date:	3/6/2003	SeqNo:	62191

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	ND	0.206	0	0	0	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		

Sample ID	CCB2_030306	SampType:	CCB	TestCode:	1311_M	Units:	mg/L	Prep Date:		Run ID:	ICP_1_030306A
Client ID:	ZZZZZ	Batch ID:	331	TestNo:	SW1311/6010			Analysis Date:	3/6/2003	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	ND	0.206	0	0	0	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 Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Williams Field Services
Work Order: 0302022
Project: Milagro Gas Plant

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_M

Sample ID	CCV1_030306	SampType:	CCV	TestCode:	1311_M	Units:	mg/L	Prep Date:		Run ID:	ICP_1_030306A
Client ID:	ZZZZZ	Batch ID:	331	TestNo:	SW1311/6010			Analysis Date:	3/6/2003	SeqNo:	62192

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	0	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	0		
Silver	0.2089	0.00350	0.2045	0	102	90	110	0	0		

Sample ID	CCV2_030306	SampType:	CCV	TestCode:	1311_M	Units:	mg/L	Prep Date:		Run ID:	ICP_1_030306A
Client ID:	ZZZZZ	Batch ID:	331	TestNo:	SW1311/6010			Analysis Date:	3/6/2003	SeqNo:	62200

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	2.116	0.00700	2.045	0	103	90	110	0	0		
Cadmium	0.1054	0.206	0.1023	0	103	90	110	0	0		
Chromium	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	SampType:	ICV	TestCode:	1311_M	Units:	mg/L	Prep Date:		Run ID:	ICP_1_030306A
Client ID:	ZZZZZ	Batch ID:	331	TestNo:	SW1311/6010			Analysis Date:	3/6/2003	SeqNo:	62193

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	0		
Barium	0.4996	0.00700	0.5067	0	98.6	90	110	0	0		
Cadmium	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	0.5022	0.0155	0.5083	0	98.8	90	110	0	0		
Selenium	0.5097	0.0440	0.5083	0	100	90	110	0	0		
Silver	0.2591	0.00350	0.2534	0	102	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

TestAmerica
INCORPORATED

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.

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: Roxanne L Connor 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

TestAmerica
INCORPORATED

ANALYTICAL REPORT

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 3/18/03

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
GENERAL CHEMISTRY PARAMETERS										
Reactive Cyanide	ND	mg/kg	50.0	50.0	20	2/26/03	22:00	S. Prayter	SW-846	4130
Reactive Sulfide	ND	mg/kg	100.	100.	20	2/26/03	22:00	S. Prayter	SW-846	4130
Ignitability	NOT IGNITABLE UP TO 200F					3/ 5/03	9:50	T. Beverly	1010M	8703
Corrosivity	Not Corrosive					2/27/03	13:50	T. Beverly	1110	5786

TCLP Results

Analyte	Result	Units	Reg Limit	Matrix Spike Recovery (%)	Date	Time	Analyst	Method	QC Batch
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/l	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 . . .

ANALYTICAL REPORT

Laboratory Number: 03-A28261
Sample ID: 0302022-001C,D
Project:

TCLP Results

Analyte	Result	Units	Reg Limit	Matrix Spike 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
Hexachlorobenzene	< 0.0100	mg/l	0.13	62	3/ 3/03	16:29	R. Beard	8270	8736
Hexchlor-1,3-butadien	< 0.0100	mg/l	0.5	66	3/ 3/03	16:29	R. Beard	8270	8736
Hexachloroethane	< 0.0100	mg/l	3.0	66	3/ 3/03	16:29	R. Beard	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
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	400	88	3/ 3/03	16:29	R. Beard	8270	8736
2,4,6-Trichlorophenol	< 0.0100	mg/l	2.0	86	3/ 3/03	16:29	R. Beard	8270	8736
TCLP Extraction	Initiated				2/26/03	16:00	B. Powell	1311	4417
Zero Headspace Extraction	Initiated				2/26/03	16:00	B. Powell	1311	4417

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
TCLP BNA's	500. ml	1.0 ml	3/ 3/03		M. Ricke	3510

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	96.	73. - 133.
VOA Surr Toluene-d8	100.	80. - 121.
VOA Surr, 4-BFB	102.	80. - 128.
BNA Surr-Nitrobenzene-d5	74.	40. - 127.
BNA Surr-2-Fluorobiphenyl	70.	42. - 113.
BNA Surr-Terphenyl-d14	70.	41. - 129.
BNA Surr-Phenol-d5	86. #	1. - 75.
BNA Surr-2-Fluorophenol	46.	3. - 97.
BNA Surr-2,4,6-Tribromophenol	116.	35. - 174.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A28261
Sample ID: 0302022-001C,D
Project:

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.

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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								
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	90	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								
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 . . .

TestAmerica
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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
VOA PARAMETERS						
Benzene	mg/l	0.490	0.500	2.02	15.	6774
Carbon tetrachloride	mg/l	0.530	0.480	9.90	21.	6774
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/l	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
Vinyl Chloride	mg/l	0.500	0.540	7.69	28.	6774

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
MISC PARAMETERS						
Reactive Cyanide	mg/kg	336.	331.	1.50	20	4130
Reactive Sulfide	mg/kg	430.	422.	1.88	20	4130

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.0500	0.0460	92	78 - 127	6774
Carbon tetrachloride	mg/l	0.0500	0.0430	86	69 - 132	6774

Project QC continued . . .

TestAmerica
INCORPORATED

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-Dichloroethane	mg/l	0.0500	0.0420	84	71 - 135	6774
1,1-Dichloroethene	mg/l	0.0500	0.0450	90	72 - 128	6774
Methylethylketone	mg/l	0.250	0.234	94	75 - 140	6774
Tetrachloroethene	mg/l	0.0500	0.0450	90	76 - 123	6774
Trichloroethene	mg/l	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	% Recovery	Target Range	Q.C. Batch
EXTRACTABLE PARAMETERS						
Cresols	mg/l	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-Trichlorophenol	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 . . .

TestAmerica
INCORPORATED

PROJECT QUALITY CONTROL DATA
Project Number:
Project Name:
Page: 4
Laboratory Receipt Date: 2/26/03

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	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

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
VOA PARAMETERS					
Benzene	< 0.00200	mg/l	6774	2/28/03	16:41
Carbon tetrachloride	< 0.00200	mg/l	6774	2/28/03	16:41
Chlorobenzene	< 0.00200	mg/l	6774	2/28/03	16:41
Chloroform	< 0.00200	mg/l	6774	2/28/03	16:41
1,2-Dichloroethane	< 0.00200	mg/l	6774	2/28/03	16:41
1,1-Dichloroethene	< 0.00200	mg/l	6774	2/28/03	16:41
Methylethylketone	< 0.0100	mg/l	6774	2/28/03	16:41
Tetrachloroethene	< 0.00200	mg/l	6774	2/28/03	16:41
Trichloroethene	0.0340	mg/l	6774	2/28/03	16:41
Vinyl Chloride	< 0.00200	mg/l	6774	2/28/03	16:41
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

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
EXTRACTABLE PARAMETERS					

Project QC continued . . .

TestAmerica
INCORPORATED

PROJECT QUALITY CONTROL DATA
Project Number:
Project Name:
Page: 5
Laboratory Receipt Date: 2/26/03

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
Cresols	< 0.0100	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/l	8736	3/ 3/03	16:29
Nitrobenzene	< 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
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 outside Laboratory historical or method prescribed QC limits.

End of Report for Project 321566

SAMPLE . CONFORMANCE/COC REVISI . ORM

TestAmerica INCORPORATED
Nashville Division

DATE RECEIVED: 2/25/03 ACCT NO.: ~~5627~~ 3130

SDG NUMBER: N/A COMPANY NAME: Tina Ba, Ltd

Relinquished by:	Date/Time:	Received by:	Date/Time
(W) 2-25-03 @ 16:22		KB	2/25/03 16:41
Relinquished by:	Date/Time:	Received by:	Date/Time:
KB	2/25/03 16:45	(W) 2-25-03 @ 1645	
Relinquished 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?	RUN SOILS BY 8260 INSTEAD OF 8021?
TEMPERATURE UPON RECEIPT?	SATURDAY DELIVERY MARKED?
ICE -- OR-- NO ICE??	SAMPLES TO BE SUBCONTRACTED?
NO COC - PLEASE FAX	NO ANALYSIS REQUESTED?
DOCUMENTATION LEVEL?	OUT OF HOLDING TIME -- TEST:

OTHER: #1) we recd vials, + 3 it's non-pres- are these already rotated for TCLP - ? #2) if so no problem - if not which tests do they want on which samples.

RESOLUTION: They were not rotated TCLP semivolatiles & TCLP volatiles should all be 1 sample not ~~multiple~~ multiple samples.

PERSON CONTACTED	DATE/TIME	VIA E-MAIL or VOICEMAIL	NOTES AND/OR COMMENTS:
Judy Moore	2/25/03	phone call	

Revised 12/9/02

iina ba, Ltd.
612 E. Murray Drive
Farmington, NM 87401
(505) 327-1072

CHAIN-OF-CUSTODY RECORD

321566

Subcontractor:

Test America, Inc.
2960 Foster Creighton Drive
Nashville, TN 372040566

TEL: (800) 765-0980
FAX: (615) 726-3404

Acct #: 3130

24-Feb-03

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests: SW1010	SW1311	SW1311/6010B	SW1311/8260B	SW1311/8270C	SW3005A	SW3510
0302022-001A	Aqueous	2/24/2003 10:15:00 AM	1Amber/3 VOA	1						
~~0302022-001B~~	~~Aqueous~~	~~2/24/2003 9:55:00 AM~~	~~500HDPEHNO3~~		1	1			1	
0302022-001C	Aqueous	2/24/2003 9:55:00 AM	1LAMGU					1		1
0302022-001D	Aqueous	2/24/2003 9:55:00 AM	VOAHCL		1		1			

24261

jm 2/24/03

2/24/03

Comments: Please analyze one (1) sample for Reactivity (Cyanide/Sulfide), Corrosivity, Ignitability, TCLP Semi-Volatiles and TCLP Volatiles.

		Date/Time			Date/Time
Relinquished by:	J Moore	2/24/03 4:40	**Received by:**		2-26-3
Relinquished by:			**Received by:**		

TESTAMERICA,INC.-NASHVILLE

COOLER RECEIPT FORM

Client: IJNA BA, LTD BC# 321566

Cooler Received On: 2/26/03 And Opened On: 2/26/03 By: MARVIN BLUMHOEFER

(Signature)

1. Temperature of Cooler when opened 3.0 Degrees Celsius
2. Were custody seals on outside of cooler?.....(YES) NO N/A
   a. If yes, how many, what kind and where: 1 front
   b. Were the seals intact, signed, and dated correctly?.....(YES) NO N/A
3. Were custody seals on containers and intact?.....(NO) YES N/A
4. Were custody papers inside cooler?.....(YES) NO N/A
5. **Were custody papers properly filled out (ink,signed,etc)?**.....(YES) NO N/A
6. Did you sign the custody papers in the appropriate place?.....(YES) NO N/A
7. What kind of packing material used? (Bubblewrap) Peanuts Vermiculite 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)?.....(YES) NO N/A
11. Did all bottle labels and tags agree with custody papers?.....(YES) NO N/A
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 vial?.....(NO) YES N/A
14. Was sufficient amount of sample sent in each bottle?.....(YES) NO N/A
15. Were correct preservatives used?.....(YES) NO N/A
    If not, record standard ID of preservative used here_____
16. Was residual chlorine present?.....NO YES (N/A)
17. Corrective action taken, if necessary:

See attached for resolution

CHAIN OF CUSTODY RECORD

B 1613

Page 1 of 1

ïiná bá
(for life's sake)
612 E. Murray Dr. • P. O. Box 2606 • Farmington NM 87499
(505) 327-1072 • FAX: (505) 327-1496

Date: 2/25/03 24 H

Purchase Order No.:	Job No.		
SEND INVOICE TO: Name	Michael Lane	REPORT RESULTS TO: Name	Michael Lane — Title Env. Spec.
Company	Williams	Company	
Dept.	Env.	Mailing Address	Same
Address	188 CR 4900	City, State, Zip	
City, State, Zip	Bloomfield, NM 87413	Telephone No.	505-632-4625 — Telefax No. 505-632-4781
Sampling Location:	Milagro Gas Plant		
Sampler:			

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	RCI	Method TCLP	1664 - Vol TCLP	Vol's TCLP	LAB ID
White Water Ponds	2/25	1015	Wtr	H	5	✓				0302022-001A
"	2/25	955	Wtr	HNO3	1		✓			-001B
"	2/25	955	Wtr	?	1			✓		-001C
"	2/25	955	Wtr	?	1				✓	-001D
	2/24									

Relinquished by:	Date/Time 2/24/03 1145	Received by:	Date/Time 2/24/03 1145
Relinquished by:	Date/Time 24 H	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date 2/25/03 24 H
(Client Signature Must Accompany Request)

Rush | 24-48 Hours | 10 Working Days

Special Instructions: Temp Control 4°C on ice (1x)

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

SCD

RECEIVED

District I
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

MAR 25 2003
Environmental Bureau
Oil Conservation Division

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

MAR 24 2003
OIL CONSERVATION DIVISION

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: ☒
   ☐ Verbal Approval Received: Yes ☐ No ☒
2. Management Facility Destination KEY ENERGY DISPOSAL
3. Address of Facility Operator #345 CR 3500 AZTEC NM
4. Generator DUKE ENERGY FIELD SERV. VAL VERDE PLANT.
5. Originating Site VAL VERDE GAS PROCESSING PLANT
6. Transporter KEY
8. State NM
7. Location of Material (Street Address or ULSTR) 119 CR 4900 BLOOMFIELD, NM 87413

MAR 2003
CONSERVATION DIVISION
DIST. 3

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: VAL VERDE GAS PLANT CLOSED DRAIN WASTEWATER SYSTEM WASTEWATER FROM PLANT CHEMICAL ANALYSIS ATTACHED

Estimated Volume 5000 BBL/YR or Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: FACILITY MANAGER DATE: 3-20-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

632503-1

(This space for State Use)

APPROVED BY: _____ TITLE: Envir/Engr DATE: 3/20/03

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 3/25/03

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 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒
   ☐ Verbal Approval Received: Yes ☐ No ☒
2. Management Facility Destination KEY ENERGY DISPOSAL
3. Address of Facility Operator #345 CR 3500 AZTEC NM
4. Generator DUKE ENERGY FIELD SERV. VAL VERDE PLANT.
5. Originating Site VAL VERDE GAS PROCESSING PLANT
6. Transporter KEY
7. Location of Material (Street Address or ULSTR) 119 CR 4900 BLOOMFIELD NM 87413
8. State NM

MAR 2003
RECEIVED
OIL CONS. DIV.
DIST. 3

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

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Estimated Volume 5000 BBL/YR cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: FACILITY MANAGER DATE: 3-20-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

(This space for State Use)

APPROVED BY: _____ TITLE: Envno/Engr DATE: 3/20/03

APPROVED BY: _____ TITLE: _____ DATE: _____

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
DUKE ENERGY FIELD SERVICES
VAL VERDE GAS PLANT
119 COUNTY ROAD 4900
BLOOMFIELD, NM

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
CLOSED DRAIN WASTEWATER FROM GAS PROCESSING PLANT

4. Location of Waste (Street address &/or ULSTR):
SAME AS #1

5. Destination (Surface Waste Management Facility):
KEY ENERGY SERVICES
SUNCO WDW #1

Estimated Volume 5000 cy/bbls/YR

6. Transporter:
KEY ENERY SERVICES
5651 US HWY 64
FARMINGTON, NM 87499

For NON-EXEMPT waste only, the following documentation is attached (check appropriate items):

_____ MSDS Information

X RCRA Hazardous Waste Analysis (With Chain of Custody). SHOWING THAT WASTE IS NON-HAZ

_____ 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.

X 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.

X Generator Signature: _____ Date: 3-7-03

Print Name: MICHAEL R. BETZ

Title: ASSET MANAGER - VAL VERDE

512 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

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

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

iiná bá, Ltd.

Date: *04-Mar-03*

CLIENT: Duke Energy Field Service
Project: Val Verde Plant, Bloomfield, NM
Lab Order: 0302004

CASE NARRATIVE

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.

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

612 E. Murray Drive
Farmington, NM 87401

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	**Client Sample Info:**	Val Verde
Work Order:	0302004	**Client Sample ID:**	Train 5 Waste Water
Project:	Val Verde Plant, Bloomfield, NM	**Collection Date:**	2/6/2003 4:00:00 PM
Lab ID:	0302004-001C	**Matrix:**	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP LEACHED		**SW7470**		**(SW7470)**		Analyst: **DJC**
Mercury	0.0006	0.0005		mg/L	1	2/18/2003
ICP METALS, TCLP LEACHED		**SW1311/6010B**		**(SW3005A)**		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	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

TCLP METALS

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

612 E. Murray Drive
Farmington, NM 87401

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	**Client Sample Info:**	Val Verde
Work Order:	0302004	**Client Sample ID:**	Train 5 Waste Water
Project:	Val Verde Plant, Bloomfield, NM	**Collection Date:**	2/6/2003 4:00:00 PM
Lab ID:	0302004-001D	**Matrix:**	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
PH		**E150.1**				Analyst: **HNR**
pH	8.63	2.00		pH units	1	2/10/2003
Temperature	21.0	0		Deg C	1	2/10/2003

pH

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
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* - 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

iina ba, Ltd.

Sample Receipt Checklist

Client Name: **DUK1001** Date and Time Received: **2/7/2003**

Work Order Number: **0302004** Received by: JEM

Checklist completed by: J Moore 2-7-03 (Signature / Date) Reviewed by: AL 2/10/03 (Initials / Date)

Matrix: Carrier 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 ☑	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☐	No ☑	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	

Adjusted? _____ Checked by: _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: Lloyd Date contacted: 2-7-03 Person contacted: _____

Contacted by: S Moore/DC Regarding: Temperature, Soil Headspace

Comments: When sample brought in, Temperature was discussed w/ client. Client wanted TCLP volatiles on the soils. Single sample not filled totally discussed.

Corrective Action: Note Temperature on Report. Client decided not to do TCLP volatiles on Soil

iiná bá, Ltd.

Date: *04-Mar-03*

CLIENT: Duke Energy Field Service
Work Order: 0302004
Project: Val Verde Plant, Bloomfield, NM

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_HG

Sample ID	MBLK_030218	SampType:	MBLK	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:	62005	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	ND	0.000400										

Sample ID	LCS_030218	SampType:	LCS	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:	62006	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	0.1119	0.000400	0.0993	0	113	70	130	0	0			

Sample ID	LCSD_030218	SampType:	LCSD	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:	62007	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	0.1026	0.000400	0.0994	0	103	70	130	0.1119	8.67	0		

Sample ID	0302004-003AMS	SampType:	MS	TestCode:	1311_HG	Units:	mg/L	Prep Date:	2/18/2003	Run ID:	AA_030218A	
Client ID:	Sand Blasting I.M.I	Batch ID:	325	TestNo:	SW7470	(SW7470)		Analysis Date:	2/18/2003	SeqNo:	62015	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	0.1542	0.000625	0.1232	0.000175	125	70	130	0	0			

Sample ID	0302011-001AMS	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:	62018	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	0.1368	0.000500	0.1245	0.000225	110	70	130	0	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Duke Energy Field Service
Work Order: 0302004
Project: Val Verde Plant, Bloomfield, NM

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_HG

Sample ID 0302014-002AMS	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	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	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	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	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: 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
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Duke Energy Field Service
Work Order: 0302004
Project: Val Verde Plant, Bloomfield, NM

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_HG

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
Mercury	0.118	0.000500	0.1003	0	118	80	120	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Duke Energy Field Service
Work Order: 0302004
Project: Val Verde Plant, Bloomfield, NM

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_M

Sample ID MBLK_030210	SampType: MBLK	TestCode: 1311_M	Units: mg/L	Prep Date: 2/11/2003	Run ID: ICP_1_030212A
Client ID: ZZZZZ	Batch ID: 322	TestNo: SW1311/6010 (SW3005A)		Analysis Date: 2/12/2003	SeqNo: 61801

Analyte	Result	PQL	SPK value	SPK Ref 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	0	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	0	0	0	0		

Sample ID LCS_030211	SampType: LCS	TestCode: 1311_M	Units: mg/L	Prep Date: 2/11/2003	Run ID: ICP_1_030212A
Client ID: ZZZZZ	Batch ID: 322	TestNo: SW1311/6010 (SW3005A)		Analysis Date: 2/12/2003	SeqNo: 61802

Analyte	Result	PQL	SPK value	SPK Ref 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	0.1021	0	92.6	75	125	0	0		
Selenium	0.0521	0.00600	0.0511	0	102	75	125	0	0		
Silver	0.1066	0.00100	0.1041	0	102	75	125	0	0		

Sample ID LCSD_030211	SampType: LCSD	TestCode: 1311_M	Units: mg/L	Prep Date: 2/11/2003	Run ID: ICP_1_030212A
Client ID: ZZZZZ	Batch ID: 322	TestNo: SW1311/6010 (SW3005A)		Analysis Date: 2/12/2003	SeqNo: 61803

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0916	0.00800	0.1021	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	0.0511	0	102	75	125	0.0516	1.35	20	
Chromium	0.0996	0.0280	0.1021	0	97.6	75	125	0.0989	0.705	20	
Lead	0.0964	0.00300	0.1021	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	0.1021	0	103	75	125	0.1066	1.13	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Duke Energy Field Service
Work Order: 0302004
Project: Val Verde Plant, Bloomfield, NM

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_M

Sample ID	0302004-003AMS	SampType:	MS	TestCode:	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	TestNo:	SW1311/6010 (SW3005A)			Analysis Date:	2/12/2003	SeqNo:	61807

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	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		
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	SampType:	MSD	TestCode:	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	TestNo:	SW1311/6010 (SW3005A)			Analysis Date:	2/12/2003	SeqNo:	61808

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0986	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	SampType:	DUP	TestCode:	1311_M	Units:	mg/L	Prep Date:	2/11/2003	Run ID:	ICP_1_030212A
Client ID:	Train 5 Waste Water	Batch ID:	322	TestNo:	SW1311/6010 (SW3005A)			Analysis Date:	2/12/2003	SeqNo:	61805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.00800	0	0	0	0	0	0	0	20	
Barium	0.0554	0.00200	0	0	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; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Duke Energy Field Service
Work Order: 0302004
Project: Val Verde Plant, Bloomfield, NM

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_M

Sample ID	CCB1_030212	SampType:	CCB	TestCode:	1311_M	Units:	mg/L	Prep Date:		Run ID:	ICP_1_030212A
Client ID:	ZZZZZ	Batch ID:	322	TestNo:	SW1311/6010			Analysis Date:	2/12/2003	SeqNo:	61810

Analyte	Result	PQL	SPK value	SPK Ref 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	0.0008	0.00100	0	0	0	0	0	0	0		
Chromium	ND	0.0280	0	0	0	0	0	0	0		
Lead	ND	0.00300	0	0	0	0	0	0	0		
Selenium	ND	0.00600	0	0	0	0	0	0	0		
Silver	0.0001	0.00100	0	0	0	0	0	0	0		

Sample ID	CCB2_030212	SampType:	CCB	TestCode:	1311_M	Units:	mg/L	Prep Date:		Run ID:	ICP_1_030212A
Client ID:	ZZZZZ	Batch ID:	322	TestNo:	SW1311/6010			Analysis Date:	2/12/2003	SeqNo:	61812

Analyte	Result	PQL	SPK value	SPK Ref 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	0.0013	0.00100	0	0	0	0	0	0	0		
Chromium	0.0001	0.0280	0	0	0	0	0	0	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	0	0	0	0		

Sample ID	CCV1_030212	SampType:	CCV	TestCode:	1311_M	Units:	mg/L	Prep Date:		Run ID:	ICP_1_030212A
Client ID:	ZZZZZ	Batch ID:	322	TestNo:	SW1311/6010			Analysis Date:	2/12/2003	SeqNo:	61811

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.2066	0.00800	0.2068	0	99.9	90	110	0	0		
Barium	1.921	0.00200	2.068	0	92.9	90	110	0	0		
Cadmium	0.0969	0.00100	0.1034	0	93.7	90	110	0	0		
Chromium	0.2	0.0280	0.2068	0	96.7	90	110	0	0		
Lead	0.1922	0.00300	0.2068	0	92.9	90	110	0	0		
Selenium	0.1052	0.00600	0.1034	0	102	90	110	0	0		
Silver	0.193	0.00100	0.2068	0	93.3	90	110	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Duke Energy Field Service
Work Order: 0302004
Project: Val Verde Plant, Bloomfield, NM

ANALYTICAL QC SUMMARY REPORT

TestCode: 1311_M

Sample ID	CCV2_030212	SampType:	CCV	TestCode:	1311_M	Units:	mg/L	Prep Date:		Run ID:	ICP_1_030212A	
Client ID:	ZZZZZ	Batch ID:	322	TestNo:	SW1311/6010			Analysis Date:	2/12/2003	SeqNo:	61813	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Arsenic	0.1921	0.00800	0.2068	0	92.9	90	110	0	0			
Barium	2.103	0.00200	2.068	0	102	90	110	0	0			
Cadmium	0.1028	0.00100	0.1034	0	99.4	90	110	0	0			
Chromium	0.2236	0.0280	0.2068	0	108	90	110	0	0			
Lead	0.2035	0.00300	0.2068	0	98.4	90	110	0	0			
Selenium	0.0956	0.00600	0.1034	0	92.5	90	110	0	0			
Silver	0.2201	0.00100	0.2068	0	106	90	110	0	0			

Sample ID	ICV_030212	SampType:	ICV	TestCode:	1311_M	Units:	mg/L	Prep Date:		Run ID:	ICP_1_030212A	
Client ID:	ZZZZZ	Batch ID:	322	TestNo:	SW1311/6010			Analysis Date:	2/12/2003	SeqNo:	61819	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Arsenic	1.002	0.00800	1	0	100	90	110	0	0			
Barium	0.9872	0.00200	1	0	98.7	90	110	0	0			
Cadmium	1.001	0.00100	1	0	100	90	110	0	0			
Chromium	1.042	0.0280	1	0	104	90	110	0	0			
Lead	0.9918	0.00300	1	0	99.2	90	110	0	0			
Selenium	1.012	0.00600	1	0	101	90	110	0	0			
Silver	0.472	0.00100	0.5	0	94.4	90	110	0	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Duke Energy Field Service
Work Order: 0302004
Project: Val Verde Plant, Bloomfield, NM

ANALYTICAL QC SUMMARY REPORT

TestCode: PH_W

Sample ID	LCS_030210	SampType:	LCS	TestCode:	PH_W	Units:	pH units	Prep Date:		Run ID:	WET CHEM_030210A
Client ID:	ZZZZZ	Batch ID:	R4240	TestNo:	E150.1			Analysis Date:	2/10/2003	SeqNo:	61799

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.21	2.00	5.23	0	99.6	90	110	0	0		

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

TestAmerica
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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.

Sample Identification	Lab Number	Collection Date
0302004-001A	03-A20519	2/ 6/03
0302004-001B	03-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: Report Date: 2/19/03

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.

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ANALYTICAL REPORT

IINA BA, LTD 3130
DAVE COX
612 E. MURRAY DRIVE
FARMINGTON, NM 87401

Lab Number: 03-A20519
Sample ID: 0302004-001A
Sample Type: Liquid waste
Site ID:

Project:
Project Name:
Sampler:

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

TCLP Results

Analyte	Result	Units	Reg Limit	Matrix Spike Recovery (%)	Date	Time	Analyst	Method	QC Batch
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

VOLATILES

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.	80. - 128.

Sample report continued . . .

TestAmerica
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ANALYTICAL REPORT

Laboratory Number: 03-A20519
Sample ID: 0302004-001A
Project:

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.

TestAmerica
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ANALYTICAL REPORT

IINA BA, LTD 3130
DAVE COX
612 E. MURRAY DRIVE
FARMINGTON, NM 87401

Lab Number: 03-A20520
Sample ID: 0302004-001B
Sample Type: Liquid waste
Site ID:

Project:
Project Name:
Sampler:

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

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
GENERAL CHEMISTRY PARAMETERS										
Ignitability	NOT IGNITABLE UP TO 200F					2/18/03	10:31	T. Beverly	1010M	8424

FLASH OK

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.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

IINA BA, LTD 3130
DAVE COX
612 E. MURRAY DRIVE
FARMINGTON, NM 87401

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

Project:
Project Name:
Sampler:

Val Verde Plant, Trip Blank

3/4/03

TCLP Results

Analyte	Result	Units	Reg Limit	Matrix Spike Recovery (%)	Date	Time	Analyst	Method	QC Batch
Benzene	< 0.0200	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	0.0700	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	97.	73. - 133.
VOA Surr Toluene-d8	104.	80. - 121.
VOA Surr, 4-BFB	102.	80. - 128.

Sample report continued . . .

TestAmerica
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ANALYTICAL REPORT

Laboratory Number: 03-A20521
Sample ID: 0302004-002A
Project:

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.

TestAmerica
INCORPORATED

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								
Benzene	mg/l	< 0.00000	0.0560	0.0500	112	78. - 132.	4582	03a21405
Carbon tetrachloride	mg/l	< 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
1,2-Dichloroethane	mg/l	< 0.00000	0.0500	0.0500	100	70. - 140.	4582	03a21405
1,1-Dichloroethene	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/l	< 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
VOA PARAMETERS						
Benzene	mg/l	0.0560	0.0550	1.80	15.	4582
Carbon tetrachloride	mg/l	0.0550	0.0550	0.00	21.	4582
Chlorobenzene	mg/l	0.0580	0.0580	0.00	16.	4582
Chloroform	mg/l	0.0550	0.0560	1.80	20.	4582
1,2-Dichloroethane	mg/l	0.0500	0.0500	0.00	16.	4582
1,1-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 . . .

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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

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.0500	0.0570	114	78 - 127	4582
Carbon tetrachloride	mg/l	0.0500	0.0540	108	69 - 132	4582
Chlorobenzene	mg/l	0.0500	0.0590	118	81 - 120	4582
Chloroform	mg/l	0.0500	0.0560	112	77 - 125	4582
1,2-Dichloroethane	mg/l	0.0500	0.0510	102	71 - 135	4582
1,1-Dichloroethene	mg/l	0.0500	0.0560	112	72 - 128	4582
Methylethylketone	mg/l	0.250	0.242	97	75 - 140	4582
Tetrachloroethene	mg/l	0.0500	0.0560	112	76 - 123	4582
Trichloroethene	mg/l	0.0500	0.0550	110	78 - 125	4582

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
VOA PARAMETERS					
Benzene	< 0.0200	mg/l	4582	2/18/03	7:13
Carbon tetrachloride	< 0.0200	mg/l	4582	2/18/03	7:13
Chlorobenzene	< 0.0200	mg/l	4582	2/18/03	7:13
Chloroform	< 0.00000	mg/l	4582	2/18/03	7:13
1,2-Dichloroethane	< 0.0200	mg/l	4582	2/18/03	7:13
1,1-Dichloroethene	< 0.0200	mg/l	4582	2/18/03	7:13
Methylethylketone	< 0.100	mg/l	4582	2/18/03	7:13

Project QC continued . . .

TestAmerica
INCORPORATED

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 historical or method prescribed QC limits.

End of Report for Project 319848

iina ba, Ltd.
612 E. Murray Drive
Farmington, NM 87401
(505) 327-1072

319848

CHAIN-OF-CUSTODY RECORD

Subcontractor:

Test America, Inc.
2960 Foster Creighton Drive
Nashville, TN 372040566

TEL: (800) 765-0980
FAX: (615) 726-3404

Acct #: 3130

10-Feb-03

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests SW1010	SW1311	SW1311/8260B	
0302004-001A	Aqueous	2/6/2003 4:00:00 PM	VOAHCL		1	1	20519
0302004-001B	Aqueous	2/6/2003 4:00:00 PM	VOAHCL	1			20
0302004-002A	Aqueous	2/6/2003	VOAHCL		1	1	20521

Comments: Please analyze two (2) water samples for TCLP Volatiles. Sample #0302004-002A is a trip blank, please do not charge us for it. Analyze sample #0302004-001B for ignitability.

		Date/Time			Date/Time
Relinquished by:	J Moore	2/11/03	**Received by:**		2/12/03 9:20
Relinquished by:			**Received by:**		

'ESTAM ERICA,INC.-NAS IVILLE

COOLER RECEIPT FORM

Client: IINA BC# 319848

Cooler Received On: 2/12/03 And Opened On: 2/12/03 By: Mark Beasley

Mark Beasley
(Signature)

1. Temperature of Cooler when opened 20 Degrees Celsius
2. Were custody seals on outside of cooler?..... (YES) NO N/A
   a. If yes, how many, what kind and where: 1 Front
   b. Were the seals intact, signed, and dated correctly?..... (YES) NO N/A
3. Were custody seals on containers and intact?..... (NO) YES N/A
4. Were custody papers inside cooler?..... (YES) NO N/A
5. Were custody papers properly filled out (ink,signed,etc)?..... (YES) NO N/A
6. Did you sign the custody papers in the appropriate place?..... (YES) NO N/A
7. What kind of packing material used? (Bubblewrap) Peanuts Vermiculite 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)?..... (YES) NO N/A
11. Did all bottle labels and tags agree with custody papers?..... (YES) NO N/A
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 vial?..... (NO) YES N/A
14. Was sufficient amount of sample sent in each bottle?..... (YES) NO N/A
15. Were correct preservatives used?..... (YES) NO N/A
    If not, record standard ID of preservative used here_____
16. Was residual chlorine present?..... (NO) YES N/A
17. Corrective action taken, if necessary:

    See attached for resolution

CHAIN OF CUSTODY RECORD

B 1531

Date: _____ Page _____ of _____

hiná bá
(for life's sake)
612 E. Murray Dr. • P. O. Box 2606 • Farmington NM 87499
(505) 327-1072 • FAX: (505) 327-1496

Purchase Order No.:	Job No.		
SEND INVOICE TO: Name	Brad L. Lucero	REPORT RESULTS TO: Name	Jack T. Savage Title Sr. Engr.
Company	Duke Field Services Dept. Opers	Company	Duke Energy Field Services
Address	10 County Rd 4900	Mailing Address	370 17th Street
City, State, Zip	Bloomfield, NM 8713	City, State, Zip	Denver, Colorado
		Telephone No.	303-595-3276 Telefax No.
Sampling Location:	Duke Energy Val Verde Plant, Bloomfield, NM Train 5 Inlet Waste Water		
Sampler:	Brad L Lucero Signature		
	632-6471	632-6464	

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX	TCLP Soluble Volatiles	TCLP Volatiles	TCLP Soluble Skept	LAB ID
Train 5 waste water	3/20/04	1000	water		1	X	X	X	X	032004-001
Trip Blank								X		032004-002
Sampling Train 1						X	X	X	X	032004-003
Field Blank						X	X	X	X	-004

Relinquished by: Brad L Lucero	Date/Time 3/20/04 1700	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:
			T = 14°C

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

March 05, 2003

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

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

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.

Sincerely,

David Cox

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

iiná bá, Ltd.

Date: *05-Mar-03*

CLIENT: Duke Energy Field Service
Project: Val Verde Waste Water Storage Tank
Lab Order: 0302012

CASE NARRATIVE

One (1) aqueous sample was sub-contracted to Test America, Inc. in Nashville, TN for analysis.

iina ba, Ltd.

Sample Receipt Checklist

Client Name: **DUK1001**

Date and Time Received: **2/13/2003**

Work Order Number: **0302012**

Received by: HNR

Checklist completed by: Heidi N 2/13/03
Signature Date

Reviewed by: jm 3/14/03
Initials Date

Matrix: Carrier 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 ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	

Adjusted? _____ Checked by: _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

TestAmerica
INCORPORATED

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.

Sample Identification	Lab Number	Collection Date
0302012-001A	03-A22937	2/13/03

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: _____ Report Date: 2/27/03

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.

TestAmerica
INCORPORATED

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:

Date Collected: 2/13/03
Time Collected: 13:00
Date Received: 2/15/03
Time Received: 9:00
Page: 1

Project:
Project Name:
Sampler:

Val Verde Waste Water Storage Tank

3/4/03

TCLP Results

Analyte	Result	Units	Reg Limit	Matrix Spike Recovery (%)	Date	Time	Analyst	Method	QC Batch
Cresols	< 0.100	mg/l	200	38	2/26/03	23:00	M.Schott	8270	6413
1,4-Dichlorobenzene	< 0.0200	mg/l	7.5	30	2/26/03	23:00	M.Schott	8270	6413
2,4-Dinitrotoluene	< 0.0200	mg/l	0.13	78	2/26/03	23:00	M.Schott	8270	6413
Hexachlorobenzene	< 0.0200	mg/l	0.13	48	2/26/03	23:00	M.Schott	8270	6413
Hexchlor-1,3-butadien	< 0.0200	mg/l	0.5	32	2/26/03	23:00	M.Schott	8270	6413
Hexachloroethane	< 0.0200	mg/l	3.0	30	2/26/03	23:00	M.Schott	8270	6413
Nitrobenzene	< 0.0200	mg/l	2.0	38	2/26/03	23:00	M.Schott	8270	6413
Pentachlorophenol	< 0.100	mg/l	100	12	2/26/03	23:00	M.Schott	8270	6413
Pyridine	0.0262	mg/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	3	2/26/03	23:00	M.Schott	8270	6413
TCLP Extraction	Initiated				2/21/03	14:35	M. Cauthen	1311	7319

SAM VOA

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
TCLP BNA's	500. ml	1.0 ml	2/25/03		D. Harris	3510

Sample report continued . . .

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Laboratory Number: 03-A22937
Sample ID: 0302012-001A
Project:

Surrogate	% Recovery	Target Range
BNA Surr-Nitrobenzene-d5	93.	40. - 127.
BNA Surr-2-Fluorobiphenyl	92.	42. - 113.
BNA Surr-Terphenyl-d14	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.

End of Sample Report.

TestAmerica
INCORPORATED

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/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
EXTRACTABLE PARAMETERS								
Cresols	mg/l	< 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	0.200	42	18. - 106.	6413	03-A25719
Hexachloroethane	mg/l	< 0.0100	0.0600	0.200	30	21. - 103.	6413	03-A25719
Hexachloroethane	mg/l	< 0.0100	0.0760	0.200	38	21. - 103.	6413	03-A25719
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/l	< 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/l	< 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/l	< 0.0100	0.120	0.200	60	32. - 135.	6413	03-A25719

Project QC continued . . .

TestAmerica
INCORPORATED

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
EXTRACTABLE PARAMETERS						
Cresols	mg/l	0.228	0.268	16.13	36.	6413
1,4-Dichlorobenzene	mg/l	0.0600	0.0800	28.57	38.	6413
2,4-Dinitrotoluene	mg/l	0.136	0.140	2.90	36.	6413
Hexachlorobenzene	mg/l	0.0960	0.100	4.08	36.	6413
Hexchlor-1,3-butadien	mg/l	0.0640	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/l	0.00650	0.120	179.45#	38.	6413

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
EXTRACTABLE PARAMETERS						
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
Hexchlor-1,3-butadien	mg/l	0.100	0.0940	94	18 - 106	6413
Hexachloroethane	mg/l	0.100	0.0860	86	21 - 103	6413
Nitrobenzene	mg/l	0.100	0.106	106	30 - 117	6413
Pentachlorophenol	mg/l	0.100	0.116	116	30 - 130	6413
Pyridine	mg/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 . . .

TestAmerica
INCORPORATED

PROJECT QUALITY CONTROL DATA
Project Number:
Project Name:
Page: 3
Laboratory Receipt Date: 2/15/03

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
2,4,6-Trichlorophenol	mg/l	0.100	0.118	118	32 - 129	6413

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
EXTRACTABLE PARAMETERS					
Cresols	< 0.0100	mg/l	6413	2/26/03	23:00
1,4-Dichlorobenzene	< 0.0100	mg/l	6413	2/26/03	23:00
2,4-Dinitrotoluene	< 0.0100	mg/l	6413	2/26/03	23:00
Hexachlorobenzene	< 0.0100	mg/l	6413	2/26/03	23:00
Hexchlor-1,3-butadien	< 0.0100	mg/l	6413	2/26/03	23:00
Hexachloroethane	< 0.0100	mg/l	6413	2/26/03	23:00
Nitrobenzene	< 0.0100	mg/l	6413	2/26/03	23:00
Pentachlorophenol	< 0.0100	mg/l	6413	2/26/03	23:00
Pyridine	< 0.0100	mg/l	6413	2/26/03	23:00
2,4,5-Trichlorophenol	< 0.0100	mg/l	6413	2/26/03	23:00
2,4,6-Trichlorophenol	< 0.0100	mg/l	6413	2/26/03	23:00

= Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 320393

iina ba, Ltd.
612 E. Murray Drive
Farmington, NM 87401
(505) 327-1072

CHAIN-OF-CUSTODY RECORD

320393

Subcontractor:

Test America, Inc.
2960 Foster Creighton Drive
Nashville, TN 372040566

TEL: (800) 765-0980
FAX: (615) 726-3404

Acct #: 3130

13-Feb-03

Sample ID	Matrix	Collection Date	Bottle Type	Requested Tests SW1311/8270C	SW3510
0302012-001A	Aqueous	2/13/2003 1:00:00 PM	1LAMGU	1	1

Comments: Please analyze one (1) water sample for TCLP Semivolatiles.

		Date/Time			Date/Time
Relinquished by:	J Moore	2/14/03 12:45	**Received by:**		
Relinquished by:			**Received by:**		2/15/03 9:00

TESTAMERICA,INC.-NASHVILLE

COOLER RECEIPT FORM

320393

Client: Tina Ba Ltd BC# 3209 BRB

Cooler Received On: 2/15/03 And Opened On: 2/15/03 By Paul R. Buckingham II

(Signature)

1. Temperature of Cooler when opened 2.0 Degrees Celsius
2. Were custody seals on outside of cooler?..... (YES) NO N/A
   a. If yes, how many, what kind and where: 1 front
   b. Were the seals intact, signed, and dated correctly?..... (YES) NO N/A
3. Were custody seals on containers and intact?..... NO YES (N/A)
4. Were custody papers inside cooler?..... (YES) NO N/A
5. Were custody papers properly filled out (ink,signed,etc)?..... (YES) NO N/A
6. Did you sign the custody papers in the appropriate place?..... (YES) NO N/A
7. What kind of packing material used? (Bubblewrap) Peanuts Vermiculite 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)?..... (YES) NO N/A
11. Did all bottle labels and tags agree with custody papers?..... (YES) NO N/A
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 vial?..... NO YES (N/A)
14. Was sufficient amount of sample sent in each bottle?..... (YES) NO N/A
15. Were correct preservatives used?..... (YES) NO N/A
    If not, record standard ID of preservative used here _____
16. Was residual chlorine present?..... (NO) YES N/A
17. Corrective action taken, if necessary:

See attached for resolution

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 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐ Verbal Approval Received: Yes ☐ No ☒	4. Generator OIL AND GAS EQUIPMENT 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. 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:
HOT BATH FOR CLEANING GLYCOL PUMPS AND VALVES USED ON OILFIELD PRODUCTION EQUIPMENT.
CITY WATER MIXED WITH CLEANING AGENTS AND NEUTRALIZER. SEE ATTACHED MSDS

LAST FILED 7-23-02

JAN 2003
RECEIVED
OIL CONS. DIV.
DIST. 3

Estimated Volume 80 BBLS cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: FACILITY MANAGER DATE: 1-20-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

01260310

(This space for State Use)

APPROVED BY: _____ TITLE: Envirn/Engr DATE: 1/27/03

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 1/29/03

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 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐ Verbal Approval Received: Yes ☐ No ☒	4. Generator OIL AND GAS EQUIPMENT 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. 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.

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CITY WATER MIXED WITH CLEANING AGENTS AND NEUTRALIZER. SEE ATTACHED MSDS

LAST FILED 7-23-02

Estimated Volume 80 BBLS _____ cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE _____ TITLE: FACILITY MANAGER DATE: 1-20-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

(This space for State Use)

APPROVED BY: _____ TITLE: Enviro/Engr DATE: 1/27/03

APPROVED BY: _____ TITLE: _____ DATE: _____

CERTIFICATE OF WASTE STATUS

1. Generator Name and Address:	2. Destination Name:
Oil & Gas Equipment 4910 E. Main Farmington NM 87402	KEY ENERGY DISPOSAL
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	
Hot Bath for cleaning glycol pumps & valves used on oil field production equipment	

I, Bob Lakefish representative for:

Oil & Gas Equipment Corp. 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

__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 only the following documentation is attached (check appropriate items):

__X__ MSDS Information

_____ RCRA Hazardous Waste Analysis

_____ Chain of Custody

__X__ Other (description): P.H. = 8

Name (Original Signature): Bob Lakefish

Title: Pump Shop Foreman

Date: 1-17-03

CLEAN ACROSS AMERICA AND THROUGHOUT THE WORLD™

ZEP MANUFACTURING COMPANY
P.O. BOX 2015
ATLANTA, GEORGIA 30301

MATERIAL SAFETY DATA SHEET
AND SAFE HANDLING AND USE INFORMATION

ISSUE DATE: 02/01/89
SUPERSEDES: 12/30/88
Date printed: 11/17/99

ZEP VAT NEUTRALIZER
Product No: 1465 Vat Neutralizer

SECTION I - EMERGENCY CONTACTS

TELEPHONE:
(404) 352-1680 *BETWEEN 8:00 AM - 5:00 PM (EST)*
MEDICAL EMERGENCY:
(770) 439-4200 *NON OFFICE HOURS, WEEKENDS*
(770) 432-2873 *AND HOLIDAYS, PLEASE CALL YOUR*
(770) 455-8160 LOCAL POISON CONTROL
(770) 552-8836
(770) 424-2048
(770) 424-4789
TRANSPORTATION EMERGENCY:
(770) 922-0923
CHEMTREC:
(800) 424-9300 TOLL FREE - ALL CALLS RECORDED
DISTRICT OF COLUMBIA:
(202) 483-7616 ALL CALLS RECORDED

SECTION II - HAZARDOUS INGREDIENTS

DESIGNATIONS	(PPM)	EFFECTS (SEE NOTICE)	% IN PROD.
@ ** SULFURIC ACID ** oil of vitriol: CAS# 7664-93-9; RTECS# WS5600000; OSHA PEL-1 mg/m3 (for mists only).	0.25	TOX COR	60-70

@ IDENTIFIES CHEMICALS LISTED UNDER SARA-SECTION 313 FOR RELEASE REPORTING.

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:
Corrosive to skin and eyes on contact. Eye contact can produce corneal damage or blindness. Skin contact can produce inflammation, reddening, and blistering. Inhalation of spray mist or vapors may produce irritation, burning, or destruction of tissues in the respiratory tract, characterized by coughing choking, pain, or shortness of breath. Severe overexposure may lead to fatal lung damage. Ingestion can cause abdominal pain, nausea, vomiting, and collapse, along with tissue destruction in the gastrointestinal tract.

CHRONIC EFFECTS OF OVEREXPOSURE:
Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

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 3; FLAM. 0; REACT. 2; PERS. PROTECT. G ; CHRONIC HAZ. YES

FIRST AID PROCEDURES:
SKIN: Immediately flush contaminated skin with plenty of water for at least 15 minutes. Get medical attention immediately.
EYES: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Get medical attention at once.
INHALE: Move exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Get medical attention immediately.
INGEST: If this product is swallowed, do not induce vomiting. If victim is conscious give plenty of water to drink. Get medical attention at once.

SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING: Wear rubber or neoprene gloves and a face shield when using. A rubber apron and boots are strongly recommended.
EYE PROTECTION: Wear splash-proof safety goggles especially if contact lenses are worn.
RESPIRATORY PROTECTION: If ventilation is inadequate, wear a properly fitting MSHA or OSHA-approved respirator.
VENTILATION: If vapors are detected, ventilate work area by opening windows and using exhaust fans.

SECTION V - PHYSICAL DATA

BOILING POINT (F):	~ 220	SPECIFIC GRAVITY:	1.55
VAPOR PRESSURE(mmHg):	N/A	EVAPORATION RATE (=1):	N/A
VAPOR DENSITY(AIR=1):	N/A	pH(CONCENTRATE):	< 1.0
SOLUBILITY IN WATER:	COMPLETE	pH(USE DILUTION OF 1% SOLUTION):	1.0
VOC CONTENT (CONCENTRATE):	0.0%		

APPEARANCE AND ODOR: A COLORLESS LIQUID WITH NO ODOR.

(Continued on Page: 2)

MATERIAL SAFETY DATA SHEET

SECTION I — PRODUCT IDENTIFICATION

KRYLON INDUSTRIAL
31500 SOLON ROAD
SOLON, OH 44139

EMERGENCY TELEPHONE NO.
(216) 292-7400
INFORMATION TELEPHONE NO.
(800) 247-3268

DATE OF PREPARATION
20 - Jul - 94

©1994, The Sherwin-Williams Co.

Primers

PRIMER/KRI

No.	HAZARDOUS INGREDIENT (percent by weight)	ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	Vapor Pressure (mm Hg)	1340 Zinc Rich	All Purpose 1356 White	All Purpose 1357 Ruddy Brown	All Purpose 1358 Gray	Rust Inhibitive 1345 Yellow	Rust Inhibitive 1346 Green	1370 Sandable Filler Surface Primer
74-98-6	Propane (propellant)		1000	PPM	760.0	15	17	17	17	16	16	16
8032-32-4	V. M. & P. Naphtha	300	300 <400>	PPM	12.0	1						4
108-88-3 $	Toluene	50	100 <150>	PPM (Skin)	22.0		23	27	27	0	6	
1330-20-7 $	Xylene	100 <150>	100 <150>	PPM	5.0	10				12	12	10
78-83-1	2-Methyl-1-Propanol	50	50	PPM	8.7							2
9 $	Methyl Ethyl Ketone	200 <300>	200 <300>	PPM	70.0	34						
67-64-1 $	Acetone	750 <1000>	750 <1000>	PPM	760.0		34	34	34	46	46	41
7440-66-6 $	Zinc	Not Established				36						
14807-96-6	Talc	2	2	Mg/M3	as Resp. Dust					6	6	9
13463-67-7	Titanium Dioxide	10	10[5]	Mg/M3	as Dust [Resp. Fraction]		6		3			1
1271-54-1 $	Zinc Molybdate	Not Established								2	2	
	VOC as a percent by weight per BAAQMD Rule 49					59	82	80	82	83	83	82
	NFPA Code 308 Level					3	3	3	3	3	3	3
	HMIS® Ratings (Health - Flammability - Reactivity)					2-4-0	2-4-0	2-4-0	2-4-0	2-4-0	2-4-0	2-4-0

SECTION II —

$ 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 →→→

Section III — PHYSICAL DATA

PRODUCT WEIGHT	– N.A.	EVAPORATION RATE	– Faster than Ether
SPECIFIC GRAVITY	– N.A.	VAPOR DENSITY	– Heavier than Air
BOILING RANGE	– 40-389 °F	MELTING POINT	– N.A.
SOLUBILITY IN WATER	– N.A.		

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION FLASH POINT <0 °F PMCC LEL 1.0 UEL 12.8

Extremely flammable, Flash below 20 °F

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

SPECIAL FIRE AND EXPLOSION HAZARDS

Contents may be ignited by heat, electrical equipment, sparks, and open flame. Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section V — HEALTH HAZARD DATA

ROUTES OF EXPOSURE

Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.

CHRONIC (LONG) Hazards

EFFECTS OF OVEREXPOSURE

Irritation of eyes, skin and respiratory system. May cause nervous system depression. Severe overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

EMERGENCY AND FIRST AID PROCEDURES

If INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

If on SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.

If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

If SWALLOWED: Get medical attention.

[redacted] Health Hazards

No ingredient in these products is an IARC, NTP or OSHA listed carcinogen.

Methyl Ethyl Ketone may increase the nervous system effects of other solvents.

Prolonged overexposure to solvent ingredients in Section II may cause adverse effects to liver, urinary, blood-forming, cardiovascular, and reproductive systems.

Rats exposed to titanium dioxide dust at 250 mg./m3 developed lung cancer, however, such exposure levels are not attainable in the workplace.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section VI — REACTIVITY DATA

STABILITY – Stable

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide, Oxides of Metals in Section II

HAZARDOUS POLYMERIZATION – Will Not Occur

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate and remove with inert absorbent.

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers. Waste from products containing Methyl Ethyl Ketone and/or Xilno may also require testing for extractability.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

Section VIII — PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE

Use only with Adequate Ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.

These coatings may contain materials classified as nuisance particulates (listed "as Dust" in Section II) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section II, the applicable limits for nuisance dusts are ACGIH TLV 10 mg./m3 (total dust), OSHA PEL 15 mg./m3 (total dust), 5 mg./m3 (respirable fraction).

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for protection against non-volatile materials in Section II.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

Section IX — PRECAUTIONS

DOT STORAGE CATEGORY – 1A

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Contents are EXTREMELY FLAMMABLE. Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120 °F. Heat from sunlight, radiators, stoves, 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 inhaling the contents can be harmful or fatal.

Section X — OTHER REGULATORY INFORMATION

CALIFORNIA PROPOSITION 65

Several products (see table) contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

The above information pertains to this product as currently 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 hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

NOV-28-1996 21:44 DEXES TOOL SUPPLY 619 562 2144 P.02

TOTAL P.02

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Common Name	Triethylene Glycol Reprocessed
Supplier	COASTAL CHEMICAL CO., L.L.C. 3520 Veterans Memorial Drive ABBEVILLE, LA 70510 318-893-3862
Synonym	Not available.
Trade name	Not available.
Material Uses	Not available.
Manufacturer	Various

Code	93101
MSDS#	Not available.
Validation Date	3/3/96
Print Date	5/12/99

In case of Emergency	Transportation Emergency Call CHEMTREC 800-424-9300 Other Information Call Joe Hudman 713-477-8675

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	TLV/PEL	LC50/LD50
Diethylene glycol	111-46-6	0-5	Not available.	ORAL (LD50) mg/kg: Acute: 12565 (Hamster.). 14800 (Rat). DERMAL (LD50) mg/kg: Acute: 11890 (Hamster.). 11900 (Rabbit).
Triethylene Glycol	112-27-6	95-100		

Section 3. Hazards Identification

Emergency Overview

CAUTION!

MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION.

Routes of Entry

Eye contact. Ingestion. Skin contact. Inhalation.

Potential Acute Health Effects

Slightly dangerous to dangerous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation. This product may irritate eyes and skin upon contact.

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. The substance is toxic to blood, kidneys, liver. Toxicity of the product to the reproductive system: Not available. Repeated or prolonged exposure to the substance can produce target organs damage.

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. DO NOT use an eye ointment. Seek medical attention.

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

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

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 immediate medical attention.

Continued on Next Page

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 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 (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	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 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.
Special Remarks on Fire Hazards	When heated to decomposition, it emits acrid smoke and irritating fumes. (Diethylene 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. 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.

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 eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Safety glasses. Lab coat. Gloves (impervious).
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Chemical Name or Product Name	CAS #	Exposure Limits
2,2'-Oxydiethanol	111-46-6	No available.
Triethylene Glycol	112-27-6	

Continued on Next Page

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.
Molecular Weight	Not applicable.
pH (1% soln/water)	Neutral.

Odor	Not available.
Taste	Not available.
Color	Not available.

Boiling Point	The lowest known value is 245.8°C (474.4°F) (Diethylene glycol). Weighted average: 284.02°C (543.2°F)
Melting Point/Pour 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 0.01 mm of Hg (@ 20°C) (Diethylene glycol).
Vapor Density	The highest known value is 6.7 (Air = 1) (Tetraethylene glycol). Weighted average: 6.7 (Air = 1)
Volatility	Not available.
Odor Threshold	Not available.
Evaporation rate	Not available.
Viscosity	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, methanol, diethyl ether.
Solubility	Easily soluble in cold water, hot water, methanol, diethyl 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 reactive with oxidizing agents.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Not available.

Section 11. Toxicological Information

Toxicity to Animals	Acute oral 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 toxic to blood, kidneys, liver. Toxicity of the product to the reproductive system: Not available.
Other Toxic 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 inhalation. Exposure can cause nausea, headache and vomiting. (Diethylene glycol)

Continued on Next Page

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 product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	No additional remark.

Section 13. Disposal Considerations

Waste Disposal	

Section 14. Transport Information

Proper 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 Reportable Quantity (kg)	Not available.
Special Provisions for Transport	Not applicable.

Section 15. Regulatory Information

Federal and State Regulations	The following product(s) is (are) listed by the State of Minnesota: Diethylene glycol	
Other Classifications	WHMIS (Canada)	Not controlled under WHMIS (Canada).
	DSCL (EEC)	Not controlled under DSCL (Europe).

Section 16. Other Information

HMIS (U.S.A.)

[illegible]	2
Fire Hazard	1
Reactivity	0
Personal Protection	B

National Fire Protection Association (U.S.A.)

References	Not available.
Other Special Considerations	No additional remark.

Validated by Joe Hudman on 8/8/96.

Verified by Joe Hudman.

Printed 5/12/99.

Transportation Emergency Call
CHEMTREC 800-424-9300
Other Information Call
Joe Hudman
713-477-6675

Continued on Next Page

Triethylene Glycol Reprocessed	Page Number: 5

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability 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 hazards that exist.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
130 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: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator HALLIBURTON 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 FARMINGTON,NM 87402	

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:

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 haul) _____cy

SIGNATURE _____ TITLE: ___FACILITY MANAGER___ DATE: _1-14-03_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __MICHAEL TALOVICH_____ TELEPHONE NO. _505-334-6416_____

(This space for State Use)

APPROVED BY: _____ TITLE: Enviro/Engr DATE: 1/22/03

APPROVED BY: _____ TITLE: Environmental Geologist DATE: 1/27/03

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
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State of New Mexico
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LAST FILED 10-26-02

JAN 2003
RECEIVED
OIL CONS. DIV.
DIST. 3

Estimated Volume _160 BBLS_____cy Known Volume (to be entered by the operator at the end of the haul) _____cy

SIGNATURE _____ TITLE: ___FACILITY MANAGER___ DATE: _1-14-03_____
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: __MICHAEL TALOVICH_____ TELEPHONE NO. _505-334-6416_____

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Enviro/Engr DATE: 1/22/03

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

GENERATOR CERTIFICATE OF WASTE STATUS

1. Waste Generator Name and Address:
Halliburton Energy Services
4109 E Main ST
Farmington, NM 87402

2. Permit Number (if waste generated at an OCD permitted facility)

3. Description of Waste and Generating Process:
Return Frac Fluids That were stored in tanks referred to as Junk water Tank That was sampled 12/10/02

4. Location of Waste (Street address &/or ULSTR):
Halliburton Energy Services
4109 E Main ST
Farmington NM, 87402

5. Destination (Surface Waste Management Facility):
Key Energy Services

6. Transporter:
Key Energy

7. Estimated Volume 160 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).

X Other (Description) Knowledge of Process & Filed previously Refer to article 3

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.

X **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: Merle D Krause HH Date: _____

Print Name: Merle D Krause HH

Title: Material Supervisor

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Halliburton Energy Services	Project #:	92132-001
Sample ID:	D - 1	Date Reported:	12-16-02
Lab ID#:	24415	Date Sampled:	12-12-02
Sample Matrix:	Water	Date Received:	12-12-02
Preservative:	Cool	Date Analyzed:	12-16-02
Condition:	Cool and Intact	Chain of Custody:	10465

Parameter	Result	
IGNITABILITY:	**Negative**	
CORROSIVITY:	**Negative**	**pH = 10.1**
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 sections 261.21 - 261.23, July 1, 1992.

Comments: **Halliburton Bulk Plant.**

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

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)	0.0129	0.0001	200
Chloroform	ND	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0459	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.

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

Comments: **Halliburton Bulk Plant.**

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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 (mg/L)	Detection Limit (mg/L)	Regulatory Limit (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

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 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: **Halliburton Bulk Plant.**

Analyst

Review

ENVIROTECH LABS

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

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Limit (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 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: **Halliburton Bulk Plant.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL ANALYSIS

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 Analyzed:	12-16-02
Preservative:	Cool	Date Extracted:	N/A
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (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
Mercury	ND	0.001	0.2
Selenium	0.030	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: **Halliburton Bulk Plant.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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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:	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

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 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: **QA/QC for sample 24415.**

Analyst

Review

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:	Matrix Duplicate	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

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent 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.**

Analyst

Review

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:	Matrix Spike	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

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	99.0%	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

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

PRACTICAL SOLUTIONS FOR 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 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: **QA/QC for sample 24415.**

Analyst

Review

ENVIROTECH LABS

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:	12-17-02
Laboratory Number:	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
		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	0.101	0.099	0.040	2.0%
2,4,6-Trichlorophenol	0.273	0.270	0.020	1.0%
2,4,5-Trichlorophenol	0.401	0.397	0.020	1.1%
Pentachlorophenol	0.375	0.372	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 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 24415.**

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ENVIROTECH 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:	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

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	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.**

Analyst

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ENVIROTECH LABS

PRACTICAL 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:	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 Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (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	0.021	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, 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.**

Analyst

Review

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ENVIROTECH LABS
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:	12-16-TCM QA/QC	Date Reported:	12-16-02
Laboratory Number:	24415	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	12-16-02
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Difference	Acceptance Range
Arsenic	ND	ND	0.001	0.041	0.040	2.4%	0% - 30%
Barium	ND	ND	0.001	0.862	0.860	0.2%	0% - 30%
Cadmium	ND	ND	0.001	0.004	0.004	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	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 Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance 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%
Mercury	0.050	ND	0.049	98.0%	80% - 120%
Selenium	0.500	0.030	0.528	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: **QA/QC for samples 24415 - 24416.**

Analyst

Review

CHAIN OF CUSTODY RECORD

10465

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
Halliburton Energy Services	Halliburton Bulk Plant	

Sampler:	Client No.
Melissa M. Hensley	92132-001

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH						Remarks
D-1	12/12/02	1155 MC	2445	H_2O	5	✓						PRESERVED W/ BLUE ICE

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12/13/02	1230 MC	[signature]	12/12/02	1230
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

12-31-02; 9:15AM; ENVIROTE ;5056321865 # 16/ 16

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 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ ☐Verbal Approval Received: Yes ☐ No ☒	4. Generator ELPASO FIELD SERVICE
	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 San Juan Co.,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 WASTE WATER FROM GAS PLANT OPERATIONS.

ANNUAL RENEWAL FOR 2003

Estimated Volume 500-1000BBLS PER MONTH Known Volume (to be entered by the operator at the end of the haul) _____cy

SIGNATURE Michael Talovich TITLE: MANAGER DATE: 1-13-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

012503-2

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Enviro/Engr DATE: 1/27/03

APPROVED BY: Martyne J Kly TITLE: Environmental Geologist DATE: 1/29/03

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.
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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: ☒ ☐ Verbal Approval Received: Yes ☐ No ☒	4. Generator ELPASO FIELD SERVICE
	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
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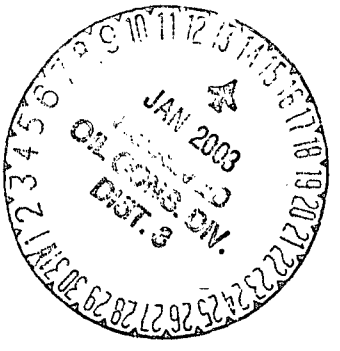
All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

CONTACT WASTE WATER FROM GAS PLANT OPERATIONS.

ANNUAL RENEWAL FOR 2003



Estimated Volume 500-1000BBLS PER MONTH Known Volume (to be entered by the operator at the end of the haul) _____cy

SIGNATURE _____ TITLE: MANAGER DATE: 1-13-03
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: MICHAEL TALOVICH TELEPHONE NO. 505-334-6416

(This space for State Use)

APPROVED BY: Denny Foust TITLE: Envirp/Engr DATE: 1/27/03

APPROVED BY: _____ TITLE: _____ DATE: _____

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): Chaco Plant Attach list of originating sites as appropriate	Location of Waste(Street address &/or ULSTR): SW/4 of Section 16, T26N, R12W, San Juan Co., NM
4. Source and Description of Waste Contact waste water from Cryogenic Plant and Compressor Station operations	

I, David Bays representative for:
(Print Name)

El Paso Field Services Co. 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

_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-hazardous waste defined above.

For **NON-EXEMPT** waste only, the following documentation is attached (check appropriate items):

____ MSDS Information
_X_ RCRA Hazardous Waste Analysis
____ Chain of Custody
____ Other (description)

Name (Original Signature): David Bays

Title: Principal Environmental Scientist

Date: January 6, 2003

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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 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 sections 261.21 - 261.23, July 1, 1992.
Comments:	**Chaco Plant.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHODS 8010/8020 AROMATIC / HALOGENATED VOLATILE ORGANICS

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

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)	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	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.

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

Comments: Chaco Plant.

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040
PHENOLS

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 (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	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: **Chaco Plant.**

Analyst

Review

700 3

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

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

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 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	0.125	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	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.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL 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 (mg/L)	Det. Limit (mg/L)	Regulatory Level (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	ND	0.001	0.2
Selenium	0.009	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: **Chaco Plant.**

Analyst

Review

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ENVIROTEC. . LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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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:	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

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 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: **QA/QC for sample 24358.**

Analyst

Review

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ENVIRO TECH 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:	Matrix Duplicate	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

Parameter	Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Detection Limits (mg/L)	Percent 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%

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

Review

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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:	Matrix Spike	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

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	99.0%	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.

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8040
PHENOLS
Quality Assurance Report
Laboratory Blank

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	12-10-02
Laboratory Number:	12-10-TCA	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	12-10-02
Condition:	N/A	Analysis Requested:	TCLP

Analytical Results

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: **QA/QC for sample 24358.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER 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:	TCLP

Parameter	Concentration (mg/L)	Det. 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	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

Review

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ENVIROTECH LABS

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:	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
		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%
Pentachlorophenol	ND	ND	0.020	0.0%

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8040 Compounds	30.0%

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

Review

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ENVIROTECH 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:	12-10-02
Laboratory Number:	12-10-TBN	Date Sampled:	N/A
Sample Matrix:	Hexane	Date Received:	N/A
Preservative:	N/A	Date Extracted:	N/A
Condition:	N/A	Date Analyzed:	12-10-02
		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	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.

Analyst

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ENVIRO-TECH 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:	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 (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	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

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ENVIROTECH LABS

PRACTICAL 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:	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 Requested:	TCLP

Parameter	Sample Result (mg/L)	Duplicate Result (mg/L)	Percent Difference	Det. Limit (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, 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

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ENVIROTECH LABS

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 Reported:	12-06-02
Laboratory Number:	24357	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	12-06-02
Condition:	N/A	Date Extracted:	N/A

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Difference	Acceptance Range
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%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.017	0.516	99.8%	80% - 120%
Barium	0.500	2.39	2.86	99.0%	80% - 120%
Cadmium	0.500	0.003	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%

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 24358.**

Analyst

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CHAIN OF CUSTODY RECORD

10447

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
El Paso Field Services	Chaco Plant	

Sampler:	Client No.
JLS	97057-072

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TCLP						Remarks
Waste Water Tank	12-05-02	315	24358	Water	5 (SAS)	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Josh Saunders Lee	12-05-02	450	[signature]	12-5-02	1650
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

ab ID: 0303W00173
Matrix: Water
Condition: Intact

Date Analyzed: 01/27/03

Parameter	Analytical Result	PQL	MCL	Units
RCI				
Corrosivity -pH	7.9		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				
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

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: _____

Parameter	Analytical 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				
Arsenic	<0.005	0.005		mg/L
Barium	0.26	0.01		mg/L
Cadmium	0.001	0.001		mg/L
Chromium	<0.01	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.

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