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C-138

YEAR(S): 2001-2000

### NYRM DECON SERVICES, LLC

OFFICE: 1910 North Big Spring Midland, Texas 79705 915-682-4559 • Fax 915-682-3946 YARD: 2809 S. County Rd. #1257 Midland, Texas 79706 915-563-1123 • Fax 915-563-1823

ALL: MARTYNE
FOR YOUR GILES!

August 24, 2001

Mr. Wayne Price New Mexico Oil Conservation Division 1220 S. St. Francis Dr. Santa Fe, NM 87504

Dear Mr. Price:

Thank you for meeting with myself, Ms. Haynes and Mr. Curtis this past Wednesday. Per your request, I have enclosed the waste receipt tickets for the material that went to Parabo and the waste certifications for material that went to Waste Management. I have also enclosed the laboratory results for the samples that were taken at J&L Landfarms which indicate that regulated NORM is not present. You also requested the amount of waste that went to Parabo. Approximately 2800 yds of waste were transported and disposed at Parabo.

Please contact me at 915-563-1123 should you have any questions or require additional information. Mr. Curtis can be reached at 505-393-9174.

Sincerely,

Mitchell W. Davis, RRPT

Health Physicist

The second secon

Sundance Services, Inc.				
	P.O. Box 1737 ★ Eunice, NM (505) 394-2511	1 88231	Nº	29209
LEASE OPERATOR/SHIPPER	RICOMPANY: Rice			
LEASE NAME: EME	- 19-33			
TRANSPORTER COMPANY:	Walton	TIN	E:	AM/PM
DATE: 6-7-00 VE	HICLE NO .: 209	DRIVER I	NO.:	
CHARGE TO: PIC 4				
	TYPE OF MATER	IAL		
[ ] Production Water [ ] Tank Bottoms [ ] Other Material:	[] Tank Bottoms [] C-117 No.:			
Description:	_			
	Wo	er f		
VOLUME OF MATERIAL [ ]		LYARD	:	[]
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White-Sundance Carary-Sundance Acet#1 Pin Revised 12/27/95	k-Sundance Acet#2 Gold-Transporter			

	Sundance Services, Inc. P.O. Box 1737 * Eunice, NM 68231 (505) 394-2511	Nº	29194
LEASE OPERATOR/SHIPPE			
LEASE NAME: EME	M-33		1
TRANSPORTER COMPANY	: WAlfon const.	TIME:	AM/PM
DATE: 6- 7-00 V	EHICLE NO.: 4 57 DF	IVER NO.:	
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	TYPE OF MATERIAL		
[ ] Production Water [ ] Drilling Fluids [ ] Completion Fluids [ ] Tenk Bottoms			
wood			
VOLUME OF MATERIAL [] BBLS : [] YARD 25 : []			
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THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.  DHIVER:  (SIGNATURE)  (SIGNATURE)			
White-Sundance Canary-Sundance Accell Revised 12/27/95	•		

·	Sundance Services, Inc. P.O. Box 1737 * Eunice, NM 88231 (505) 394-2511	Nº	29193
LEASE OPERATOR/SHIPPE	R/COMPANY: Rice		
LEASE NAME: EME	M1 - 33		
TRANSPORTER COMPANY:	Walton const.	TIME:	AM/PM
DATE: 6-7-00 VI	HICLE NO.: # 209 DRI	VER NO.:	
CHARGE TO: Ric	ζ		
	TYPE OF MATERIAL		
[ ] Production Water [ ] Tank Bottoms [ ] Other Material:  Description:		J Completion Flu	
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these aren't Clear but you can read the originals

	Sundance Services, P.O. Box 1737 * Eunice, NM 88: (505) 394-2511		25117
LEASE OPERATOR/SHIPP	ER/COMPANY:		
LEASE NAME:	2/		
TRANSPORTER COMPANY	1: Harrist Burs	TIME:	AM/PM
	VEHICLE NO.:		
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	TYPE OF MATERIA		
[ ] Production Water [ ] Tank Bottoms [ ] Other Material:  Description:	[ ] Drilling Fluids [ ] Contaminated soil [ ] BS&W Content:	[ ] Completion Fluid [ ] C-117 No.:	
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THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.			
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DRIVER:	The state of the s		

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_	Sundance Services P.O. Box 1737 * Eunice, NN (505) 394-2511		25072
LEASE OPERATOR/SHIP	PER/COMPANY:		
LEASE NAME:	1 L- 12-12-12-12-12-12-12-12-12-12-12-12-12-1	-21	
TRANSPORTER COMPAN	Y: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TIME:	AM/PM
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DRIVER: (SIGNATURE)  FACILITY REPRESENTATIVE: _	AF ALLEN		
	(SIGNATURE)  1 Pink-Sundance Acct#2 Gold-Transporter		

	Sundance Services P.O. Box 1737 * Eunice, NM (505) 394-2511	·	25177
LEASE OPERATOR/SHI	PPER/COMPANY:		
LEASE NAME: (-	-21		
TRANSPORTER COMPA	NY:	TIME:	AM/PM
DATE:	VEHICLE NO.:	DRIVER NO.:	
CHARGE TO:	1 31		
	TYPE OF MATERIA	AL	
[ ] Production Water [ ] Tank Bottoms [ ] Other Material:	[ ] Orilling Fluids [ ] Contaminated soll [ ] BS&W Contant:	[ ] Completion [ ] C-117 No.: _	
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AS A CONDITION TO SUNDA JOB TICKET, OPERATOR/SHIPI HEREWITH IS MATERIAL EXE AMENDED FROM TIME TO TH AND REGULATIONS RELATED PRODUCED WATERS, AND OT PRODUCTION OF CRUDE OIL  ALSO AS A CONDITION TO S THIS JOB TICKET, TRANSPORT OPERATOR/SHIPPER TO TRAN FACILITY FOR DISPOSAL.  THIS WILL CERTIFY that Statement at the above described and continuous distributions without incident.	CI BBLS	OF THE MATERIALS SHE AT THE WASTE MATERI ATION AND RECOVERY EALTH AND SAF. CODE PTION AFFORDED DRILL EXPLORATION, DEVELOR ENERGY.  ANCE OF THE MATERIAL AT ONLY THE MATERIAL ANSPORTER TO SUNDANG material represented by ered by the above desc	AL SHIPPED ACT OF 1976, AS § 361.001, ct seq., LING FLUIDS, PMENT OR  LS SHIPPED WITH L DELIVERED BY CE SERVICES, INC. 'S  this Transporter ribed shipper. This
ORIVER: (SIGNATURE)	£7 ,	C	******
FACILITY REPRESENTATIVE:	(SIGNATURE)	and the second s	
White-Sundance Canary-Sundance Acce Revised 12/27/95	#1 Pink-Syndance Acci#2 Gold Transporter		

LEASE OPERATOR/SHIPPER/COMPANY:  LEASE NAME:		Sundance Service, (505) 394-2511	*		20129
TRANSPORTER COMPANY:  DATE:  VEHICLE NO.:  DRIVER NO.:  CHARGE TO:  TYPE OF MATERIAL  [ ] Production Water	LEASE OPERATOR/SHIP	PER/COMPANY:			
CHARGE TO:  TYPE OF MATERIAL  [ ] Production Water	LEASE NAME: . L	(-21			
TYPE OF MATERIAL  [ ] Production Water	TRANSPORTER COMPAN	<b>VY:</b> 1.4.1.1	·	TIME:	АМ/РМ
TYPE OF MATERIAL  [ ] Production Water [ ] Tank Bottoms [ ] Contaminated Boil [ ] C-117 No.:  [ ] Other Material:  Description:    ] Description:    ] Description:    ] Description:    ] Other Material:   ] BBLS.     [ ] YARD     [ ]	DATE:	VEHICLE NO.:	DRI	VER NO.:	
[] Production Water [] Tank Bottoms [] Contaminated Boil [] C-117 No.:  Description:    Description:   Description:   Description   Descriptio	CHARGE TO:				
Tank Bottoms   Content:   Conte		TYPE OF MATE	ERIAL		
AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HEREWITH IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. § 6901, et seq., THE NM HEALTH AND SAF. CODE § 351 001. et seq., AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED DRILLING FLUIDS. PRODUCED WATERS, AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.  ALSO AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET. TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO SUNDANCE SERVICES, INC.'S FACILITY FOR DISPOSAL.  THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.  DRIVER:  (SIGNATURE)	[ ] Tank Bottoms [ ] Other Material:	-L ] Contaminated soil	j		
AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HEREWITH IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. § 6901, et seq., THE NM HEALTH AND SAF. CODE § 351 001. et seq., AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED DRILLING FLUIDS. PRODUCED WATERS, AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.  ALSO AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB LICKET. TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO SUNDANCE SERVICES, INC.'FACILITY FOR DISPOSAL.  THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.  DRIVER:  (SIGNATURE)			$\sim \kappa$	20 ()	
AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HEREWITH IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C.; 6901, et seq., THE NM HEALTH AND SAF. CODE; 351 001. et seq., AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED DRILLING FLUIDS. PRODUCED WATERS, AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.  ALSO AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET. TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO SUNDANCE SERVICES, INC.' FACILITY FOR DISPOSAL.  THIS WILL CERTIFY that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.  DRIVER:  (SIGNATURE)	VOLUME OF MATERIAL	[ ] BBLS;		1,2:	[]
Without incident.  DRIVER: (SIGNATURE)	JOB TICKET, OPERATOR/SHIPP HEREWITH IS MATERIAL EXEMAMENDED FROM TIME TO TIME AND REGULATIONS RELATED PRODUCED WATERS, AND OTH PRODUCTION OF CRUDE OIL OF CRUDE OIL OF CRUDE THIS JOB TICKET, TRANSPORT OPERATOR/SHIPPER TO TRANSFACILITY FOR DISPOSAL.  THIS WILL CERTIFY that Statement at the above description of the content of the above description.	ER REPRESENTS AND WARRANT MPT FROM THE RESOURCE, CONSIG. 40 U.S.C. § 6901, et seq., THE NTHERETO, BY VIRTUE OF THE EMER WASTE ASSOCIATED WITH TOR NATURAL GAS OR GEOTHERM UNDANCE SERVICES. INC.'S ACCION FROM THE SPORTER IS NOW DELIVERED BY the above Transporter loaded libed location, and that it was a serviced as the control of the second of the control of the cont	S THAT THE W SERVATION AN M HEALTH AN XEMPTION AFFITHE EXPLORAT MAL ENERGY. CEPTANCE OF T S THAT ONLY TRANSPORTER the material retendered by the	ASTE MATERIAL ID RECOVERY AC ND SAF. CODE § 3 FORDED DRILLING ION, DEVELOPMING THE MATERIAL SET TO SUNDANCE REPRESENTED by the above describ	SHIPPED TO OF 1976, AS 151.001. et seq., G FLUIDS. ENT OR SHIPPED WITH DELIVERED BY SERVICES, INC. S is Transporter ed shipper. This
	DRIVER: (SIGNATURE)		load, and that	t the material w	as delivered
(SIGNATURE)  White-Sundance Canary-Sundance Acct#1 Pink-Sundance Acct#2 Gold-Transporter	White-Sundance Canary-Sundance Acct	(SIGNATURE)  #1 Pink-Syndance Acct#2 Gold-Transport	er		

*	Sundance Services, P.O. Box 1737 * Eunice, NM 88 (505) 394-2511		25056
LEASE OPERATOR/SHIPPE	ER/COMPANY: 191-0	2	
LEASE NAMES MALE	1.20		
TRANSPORTER COMPANY	WALTON Con	TIME:	AM/PN
DATE: //7/00 V	EHICLE NO.: 37	DRIVER NO.:	
CHARGE TO:	e e	Wo	rad
	TYPE OF MATERIA	Ĺ	
[ ] Production Water [ ] Tank Bottoms [ ] Other Material:  Description	[ ] Drilling Fluids [ ] Conteminated soll [ ] PBS&W Content:	[ ] Completion [ ] C-117 No.:	
VOLUME OF MATERIAL [ ]	BBLS : [ ] Y	ARD/17,4:	Janih. []
JOB TICKET, OPERATOR/SHIPPER HEREWITH IS MATERIAL EXEMPT AMENDED FROM TIME TO TIME, AND REGULATIONS RELATED TH PRODUCED WATERS, AND OTHER	REPRESENTS AND WARRANTS THA T FROM THE RESOURCE, CONSERVA 40 U.S.C. § 6901, et seg., THE NM HE IERETO, BY VIRTUE OF THE EXEMP R WASTE ASSOCIATED WITH THE EX NATURAL GAS OR GEOTHERMAL EN	T THE WASTE MATER TION AND RECOVERY ALTH AND SAF. CODE YION AFFORDED DRIL TPLORATION, DEVELO	IAL SHIPPED  ACT OF 1976. AS  § 361.001, et seq., LING FLUIDS,
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Statement at the above describe	e above Transporter loaded the ma ed location, and that it was tender naterials were added to this load,	ed by the above desc	ribed shipper. Thi
DRIVER: (SIGNATURE)	Hernane	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	9,5 - 1
(SIGNATURE)	Hernane Enzelos Ha	sone of	1. · · · · · · · · · · · · · · · · · · ·

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RICE Operating Company

122 West Taylor
HOBBS, NEW MEXICO 88240
(505) 393-9174

### **Certification of Waste Status**

The waste (oil stained lumber) contained in Waste Management's 25 cubic yard rolloff has been surveyed in accordance with 20 NMAC 3.1 subpart 1408. The maximum radiation exposure reading and norm concentration do not exceed that listed in 20 NMAC 3.1 subpart 1403 c. and d. The survey results are attached.

Certified on /-3-00 by

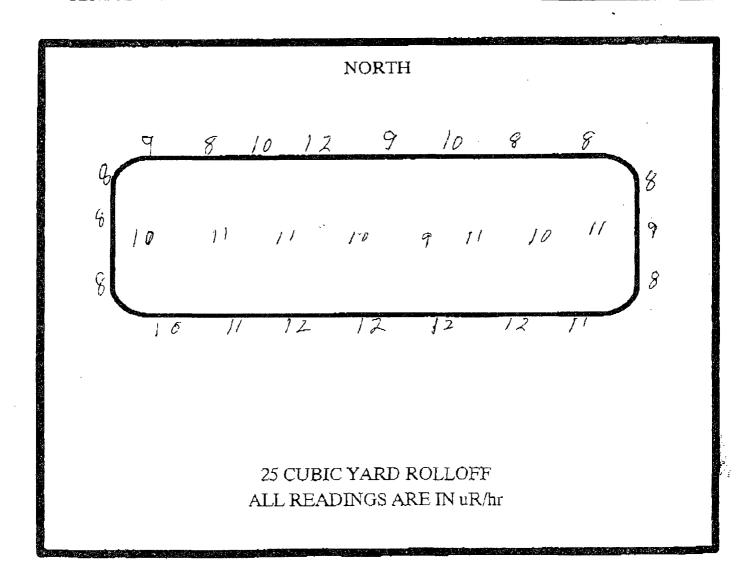
John L. Moody Jr.

Regulatory Compliance coordinator

Cc: WM File

# N.O.R.M. SURVEY FOR WASTE MANAGEMENT

DATE 1-3-00	TIME 1030 HAM
	NATURE SUPERIOR
SURVEY PREFORMED BY (INDIVIDUALS SIGN	NATURE) MOGILE & TO THE MANAGE !
CLIENT: WASTE MANAGEMENT	LOCATION: RICE YARD
EXPOSURE RATE INSTRUMENT(TYPE, SERIA	L#) April 19 SER#127382
CALIBRATION DUE DATE 10 -AV6-DO	_
BATTERY AND RESPONSE CHECKS PREFORM	ED SATISFACTORY?



## RICE Operating Company

122 West Taylor HOBBS, NEW MEXICO 88240 (505) 393-9174

### Certification of Waste Status

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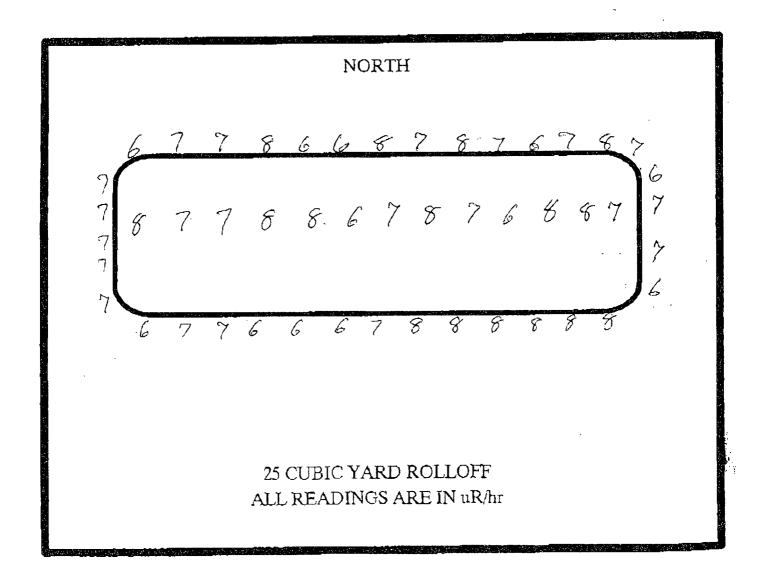
Certified on 1-3/-00 by John L. Moody Jr.

Regulatory Compliance coordinator

Cc: WM File

# N.O.R.M. SURVEY FOR WASTE MANAGEMENT

DATE / -3/- 00	TIME 4:00 pm
SURVEY PREFORMED BY (INDIVIDUALS SIGNA	TURE) John L Maurish
CLIENT: WASTE MANAGEMENT	LOCATION: RICE YARD
EXPOSURE RATE INSTRUMENT(TYPE, SERIAL #	) Mod 19 4 120 918
CALIBRATION DUE DATE 14AR - 00 BAG	CKGROUNDREADING & uR/hr
BATTERY AND RESPONSE CHECKS PREFORMED	SATISFACTORY?



RICE Operating Company

122 West Taylor HOBBS, NEW MEXICO 88240 (505) 393-9174

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Certified on 12-13-49 by

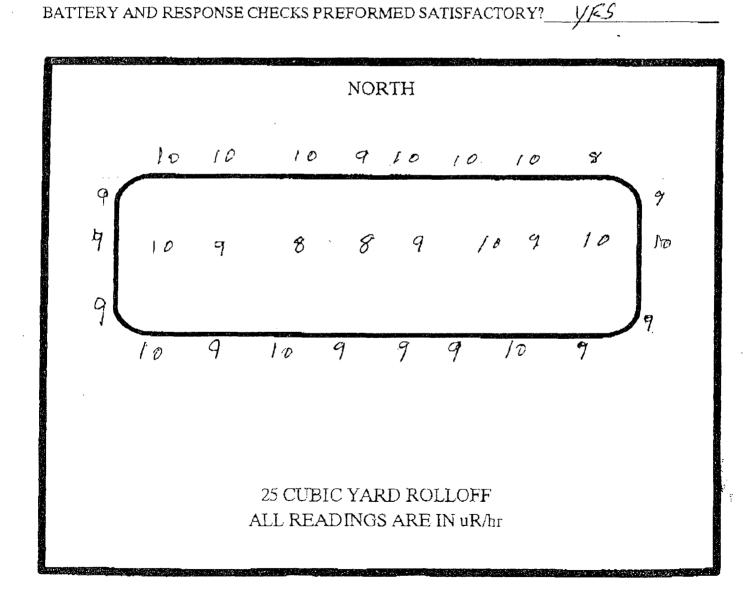
John L. Moody, Jr.

Regulatory Compliance coordinator

Cc: WM File

## N.O.R.M. SURVEY FOR WASTE MANAGEMENT

DATE 12-13-99	TIME 130 pm
SURVEY PREFORMED BY (INDIVIDUALS SIGNATURE)	
CLIENT: WASTE MANAGEMENT	LOCATION: RICE YARD
exposure rate instrument(type, serial #) Mod	1-19 SER# 127364
CALIBRATION DUE DATE //-/- DO BACKGROU	JNDREADING 7-8 uR/hr



RICE Operating Company

122 West Taylor HOBBS, NEW MEXICO 88240 (505) 393-9174

### **Certification of Waste Status**

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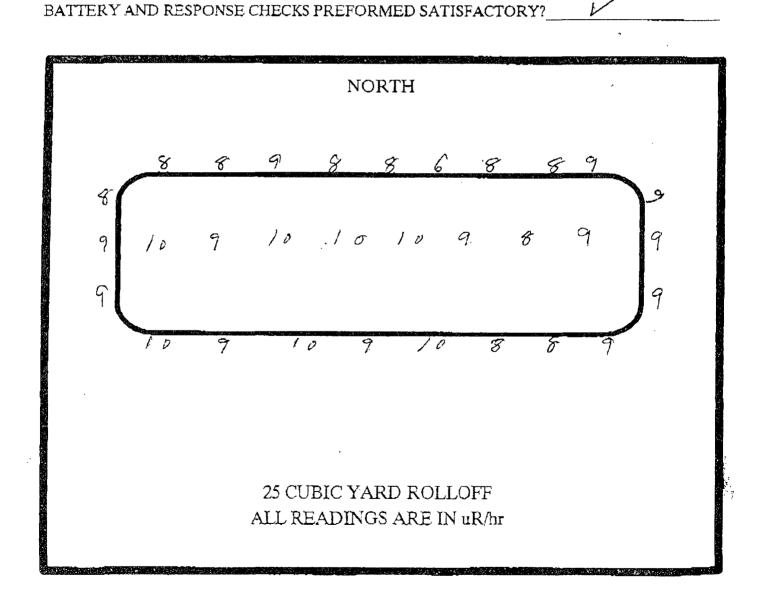
Certified on 1246-99 by

John L. Moody Jr.

Regulatory Compliance coordinator

Cc: WM File

DATE 12 16-99	TIME 2'00 pm
SURVEY PREFORMED BY (INDIVIDUALS SIGNATURE)	John & Moody &
CLIENT: WASTE MANAGEMENT	LOCATION: RICE YARI
EXPOSURE RATE INSTRUMENT(TYPE, SERIAL #) Mag	19 SER# 127382
CALIBRATION DUE DATE 10 AUG 60 BACKGRO	OUNDREADING 6 uR/hr
	<i>^</i>



妈贝女

SENT BY: AMERICAN RADIATION SERVICES INC; 225 927 6822;

AUG-16-01 10:31;

PAGE 3/5



1726 Wooddale Court • Baton Rouge, Louisiana 70808

1 (800) 401-4277 • Fax (225) 927-6822

ARS Tracking Number:

**ARS-01-1169** 

P.O. Number:

Verbal

Client I.D.:

Grid #11 comp. 15cm

ARS Sample I.D.:

ARS-01-4880

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1100

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	3.94	0.98	pCi/gm	0.146	0,036	Bq/gm	EPA 901.1M	08/15/01 13:41	гb
Ra-228	0.31	0.09	pCi/gm	0.011	0.003	Ва/дт	EPA 901.1M	08/15/01 13:41	rb
Pb-210	2.47	0.97	pCi/gm	0.091	0.036	Bg/gm	EPA 901.1M	08/15/01 13:41	πb -
Total Activity	20.00	N/A	pCl/gm	0.740	N/A	Bq/gm	EPA 901.1M	<b>08/15/</b> 01 13:41	rb

Notes:

Job: Hobbs

Chality Assurance Review

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AUG-18-01 10:32;



1726 Wooddale Court • Baton Rouge, Louislana 70806

1 (800) 401-4277 • Fax (225) 927-6822

ARS Tracking Number:

ARS-01-1169

P.O. Number:

Verbal

Client I.D.:

Grid #10 comp. 15cm

ARS Sample I.D.;

ARS-01-4881

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1100

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Amilysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	4.95	0.36	pCi/gm	0.183	0.013	Bq/gm	BPA 901.1M	08/15/01 13:40	гb
Ra-228	0.48	0.06	pCi/gm	0.018	0,002	Bq/gm	EPA 901.1M	08/15/01 13:40	rb
Pb-210	3.82	0.49	pCi/gm	0.141	0.018	Bq/gm	EPA 901.1M	08/15/01 13:40	rb
Total Activity	22.50	N/A	pCi/gm	0.832	N/A	Bq/gm	EPA 901.1M	08/15/01 13:40	rb
						Advanced in the second			

Notes:

Job: Hobbs

Maliry Assurance Review

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1726 Wooddale Court - Baton Rouge, Louisiana 70806

1 (800) 401-4277 • Fax (225) 927-6822

ARS Tracking Number:

ARS-01-1170

P.O. Number:

Verbal

Client L.D.:

Grid #20 comp. 30cm

ARS Sample J.D.:

ARS-01-4882

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled;

1100

SENT BY: AMERICAN RADIATION SERVICES INC; 225 927 6822;

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	2.19	0.75	pCi/gm	0.081	0.028	Bq/gm	EPA 901.1M	08/15/01 14:45	rb
Ra-228	< 0.06	N/A	pCl/gm	< 0.002	N/A	Bq/gm	EPA 901.1M	08/15/01 14:45	rb
Pb-210	1.78	0.76	pCi/gm	0.066	0.028	Bq/gm	EPA 901.1M	08/15/01 14:45	гb
Total Activity	13.73	N/A	pCi/gm	0.508	N/A	Bq/gm	EPA 901.1M	08/15/01 14:45	rb

Notes:

Job: Hobbs

Quality Assurance Review

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PAGE 4



1728 Wooddale Court • Baton Rouge, Louisiana 70806

1 (800) 401-4277 • Fax (225) 927-6822

ARS Tracking Number:

ARS-01-1170

P.O. Number:

Verbal

Client I.D.:

Grid #20 comp. 15cm

ARS Sample I.D.:

ARS-01-4883

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1100

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	4,71	0.65	pCi/gm	0.174	0.024	Bu/gm	BPA 901.1M	08/15/01 14:13	rb
Ra-228	0.35	0.11	pCi/gm	0.013	0.004	Bq/gm	EPA 901.1M	08/15/01 14:13	τb
Pb-210	2.64	0.85	pCi/gm	0.098	0.031	Bq/gm	EPA 901.1M	08/15/01 14:13	rb
Total Activity	17.42	N/A	pCi/gm	0.644	N/A	Bq/gm	EPA 901.1M	08/15/01 14:13	rb

Notes:

Job: Hobbs

Collis Solling Assurance Review

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PAGE 5



1726 Wooddale Court • Baton Rouge, Louisiana 70808

1 (800) 401-4277 • Fax (225) 927-6822

ARS Trucking Number:

ARS-01-1170

P.O. Number:

Verbal

Client I.D.:

Grid #8 comp. 30cm

ARS Sample I.D.:

ARS-01-4884

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1130

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysi: Technician
Ra-226	1.87	0.64	pCl/gm	0.069	0.024	Bq/gm	EPA 901.1M	08/15/01 15:16	rb
Ra-228	0.30	0.07	pCi/gm	0.011	0.003	Bq/gm	EPA 901.1M	08/15/01 15:16	tр
Pb-210	0.99	0.58	pCi/gm	0.037	0.021	Bq/gm	EPA 901.1M	08/15/01 15:16	ър
Total Activity	13.16	N/A	p <b>C</b> i/gm	0.487	N/A	Bq/gm	EPA 901.1M	08/15/01 15:16	rb

Notes:

Job: Hobbs

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ARS Tracking Number:

ARS-01-1170

P.O. Number:

Verbal

Client I.D.:

Grid #8 comp. 15cm

ARS Sample I.D.:

ARS-01-4885

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1130

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	2.24	0.61	pCi/gm	0.083	0.023	Bq/gm	EPA 901.1M	<b>08</b> /15/01 16:09	rb
Ra-228	0.33	0.07	pCi/gm	0.012	0.003	Bg/gm	EPA 901.1M	08/15/01 16:09	гb
Fb-210	1.85	0.79	pCi/gm	0.068	0.029	Bq/gm	EPA 901.1M	08/15/01 16:09	тb
Total Activity	14.97	N/A	pCi/gm	0.554	N/A	Bq/gm	EPA 901.1M	08/15/01 16:09	rb

Notes:

Job: Hobbs

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PAGE 10



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1 (800) 401-4277 • Fax (225) 927-6822

ARS Tracking Number:

ARS-01-1171

P.O. Number:

Verbal

Client I.D.:

HS-1 30cm

ARS Sample I.D.:

ARS-01-4886

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1145

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error + 2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	15.76	1.55	pCi/gm	0.583	0.057	Bq/gm	EPA 901.1M	08/15/01 11:48	rb
Ra-228	< 0.08	N/A	pCi/gm	< 0.003	N/A	Bq/gm	EPA 901.1M	08/15/01 11:48	rb
Pb-210	7.90	2.13	pCi/gm	0.292	0.079	Bq/gm	EPA 901.1M	08/15/01 11:48	ър
Total Activity	56.91	N/A	pCi/gm	2.105	N/A	Bq/gm	EPA 901.1M	08/15/01 11:48	rb

Notes:

Job: Hobbs

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1 (800) 401-4277 - Fax (225) 927-6822

**ARS Tracking Number:** 

ARS-01-1171

P.O. Number:

Verbal

Client I.D.:

HS-1 15cm

ARS Sample 1.D.:

ARS-01-4887

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1145

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigmu	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	10.05	1.91	pCi/gm	0.372	0.071	Bq/gm	EPA 901.1M	08/15/01 13:03	ιþ
Ra-228	0.32	0.10	pCi/gm	0.012	0.004	Bq/gm	EPA 901.1M	08/15/01 13:03	гъ
Pb-210	5.99	1. <b>73</b>	pCi/gm	0.222	0.064	Bq/gm	EPA 901.1M	08/15/01 13:03	гъ
Total Activity	38.14	N/A	pCi/gm	1.411	N/A	Bq/gm	EPA 901.1M	08/15/01 13:03	rb

Notes:

Job: Hobbs

John Lally Digative Assurance Review

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PAGE 12



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ARS Tracking Number:

ARS-01-1171

P.O. Number:

Verbal

Client I.D.:

HS-2 15cm

ARS Sample I.D.:

ARS-01-4888

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1145

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	9,71	0.85	pCi/gm	0.359	0.031	Bq/gm	EPA 901.1M	08/15/01 11:18	rb
Ra-228	0.36	0.12	pCi/gm	0.013	0.004	Bq/gm	EPA 901.1M	08/15/01 11:18	rb
Pb-210	5.58	1.38	pCi/gm	0.206	0.051	Bq/gm	EPA 901.1M	08/15/01 11:18	rb
Total Activity	36.27	N/A	pCi/gm	1,342	N/A	Bq/gm	EPA 901.1M	08/15/01 11:18	rb

Notes:

Job: Hobbs

Quality Assurance Review

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**ARS Tracking Number:** 

ARS-01-1171

P.O. Number:

Verbal

Client I.D.:

HS-2 30cm

ARS Sample L.D.:

ARS-01-4889

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1145

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigmu	Analysis Units	Ànalysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	0.93	0.20	pCi/gm	0.034	0,007	Bq/gm	EPA 901.1M	08/15/01 13:02	rb
Ra-228	0.31	0.04	pCl/gm	0.011	0.001	Bq/gm	EPA 901.1M	08/15/01 13:02	rb
Pb-210	0.62	0.24	pCi/gm	0.023	0.009	Bq/gm	EPA 901.1M	08/15/01 13:02	гb
Total Acrivity	10.59	N/A	pCi/gm	0.392	N/A	Bq/gm	EPA 901.1M	08/15/01 13:02	rb

Notes:

Job: Hobbs

ruality Assurance Review

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PAGE 14



1726 Wooddale Court • Baton Rouge, Louisiana 70806

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ARS Tracking Number:

ARS-01-1171

P.O. Number:

Verbal

Client I.D.:

Background

ARS Sample I.D.:

ARS-01-4890

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1145

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	0.66	0.16	pCi/gm	0.024	0.006	Bq/gm	EPA 901.1M	08/15/01 11:48	rb
Ra-228	0.25	0.03	pCi/gm	0.009	0.001	<b>B</b> q/gm	EPA 901.1M	08/15/01 31:48	rb
Pb-210	0.68	0.25	pCi/gm	0.025	0.009	Bq/gm	EPA 901.1M	08/15/01 11:48	rb
Total Activity	9.99	N/A	pCi/gm	0.370	N/A	Bq/gm	EPA 901.1M	<b>08</b> /1 <b>5</b> /01 11:48	rb

Notes: Job: Hobbs

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AUG-16-01 10:43;

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ARS

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BERVICES, INC.

1726 Wooddale Court - Baton Rouge, Louisiana 70806

1 (800) 401-4277 · Fax (225) 927-6822

ARS Tracking Number:

ARS-01-1168

P.O. Number:

Verbal

Client L.D.:

Grid #32 comp. 15cm

ARS Sample L.D.:

ARS-01-4876

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1040

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Signa	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	2.63	0,31	pCi/gm	0.097	0.011	Bq/gm	EPA 901.1M	08/16/01 08:43	тb
Ra-228	0.23	0.03	pCi/gm	0,009	0.001	Bq/gm	BPA 901.1M	08/16/01 08:43	ър
Pb-210	1.85	0.33	pCi/gm	0.068	0.012	Bq/gm	EPA 901.1M	08/16/01 08:43	тр
Total Activity	14.01	N/A	pCi/gm	0.518	N/A	Bq/gm	EPA 901.1M	08/16/01 08:43	rb
					·				

Notes: Job: Hobbs

John Lally Assurance Review

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ARS Tracking Number:

ARS-01-1168

P.O. Number:

Verbal

Client J.D.:

Grid #23 comp. 15cm

ARS Sample I.D.;

ARS-01-4877

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1040

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	3.16	0.80	pCl/gm	0.117	0.030	Bq/gm	EPA 901.1M	08/16/01 08:45	ďb
Ra-228	< 0.05	N/A	pCi/gm	< 0.002	N/A	Bq/gm	EPA 901.1M	08/16/01 08:45	rb
Pb-210	1.46	0.78	pCi/gm	0.054	0.029	Bq/gm	EPA 901.1M	08/16/01 08:45	rb
Total Activity	15.68	N/A	pCi/gm	0.580	N/A	Bq/gm	BPA 901.1M	08/16/01 08:45	rb

Notes: Job: Hobbs

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ARS Tracking Number:

ARS-01-1168

P.O. Number:

Verbal

Client I.D.:

Grid #22 comp. 15cm

ARS Sample LD.:

ARS-01-4878

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1040

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Anziysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysia Date & Time	Analysis Technician
Ra-226	2.96	0.28	pCi/gm	0.110	0,010	Bq/gm	EPA 901.1M	08/16/01 07:55	rb
Ra-228	0.34	0.04	pCi/gm	0.013	Q,Q <b>0</b> 1	Bq/gm	EPA 901.1M	08/16/01 07:55	rb
Pb-210	1.99	0.31	pCi/gm	0.074	0,011	Bq/gnn	EPA 901.1M	08/16/01 07:55	rb
Total Activity	14.73	N/A	pCi/gm	0.545	N/A	Bq/gm	EPA 901.1M	08/16/01 07:55	rĎ
								·	

Notes:

Job: Hobbs

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PAGE 21/22

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**ARS Tracking Number:** 

ARS-01-1168

P.O. Number:

Verbal

Client I.D.:

Grid #21 comp. 15cm

ARS Sample L.D.;

ARS-01-4879

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1040

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Unita	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	4.34	0.85	pCi/gm	0,161	0.031	Bq/gm	EPA 901.1M	08/16/01 09:17	ď
Ra-228	< 0.05	N/A	pCi/gm	< 0.002	N/A	Bq/gm	EPA 901.1M	08/16/01 09:17	rb
Pb-210	2.81	0.95	pCi/gm	0.104	0.035	Bq/gm	EPA 901.1M	08/16/01 09:17	гb
Total Activity	19.18	N/A	pCi/gm	0.710	N/A	Bq/gm	EPA 901.1M	08/16/01 09:17	rb

Notes:

Job: Hobbs

Quality Assurance Review

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ARS Tracking Number:

ARS-01-1167

P.O. Number:

Verbal

Client I.D.:

Grid #9 comp, 30cm

ARS Sample I.D.:

ARS-01-4871

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1140

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	1.72	0.27	pCi/gm	0.064	0,010	Bq/gm	EPA 901.1M	08/15/01 10:44	rb
Ra-228	< 0.13	N/A	pCi/gm	< 0.005	N/A	Bq/gm	EPA 901,1M	08/15/01 10:44	πb
Pb-210	1.13	0.29	pCi/gm	0.042	110.0	Bq/gm	EPA 901.1M	08/15/01 10:44	тb
Total Activity	11.94	N/A	pCi/gm	0.442	N/A	Bq/gm	EPA 901.1M	08/15/01 10:44	रो

Notes:

Job: Hobbs

hodu Laluka, Quality Assurance Review

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1 (800) 401-4277 • Fax (225) 927-6822

ARS Tracking Number:

ARS-01-1167

P.O. Number:

Verbal

Client I.D.:

Grid #9 comp. 15cm

ARS Sample L.D.:

ARS-01-4872

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1140

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	3.26	0.35	pCi/gm	0.121	0.013	Bq/gm	EPA 901,1M	08/15/01 11:17	rb
Rn-228	0.26	0.04	pCi/gm	0.010	0.001	Bq/gm	EPA 901.1M	08/15/01 11:17	гb
Pb-210	1.87	0.27	pCi/gm	0.069	0.010	Bq/gm	EPA 901.1M	08/15/01 11:17	τþ
Total Activity	15.90	N/A	pCi/gm	0,588	N/A	Bq/gm	EPA 901.1M	08/15/01 11:17	τb
					,	·			

Notes: Job: Hobbs

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BENT BY: AMERICAN RADIATION SERVICES INC; 225 927 6822;

1726 Wooddale Court . Baton Rouge, Louisiana 70806

1 (800) 401-4277 • Fax (225) 927-6822

**ARS Tracking Number:** 

ARS-01-1167

P.O. Number:

**V**erbal

Client I.D.:

Grid #34 comp. 15cm

ARS Sample I.D.:

ARS-01-4873

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1140

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Thne	Analysis Technician
Ra-226	3.07	0.32	pCi/gm	0.114	0.012	Bq/gm	EPA 901.1M	08/15/01 10:11	rb
Ra-228	0.24	0.03	pCi/gm	0.009	0.001	Bq/gm	EPA 901.1M	OB/15/01 10:11	rb
Рь-210	2.04	0.29	pCigm	0.075	0.011	Bq/gm	EPA 901.1M	08/15/01 10:11	rb
Total Activity	15.01	N/A	pCi/gm	0.555	N/A	Bq/gm	EPA 901.1M	08/15/01 10:11	rb

Notes: Job: Hobbs

Quality Assurance Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analyzical results provided other than the cust of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.

SENT BY: AMERICAN RADIATION SERVICES INC; 225 927 6822;

AUG-16-01 10:30;



1728 Wooddale Court \* Baton Rouge, Louisiana 70806

1 (800) 401-4277 • Fax (225) 927-6822

ARS Tracking Number:

ARS-01-1167

P.O. Number:

Verbal

Client I.D.:

Grid #33 comp. 15cm

ARS Sample I.D.:

ARS-01-4874

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1140

Thue Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Units	Analysis Result	Aualysis Error +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	4.42	0.81	pCi/gm	0.164	0.030	Bq/gm	EPA 901.1M	08/15/01 10:11	тb
Ra-228	0,23	0.06	pCi/gm	D.009	0.002	Bq/gm	EPA 901.1M	OB/15/01 10:11	πb
Pb-210	3.59	1.12	pCi/gm	0.133	0.041	Bq/gm	EPA 901.1M	08/15/01 10:11	<b>r</b> b
Total Activity	21.71	N/A	pCi/gm	0.803	N/A	Bq/gm	EPA 901.1M	08/15/01 10:11	rb

Notes:

Job: Hobbs

Quality Assurance Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the others.

**Ø**021 **PAGE 7/8** 

SENT BY: AMERICAN RADIATION SERVICES INC; 225 927 6822;

AUG-16-01 10:30;



1726 Wooddale Court • Baton Rouge, Louisiana 70806

1 (800) 401-4277 • Fax (225) 927-6822

ARS Tracking Number:

ARS-01-1167

P.O. Number:

Vcrbal

Client I.D.:

Grid #35 comp. 15cm

ARS Sample I.D.:

ARS-01-4875

Date Sampled:

08/14/01

Date Received:

8/15/01

Time Sampled:

1140

Time Received:

0900

Type of Sample:

Solid

Date of Report:

8/16/01

Analysis Description	Analysis Result	Analysis Error +2 Sigma	Analysis Upits	Analysis Result	Analysis Ecrer +2 Sigma	Analysis Units	Analysis Test Method	Analysis Date & Time	Analysis Technician
Ra-226	2,61	0.58	pCi/gm	0.097	0.021	Bq/gm	EPA 901.1M	08/15/01 10:45	rb
Ra-228	0.35	0.06	pCi/gm	0.013	0,002	Bq/gm	EPA 901.1M	<b>08/15/</b> 01 10:45	rb
Pb-210	2.15	0.80	pCi/gm	0.080	0.030	Bq/gm	EPA 901.1M	O8/15/01 10:45	rb
Total Activity	14.18	N/A	pCi/gm	0.525	N/A	Bq/gm	EPA 901,1M	08/15/01 10:45	rb

Job: Hobbs

I

Notes: American Radiation Services, Inc. assumes no Hability for the use or interpretation of any analytical results provided other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.



1726 Wooddale Court • Baton Rouge, Louisiana 70806

1 (800) 401-4277 - Fax (225) 927-6822

# Notes:

# Comments:

- 1.0) Soil and Sludge analysis are reported on a wet basis or an as received basis unless otherwise indicated.
- 2.0) The data in this report are within the limits of uncertainty specified in the reference method unless specified.
- 3.0) Modified analysis procedures are procedures that are modified to meet the certain specifications. An example may be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix.
- 4.0) Derived Air Concentrations and Effluent Release Concentrations are obtained from 10 CFR 20 Appendix B.
- 5.0) Total activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring radioactive decay chains and other prominent radioactive medides. Total activity may be lower than actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of nuclides that emit soley alpha or beta particles.
- 6.0) Ra-228 is determinded via secular equilibrium with its daughter, Actinium 228. (Gamma Spectroscopy only).
- 7.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234. (Gamma Spectroscopy only).
- 8.0) All Gamma spectroscopy was performed utilizing high purity germanium detectors (HPGe).

## Method References:

- 1.0) EPA 600/4-80-032, Prescribed Procedures for the Measurements of Radioactivity in Drinking Water, August 1980.
- 2.0) Standard Methods for the Examination of Water and Waste Water, 18th, 1992.
- 3.0) EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, (9/86). (Updated through 1995).
- 4.0) EPA 600/4/79-020, Methods for Chemical Analysis of Water and Waste, March 1983,
- 5.0) HASL 300

## Definitions:

(.0)	BDL	Analyte not detected because the value was below the detection limit.
2.0)	ND	Not detected above the detection limit.
3.0)	Detection Limit	The minimum amount of the analyte that ARS can detect utilizing the specific analysis.
4.0)	В	Methoù Bank
5.0)	D	Method Duplicate
6.0)	MS	Maurix Spike
7.0)	S	Spike
8.0)	RS	Reference Spike
9.0)	*SC	Subcontracted out to another qualified laboratory
10.0)	NR	Not Referenced
11.0)	N/A	Not Applicable

Notes: American Radiation Services, Inc., assumes no liability for the use or interpretation of any analytical results provided other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.

11000s, INM 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

# Energy Minerals and Natural Resources Department

Oil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

RECEIVED

DEC 1 8 2001

Submit O Plus 1 to appro District

- ULLIL U

Originated |

Environmental Bureau Oil Conservation Division

REQUEST FOR.	APPROVALTO	ACCEPT	SOLID.	WASTE

REQUEST FOR APPROVAL TO ACCEPT.	SOLID WAS IE
1. RCRA Exempt: Non-Exempt: 🔀	4. Generator Halliburton
Verbal Approval Received: Yes No No	5. Originating Site Artesia Faci
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State NEW MEXICO
7. Location of Material (Street Address or ULSTR) 2311 S. First	Artesia, NM 88210
9. <u>Circle One</u> :	. 1
A. All requests for approval to accept oilfield exempt wastes will be accordenerator; one certificate per job.  B. All requests for approval to accept non-exempt wastes must be accordened by the material is not-hazardous and the Generator's certification listing or testing will be approved.	ompanied by necessary chemical analysis to
All transporters must certify the wastes delivered are only those consigned	for transport.
BRIEF DESCRIPTION OF MATERIAL:	
The following anatlyiucal results are for Artesia Facility. This waste is generate trucks and flowing into the wash rack sum a certificate of waste status and chain of Services would like approval to accept the disposal facility.	ed by the washing of np. I have included of custody . Sundance
	H
Estimated Volume 150 yards cy Known Volume (to be entered by the op	perator at the end of the haul) cy
SIGNATURE: Wasse Management Facility Authorized Agent TITIE: OFFICE	MGR DATE: 12-10-01
DONNA I BOACHU	LEPHONE NO. 505-394-2511
(This space for State Use)	
APPROVED BY: All Cluby TITLE: ENVIRONMENT	whole Eng." 1 DATE: 12-12-01
APPROVED BY: Maty & XG. TITLE: Emiror	unte (bed-15/ DATE: 12-18-01

Company Name: [ABORA] [ABORA] Cor. Address: 23  Cor. Address: 23  Project 8: 505 Project 8: 505 Project 10020000	TABID.	7 #			Sambler Rolling	S COUNTY Reference By S. COUNTY S. C	UPS - Fod Ex
	and West of the Control of the Contr		THE STATE OF THE S	and past the grat state of the	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CM   121	
	The state of the s	Constitution of the second of		AND THE TRACE PRINTS			

11.

# CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATO	PR: Halliburton
ADDRESS: 231	1 S. 1 <sup>ST</sup> ST
GENERATING SITE:	ARTESIA Yard
	COUNTY_EDDY_STATE_NM
TYPE OF WASTE:V	Vash Rack Grit
ESTIMATED VOLUME:	300,000 lbs.
GENERATING PROCES	S: Wash Rack Sumps
REMARKS:	
NMOCD FACILITY:	Sundance
TRUCKING FACILITY:	Chaparral
as defined by the Environm To my knowledge, this was verify the nature as non-haz waste" pursuant to the prov	the for disposal, I hereby certify that this waste is a non-exempt waste cental Protection Agency's (EPA) July 1988 regulatory Determination. It is will be analyzed pursuant to the provisions of 40 CFR Part 261 to cardous. I further certify that to my knowledge "hazardous of listed isions of 40 CFR, Part 261, subparts C and D, has not been added or to make the resultant mixture a "hazardous waste" pursuant to the ions 2613.
AGENT:	SIGNATURE
NAME:	Eddie Hopper
ADDRESS:	FRINTED 5801 Lovington Hwy Hobbs, NM 88240
DATE	13/4/1

CHAIN: OF. CUSTODY AND ANALYSIS REQUEST 8 PEDS ANALYSIS REQUEST 7 Phone Result II Yes | No Additional Pax 8; Fax Results: I Yes | No REMARKS: 704 SAMPLING しつのに ₹ \* 07288 at 295 DAME DATE CHECKED BY: watering 100 S:sserbay Company: 1400 bu-to Men: Scott Nelson BILLING W. 1 PO #. : Marto ろっと Control by Bill for the Control of Control o CE / COOP Phone #: 505 Car. Hobbs FIXE SOS YCID; State DVA And - Pring - Committee on the Committee of the Committee PHOME (SÓN 191-2715 + 101 E. MAPLAND + 10385, YA 282+0 ABILLO Received By: Itab Staff Cool mact Sample Condition MATRIX סגר Received By: 7108 METAWETBAN Secures 01288 6691.2 ppg Date: 176.99 (D) BARD AG (D) 4MOD Time 3.8 State: La Zo: and demanded. Carifoldis his say providents sections strong his gry Plans design.
As registered to do provide states and designed to the designed subset areas of the same states. HALL: Burton Freday 7 Nashalas Thine: Scool Nedson Sample LD. Location: UN ASPLACK GARA Name WASLEARL GREET अभारत १९८० अ S. FIRST 505 3927662 od Ex . Bus . Out ed Bv: (Circle One) Ħ Cagran A RDINAL ABORATORIES 多了之 其 Washink Relinquished 5: 2311 Manager: म्रकार्म ny Næme: BID.#



PHONE (505) \$93-2926 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY HOBBS, NM 88240 FAX TO: (505) 392-7082

Receiving Date: 12/16/99
Reporting Date: 12/23/99
Project Number: NOT GIVEN
Project Name: WASH RACK GRIT
Project Location: WASH RACK, ARTESIA

Sampling Date: 12/16/99 Sample Type: SLÜDGE

Sample Condition: COOL & INTACT

Sample Received By: GP Analyzed-By: AH/GP

# TCLP METALS

J. ..

LAB NO. SAMPLE ID	JEM. EVC	CTR.M	IDLAND		1 D : 9 1 5 E	1 84591 <b>Pb</b>	Hg	Se
e di tamen	ppm	ppm		ppm	ррт	ppm	ppm	ppm
ANALYSIS DATE:	12/23/89	12/22/99	12/22/99	12/22/99	12/22/99	12/22/99	12/22/99	12/23/99
EPA LIMITS:	5				9-13 <b>2</b> 9 <b>5</b>			3 3 7 1
H4516-1 #1,WASHRACK		ব	<5	<0.1	<1	্ব	<0.02	<0.1
						1		
		में संस्थात ।	лРД 1 <b>3</b>	as <b>rc</b> a				
		POLICE U	f	. भाक्षः	तर अह			
		स्थानकातः । संश्रम्भागात्री	l., , , -	1				
Quality Control	0.193	1074.759	51.10	1.002	5.056	5.045	0.00355	0.053
True Value QC	0.200		50.00	1.000	5.000	5.000	0.00400	0.050
% Recovery 12 1/21 1/21 1/21	97	95	102	100		101	89	106
Relative Standard Deviation	4.3	0.2	1.7	0.2	8.0	0.6	1.3	0.2
THE CONTRACTOR OF THE PARTY					ex ubio c	th diront. C		

METHODS: EPA 1311, 600/4-91/01 206.2 272.1 208.1 213.1 218.1 239:1 245.1 270.2 \$\text{Sample contains <10% solid.}

PLEASE NOTE: Liability and Demagner: Cardinate tability and electe exclusive remote for any claim arising, whether based in contract or lad, shall be dimined to the amount paid by client for analyses. All claims, including those for registering and any other completes of the applicabilities and including those for registering and any other completes of the applicabilities service, in no event shall Cardinal be liable for indigntal or contactionable damages, including, without Emittation, business insumptions; loss of use, or loss of profit incurred by cleant, its subsidiaries service, in no event shall Cardinal be liable for indigntal or contactionable damages, including, without Emittation, business insumptions; loss of use, or loss of profit incurred by cleant, its subsidiaries insumption and of cardinal part of the performance of services (previous), regardless of whether such claim is besend upon any of the above stated reasons or otherwise.

The second of the control of the second of t



## PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON

**5801 LOVINGTON HWY** HOBBS, NM 88240

FAX TO: (505) 392-7062

Reporting Date: 12/27/99 Project Number: NOT GIVEN

Receiving Date: 12/16/99

Project Name: WASH RACK GRIT

Project Location: WASH RACK, ARTESIA

Sampling Date: 12/16/99

Sample Type: LIQUID\*

Sample Condition: COOL & INTACT

Sample Received By: GP Analyzed By: AH/BC

REACTIVITY

GRAND LAND AND STANDER SAMPLE TO SVC. CTR SUITO AND Cyanide CORROSIVITY IGNITABILITY

(ppm)

(ppm)

(pH)

(°F)

ANALYSIS DATE:	12/22/99	12/23/99	12/17/99	12/20/99
H4516-1 #1 WASHRACK	Not reactive	Not reactive	7.76	>140
GRITE				
TAMES AND CAME OF				
,				
	gue ha e ha ree es e	3.756		
Quality Control	NR.	NR		NR
True Value QC	NR NR	-NR	7.00	NR
% Recovery	NR.	NR	101	NR
Relative Percent Difference	NR NR	NR	0.6	NR

receiving the ing the 76ample contains <10% solid.

en entire terre in 1977/03 E responsible and results of the system.

METHOD: EPA SW 848-7.3, 7.2, 1010, 1311, 40 CFR 261

ALE SHE THERE SHE TO PROPERTY AT ILL.	AND SEE		e e e e e e e e e e e e e e e e e e e	
Rus de Lacon	<u> </u>	\$1 <u>e1</u>	13/27	99
· · · · · · · · · · · · · · · · · · ·	i i i i i i i i i i i i i i i i i i i		Date	
	un re <del>gionale</del> de la companya del companya del companya de la companya del la companya de la companya della com	1		
THE P. LEW MARKS AND THE LITTER AND THE RESERVE AND THE CONTRACTORS AND THE CONTRACTOR	Parish 1 1			
and the contract of the second second second second second second second	ار در در می کارد و می دود و در از است <del>ندید</del> از در			tt <sub>0</sub>





PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS, NM 88240

**ANALYTICAL RESULTS FOR** HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON **5801 LOVINGTON HWY** HOBBS, NM 88240 FAX TO: (505) 392-7062

Receiving Date: 12/16/99 Reporting Date: 12/17/99 Project Number: NOT GIVEN Project Name: WASH RACK GRIT Project Location: WASH RACK, ARTESIA

Lab Number: H4516-1

Fluorophenol Phenoi-d5

3100-

Sample ID: #1 WASH RACK GRIT

Analysis Date: 12/16/99 M Sampling Date: 12/16/99 Sample Type: LIQUID\*

Sample Condition: COOL & INTACT

eron co

Sample Received By: GP

Analyzed By: BC

3 1 and the state of the state	EPA	Sample Result	Method	T. Charles 4 E	FORMULE 1	True Value
TCLP SEMIVOLATILES (ppm)	LIMIT	H4518-1	<sup>™</sup> Biank	QC'	% Recov.	<u>ac</u>
Pyridine	5.00	<0.020	≪0.006	0.006	12	0.060
1,4-Dichlorobenzene	7.50	0.035	0.005	· · · · · 0.036	72	0.050
o-Cresol	200	<0.020	<0.005	0.017	34	0.050
m, p-Cresol	200	0.087	<0.005	0.017	34	0.050
Hexachloroethane	3.00	<0.020	<0.005	0.027	54	0.050
Nitrobenzene	2.00	<0.020	<0.005	0.034	68	0.050
Hexachloro-1,3-butadiene	0.500	<0.020	<0.005	0.034	68	0.050
2,4,6-Trichlorophenol	2.00	<0.020	<0.005	0.032	64	0.050
2,4,5-Trichlorophenol	400	<0.020	<0.005	0.038	72	0.050
2,4-Dinitrotoluene	0.130	<0.020	<0:005	0.046	90	<sub>11</sub> 0.050
Hexachlorobenzene	0.130	<0.020	<0.005	0,044	88	0.050
Pentanhidmohenni	100	<0.020	<0.005	0.040	80	0.050

% RECOVERY	١,	
 23		
22		
 62		

Nitrobenzene-d5 87 2-Fluorobiphenyl 2,4,6-Tribromophenol Terphenyl-d14

METHODS: EPA 8W 846-8270, 1311, 3510 \*Sample contains <10% solid.

PLEASE NOTE: Listility and Dumages. Cardinal's Eablity and otton's exclusive semedy for any claim unling, whether based in contract or tort, shall be limited to the amount paid by client for analysis.

All claims, including those for negligence and any other cause whatspower shall be deemed waived unless made in writing and mostlyed by Cardinal within thiny (20) days after completion of the applicable service. In no every shall Cardinal be liable for incidental or consequential damages, including, without furtisation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, attilizates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whather such claim is based upon any of the above stated reasons.



PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY HOBBS, NM 88240 FAX TO: (505) 392-7062

Receiving Date: 12/16/99
Reporting Date: 12/17/99
Project Number: NOT GIVEN
Project Name: WASH RACK GRIT

Project Location: WASHRACK, ARTESIA Lab Number: H4516-1

Sample ID: #1 WASH RACK GRIT

Analysis Date: 12/16/99 Sampling Date: 12/16/99 Sample Type: LIQUID\*:

PACES

Sample Received By: GP Analyzed By: BC

TCLP VOLATILES (ppm) CO	EPA	Sample Recult	Method	75,010	%Recov.	True Value
TCLP VOLATILES (ppm)" "	LIMIT	H4516-1	Blank	QC.	%Recov.	QC
Vinyl Chloride	0.20	<0.005	<0.005	0.097	87	0.100
1,1-Dichloroethylene	0.7	<0.005	∵⊖<0.005	0.101	101	0.100
Methyl Ethyl Ketone	200	<0.050	<0.050	0.086	86	0.100
Chloroform	6.0	<0.005	<0.005	0.097	97	0.100
1,2-Dichloroethane	0.5	<0.006	<0.005	0.103	103	0.100
Benzene	0.5	<0.005	<0.005	0.097	97	0.100
Carbon Tetrachloride	0.5	<0.006	<0.005	0.112	112	0.100
Trichloroethylene	0.5	<0.005	<0.005	0.098	98	0,100
Tetrachloroethylene	0.7	<0.005	<0.005	0.114	114	0.100
Chlorobenzene	100	<0.005	<0:005	0.102	102	0.100
1,4-Dichlorobenzene	7.5	<0.005	<0.005	0.099	99	0.100

# % RECOVERY

Dibromofluoromethane		
Toluene-d8	80	
Bromofluorobenzene	82	7

METHODS: EPA SW 846-8260, 1311

\*Sample contains <10% solid.

Burnest J. A. Gooke, Ph. D.

Data

PLEASE NOTE: Liability and Damoges. Cardinal's liability and client's auditaive remedy for any claim arising, whether based in contract or fort, shall be limited to the amount paid by client for analyses.

All claims, including those for regigeace and any other cause whatsower shall be desired unless made in writing and mostered by Cardinal writin thiny (30) days etter compiction of its applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, jour of use of profits incurred by client, its subsidiaries, attiliates or successors whing out of or related to the performance of contract horizontal, regardless of whether such claim is besed upon any of the above-stated mazons or otherwise.

District II - (505) 748-1283 811 S. First Artesia, NM 88210 District III - (505) 334-6178 1000 Rio Erazos Road Aztec, NM 87410 District IV - (505) 827-7131

# Energy Minerals and Natural Resources Department Oil Conservation Division RECEIVED

2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

DEC 1 8 2001

Submit C Plus 1 to appra District

DATE: 12 - 18-0

Originated

Environmental Bureau
Oil Conservation Division

	Oil Conservation Division
REQUEST FOR APPROVAL TO ACCEP	T SOLID WASTE
RCRA Exempt: Non-Exempt: 🔀	4. Generator HALLIBURTON
Verbal Approval Received: Yes 🔲 No 🔲	5. Originating Site HOBBS FACI
. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter CHAPARRAL
. Address of Facility Operator P.O. BOX 1737 Eunice NM 8	882318. State NEW MEXICO
Location of Material (Street Address or ULSTR) 5801 Lovint	ton Hwy Hobbs, NM 88240
Circle One:	
A. All requests for approval to accept oilfield exempt wastes will be ac Generator; one certificate per job.  B. All requests for approval to accept non-exempt wastes must be a PROVE the material is not-hazardous and the Generator's certificate listing or testing will be approved.	ccompanied by necessary chemical analysi
All transporters must certify the wastes delivered are only those consign	ed for transport.
RIEF DESCRIPTION OF MATERIAL:	
The following waste is generated by the washing	of tools and oil
equipment. This analytical is from Halliburtons	s Hobbs facility.
Sundance would like approval to acppet this was	te into our Parabo facility.
	A.
•	
Estimated Volume 300 bble cy Known Volume (to be entered by the	operator at the end of the haul)
SIGNATURE: Waste Management Facility Authorized Agent TYPE OR PRINT NAME: DONNA L. ROACHH T	CE MGR DATE: 12-10-01

APPROVED BY

APPROVED BY:

# CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATO	R: Halliburton
ADDRESS: 580	l Lovington Hwy
GENERATING SITE:	Hobbs Yard
	COUNTY Lea STATE NM
TYPE OF WASTE:	Vash Rack Grit
ESTIMATED VOLUME:	300,000 lbs.
GENERATING PROCES	S: Wash Rack Sumps
REMARKS:	
NMOCD FACILITY:	Sundance
TRUCKING FACILITY:	Chaparral
as defined by the Environme To my knowledge, this wast verify the nature as non-haz waste" pursuant to the provi-	e for disposal, I hereby certify that this waste is a non-exempt waste ental Protection Agency's (EPA) July 1988 regulatory Determination, to will be analyzed pursuant to the provisions of 40 CFR Part 261 to ardous. I further certify that to my knowledge "hazardous of listed isions of 40 CFR, Part 261, subparts C and D, has not been added or to make the resultant mixture a "hazardous waste" pursuant to the ons 2613.
AGENT:	SUCH A PAGE
NAME:	Eddie Hopper PRINTED
ADDRESS:	5801 Lovington Hwy Hobbs, NM 88240
DATE	12/6/01

† Cardinal cannot accept verbal changes. Please fax written changes to 606-193-2478.

From-HALLIBURTON HOBBS

CHAR-OF-GUSTODY AND ANALYBIS REQUEST

	915) 673-7601 Fax (915) 673-7020	(505) 293-2128 Fax (506) 393-2476	506) 353-247	æ	ia I			Page of
Company Name:	HALLIBURTON BUEN	1917 SENIO	100	0.10	\$1000 Tuto		ANALYSIS REQUEST	ÆST
Project Manager.	SCOTT NELSON		P.O. #:		_			
Address:	SSDI LOUINGTON 14	767	Company:	i an i	n			
City: HCGCPS		SSAYO	Attre					
Phone &	Farfi		Address:	,				
Project &	Project Owner:	0	:Ago	•	176			
Project Name:	WASHBAY SUM	d.	U	Zl¢		:		
Project Location	-	al P	Phone At			7		
Sanapler Name:			Fex®	-	3	0		
POR LAB USE ONCY		WATRIX	PRESCRY	SAMPLING	? 子 П	(+		
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H5433-1		6 × 0 8	о И	-	7	7		
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Sample Dalland and a second	A la berteren	And of the Parkets of	of spen any of the obes	e di se	Consider	- 1		
	1 / 12/1/105	· Gran		- T	,	O Yes	Add1fex#:	
17001	W. 35			26.24 26.24	REMARKS:	- ?		05/1
	_	Received By: (Lab Staff)	13/6		01 11	2 - 1001 101	(A)	25
Delivored By	De Svensd By: (Clarks One)	12 12 12 12 12 12 12 12 12 12 12 12 12 1	次公	Ken Pro		1 4 7 E	÷ ,	72,30
		Cool Indico	(Single)	·	Ä		1	
Sampler LUPS - Bus - Other:	• Bus • Other:	# 2 # 2 * 2	· ·				,	1277.30



From-HALLIBURTON HOBBS

PHONE (915) 673-7001 - 2111 BEECHWOOD - ABILENE, TX 79603

PHONE (505) 393-2328 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON **5801 LOVINGTON HWY.** HOBBS, NM-88240 FAX TO:

Receiving Date: 12/12/00 Reporting Date: 12/14/00 Project Number: NOT-GIVEN Project Name: WASHBAY SUMP Project Location: HOBBS YARD Sample ID: WASHBAY SLUDGE

Lab Number; H5422-1

Tetrachioroethylene

1,4-Dichlorobenzene

Chlorobenzene

Analysis Date: 12/13/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

0.100 0.100

0.100

Sample Received By: BC Analyzed By: BC

0.099

0.084

0.104

ICLR VOLATILES (ppm)		Sample Result ††5422-1	Method Blank	CONTRACT	%Recov.	True Value
Vinyl Chloride	0.20	<0.005	<0.005	0.108	108	0.100
1,1-Dichloroethytene	0.7	<0.005	<0.006	0.089	89	0.100
Methyl Ethyl Ketone	200	<0.050	<0.050	0.083	83	0.100
Chloroform	6.0	<0.005	<0.005	0.089	89	0.100
1,2-Dichloroethane	0.5	<0.005	<0.006	0.087	87	
Benzene	0.5	<0.005	<0.005	0.088	88	0.100
Carbon Tetrachloride	0.5	<0.005	<0.005	0.092	92	0.100
Trichloroethylene	0.5	<0.005	<0.005	0.091	91	0.100

% RECOVERY

< 0.005

<0.005

<0,005

<0.006

< 0.005

Dibromofluoromethane	95	
Toluene-d8	91	e (1)
Bromofluorobenzene	98	

100

7.5

METHODS: EPA SW 846-8260, 1311

PLEASE NOTE: Liability and Demegos. Cardinal's liability and client's exclusive remedy for any claim afteing, whether based in contract or test, shall be limited to this simulate particularly mose for negapence and any other cause whoseover shall be deemed waived unless mede in writing and received by Cardinal within thirty (30) days after completion of the applicable services. In no event shall Cardinal be liable for incidental or consequential demagos, incusting, without limited, a business interruptions, loss of use, or road of profile incurred by client, its subsidiaries. smons arraing out at at related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons at otherwise.



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (506) \$93-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES

ATTN: SCOTT NELSON 5801 LOVINGTON HWY. **HOBBS, NM 88240** 

FAX TO:

Receiving Date: 12/12/00 Reporting Date: 12/18/00 Project Number: NOT GIVEN Project Name: WASHBAY SUMP Project Location: HOBBS YARD

H5422-1

Analysis Date: 12/16/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

LAB NUMBER SAMPLE ID

ТРН (mg/Kg)

77300

Quality Control 228 True Value QC 240 % Recovery 95.0 Relative Percent Difference

WASHBAY SLUDGE

METHOD: EPA 600/4-79-020 418.1

H5422T.XLS

PLEASE NOTE: Liability and Damages. Cardinal's lability and client's exclusive remedy for any calm arising, whether based in contract or tort, shall be amited to the tumount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable sorvice. In no event shall cardinal be knote for incidental or consequential carding, without immitted, business interruptions, loss of use, or loss of profits incurred by client, its suboidianes. afficiency or successors arising out of or related to the performance of services hereunder by Cardinal, regarders of whether such claim at based upon any of the above-stated reasons or other



PHONE (915) 673-7001 - 2111 BEECHWOOD ABILENE, TX 79603

PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240 FAX TO:

Receiving Date: 12/12/00 Reporting Date: 12/14/00 Project Number: NOT GIVEN Project Name: WASHBAY SUMP Project Location: HOBBS YARD

Analysis Date: 12/13/00 Sampling Date: 12/12/00 Sample Type: SLUDGE Sample Condition; COOL & INTACT

Sample Received By: BC

0.050 0.050 0.050 0.050

Analyzed By: BC

Sample ID: WASHBAY SLUDGE Lab Number: H5422-1

TCLP SEMIVOLATILES (PP	EPA m) LIMIT <sub>3:1</sub>	Sample Result H5422-1	Method Blank	2 <b>9</b> 0,770,080	% Recov.	True Value
Pyridine	5.00	<0.020	<0.005	0.011	22	0,050
1;4-Dichlorobenzene	7.50	<0.020	<0.006	0.024	48	0.050
o-Cresol	200	<0.020	<0.005	0.033	66	0.050
m, p-Cresol	200	<0.020	<0.005	0.033	66	0.060
Hexachloroethane	3.00	,<0.020	<0.005	0.021	42	0.050
Nitrobenzene.	2.00	<0.020	<0.005	0.034	68	0.050
Hexachloro-1,3-butadiene	0.500	<0,020	<0.005	0.026	52	0.050
2,4,6-Trichlorophenal	2.00	<0.020	<0.005	0.040	80	0.050

Fluorophenol		56		in i da Ciri :		4
		% RECOVERY				
Pentachiorophenol	100	<0.020	<0.005	0.047	94	_
Hexachlorobenzene	0.130	<0.020	<0.005	0.045	90	
2,4-Dinitrotoluene	0.130	<0.020	<0.005	0.048	92	_
2,4,5-Trichlorophenol	400	<0.020	<0.005	0.048	92	•
2,4,6-Trichlorophenol	2.00	<0.020	<0.005	0.040	80	•
Hexachioro-1,3-butadiene	0.500	<0,020	<0.005	0.026	52	
			10.000			

Fluorophenol	58
Phenol-d5	40
Nitrobenzene-d5	104
2-Fluorobiphenyl	68
2,4,6-Tribromophenol	89
Terphenyl-d14	81

METHODS: EPA 8W 848-8270, 1311, 3610

Date

PLEABE NOTE: Liability and Damages. Cardinal's eablity and client's exclusive remedy for any claim afteing, whether based in contract or ton, shall be limited to the amount peid by client for analysis. At claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thiny (20) days after compission of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profile incurred by client, its subsidiaries, attitudes of vite the such claim is based upon any of the above-exact reasons or chonered.

HALLIBURTON ENERGY SERVICES

ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240

FAX TO:

Sampling Date: 12/12/00

Sample Type: SLUDGE
Sample Condition: COOL & INTACT

Sample Received By: BC

Sample Received By: Banalyzed By: AH/BC

Reporting Date: 12/18/00
Project Number: NOT GIVEN
Project Name: WASHBAY SUMP
Project Location: HOBBS YARD

Receiving Date: 12/12/00

.....

REACTIVITY

19-27 GUIDELAB NUMBER SAMPLE ID 1970ag Sulfide Cyanide: GORROSIVITY IGNITABILITY: 1970ag

(ppm) (ppm) (pH)

ANALYSIS DATE:	12/14/00	12/14/00	12/16/00	12/16/00
H5422-1 WASHBAY	Not reactive	Not reactive	7.65	Nonflammable
SLUDGE				
	of dimensions:	्राचा प्राप्त सम्बद्धाः स्थापना । सम्बद्धाः सम्बद्धाः स्थापना ।		<ol> <li>A. Sankin and A. Sankin and J.</li> </ol>
		***************************************		
Quality Control	NR	NR	7.03	NR
True Value QC	NR	NR	7.00	NR
% Recovery	NR	NR	100	IINR
Relative Percent Difference	NR NR	NR	0.1	NR

METHOD: EPA SW 846-7.3, 7.2, 1030 (proposed), 1311, 40 CFR 261

Bufly Al Coshe

12/18/00

PLEASE NOTE: Liability and Demages. Cerdinar's liability and cheeris exclusive remedy for any claim arising, whether based in contrast or sort, shall be limited to in a amount paid by chort for analyses. All claims to liability and processes and any other cause winassowor shall be deviced in whiting and received by Cardinal within thing (all) days after completion of the applicable service. In no event shall Cardinal be shalle for incidental or consequential damages, including, without limitation, business interpretations, loss of use or loss of profits incurred by client, its subsidiance, affiliates or successors arising out of or released to the portromance of services networked by Cardinal, regardless of whether such cash is based upon any of the above-stated reasons or otherwise.

District II - (505) 748-1283

81) S. First
Andria, NM 88210

District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410

District IV - (505) 827-7131

# Energy Minerals and Natural Resources Department Oil Conservation Division RECEIVED

2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

DEC 1 8 2001

Submit Origi Plus 1 C to appropri District Ofl

DATE: 12-18-01

Originated 8/8

Environmental Bureau
Oil Conservation Division

REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: Non-Exempt: X	4. Generator HALLIBURTON
Verbal Approval Received: Yes No No	5. Originating Site Brownfield TX
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter Chaparral
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State TEXAS
7. Location of Material (Street Address or ULSTR) 1301 W. Webb H	rownfield , Texas 79316
9. <u>Circle One</u> :	
A. All requests for approval to accept oilfield exempt wastes will be accepted.  Generator; one certificate per job.  All requests for approval to accept non-exempt wastes must be accepted.  PROVE the material is not-hazardous and the Generator's certification listing or testing will be approved.	companied by necessary chemical analysis to on of origin. No waste classified hazardous by
All transporters must certify the wastes delivered are only those consigned BRIEF DESCRIPTION OF MATERIAL:	1 for transport.
The following analytical results are fryard. This waste was generated from the equipment. I have included a certificath chain of custody. Sundance would like material into our Parabo Facility.  Estimated Volume 150 yds cy Known Volume (to be entered by the open statement of the sundance would be entered by the sundanc	te of waste status and
SIGNATURE: Waste Management Facility Authorized Agent TYPE OR PRINT NAME: DONNA L. ROACHH TE	E MGR DATE: [2-10-0]  LEPHONE NO
APPROVED BY: What Cluby TITLE: ENVIRONMENT	In Engl. DATE 12-12-01

APPROVED BY:

# CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATO	OR: <u>Halliburton</u>
ADDRESS: 130	1 W WEBB
GENERATING SITE: B	ROWNFIELD Yard
	COUNTY_TERRY_STATETX
TYPE OF WASTE:	Wash Rack Grit
ESTIMATED VOLUME	:300,000 lbs.
GENERATING PROCES	SS: Wash Rack Sumps
REMARKS:	
NMOCD FACILITY: _	Sundance
TRUCKING FACILITY:	Chaparral
as defined by the Environm To my knowledge, this wa verify the nature as non-ha waste" pursuant to the pro-	nected for disposal, I hereby certify that this waste is a non-exempt waste mental Protection Agency's (EPA) July 1988 regulatory Determination, ste will be analyzed pursuant to the provisions of 40 CFR Part 261 to transport to the provisions of 40 CFR, Part 261, subparts C and D, has not been added or to make the resultant mixture a "hazardous waste" pursuant to the tions 2613.
AGENT	Ells Hage
NAME:	Eddie Hopper
ADDRESS:	PRINTED 5801 Lovington Hwy Hobbs, NM 88240
DATE:	12/10/01

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240 FAX TO:

Receiving Date: 12/12/00 Reporting Date: 12/14/00 Project Number: NOT GIVEN Project Name: WASHBAY SUMP Project Location: BROWNFIELD YARD

Sample ID: WASHBAY Lab Number: H5425-1

Analysis Date: 12/13/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: BC

areas of the second	EPA	Sample Result	Method			True Valu
TCLP VOLATILES (ppm)	LIMIT.	H5425-1	Blank :	Baldes ( <b>G</b> É	%Recov.	∯-Q¢
Vinyl Chloride	0.20	<0.005	<0.005	0.108	108	0.100
1,1-Dichloroethylene	0,7	<0.005	<0.005	0.089	89	0.100
Methyl Ethyl Ketone	200	<0.050	<0.050	0.083	83	0.100
Chloroform	6.0	<0.005	<0.005	0.089	89	0.100
1,2-Dichloroethane	0.5	<0.005	<0.005	0.087	87	0.100
Benzene	0.5	<0.005	<0.005	0.088	88	0.100
Carbon Tetrachloride	0.5	<0.005	<0.005	0.092	92	0,100
Trichloroethylene	0.5	<0.005	<0.005	0.091	91	0.100
Tetrachloroethylene	0.7	<0.005	<0.005	0.099	99	0.100
Chlorobenzene	100	<0.005	<0.005	0.094	94	0.100
1,4-Dichlorobenzene	7.5	0.007	<0.005	0.104	104	0.100

Dibromofluoromethane	83	
Toluene-d8	88	
Bromofluorobenzene	92	

METHODS: EPA SW 846-8260, 1311

Large Co.

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PLEASE NOTE: Liability and Damages. Cardinal's lisuing and client's exclusive remedy for any claim arising, whether based in contract or ton, chall be limited to the amount pare by client for analyses. All claims, including trace for negligence and any other cause wherever shall be doorsed waked unless made in writing and received by Cardinal within thirty (30) days after complicion of the applicable service. In no evant shall Cardinal be lightly for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profite incurred by client, its subsidiaries, affiliates or successors writing out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



PHONE (815) 673-7001 - 2111 BEECHWOOD - ABILENE, TX 79603

PHONE (505) 393-2326 - 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY, HOBBS, NM 88240 FAX TO:

Receiving Date: 12/12/00
Reporting Date: 12/14/00
Project Number: NOT GIVEN
Project Name: WASHBAY SUMP
Project Location: BROWNFIELD YARD

Sample ID: WASHBAY Lab Number: H5425-1 Analysis Date: 12/13/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: BC

بقا خصوا لعدم الاستان ووافيتنا والكلمونوني المعتصلية لييسونو ليربي والربيعي المعتمون		Sample Result	Method	C. H. Harter		True Valu
TCLP SEMIVOLATILES (ppm)	LIMIT	H5425-1	Blank	THE PARTY OF	% Recov.	- QC
Pyridine	5.00	<0.020	<0.005	0.011	22	0.050
1,4-Dichlorobenzene	7.50	<0.020	<0.005	0.024	48	0.050
o-Cresol	200	<0.020	<0.005	0.033	66	0.050
m, p-Cresol	200	<0.020	<0.005	0.033	. 66	0.050
Hexachloroethane	3.00	<0.020	<0.005	0.021	42	0.050
Nitrobenzene	2.00	<0.020	<0.005	0.034	68	0.050
Hexachloro-1,3-butadiene	0.500	<0.020	<0.005	0.026	52	0.050
2,4,6-Trichiorophenal	2.00	<0.020	< 0.005	0.040	80	0.050
2,4,5-Trichlorophenol	400	<0.020	<0.005	0.046	92	0.050
2,4-Dinitrotoluene	0.130	<0.020	<0.005	0.046	92	0.050
Hexachlorobenzene	0.130	<0.020	< 0.005	0.045	90	0.050
Pentachlorophenol	100	<0.020	<0.005	0.047	84	0.050

% RECOVERY
51
44
99
68
86
91

METHODS: EPA SW 846-8270, 1311, 3510

Burgess J. S. Cooke Ph. D.

12/19 Data

Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whomor cased in contract or fort, shall be limited to the amount paid by client for analyses.

All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service, in no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its substitutions affairs or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



PHONE (915) 673-7001 - 2111 BEECHWOOD - ABILENE, TX 78603

PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR
HALLIBURTON ENERGY SERVICES
ATTN: SCOTT NELSON
5801 LOVINGTON HWY.
HOBBS, NM 88240
FAX TO:

Receiving Date: 12/12/00
Reporting Date: 12/18/00
Project Number: NOT GIVEN
Project Name: WASHBAY SUMP
Project Location: BROWNFIELD YARD

Analysis Date: 12/16/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

41-66-2000 62:30 a LAB:NUMBERTO SAMPLE ID

TPH (mg/Kg)

H5425-1	WASHBAY SLUDGE	19100
The second second		
	THE TAX OF THE PERSON OF THE P	इ.स.च्याप्रकालका, कार्यक्ता
	3 1 2 2 P 2 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2	
Quality Contro	A TOTAL OF THE STATE OF THE STATE OF	228
True Value QC	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	240
% Recovery	2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	95.0
Relative Perce	nt Difference	4.0

METHOD: EPA 600/4-79-020 418.1

Buy as Ja Cook

12/19/6

Date

H5425T.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and cleant's exclusive minedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for sunayses.

All claims, including those for negligance and any other cause whatevers are to be deemed waved unless made in which plant received by Cardinal within thirty (40) days after complication of the applicable services. In no event small Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its substituties, artikates or successors arising out of or related to the performance of services horsunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

PHONE (915) 673-7001 • 2111 BEECHWOOD - ABILENE, TX 79603

PHONE (505) 393-2325 - 101 E, MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY.

HOBBS, NM 88240

FAX TO:

Reporting Date: 12/18/00

Project Number: NOT GIVEN Project Name: WASHBAY SUMP Project Location: BROWNFIELD YARD

Receiving Date: 12/12/00

Sampling Date: 12/12/00

Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: BC Analyzed By: AH/BC

REACTIVITY ...

LAB NUMBER SAMPLE ID.
12-13-1501 SECULE FOR SAMPLE ID. MODS

Sulfide (ppm)

Cyanide CORROSIVITY IGNITABILITY

(°F)

(mag) (pH)

5053927062

ANALYSIS DA	TE:	12/14/00	12/14/00	12/16/00	12/16/00
H5425-1	WASHBAY	Not reactive	Not reactive	8.63	Nonflammable
1	SLUDGE				
		Section of the same was as by an in-		1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	
tar Market		T	1. Car 4. S. A.	15) di 150 (150 - 151 fili	7
		<del>                                     </del>			
Quality Contro		NR.	NR	7.03	NR
True Value QC		NR		7.00	NR
% Recovery		NR	NR	100	NR
Relative Perce	ent Difference	NR	NR	0.1	NR

METHOD: EPA SW 848-7.3, 7.2, 1030 (proposed), 1311, 40 CFR 261

The test of the first of the fi

PLEASE NOTE: Liability and Damages. Cardinal's sability and client sexcusive remedy for any citalm arising, whether based in contract or tori, shall be limited to the amount paid by client for analyses. All claims, including these for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thiny (30) days after completion of the applicable service. In no event shall Cardinal to liable for incidental or consequential camages, impliciting, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidialists. affiliates or successors arising out of or reluted to the parlemance of services nereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. 3.00



PHONE (915) 673-7001 - 2111 BEECHWOOD - ABILENE, TX 79603

PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON **5801 LOVINGTON HWY** HOBBS, NM 88240 FAX TO:

Receiving Date: 12/12/00 Reporting Date: 12/16/00 Project Number: NOT GIVEN Project Name: WASHBAY SUMP Project Location: BROWNFIELD YARD Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: GP Analyzed By: AH/GP

# TCLP METALS

LAB NO. SAMPLE ID	regres As	ngs <b>Ag</b>	Ba	Cd	er en en en	Pb	f" '∵"Hg	The Se
FROM Standard Continues of the Second Second	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
ANALYSIS DATE:	12/13/00	12/14/00	12/14/00	12/14/00	12/14/00	12/14/00	12/15/00	12/14/00
EPA LIMITS:	5	5	100	1	. 5	5	0.2	1
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		40000	19.7	·		·		• •
Quality Control	0.193	4.719	44.56	1.047	5.009	0.00945	5.076	0.053
True Value QC	0.200	∄ 5.000	50.00	1.000	5.000	0.01000	5.000	0.050
% Recovery	96.5	94.4	89.1	105	100	94.5	102	106
Relative Standard Deviation	2.0	0.5	3.7	0.3	2.9	5.8	0.4	2.0
Project Number of The National	·	·			-			
METHODS: EPA 1311, 600/4-91/01	206.2	272.1	208.1	213.1	218.1	239,1	245.1	270.2

PLEASE NOTS: Liability and Damages. Cardinal's liability and cleants exclusive remedy for any clean ansing, whether based in contract or ror. shall be limited to the amount paid by client for analyses All Claims, including those for negligence and any other cause whatever shall be deemed waved unless made in writing and received by Cardinal within thiny (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

District II - (505) 748-1283 811 S. First Ameria, NM 88210 District III - (505) 334-6178 1000 Rio Brazos Road Aztec, NM 87410

District IV - (505) 827-7131

# Energy Minerals and Natural Resources Department

Oil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

RECEIVED

Submit Origi Plus 1 Ci to appropri District Off

Originated 8/8

NAV 2 6 2001

Environmental Bureau

REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: Non-Exempt: X	4. Generator Halliburton
Verbal Approval Received: Yes No No	5. Originating Site Hobbs Facilit
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter Halliburton
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State NEW MEXICO
7. Location of Material (Street Address or ULSTR) 5801 Lovington	Hwy, Hobbs, NM 88240
9. <u>Circle One</u> :	
A. All requests for approval to accept oilfield exempt wastes will be accepted.  Generator; one certificate per job.  All requests for approval to accept non-exempt wastes must be accepted.  PROVE the material is not-hazardous and the Generator's certification.	companied by necessary chemical analysis to

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

# BRIEF DESCRIPTION OF MATERIAL:

listing or testing will be approved.

The following MSDS sheets are for Halliburton's Hobbs facility waste cement. This waste is generated when the generator mixes up cement for an oilfield cement job and some cement is left over. It is them put into a truck for holding until disposal. I have attached a certificate of waste status and MSDS on all of the cement types used by this facility. Sundance would like approval to accept this material into our disposal.

Estimated Volume 400 Tons cy Known Volum	e (to be entered by the operator at the end of the haul) cy
SIGNATURE: Waste Management FacilityAuthorized Agent TYPE OR PRINT NAME: DONNA L. ROACHH	TELEPHONE NO. 505-394-2511
APPROVED BY:  Mallery	TITLE: Environmental Eugr- DATE: 11-16-01
APPROVED BY: Martyn Jhh.	_ TITLE: Emironmotal (reologit DATE: 11-26-01

:5053927082

# CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATO	R: <u>Halliburton Energy Services</u>
ADDRESS:5801 Lovir	ngton Hey
GENERATING SITE:	Hobbs Yard
	COUNTY Lea STATE NM
TYPE OF WASTE:	Cement
ESTIMATED VOLUME:	1,000, sacks
GENERATING PROCESS	S: Unused cement
REMARKS:	
NMOCD FACILITY:	Sundance
TRUCKING FACILITY:	Halliburton
as defined by the Environme To my knowledge, this waste verify the nature as non-haza waste" pursuant to the provi-	e for disposal, I hereby certify that this waste is a non-exempt waste ental Protection Agency's (EPA) July 1988 regulatory Determination. It is will be analyzed pursuant to the provisions of 40 CFR Part 261 to ardous. I further certify that to my knowledge "hazardous of listed sions of 40 CFR, Part 261, subparts C and D, has not been added or to make the resultant mixture a "hazardous waste" pursuant to the ons 2613.
AGENT:	SIGNATURE
NAME:	Eddie Hopper PRINTED
ADDRESS:	5801 Lovington Hwy
DATE:	8/28/2001

# Halliburton Energy Services Shipping Papers For

# Movement of Materials According to Federal Regulations As specified on CFR 49 sec.117.817 and 176.24

Location: Hobbs, New Mexico  Truck or Trailer No. 52043 - 8/6  Driver  U.S. DOT Hazmat Reg. No051496 005	Telephone: (605) 392-6531
Total Net Lbs 31,100 No. C	ontType: Bulk
	aterials are properly classified, described, proper condition for transportation according to
the applicable regulations of the Departm	ent of Transportation.
Signature:	
Time Loaded	<u> </u>
Bulk Ticket No.	Freight Bill No
Premium Cement	23,154 lbs.
POZ MIX	3960 lbs.
Silica	2904 165.
HA1-9	21 1550
CFR-3	92 165.
gilsonite	1.370 1.165.
HA140-344	115 165.
HR.7	46 155.
Salt (coment grade)	264 155.

Ή

# HOVEMENT OF MATERIALS ACCORDING TO FEDERAL REGULATION AS SPECIFIED IN CFR 49, SEC.177.817 AND 176.24

LOCATION: 15540		
TRUCK# OR TRLR# : 52043-8101	FOR EMERGENCY CONTACT: NAME: STEVE LUSCOMBE TELEBURY: (505): 282-4521	
DRIVER: U.S. DOT HAZHAT REG. NO 060497 003 42F	TELEPHONE: (505) 392-6531	
*HM: ***********************************		
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* * NOT RESTRICTED		11
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* *	105W7/IN DILL	
* *HALCO NAME & NO.: CEMENT - CLASS H - F * * GROSS LBS/PKG:	ERG => 516,002/2	
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* * TOT GROSS LBS NUM CONTAINE		
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* * NOT RESTRICTED		
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* *HALCO NAME & NO.: POZMIX(R) A - BULK	516.00286	i
* * * GROSS LBS/PKG:	ERG =>	
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* * TOT GROSS LBS NUM CONTAINE		
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* *HALCO NAME & NO.: SILICALITE ADDITIVE	- 50/50 W/ POZHIX 516.00443	
* * * GROSS LBS/PKG:	ERG =>	
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* * TOT GROSS LBS NULL CONTAINE	**************************************	
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* *HALCO NAME & NO.: HALAD(R) 9 CEMENT AD	_	
* * * GROSS LBS/PKG:	ERG =>	
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* * TOT GROSS LBS NUM CONTAINE		
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* NOT RESTRICTED		
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* *HALCO NAME & NO.: CFR-3 CEMENT FRICTION	N REDUCER DEFOAM 516.00295	
* * * GROSS LBS/PKG:	ERG =>	

# - MOVEMENT OF MATERIALS ACCORDING TO FEDERAL REGULATION AS SPECIFIED IN CFR 49, SEC.177.817 AND 176.24

FOR EMERGENCY CONTACT:	1	LOCATION: 15540			
TRUCK4 OR TRLR4: 52043-8101  MAME: STEVE LUSCOMBE TELEPHONE: (505) 392-6531  SRIVER:  U.S. DOT HAZMAT REG. NO 060497 003 42F  HH:  ** TOT GROSS LBS NUM CONTAINERS: TYPE: BULK  ** ** HALCO NAME & NO.: GILSONITE(R) RESIN - BULK  ** ** HOI GROSS LBS NUM CONTAINERS: TYPE: 50 LB BAG  ** ** NOT RESTRICTED  ** ** GROSS LBS/PKG: ERG =>  ** HOI GROSS LBS NUM CONTAINERS: TYPE: 50 LB BAG  ** NOT RESTRICTED  ** ** GROSS LBS/PKG: ERG =>  ** HOI GROSS LBS NUM CONTAINERS: TYPE: 50 LB BAG  ** NOT RESTRICTED  ** ** GROSS LBS/PKG: ERG =>  ** NOT RESTRICTED  ** NOT RES			FOR EKERGENCY CO	ONTACT:	
TELEPHONE: (505) 392-6531  BRIVER:  U.S. DOT HAZMAT REG. NO 060497 003 42F  **HI: ***  **NOT RESTRICTED  **  **ADT RESTRICTED  **  **HALCO NAME & NO.: GILSONITE(R) RESIN - BULK  **  **HALCO NAME & NO.: HALAD(R) 344 CEMENT ADDITIVE  **  **HALCO NAME & NO.: HALAD(R) 344 CEMENT ADDITIVE  **  **HALCO NAME & NO.: HALAD(R) 344 CEMENT ADDITIVE  **  **HALCO NAME & NO.: HALAD(R) 344 CEMENT ADDITIVE  **  **  **  **  **  **  **  **  **		TRUCK# OR TRLR# : 52043-8101		· <del>-</del>	
U.S. DOT HAZHAT REG. HO 060497 DOS 42F  HH: + TOT GROSS LBS NUM CONTAINERS: TYPE: BULK  + HOT RESTRICTED  + HALCO NAME & NO.: GILSONITE(R) RESIN - BULK  + HALCO NAME & NO.: HALAD(R) 344 CEMENT ADDITIVE  + HALCO NAME & NO.: HALAD(R) 344 CEMENT ADDITIVE  - HOT GROSS LBS NUM CONTAINERS: TYPE: 50 LB BAG  + NOT RESTRICTED  + TOT GROSS LBS NUM CONTAINERS: TYPE: 50 LB BAG  - NOT RESTRICTED  - TOT GROSS LBS NUM CONTAINERS: TYPE: 50 LB BAG  - NOT RESTRICTED  - HALCO NAME & NO.: HR-7 ADDITIVE					
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* HOT GROSS LBS NUM CONTAINERS: TYPE: BULK  * HALCO NAME & NO.: GILSONITE(R) RESIN - BULK		U.S. DOT HAZMAT REG. NO 060497	003 42F		
+ MOT RESTRICTED  - +HALCO NAME & NO.: GILSONITE(R) RESIN - BULK 516.00337  - GROSS LBS/PKG: ERG =)  - 101 GROSS LBS NUM CONTAINERS: TYPE: 50 LB RAG  - NOT RESTRICTED  - HALCO NAME & NO.: HALAD(R) 344 CEMENT ADDITIVE 516.00227  - GROSS LBS/PKG: ERG =)  - 101 GROSS LBS NUM CONTAINERS: TYPE: 50 LB RAG  - NOT RESTRICTED  - HALCO NAME & NO.: HR-7 ADDITIVE B90.50903  - NOT RESTRICTED  - OF GROSS LBS NUM_CONTAINERS: TYPE: 80 LB RAG  - NOT RESTRICTED  - OF GROSS LBS NUM_CONTAINERS: TYPE: 80 LB RAG  - NOT RESTRICTED  - NUM_CONTAINERS: TYPE: 80 LK  - HALCO NAME & NO.: SALT - CEMENT GRADE - BULK 516.00315  - GROSS LBS/PKG: ERG =)  - HALCO NAME & NO.: SALT - CEMENT GRADE - BULK 516.00315  - GROSS LBS/PKG: ERG =)  - NUM_CONTAINERS: TYPE: 80 LK  - NOT RESTRICTED  - NUM_CONTAINERS: TYPE: 80 LK  - NOT RESTRICTED  - THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION.					
* * HALCO NAME & NO.: GILSONITE(R) RESIN - BULK 516.00337  * * * GROSS LBS/PKG: ERG *)  ***TOT GROSS LBS NUM CONTAINERS: TYPE: 50 LB BAG  *** NOT RESTRICTEO  ***  ***HALCO NAME & NO.: HALAD(R) 344 CEMENT ADDITIVE 516.00227  * * GROSS LBS NUM CONTAINERS: TYPE: 50 LB BAG  *** NOT RESTRICTEO  ***  *** HALCO NAME & NO.: HR-7 ADDITIVE ERG =)  ***  *** HALCO NAME & NO.: HR-7 ADDITIVE ERG =)  ***  *** OROSS LBS/PKG: ERG =)  ***  ***  ***  *** NOT RESTRICTEO  ***  ***  ***  ***  ***  ***  ***					
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* *HALCO NAME & NO.: HR-7 ADDITIVE B90.50903  * * * GROSS LBS/PKG: ERG =>  ***********************************			+++++++++++++++++++++++++	++++++++++++++	
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* TOT GROSS LBS		********	· · · · · · · · · · · · · · · · · · ·		
* * NOT RESTRICTED  * *  * * *  * * HALCO NAME & NO.: SALT - CEMENT GRADE - BULK 516.00315  * * * GROSS L85/PKG: ERG =>  ***********************************		*******************	*******	******	
* * NOT RESTRICTED  * *  * *  * * HALCO NAME & NO.: SALT - CEMENT GRADE - BULK  * * GROSS LBS/PKG: ERG =>  ***********************************		*************************	***********	******	
* * *  * * HALCO NAME & NO.: SALT - CEMENT GRADE - BULK 516.00315  * * * GROSS LBS/PKG: ERG =>  ***********************************		**************************************	**************************************	**************************************	
* * *HALCO NAME & NO.: SALT - CEMENT GRADE - BULK 516.00315  * * * GROSS LBS/PKG: ERG =>  ***********************************		**************************************	**************************************	**************************************	
* * GROSS LBS/PKG: ERG =>  ***********************************		**************************************	**************************************	**************************************	
* * GROSS LBS/PKG: ERG =>  ***********************************		**************************************	**************************************	**************************************	
* + GROSS LBS/PKG: ERG =>  ***********************************		**************************************	**************************************	**************************************	
THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.		**************************************	**************************************	******** ******** BULK -+++++++++++++	:
THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.		**************************************	**************************************	******** ******** BULK -+++++++++++++	;
THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.		**************************************	**************************************	**************************************	:
DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.		**************************************	**************************************	**************************************	; 4
DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.		**************************************	**************************************	**************************************	: 4
TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.		**************************************	**************************************	516.00315	; ,
TRANSPORTATION.		**************************************	**************************************	**************************************	;
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		**************************************	**************************************	######################################	: 1

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MATERIAL SAFETY DATA SHEET HALLIBURTON ENERGY SERVICES DUNCAN, OKLAHONA 73536

DATE: 12-30-97 REVISED BATE 01-17-96

EMERGENCY TELEPHONE: 405/251-4689 OR 405/251-3569 AFTER HOURS: 405/251-3760

\* \* \* \* \* \* \* \* \* \* \* \* \* SECTION I - PRODUCT DESCRIPTION \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* CHEMICAL CODE: CEMENT - CLASS H - PREMIUM - BULK PART NUMBER: 516002720 PKG QTY: BULK APPLICATION: CEMENTING SERVICE USED: CEHENT \* \* \* \* \* \* \* \* \* \* \* \* SECTION II - COMPONENT INFORMATION \* \* \* \* \* \* \* \* \* \* \* PERCENT TLV PEL PORTLAND CEMENT > 60 % 10 MG/H3 10 MG/H3 SILICA, CRYSTALLINE--QUARTZ (3 % 0.1 HG/H3 0.1 HG/H3 \* \* \* \* \* \* \* \* \* \* \* \* \* \* SECTION III - PHYSICAL DATA \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* PROPERTY MEASUREMENT APPEARANCE GRAY SOLID, POWDER ODORLESS SPECIFIC GRAVITY (H20=1) 3.150 BULK DENSITY 94.00 LB/CU.FT. 12.4 SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 .1-1.0 BIODEGRADABILITY N/A PERCENT VOLATILES EVAPORATION RATE (BUTYL ACETATE=1) N/A VAPOR DENSITY VAPOR PRESSURE (MMHG) N/A BOILING POINT(760 HMHG) 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 O FLAMMABILITY O REACTIVITY 0 SPECIAL NONE FLASH POINT N/A AUTOIGNITION TEMPERATURE NO F / NO C FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/D UPPER EXTINGUISHING MEDIA: HONCOMBUSTIBLE SPECIAL FIRE FIGHTING PROCEDURES: NOT APPLICABLE.

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

UNUSUAL FIRE AND EXPLOSION HAZARDS:

NO FIRE HAZARO. NOT APPLICABLE.

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 : IARC PRODUCT TOXICITY DATA: NOT DETERMINED PRODUCT TLV: 10 MG/M3 ROUTES OF EXPOSURE: EYE OR SKIN CONTACT, INHALATION. EYE: MAY CAUSE SEVERE IRRITATION WHICH MAY BE PERSISTENT. SKIN: CEHENT DUST CAN BE IRRITATING TO SKIN. WET CEHENT CAN DRY THE SKIN AND CAUSE ALKALI BURNS. SENSITIVE INDIVIDUALS MAY DEVELOP ALLERGIC DERMATITIS. INHALATION: MAY BE IRRITATING. TREAT AS NUISANCE DUST. INGESTION: THIS HATERIAL IS OF VERY LOW ACUTE TOXICITY. THERE IS NO EVIDENCE OF ADVERSE EFFECTS FROM AVAILABLE INFORMATION. CHRONIC EFFECTS: CRYSTALLINE SILICA IS NOT ON THE OSHA CARCINOGEN LIST. NTP AND IARC HAVE DETERMINED THERE IS SUFFICIENT EVIDENCE FOR CARCINOGENICITY OF CRYSTALLINE SILICA TO EXPERIMENTAL ANIMALS AND LIMITED EVIDENCE TO HUMANS. "LIMITED EVIDENCE" HEARS POSSIBLE RELATIONSHIP, BUT OTHER FACTORS CANNOT BE EXCLUDED. CONTAINS TRACE AMOUNTS OF ARSENIC, A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER. EXPOSURE TO ARSENIC SHOULD NOT EXCEED THE FEDERAL OSHA PEL UNLESS USED IN A MANNER THAT PRODUCES EXTREMELY HEAVY AIR-BORNE CONCENTRATIONS OF PRODUCT AT LEVELS WELL ABOVE THE ALLOWABLE LIMITS. OTHER SYMPTOMS AFFECTED: A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENED BY EXPOSURE TO THIS PRODUCT. ------ EMERGENCY AND FIRST AID PROCEDURES 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. INHALATION: REHOVE TO FRESH AIR. IF IRRIFCTION PERSISTS, SEEK MEDICAL ATTENTION, INGESTION: DO NOT INDUCE VOHITING! IN GENERAL, NO TREATHENT IS NECESSARY UNLESS LARGE QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED. STABILITY: STABLE CONDITIONS TO AVOID: STORE IN A DRY LOCATION. INCOMPATIBILITY (MATERIALS TO AVOID); HONE KNOWN. HAZARDOUS DECOMPOSITION PRODUCTS: . NONE KNOWN.

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CONDITIONS TO AVOID:
NOT APPLICABLE.

HAZARO POLYHERIZATION: WON"T OCCUR

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPMENT. SWEEP UP AND REHOVE. 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/HSHA APPROVED EQUIPHENT): TOXIC DUST/HIST 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 CEMENT - CLASS H - PREMIUM - BULK 516.002720 WARNING! CONTAINS A SHALL AMOUNT OF CRYSTALLINE SILICA, REPEATED OR PROLONGED INHALATION OF DUST MAY CAUSE A DELAYED RESPIRATORY ILLNESS (SILICOSIS). THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) AND NTP HAVE DETERMINED THERE IS LIMITED EVIDENCE OF THE CARCINOGENICITY OF CRYSTALLINE SILICA. MAY CAUSE EYE AND SKIN IRRITATION. MAY CAUSE SKIN BURNS IF CEMENT IS WET OR WITH CONFINED INTIMATE CONTACT. 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. !! # \* \* \* \* \* \* \* \* \* \* SECTION X - TRANSPORTATION INFORMATION \* \* \* \* \* \* \* \* \* DOT SHIPPING DESCRIPTION: NOT RESTRICTED \* \* \* \* \* \* \* \* \* \* SECTION XI - ENVIRONMENTAL EVALUATION \* \* \* \* \* \* \* \* \* \* EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y 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 (EXTREHELY HAZARDOUS SUBSTANCES) PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS . 11 D. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS)

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES

CHEHICAL CONTAINS NO TOXIC INGREDIENTS

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 HANY 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 REQUIREHENTS 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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PAGE 1

HATERIAL SAFETY DATA SHEET HALLIBURTON ENERGY SERVICES DUNCAN, OKLAHOMA 73536 DATE: 12-30-97 REVISED DATE 01-17-96

EMERGENCY TELEPHONE: 405/251-4689 OR 405/251-3569

 SILICA, CRYSTALLINE--QUARTZ
 31-60 % 0.1 MG/M3 0.1 MG/M3

 CALCIUM OXIDE
 1-10 % 2 MG/M3 5 MG/M3

 IRON OXIDE
 1-10 % 5 MG/M3 10 MG/M3

 MAGNESIUM OXIDE
 1-10 % 10 MG/M3 10 MG/M3

 SILICA, CRYSTALLINE-CRISTOBALITE
 1-10 % 0.05 MG/M3 0.05 MG/M3

 ALUHINUM OXIDE
 11-30 % 10 MG/M3 10 MG/M3

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

# PROPERTY

## HEASUREHENT

**APPEARANCE** GRAY OR BLACK SOLID, POWDER ODOR ODORLESS SPECIFIC GRAVITY (H20=1) 2,300 BULK DENSITY 74.00 LB/CU.FT. NOT DETERMINED SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 NEG BIODEGRADABILITY N/A PERCENT VOLATILES N/A EVAPORATION RATE(BUTYL ACETATE=1) N/A VAPOR DENSITY N/A VAPOR PRESSURE (MMHG) N/A BOILING POINT (760 HHHG) N/A POUR POINT W 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 0 SPECIAL NONE
FLASH POINT N/A FLASH HTHD
AUTOIGNITION TEMPERATURE
FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/A UPPER N/A

EXTINGUISHING MEDIA:

USE HEDIA APPROPRIATE FOR SURROUNDING MATERIALS.

SPECIAL FIRE FIGHTING PROCEDURES:

NOT APPLICABLE.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NOT APPLICABLE.

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* * * * * * * * * * * * * * 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 : IARC
PRODUCT TOXICITY DATA: NOT DETERMINED
PRODUCT TLV: 0.1 MG/M3 (AS CRYSTALLINE SILICA)
                                                                                          11 11
PRIMARY ROUTES OF EXPOSURE:
   INHALATION.
EYE:
   DUST MAY CAUSE A MECHANICAL IRRITATION TO THE EYES.
   ESSENTIALLY NON-IRRITATING.
INHALATION:
   MAY BE IRRITATING.
   REPEATED OVEREXPOSURE TO CRYSTALLINE SILICA HAY CAUSE ACUTE SILICOSIS, A
   FIBROTIC LUNG CONDITION THAT REDUCES LUNG FUNCTION AND HAY LEAD TO
   CARDIOPULHONARY IMPAIRMENT. SILICOSIS IS RAPIDLY PROGRESSIVE AND THE ONSET
   OF SYMPTOMS HAY BE DELAYED.
INGESTION:
   THIS HATERIAL IS OF VERY LOW ACUTE TOXICITY. THERE IS NO EVIDENCE OF
   ADVERSE EFFECTS FROM AVAILABLE INFORMATION.
CHRONIC EFFECTS:
   CRYSTALLINE SILICA IS NOT ON THE OSHA CARCINOGEN LIST. NTP AND IARC HAVE
   DETERMINED THERE IS SUFFICIENT EVIDENCE FOR CARCINOGENICITY OF CRYSTALLINE
   SILICA TO EXPERIMENTAL ANIMALS AND LIMITED EVIDENCE TO HUMANS. "LIMITED
   EVIDENCE" HEANS POSSIBLE RELATIONSHIP, BUT OTHER FACTORS CANNOT BE EXCLUDED.
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:
   PROHPTLY WASH SKIN WITH SOAP AND WATER.
INHALATION:
   REHOVE TO FRESH AIR. IF IRRIGATION PERSISTS, SEEK MEDICAL ATTENTION,
   DO NOT INDUCE VOHITING! IN GENERAL, NO TREATHENT IS NECESSARY UNLESS LARGE
   QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED.
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* * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * *
STABILITY: STABLE
CONDITIONS TO AVOID:
   NOT APPLICABLE.
INCOMPATIBILITY (HATERIALS TO AVOID): '
   STRONG OXIDIZERS.
HAZARDOUS DECOMPOSITION PRODUCTS:
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NOT APPLICABLE.

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

NONE KNOWN.

CONDITIONS TO AVOID:

HAZARD POLYMERIZATION: WON"T OCCUR

STEPS TO BE TAKEN IF HATERIAL IS RELEASED OR SPILLED: USE PROTECTIVE EQUIPHENT. SWEEP UP AND REHOVE. AVOID CREATING OR INHALING DUST. WASTE DISPOSAL METHOD: IF NOT CONTAHINATED, REUSE PRODUCT. GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL. \* \* \* \* \* \* \* \* SECTION VIII - SPECIAL PROTECTION INFORMATION \* \* \* \* \* \* RESPIRATORY PROTECTION (USE NIOSH/HSHA APPROVED EQUIPMENT): TOXIC DUST/HIST RESPIRATOR. VENTILATION: USE ONLY WITH ADEQUATE VENTILATION. PROTECTIVE GLOVES: 11 11 NORMAL WORK GLOVES. EYE PROTECTION: DUST PROOF GOGGLES. OTHER PROTECTIVE EQUIPMENT: NORMAL WORK COVERALLS. \* \* \* \* \* \* \* \* \* \* \* \* \* \* SECTION IX - SPECIAL PRECAUTIONS \* \* \* \* \* \* \* \* \* \* \* \* \* PRECAUTIONARY LABELING POZNIX(R) A - BULK 516,002860 WARNING! CONTAINS CRYSTALLINE SILICA WHICH MAY CAUSE A DELAYED, PROGRESSIVE LUNG DISEASE (SILICOSIS). THE IARC AND NTP HAVE DETERMINED THERE IS LIMITED EVIDENCE OF THE CARCINOGENICITY OF CRYSTALLINE SILICA. MAY CAUSE HILD EYE AND RESPIRATORY TRACT 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. 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 - HAZARO CLASSIFICATION & ASSOCIATED INFORMATION FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y CHRONIC (DELAYED): Y MIXTURE OR PURE MATERIAL: MIX 11 M 8. 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

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

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

CHEHICAL CONTAINS NO TOXIC INGREDIENTS

SERVICES.

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

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MATERIAL SAFETY DATA SHEET HALLIBURTON ENERGY SERVICES

DATE: 12-30-97 REVISED DATE 01-17-96

DUNCAN, OKLAHOKA 73536

EMERGENCY TELEPHONE: 405/251-4689 OR 405/251-3569 AFTER HDURS: 405/251-3760

\* \* \* \* \* \* \* \* \* \* \* \* \* \* SECTION I - PRODUCT DESCRIPTION \* \* \* \* \* \* \* \* \* \* \* \* \* \* CHEMICAL CODE: SILICALITE ADDITIVE - 50/50 W/ POZMIX PART NUMBER: 516004430 APPLICATION: CEMENT ADDITIVE PKG QTY: BULK SERVICE USED: CEMENT PERCENT TLV PEL SILICA, AMORPHOUS-FUMED → 60 % 10 MG/H3 6 MG/H3 PROPERTY MEASUREHENT APPEARANCE BLACK SOLID, POWDER ODORLESS SPECIFIC GRAVITY (H20=1) 2.380 BULK DENSITY 26.30 LB/CU.FT. NOT DETERMINED SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 INSOLUBLE BIODEGRADABILITY N/A 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 O FLAMMABILITY O REACTIVITY 0 SPECIAL NONE FLASH POINT N/A AUTOIGNITION TEMPERATURE ND FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER UPPER N/D 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 \* \* \* \* \* \* \* \* \* \* \* \*

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

CALIFORNIA PROPOSITION 65:

CARCINOGENIC DETERMINATION: PRODUCT, OR COMPONENTS ARE LISTED AS A POTENTIAL CARCINOGEN . ACCORDING TO : IARC

PRODUCT TOXICITY DATA: TOX ORL-RAT LD50: 3160 HG/KG

TOX IPR-RAT LDLO: 50 NG/KG

PRODUCT TLV: NOT ESTABLISHED

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

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

EYE:

DUST MAY CAUSE A MECHANICAL IRRITATION TO THE EYES.

SKIN:

'ESSENTIALLY NON-IRRITATING.

INHALATION:

HAY BE IRRITATING.

CONTAINS A SHALL AHOUNT 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:

THIS MATERIAL IS OF VERY LOW ACUTE TOXICITY. THERE IS NO EVIDENCE OF ADVERSE EFFECTS FROM AVAILABLE INFORMATION.

CHRONIC EFFECTS:

CRYSTALLINE SILICA IS NOT ON THE OSHA CARCINOGEN LIST. NTP AND IARC HAVE DETERMINED THERE IS SUFFICIENT EVIDENCE FOR CARCINOGENICITY OF CRYSTALLINE SILICA TO EXPERIMENTAL ANIMALS AND LIMITED EVIDENCE TO HUMANS. "LIMITED EVIDENCE" HEANS POSSIBLE RELATIONSHIP, BUT OTHER FACTORS CANNOT BE EXCLUDED. OTHER SYMPTOMS AFFECTED:

MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE.

----- EMERGENCY AND FIRST AID PROCEDURES -----

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION.

PROHPTLY WASH SKIN WITH SOAP AND WATER. WASH CLOTHING BEFORE REUSE. IF IRRITATION DEVELOPS, SEEK PROHPT MEDICAL ATTENTION.

INHALATION:

REHOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION, INGESTION:

DO NOT INDUCE VOHITING! 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 (HATERIALS TO AVOID):

HYDROGEN FLUORIDE OR HYDROFLUORIC ACID.

HAZARDOUS DECOMPOSITION PRODUCTS:

NONE KNOUN.

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 EQUIPHENT. SHEEP UP AND REHOVE. AVOID CREATING OR INHALING

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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/HSHA APPROVED EQUIPMENT):
   TOXIC DUST/HIST RESPIRATOR.
VENTILATION:
   USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE
   USED IN DUSTY ENVIRONMENTS.
PROTECTIVE GLOVES:
   NORHAL WORK GLOVES.
EYE PROTECTION:
   DUST PROOF GOGGLES.
OTHER PROTECTIVE EQUIPMENT:
   NORHAL WORK COVERALLS.
* * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * *
PRECAUTIONARY LABELING SILICALITE ADDITIVE - 50/50 W/ POZMIX
   WARNING!
   CONTAINS A SHALL AMOUNT OF CRYSTALLINE SILICA, REPEATED OR PROLONGED
   INHALATION OF DUST MAY CAUSE A DELAYED RESPIRATORY ILLNESS (SILICOSIS). THE
   INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) AND NTP HAVE DETERMINED
   THERE IS LIMITED EVIDENCE OF THE CARCINOGENICITY OF CRYSTALLINE SILICA.
   HAY CAUSE RESPIRATORY IRRITATION.
   DUST HAY CAUSE A MECHANICAL IRRITATION TO THE EYES.
   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): Y HIXTURE OR PURE MATERIAL: MIX
B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)
   N/A
                        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
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EEC N/D ACOIN N/O

DRSM NE

TSCA YES CEPA NE

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

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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 CUSTOHER, 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 HALLIBURTON ENERGY SERVICES DUNCAN, DKLAHOMA 73536

DATE: 12-30-97 REVISED DATE 08-20-97

EMERGENCY TELEPHONE: 405/251-4689 OR 405/251-3569 AFTER HOURS: 405/251-3760

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

CHEHICAL CODE: HALAD(R) 9 CEMENT ADDITIVE

PART NUMBER: 070155560

PKG QTY: 50 LB BAG

APPLICATION: LOW FLUID LOSS ADDITIVE

SERVICE USED: CEMENT

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

PERCENT TLV

PEL

CONDENSATE OF SULFONATED ORGANIC SALT

31-60 % 10 MG/H3 15 MG/H3

PROPERTY

## **HEASUREMENT**

APPEARANCE TAN SOLID POWDER บบบธ ODORLESS SPECIFIC GRAVITY (H20=1) 1,220 BULK DENSITY 37.20 LB/CU.FT. 5.5 SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 BIODEGRADABILITY READILY PERCENT VOLATILES EVAPORATION RATE(BUTYL ACETATE=1) N/A VAPOR DENSITY N/A VAPOR PRESSURE (HHHG) N/A BOILING POINT(760 HHHG) N/A POUR POINT N/A

PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED

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

FORKS GEL

N/A

NFPA(704) RATING:

SOLUBILITY IN SEAWATER

HEALTH O FLAMMABILITY O REACTIVITY 0 SPECIAL NONE

FLASH POINT

FREEZE POINT

N/A

AUTOIGNITION TEMPERATURE

ND

FLAMMABLE LIMITS (X BY VOLUME)

LOWER N/D UPPER

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, CARBON

HONOXIDE AND SULFUR OXIDES.

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

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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: AQU TLM96: >3300 PPM(BROWN SHRIMP)
PRODUCT TLV: NUISANCE: 10 HG/H3(T)
 ------ EFFECTS OF EXPOSURE -------
ROUTES OF EXPOSURE:
   EYE OR SKIN CONTACT, INHALATION.
   DUST HAY CAUSE SEVERE EYE IRRITATION.
SKIN:
   DUST HAY CAUSE MILD SKIN IRRITATION.
INHALATION:
   HAY 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:
   INHEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE
   REHOVING CONTANINATED CLOTHING AND SHOES. IF IRRITATION PERSISTS, SEEK
   PROMPT MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE.
INHALATION:
   REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK HEDICAL ATTENTION,
INGESTION:
   DO NOT INDUCE VOHITING! IN GENERAL, NO TREATHENT 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.
HAZARBOUS DECOMPOSITION PRODUCTS:
   OXIDES OF SULFUR, CARBON DIOXIDE AND/OR CARBON HONOXIDE,
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:
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USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST.

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IF NOT CONTAMINATED. REUSE PRODUCT.
   GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL.
 * * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * *
 RESPIRATORY PROTECTION (USE NIOSH/HSHA APPROVED EQUIPMENT):
   TOXIC DUST/MIST RESPIRATOR.
VENTILATION:
   USE ONLY WITH ADEQUATE VENTILATION.
PROTECTIVE GLOVES:
   NORHAL WORK GLOVES.
EYE PROTECTION:
   DUST PROOF GOGGLES.
OTHER PROTECTIVE EQUIPMENT:
   NORHAL WORK COVERALLS.
* * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * *
PRECAUTIONARY LABELING HALAD(R) 9 CEMENT ADDITIVE
                                                                070.155560
   WARNING!
   HAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS.
   HAY CAUSE SKIN AND RESPIRATORY IRRITATION.
   HAY CAUSE SEVERE EYE IRRITATION.
   AIRBORNE DUST HAY 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.
   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 - MAZARO CLASSIFICATION & ASSOCIATED INFORMATION
            PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y
   CHRONIC (DELAYED): N MIXTURE OR PURE HATERIAL: MIX
8. 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
9. 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 YES EEC NO
                                   ACOIN N/D NPR NE
                                                             DRSM NE
1. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261
   IF PRODUCT BECOMES A WASTE, IT DOES NOT HEET THE CRITERIA OF A
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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.

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MATERIAL SAFETY DATA SHEET HALLIBURTON ENERGY SERVICES DUNCAN, OKLAHONA 73536

DATE: 12-30-97 REVISED DATE 01-17-96

EMERGENCY TELEPHONE: 405/251-4689 OR 405/251-3569 AFTER HOURS: 405/251-3760

\* \* \* \* \* \* \* \* \* \* \* \* \* SECTION I - PRODUCT DESCRIPTION \* \* \* \* \* \* \* \* \* \* \* \* \* \* CHEMICAL CODE: CFR-3 CEMENT FRICTION REDUCER DEFOAM PART NUMBER: 516002950 PKG QTY: 50 LB BAG APPLICATION: DISPERSANT FOR SALT CEMENT SERVICE USED: CEMENT \* \* \* \* \* \* \* \* \* \* \* \* SECTION II - COMPONENT INFORMATION \* \* \* \* \* \* \* \* \* \* \* PERCENT TLV PEL SULFONIC ACID SALT > 60 X NOT EST NOT EST SILICA, AHORPHOUS-DIATOMACEOUS EARTH 1-10 % 10 Mg/M3 6 Mg/M3 PROPERTY **MEASUREMENT** APPEARANCE DARK RED SOLID, POWDER DDDR HUSTY SPECIFIC GRAVITY (H20=1) 1.290 BULK DENSITY 38.00 LB/CU.FT. 7 PH SOLUBILITY IN WATER AT 20 DEG C. GMS/100HL H20 SOLUBLE BIODEGRADABILITY PERCENT VOLATILES EVAPORATION RATE(BUTYL ACETATE=1) N/A VAPOR DENSITY VAPOR PRESSURE (HMHG) N/A BOILING POINT(760 HHHG) N/A POUR POINT N/A FREEZE POINT SOLUBILITY IN SEAWATER > 600,000 PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED روب \* \* \* \* \* \* \* \* \* \* \* SECTION IV - FIRE AND EXPLOSION DATA \* \* \* \* \* \* \* \* \* \* \* \* NFPA(704) RATING: HEALTH 1 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE FLASH POINT N/A AUTOIGNITION TEMPERATURE ND סא FLANKABLE LIHITS (OZ. PER CU. FT.) LOWER N/D UPPER EXTINGUISHING HEDIA: USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. SPECIAL FIRE FIGHTING PROCEDURES: AVOID CREATING DUST CLOUDS WITH EXTINGUISHERS. UNUSUAL FIRE AND EXPLOSION HAZARDS: INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIDXIDE, CARBON HONOXIDE AND SULFUR OXIDES.

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

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       * * * * * * * * * 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: >3300 PPM (BROWN SHRIMP)
PRODUCT TLV: 10 MG/H3 (T); 5 MG/H3 (R)
------ EFFECTS OF EXPOSURE -------
ROUTES OF EXPOSURE:
   EYE OR SKIN CONTACT, INHALATION.
                                                                                           II M
EYE:
   DUST HAY CAUSE HILD EYE IRRITATION.
SKIN:
   ESSENTIALLY NON-IRRITATING.
INHALATION:
   MAY BE IRRITATING.
   TREAT AS NUISANCE DUST.
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 -----
   IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF
   IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION.
                                                                                            1
SKIN:
  PROMPTLY WASH SKIN WITH SOAP AND WATER. WASH CLOTHING BEFORE REUSE.
   IF IRRITATION DEVELOPS, SEEK PROMPT MEDICAL ATTENTION.
INHALATION:
  REHOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION,
INGESTION:
  DO NOT INDUCE VOHITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE.
  NEVER GIVE ANYTHING BY HOUTH 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:
                                                                                            11 1
  OXIDES OF SULFUR, CARBON DIOXIDE AND/OR CARBON HONOXIDE.
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:
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USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING

DUST.

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WHO IE UISPUSAL METHOD:
  IF NOT CONTAHINATED, 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 NORHALLY NECESSARY.
   TOXIC DUST/HIST RESPIRATOR.
VENTILATION:
   USE ONLY WITH ADEQUATE VENTILATION.
PROTECTIVE GLOVES:
   NORMAL WORK GLOVES.
EYE PROTECTION:
   GOGGLES OR SAFETY GLASSES.
OTHER PROTECTIVE EQUIPMENT:
   NORMAL WORK COVERALLS.
* * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * *
PRECAUTIONARY LABELING CFR-3 CEMENT FRICTION REDUCER DEFOAM
                                                             516.002950
   WARNING!
   CAUTION!
   IRRITATING TO THE EYES, SKIN AND RESPIRATORY SYSTEM.
   TREAT AS NUISANCE DUST.
   AIRBORNE DUST HAY 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.
   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.
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
8. 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
0. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS)
  CHEHICAL CONTAINS NO TOXIC INGREDIENTS
E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
   TSCA YES CEPA NE EEC N/D ACOIN N/D
                                               NPR NE
                                                          DRSH NE
H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261
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IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A HAZARDOUS WASTE

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE HANUFACTURER 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 HANY 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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HATERIAL SAFETY DATA SHEET HALLIBURTON ENERGY SERVICES DUNCAN, OKLAHOMA 73536 DATE: 12-30-97 REVISED DATE 01-17-96

EHERGENCY TELEPHONE: 405/251-4689 OR 405/251-3569 AFTER HOURS: 405/251-3760

AFTER HOURS: 405/251-3760 CHEMICAL CODE: GILSONITE(R) RESIN - BULK PART NUMBER: 516003370 PKG QTY: BULK APPLICATION: LOST CIRC & LT WT ADDITIVE SERVICE USED: CEMENTING \* \* \* \* \* \* \* \* \* \* \* \* \* SECTION II - COMPONENT INFORMATION \* \* \* \* \* \* \* \* \* \* \* PERCENT TLV NATURAL ASPHALT → 60 % 10 NG/H3 15 NG/H3 \* \* \* \* \* \* \* \* \* \* \* \* \* \* SECTION III - PHYSICAL DATA \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* PROPERTY HEASUREHENT APPEARANCE DARK-BROWN SOLID ODOR **ASPHALTIC** SPECIFIC GRAVITY (H20=1) 1.050 BULK DENSITY 65.55 L8/CU.FT. 5.8 SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 NIL BIODEGRADABILITY SLOWLY PERCENT VOLATILES EVAPORATION RATE (BUTYL ACETATE=1) N/A VAPOR DENSITY N/A VAPOR PRESSURE (NHHG) N/D BOILING POINT (760 HHHG) 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: REACTIVITY 1 HEALTH O FLAMMABILITY 1 SPECIAL NONE FLASH POINT 599 F / 315 C FLASH HTHD COC AUTOIGNITION TEMPERATURE ND ND FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER 0.020 UPPER EXTINGUISHING MEDIA: USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIDXIDE. 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.

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

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* * * * * * * * * * * * * * * 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 DETAILED STUDIES AVAILABLE UPON
                        REQUEST
PRODUCT TLV: 10 MG/H3 (N)
                                                                                           11
----- EFFECTS OF EXPOSURE -----
ROUTES OF EXPOSURE:
   EYE OR SKIN CONTACT, INHALATION.
   DUST MAY CAUSE A MECHANICAL IRRITATION TO THE EYES.
   MAY CAUSE HILD IRRITATION.
INHALATION:
   HAY BE IRRITATING.
INGESTION:
   NO DATA AVAILABLE
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:
                                                                                            # 11
   INNEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF
   IRRITATION PERSISTS, SEEK PROHPT MEDICAL ATTENTION.
   PROMPTLY WASH SKIN WITH SOAP AND WATER.
   REHOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK HEDICAL ATTENTION.
INGESTION:
   SO NOT INDUCE VONITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE.
   NEVER GIVE ANYTHING BY HOUTH TO AN UNCONSCIOUS PERSON. SEEK HEDICAL
   ATTENTION.
* * * * * * * * * * * * * SECTION VI - REACTIVITY DATA * * * * * * * * * * * * *
STABILITY: STABLE
CONDITIONS TO AVOID:
   NOT APPLICABLE.
INCOMPATIBILITY (MATERIALS TO AVOID):
   STRONG OXIDIZERS.
                                                                                             11 11
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. SWEEP UP AND REHOVE. AVOID CREATING OR INHALING
```

WASTE DISPOSAL METHOD:

IF NOT CONTAMINATED, REUSE PRODUCT.

DUST.

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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/HIST RESPIRATOR.
VENTILATION:
   USE ONLY WITH ADEQUATE VENTILATION.
PROTECTIVE GLOVES:
   NORMAL WORK GLOVES.
EYE PROTECTION:
   DUST PROOF GOGGLES.
OTHER PROTECTIVE EQUIPMENT:
   NORHAL WORK COVERALLS.
                                                                                             11 M
* * * * * * * * * * * * * * * SECTION IX ~ SPECIAL PRECAUTIONS * * * * * * * * * * *
PRECAUTIONARY LABELING GILSONITE(R) RESIN - BULK
                                                               516,003370
   CAUTION!
   MAY CAUSE IRRITATION TO THE EYES, SKIN OR RESPIRATORY SYSTEM.
   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.
* * * * * * * * * * * SECTION X - TRANSPORTATION INFORMATION * * * * * * * * * *
                                                                                              11 1
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 HIXTURE OR PURE MATERIAL: MIX
B. EPA - CERCLA/SUPERFUND, 40 CER 302 (REPORTABLE SPILL QUANTITY)
                        N/A
C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES)
   PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS
0. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS)
   CHEHICAL CONTAINS NO TOXIC INGREDIENTS
                                                                                               11 M
E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
   TSCA YES CEPA NE EEC N/D
                                   ACOIN N/O NPR NE ORSH NE
H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261
   IF PRODUCT BECOMES A WASTE, IT DOES NOT HEET 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 HANUFACTURER AND INDEPENDENT LABORATORIES, IT IS GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND CAN BE RELIED UPON. HALLIBURTON HAS NOT ATTEMPTED TO CONCEAL IN ANY WAY THE DELETERIOUS ASPECTS OF THE PRODUCT LISTED HEREIN, BUT MAKES NO WARRANTY AS TO SUCH. FURTHER, AS HALLIBURTON CANNOT ANTICIPATE NOR CONTROL THE MANY SITUATIONS IN WHICH THE LISTED PRODUCT OR THIS INFORMATION MAY BE USED BY OUR CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

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HATERIAL SAFETY DATA SHEET HALLIBURTON ENERGY SERVICES DUNCAN, OKLAHOMA 73536 DATE: 12-30-97 REVISED DATE 08-19-97

EHERGENCY TELEPHONE: 405/251-4689 OR 405/251-3569 AFTER HOURS: 405/251-3760

\* \* \* \* \* \* \* \* \* \* \* SECTION I - PRODUCT DESCRIPTION \* \* \* \* \* \* \* \* \* \* \* \* \* \* CHENICAL CODE: HALAD(R) 344 CEMENT ADDITIVE PART NUMBER: 516002270 PKG QTY: 50 LB BAG APPLICATION: FLUID LOSS ADDITIVE SERVICE USED: CEMENT \* \* \* \* \* \* \* \* \* \* \* \* \* \* SECTION II - COMPONENT INFORMATION \* \* \* \* \* \* \* \* \* \* \* PERCENT TLV PEL HODIFIED ACRYLAHIDE COPOLYMER → 60 % 10 MG/H3 15 MG/H3 PROPERTY **HEASUREHENT** APPEARANCE WHITE TO OFF-WHITE SOLID POWDER ODORLESS SPECIFIC GRAVITY (H20=1) 1.220 BULK DENSITY 26.00 LB/CU.FT. NOT DETERMINED SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20 SOLUBLE BIODEGRADABILITY N/D PERCENT VOLATILES (5 EVAPORATION RATE(BUTYL ACETATE=1) N/O VAPOR DENSITY N/A VAPOR PRESSURE (NMHG) N/O BOILING POINT (760 HMHG) N/D POUR POINT N/A FREEZE POINT N/A SOLUBILITY IN SEAWATER PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED \* \* \* \* \* \* \* \* \* \* \* SECTION IV---FIRE AND EXPLOSION DATA \* \* \* \* \* \* \* \* \* \* NFPA(704) RATING: HEALTH 1 FLAMMABILITY O REACTIVITY O SPECIAL NONE FLASH POINT AUTOIGNITION TEMPERATURE ND UN FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/D UPPER EXTINGUISHING MEDIA: USE HEDIA APPROPRIATE FOR SURROUNDING MATERIALS. SPECIAL FIRE FIGHTING PROCEDURES: AVOID CREATING DUST CLOUDS WITH EXTINGUISHERS. UNUSUAL FIRE AND EXPLOSION HAZARDS: \*

INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE, CARBON

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.

HONOXIDE AND NITROGEN OXIDES.

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CALIFORNIA PROPOSITION 65:
PRODUCT OR PRODUCT COMPONENTS ARE NOT REGULATED UNDER CALIF. PROPOSITION 65.
CARCINOGENIC DETERMINATION:
PRODUCT OR COMPONENTS ARE NOT LISTED AS A POTENTIAL CARCINOGEN
                 "NTP, IARC, OSHA, OR, ACIGH".
ACCORDING TO :
PRODUCT TOXICITY DATA: AQU TLM96; >3300 PPM(BROWN SHRIMP)
PRODUCT TLV: NOT ESTABLISHED
----- EFFECTS OF EXPOSURE -----
ROUTES OF EXPOSURE:
  EYE OR SKIN CONTACT, INHALATION.
  HAY CAUSE HILD IRRITATION,
SKIN:
  ESSENTIALLY NON-IRRITATING.
INHALATION:
   MAY BE IRRITATING.
   TREAT AS NUISANCE DUST.
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.
   PROMPTLY WASH SKIN WITH SOAP AND WATER. WASH CLOTHING BEFORE REUSE.
   IF IRRITATION DEVELOPS, SEEK PROMPT MEDICAL ATTENTION.
INHALATION:
  REHOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK HEDICAL ATTENTION,
INGESTION:
  DO NOT INDUCE VOKITING! IN GENERAL, NO TREATMENT IS NECESSARY UNLESS LARGE
  QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED.
STABILITY: STABLE
CONDITIONS TO AVOID:
  NOT APPLICABLE.
INCOMPATIBILITY (MATERIALS TO AVOID):
  NONE KNOUN.
HAZARDOUS DECOMPOSITION PRODUCTS:
  HITROGEN OXIDES, CARBON DIOXIDE AND/OR CARBON HONOXIDE.
HAZARO POLYHERIZATION: 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.
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WASTE DISPOSAL METHOD:

IF NOT CONTAMINATED, REUSE PRODUCT.

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

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OC: AFFRUVAL FROM LANDFILL, OPERATOR AND TRANSPORT TO SANITARY LANDFILL.
* * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * *
RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
   TOXIC DUST/HIST RESPIRATOR.
VENTILATION:
   USE ONLY WITH ADEQUATE VENTILATION.
PROTECTIVE GLOVES:
   NORMAL WORK GLOVES.
EYE PROTECTION:
   GOGGLES OR SAFETY GLASSES.
OTHER PROTECTIVE EQUIPMENT:
   NORHAL WORK COVERALLS.
* * * * * * * * * * * * * * * SECTION IX - SPECIAL PRECAUTIONS * * * * * * * * * * * *
PRECAUTIONARY LABELING HALAD(R) 344 CEMENT ADDITIVE
                                                                516.002270
   CAUTION!
   HAY CAUSE HILD IRRITATION TO EYES, SKIN AND THE 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
             PRESSURE: N REACTIVE: N
                                          ACUTE (IMMEDIATE): Y
   CHRONIC (DELAYED): N HIXTURE OR PURE HATERIAL: 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)
   CHEMICAL CONTAINS NO TOXIC INGREDIENTS
E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
   TSCA YES CEPA NE EEC NO ACOIN NO
                                                  NPR NE
                                                             DRSH NE
H. EPA - RCRA (HAZARDOUS WASTE), 40 CFR 261
   IF PRODUCT BECOMES A WASTE, IT DOES NOT MEET THE CRITERIA OF A
   HAZARBOUS WASTE
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THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE

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

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HATERIAL SAFETY DATA SHEET HALLIBURTON ENERGY SERVICES DUNCAN, OKLAHOKA 73536

DATE: 12-30-97 REVISED DATE 01-17-96

EMERGENCY TELEPHONE: 405/251-4689 OR 405/251-3569

AFTER HOURS: 405/251-3760

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

CHEMICAL CODE: HR-7 ADDITIVE

PART NUMBER: 890509030

PKG QTY: 50 LB BAG

APPLICATION: RETARDER & DISPERSANT

SERVICE USED: EMENTING

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

PERCENT TLV

PEL

MODIFIED LIGNOSULFONATE

UNK X 10 MG/M3 15 MG/M3

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

PROPERTY

HEASUREMENT

APPEARANCE

BLACK SOLID, POWDER

**HOLASSES-LIKE** 

SPECIFIC GRAVITY (H20=1)

1.410

BULK DENSITY

38.00 LB/CU.FT.

NOT DETERMINED

SOLUBILITY IN WATER AT

20 BEG C. GHS/100HL H20

FREELY

BIODEGRADABILITY

SLOULY

PERCENT VOLATILES

EVAPORATION RATE(BUTYL ACETATE=1) N/A

VAPOR DENSITY

VAPOR PRESSURE (HHHG)

N/D

BOILING POINT(760 HMHG) POUR POINT

N/A

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 O FLAMMABILITY 1

REACTIVITY 0

SPECIAL NONE

FLASH POINT

AUTOIGNITION TEMPERATURE

ND

FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/O

UPPER

EXTINGUISHING HEDIA:

USE WATER SPRAY, FOAH, DRY CHEMICAL, OR CARBON DIOXIDE. SPECIAL FIRE FIGHTING PROCEDURES:

AVOID CREATING DUST CLOUDS WITH EXTINGUISHERS.

FULL PROTECTIVE CLOTHING AND NIOSH/HSHA 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.

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

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HOUSEARCHING PROCEDURES ARE REQUIRED TO MINIMIZE THIS POTENTIAL HAZARD.
* * * * * * * * * * * * * * * 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".
                                                                                          11
PRODUCT TOXICITY DATA: AQU TLM96: >1000 PPM(BROWN SHRIMP)
PRODUCT TLV: NUISANCE: 10MG/M3(T)
 ----- EFFECTS OF EXPOSURE
ROUTES OF EXPOSURE:
  EYE OR SKIN CONTACT, INHALATION.
  MAY CAUSE HILD IRRITATION.
  ESSENTIALLY NON-IRRITATING.
INHALATION:
   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.
----- EHERGENCY AND FIRST AID PROCEDURES
  INHEDIATELY 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 PROHPT MEDICAL ATTENTION.
INHALATION:
   REHOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK HEDICAL ATTENTION,
INGESTION:
   DO NOT INDUCE VOHITING! IN GENERAL, NO TREATHENT IS NECESSARY UNLESS LARGE
  QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED.
* * * * * * * * * * * * * * SECTION_VI, - REACTIVITY DATA * * * * * * * * * * * * * * *
STABILITY: STABLE
CONDITIONS TO AVOID:
  NOT APPLICABLE.
HAZAROOUS DECOMPOSITION PRODUCTS:
  OXIDES OF SULFUR, CARBON DIOXIDE AND/OR CARBON HONOXIDE.
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.
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GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL.

WASTE DISPOSAL HETHOD:

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'* * * * * * * * * SECTION VIII - SPECIAL PROTECTION INFORMATION * * * * * * *
RESPIRATORY PROTECTION (USE NIOSH/HSHA APPROVED EQUIPHENT):
  NOT NORHALLY NECESSARY.
   TOXIC DUST/MIST RESPIRATOR.
VENTILATION:
  USE ONLY WITH ADEQUATE VENTILATION.
PROTECTIVE GLOVES:
  NORHAL WORK GLOVES.
EYE PROTECTION:
  GOGGLES OR SAFETY GLASSES.
OTHER PROTECTIVE EQUIPMENT:
  NORMAL WORK COVERALLS.
                                                                                 11 11
PRECAUTIONARY LABELING HR-7 ADDITIVE
                                                        890.509030
  CAUTION!
  HAY CAUSE HILD IRRITATION TO EYES, SKIN AND UPPER RESPIRATORY SYSTEM.
  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.
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OOT SHIPPING DESCRIPTION:
NOT RESTRICTED
* * * * * * * * * * SECTION XI - ENVIRONMENTAL EVALUATION * * * * * * * * *
EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION
  FIRE: N PRESSURE: N
                       REACTIVE: N ACUTE (INHEDIATE): Y
  CHRONIC (DELAYED): N
                       HIXTURE OR PURE MATERIAL: HIX
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)
  CHENICAL CONTAINS NO TOXIC INGREDIENTS
                                                                                    H M
E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
  TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE
                                                     DRSH 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

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.

11 1

11 19

. ...

PAGE

MATERIAL SAFETY DATA SHEET HALLIBURTON SERVICES DUNCAN, OKLAHOMA 73535

REVISED DATE 09-0

EMERGENCY TELEPHONE: 405/251-3565 OR 405/251-3569 AFTER HOURS: 405/251-3760

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

CHEMICAL CODE: SALT-CEMENT GRADE, BULK

PART NUMBER: 51600

PEL

EL PKG QTY: BULK

APPLICATION: ACCELERATOR

SERVICE USED: CEMENT

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

COMPONENT+ + + + + + + +

PERCENT TLV

SODIUM CHLORIDE

> 60 % 10 MG/M3 15 MG/M3

~ \* \* \* \* \* \* \* \* \* \* \* \* SECTION III ~ PHYSICAL DATA \* \* \* \* \* \* \* \* \*

PROPERTY

MEASUREMENT

APPEARANCE WHITE SOLID, CRYSTALLINE ODORLESS 2.165 SPECIFIC GRAVITY (H20#1) 71.00 LB/CU.FT. BULK DENSITY 5.2 FOR SAT SOL PH SOLUBILITY IN WATER AT 1 35.7 20 DEG C. GMS/100ML H20 N/A BIODEGRADABILITY PERCENT VOLATILES N/A EVAPORATION RATE(BUTYL ACETATE=1) N/A VAPOR DENSITY N/A N/D VAPOR PRESSURE (MMHG) BLILING POINT(760 MMHG) N/A POUR POINT N/A FREEZE POINT ... N/A SOLUBLE

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

NFPA(704) RATING:

SOLUBILITY IN SEAWATER

SPECIAL NONE HEALTH O FLAMMABILITY O REACTIVITY O

FLASH POINT

NONE

NO F /

AUTOIGNITION TEMPERATURE

NO F / NO C
FLAMMAGLE LIMITS (OZ. PER CU. FT.) LOWER N/O UPPER N/O <del></del>

E' 'NGUISHING MEDIA!

- USE MEDIA APPROPRIATE FOR SURROUNDING MATERIALS.

PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED

SPECIAL FIRE FIGHTING PROCEOURES:

NOT APPLICABLE.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

MOT APPLICABLE.

in the first term of the second of the second particles of the second of

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

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

IRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT): " HOT NORMALLY NECESSARY.

TOXIC DUST/MIST RESPIRATOR.

**VENTILATION:** 

USE ONLY WITH ADEQUATE VENTILATION.

PROTECTIVE GLOVES:

NORMAL WORK GLOVES.

مهران والمدر بمراوم ومدرات الأواري أحداثها والمعدورة والمع

EYE PROTECTION:

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

The same of the sa

PRECAUTIONARY LABELING SALT-CEMENT-GRADE, BULK

516.003150 -

CAUTION!

MAY CAUSE IRRITATION TO THE EYES, SKIN OR RESPIRATORY SYSTEM.

FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.

OTHER HANDLING AND STORAGE CONDITIONS:

STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY. REQUIRES COVERED STORA AVOID CREATING OR INHALING DUST.

CONTAINER DISPOSITION:

CONTAINER SHOULD BE TRANSPORTED WITH ALL CLOSURES IN PLACE AND RETURNED FOR REUSE.

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

': M

DOT SHIPPING DESCRIPTION: NOT RESTRICTED

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

EPA SUPERFUND(SARA) TITLE III - HAZARO CLASSIFICATION & ASSOCIATED INFORMATI 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
    TECA YES CEPA NE EEC YES ACOIN YES NPRINE 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 F VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT GIVEN WITHOUT WARRANTY OR REPRESENTATION THAT IT IS COMPLETE, ACCURATE AND C. 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 SELECTERIOUS ASPECTS OF THE 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 RESPONSIBILIT 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 EXPRESS

District II - (505) 748-1283 811 S. Fligt. Artesta, NM 88210 District III - (505) 334-6178 1000 Rio Brazos Road Aziec, NM 87410 District IV - (505) 827-7131

## Energy Minerals and Natural Resources Department Oil Conservation Division

2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

RECEIVED

NOV 2 6 2001

Submit Origi: Plus 1 Čc to appropri: District Off

Originated 8/8

Environmental Bureau

Division Division

REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: Non-Exempt: X	4. Generator Baker Atlas
Verbal Approval Received: Yes No No	5. Originating Site Hobbs Facility
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter unknown
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State NEW MEXICO
7. Location of Material (Street Address or ULSTR) 1718 S. Dal Pag	o Hobbs', NM 88240
9. <u>Circle One</u> :	
A. All requests for approval to accept oilfield exempt wastes will be accepted acceptator; one certificate per job.  B. All requests for approval to accept non-exempt wastes must be accepted acceptated and the Generator's certification listing or testing will be approved.	ompanied by necessary chemical analysis to
All transporters must certify the wastes delivered are only those consigned	for transport.
BRIEF DESCRIPTION OF MATERIAL:	•
The following analtyical results are from This waste is generated by the washing of tools. I have included a certificate of custody. Sundance would like approval tour Parabo Facility.	waste status and chain of
-	
Estimated Volume 500 665: cy Known Volume (to be entered by the op	perator at the end of the haul) cy
SIGNATURE & OMNE & CORL TITLE OFFICE	E MGR DATE: 11-5-01
TYPE OR PRINT NAME: DONNA L. ROACHH  TE	LEPHONE NO. 505-394-2511
(This space for State Use)	,,
APPROVED BY: Mallely TITLE: Environm	ental Engr. DATE: 11-15-01
APPROVED BY: Martyn g. St. TITLE: Environ	mental Geologist DATE: 11-26-01

## CERTIFICATE OF WASTE STATUS

, NON-EXEMPT WASTE MATERIAL

ORIGINATING LOCATION: Baker Atles Hobbs NM			
SOURCE Wash rack sump Holding tank			
DISPOSAL LOCATION: SUNDANCE SERVICES INC.			
As a condition of acceptance for disposal, I hearby certify that this waste is a non-exempt waste as defined by the Environmental Protection Agency's (EPA) July 1988 Regulatory Determination. To my knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 261 to verify the nature as non-hazardous. I further certify that to my knowledge no "hazardous or listed waste" pursuant to the provisions of 40 CFR, Part 261, Subparts C and D, has been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, Section 261.3.			
L the undersigned as the agent for Baker AHas concur with the status of the waste from the subject site.			
Name Jerry L. Antere			
Title/Angency Engineer In Charge			
Address 1718 5 Dal Paso 1-6565 NM 88246			
Signature 201			
Date 10-29-2001			

不以外 Company Name Project Manager. Sanapher - UPS - Bus - Other: Railinguished By: Project Location: FOR LAB WARGELY Project Name: TOTAL R Delivered By: (Circle One) 1-66-64 † Cardinal control accept verbal changes. Pleass hat written changes to 916-673-7828. TAB LD. ARDINAL LABORATORIES, INC. 2111 Beechwood, Abdens, TX 79803 50 (915) 673-7091 Fax (915) 673-7020 Sample LD. Project Owner: (D)RAB OR (C)OMP. ARY CONTANERS WASTEWATER MADRIX 101 East Marfand, Hobbs, NM 88240 (595) 383-2326 Fax (595) 393-2478 OL. SLUDGE OTHER : で見か S. S. R Company: PROME A Address: Y. O. DIX 1858 8 B ICE / COOL Z OTHER: AR GENCA BAMPLING TEME Personal Dives Dives Additional Fax & sessie Cives Dives ANALYSIS REQUEST ass in



PHONE (606) 383-2926 . 101 E. MARLAND . NOBER, MM 80240

**ANALYTICAL REBULTS FOR** BAKER ATLAS ATTN: JERRY ANTE 1718 8. DAL PASO HOBBS, NM 88240 FAX TO:

Receiving Date: 03/29/00 Reporting Date: 03/31/00 Project Owner, NOT GIVEN

Project Name: SUMP

Project Lecation: DAL PASO YARD

Lab Number: H4748-1 Sample ID: SUMP

Analysis Date: 03/30/00 Sampling Date: 09/29/00 Sample Type: SLUDGE

Semple Condition: COOL & INTACT

Sample Received By: AH/GP

Analyzed By: BC

A PERIOD NO 151: 476 TCLP SEMIVOLATILES (ppn	novi EPA	Sample Result	Method	]		True Velk
TCLP SEMIVOLATILES (ppn	n) LIMIT	H4748-1	G Mil Blank	, ac	% Recov.	Ø¢.
Pyridine	8.00	<0.020	≪0.008	0.004	8	0.050
1,4-Dichlorobenzene	7.50	′ <0.020	<0.00\$	0.037	74	0.050
o-Cresol	200	<0.020	<0.00€	0.023	90009999 <b>48</b>	0.050
n, p-Cresci	200	0.024	≪0.008	0.021	14 114 ju <b>42</b>	0.050
lesschloroethene	3.00	<0.020	<0.00€	0.038	72	0.050
Vitrobenzene	2.00	<0.020	<0.00€	0.040	60	0.050
lesechioro-1,3-butedione	0.500	<0.020	<0.00€	0,043	88	0.050
2,4,6-Trichlorophenol	2.00	<0.020	<0.005	0.048	98	0.050
2,4,8-Triohlorophenol	400	<b>₹0.02</b> 0	<0.005	0.049	98	0.050
1,4-Dinitrotoluens	0.130	<0.020	<b>&lt;</b> 0.005	0.050	100	0.050
koechicrobenzede	0.130	<b>&lt;0.020</b>	<0.005	0.059	118	0.050
entechlorophenol	100	<0.020	≪0.005	0.052	104	0.050
	- · · · · · · · ·	% RECOVERY				
Fluorophenoi		37		Company of the	出 网络写真	

	% recovery	
Fluorophanoi de la	37	County of the County Co
Phenol-d5	34	The part of the West how
Nitrobanzene-dő	81	Consider the sealing of the
2-Fluorobiphenyl	96	teneple the Salam Colors.
2,4,6-Tribromophenol	86	ារបស់ទៅនេះ មក បានជាមានប្រជាព
Terphenyi-d14	111	Transplant To CCC

METHODS: EPA SW 848-8270, 1311, 3510

PUBABLE NOTE: Limitity and Desiragos. Continuit's Establicy and about's establicy for any colon scholar, whiches bessed in contrast or both, about to the amount paid by obsert for enabyses. All chairs, including these for recipients and any other cause wherever shall be decoded waterd waterd waterd finding and possible within thirty (50) days when competition of the applicable control. In no event about to Continuit to indicated or consequential standards, including, because the interior and part of the particular of control horsester, by Continuit and Continuity (50) and the particular of control horsester, requirement of whether deep dates to the particular or otherwise.



PHONE (815) 678-7001 - 8111 BISCHWOOD PLABILENE, TX 79803

PHONE (805) 283-2326 - 101 E. MARLAND - HOSBE, NO 08240

ANALYTICAL RESULTS FOR BAKER ATLAS ATTN: JERRY ANTE 1718 S. DAL PASO HOBBS, NM 88240 FAX TO:

Receiving Dede: 03/29/00 Reporting Dete: 04/07/00 Project Number: NOT GIVEN

Project Name: 8UMP Project Location: DAL PASO YARD Sampling Date: 03/29/00 Sample Type: \$LUDGE

Sample Condition: COOL & INTACT

Sample Received By: AH/GP

Analyzed By: AH

TCLP METALS THE REPORTED THE REPORTED PRIKER BITLAS OH HORES NA Hg 8e F Cd LAB NO. SAMPLE ID Ag Ba ppm ppm ppm ppm ppm ppm ppm 04/07/00| 04/08/00| 04/08/00| 04/08/00| 04/08/00| 04/08/00| 03/30/00| 04/07/00 ANALYSIS DATE: 5 EPA LIMITS; 100 . . . . 5 0.3 .5 6 <0.1 H4748-1 SUMP CLEAN TO বা 4.822 6.002 0.0055 0.057 0.181 1,015 23.63 0.971 Quality Control 6.000 6,000 0.0080 0.050 True Value QC 0.200 1.000 25.00 1.000 114 100 92 % Recovery 91 102 4.0 0.2 Relative Standard Deviation 3.3 1.4 2.3 213.1 METHODS: EPA 1311, 600/4-91/ 208.1

Amy Hill

4/7/00

PLEABETHOT ESTABLISHED and Domington. Committee tablety and etermic estables remark for every dainy orders, includes because it in Entering to the state of the s



PHONE (609) 383-2329 • 101 (I. MARLAND • HORBE, NºM 88240

ANALYTICAL RESULTS FOR BAKER ATLAS ATTN: JERRY ANTE 1718 8. DAL PASO **HOBBS. NM 88240** 

FAX TO:

Receiving Date: 03/29/00 Reporting Date: 04/08/00

Project Owner: NOT GIVEN Project Nama: SUMP

Project Location: DAL PASO YARD

Sampling Date: 03/29/00

Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: AH/GP

Analyzed By: AH/BC

REACTIVITY

Cyanido CORROSIVITY IGNITABILITY (mogq)

(ppm) (Ha)

			fi		
ANALYSIS DATE:	04/04/00	04/04/00	04/07/00	04/07/00	
H4749-1 SUMP	Not reactive	Not reactive	7.43	>140	
[MAN] (1967年 1955年1973年)		grant, pod granty s	1961E + 101 <b>ELDA</b> T	KARN BUREL	
	<del></del>				
Quality Control	NR	NR	6.98	MR	
True Value QC	NR	NR	7,00	NR	
% Recovery	NR	NR	99.7	NR	
Relative Percent Difference	NR	NR	0	NR	

METHOD: EPA SW 846-7.3, 7.2, 1010, 1311, 40 CPR 261

100

14 725 等的基本需要提供。 HAME, MARK BANGET

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Charles \*\*\*

(State )

PLEASE NOTE: Linkship and December: Confirming and effects employee consider only delimenting, whether besed in market or both. Including the process of the



PHONE (805) 263-2939 . 101 E. MARLAND . HOBBE, NM 68240

ANALYTICAL RESULTS FOR BAKER ATLAS ATTN: JERRY ANTE 1718 8. DAL PASO HOBBS, NM 86240 FAX TO:

Receiving Date: 03/29/00 Reporting Date: 03/31/00 Project Owner: NOT GIVEN Project Nevne: BUMP

Project Lecetion: DAL PASO YARD

Lab Number: H4749-1 Sample ID: SUMP

Analysis Date: 03/30/00 Sempling Date: 03/29/00 Sample Type: SLUDGE

Sample Condition; COOL & INTACT

The state of the s

ing to the contraction of

11.5

Sample Received By: AH/GP

Analyzed By: BC

	to the second second second					
TCLP VOLATILES (ppm)	EPA:	Sample Result	Method	****** **** ** **** ****	on the ways	True Velue
TCLP VOLATILES (ppm)	LIMIT	H4749-1	Blank	, QC	%Recov.	ĞC
Vinyl Chloride	0.20	<0.005	<0.005	0.083	83	0,100
1,1-Dichlorosthytene	0.7	<0.005	<0.005	0.093	93	HO.900
Methyl Ethyl Ketone	200	<0.050	<0.050	0.087	87	0.100
Chloraform	6.0	<0.003	<0.005	0.097	977 Harris	0.100
1,2-Dichlorosthana	0.5	<0.005	<0.006	0.098	68	0.100
Benzeno	0.5	<0.006	<0.006	0.101	101	0.100
Cerbon Tetrachloride	0.8	<0.005	<0.008	0.101	101	0.100
Trichlorosthylens	0.6	0.015	<0.005	0.103	103	0.100
Tetrischlorosthylene	0.7	<0.006	<0.005	0,103	103	0,100
Chlorobenzene	100	<0.005	₹0.005	0.100	100	0,100
1,4-Dichlorobenzene	7.6	<0.005	<0.005	0,100	100	0.100

% RECOVERY

	77 77 70 70 70 70 70 70 70 70 70 70 70 7		
Dibromofluoromethane	89		
Toluene-d8	100	11 (環境的)	
Bromofluorobenzene	92	The state of the s	

METHODS: EPA SW 648-8260, 1311

PLEASE NOTE: Lieutity and Demogras. Cuminos's liebity and clearly exclusive remody for any othin string, whether based in contrast or tax, shall be limited to the amount point by client for area. All clears, including those for registrous and ony other course whethered or he apply client made in mixing and created by Cordinal within thiny (20) days client completion of the apply client in no event shall Cordinal by fights by inclaimed or consequential demogras, including, without firstbook, business transporters, focus of profits incurred by client, his substance or successors arising out of an extend to the performance of polytical hallouries by Cordinal, Regulates of Washington to be seed upon any of the above-stated reasons or otherwise.

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

### Linerals and Natural Resources Department

Oil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

RECEIVED

Submit Plus to app Distric

Originate

(505) 827-7131 OCT 2 2007

REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
REQUEST FOR APPROVAL TO ACCEPT  1. RCRA Exempt: Non-Exempt: 🔯	DIVISION 4. Generator NHALLIBURTON
Verbal Approval Received: Yes No No	5. Originating Site HOBBS FACI
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter CHAPARRAL
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State NEW MEXICO
7. Location of Material (Street Address or ULSTR) 5801 Lovinto	n HWy Hobbs, NM 88240
9. <u>Circle One</u> :	
A. All requests for approval to accept oilfield exempt wastes will be accept accept; one certificate per job.  B. All requests for approval to accept non-exempt wastes must be accept. PROVE the material is not-hazardous and the Generator's certification listing or testing will be approved.	companied by necessary chemical analysis
All transporters must certify the wastes delivered are only those consigned	d for transport.
BRIEF DESCRIPTION OF MATERIAL:	
The following waste is generated by the washing o	of tools and oil
equipment. This analytical is from Halliburtons	Hobbs facility.
Sundance would like approval to acppet this waste	e into our Parabo facility.
Estimated Volume 300 bbls cy Known Volume (to be entered by the o	perator at the end of the haul)
SIGNATURE: Waste Management Facility Authorized Agent  Waste Management Facility Authorized Agent	E MGR DATE 10-1-01
TYPE OR PRINT NAME: DONNA L. ROACHH	LEPHONE NO
SSIDONNA@ AOL.Com	
(This space for State, Use)	
APPROVED BY: Millelling TITLE Consider	mental Elisa DATE: 10-15-01
APPROVED BY: Month of Mr. TITLE: Invision	who locationist DATE: 10-23-81

:5053927062 # 2/

## CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATC	PR: Halliburton
ADDRESS: 580	1 Lovington Hwy
GENERATING SITE:	Hobbs Yard
	COUNTY Lea STATE NM
TYPE OF WASTE:V	Vash Rack Grit
ESTIMATED VOLUME:	300,000 lbs.
GENERATING PROCES	S: Wash Rack Sumps
REMARKS:	
NMOCD FACILITY:	Sundance
TRUCKING FACILITY:	Chaparral
as defined by the Environm To my knowledge, this was verify the nature as non-har waste" pursuant to the prov	the for disposal, I hereby certify that this waste is a non-exempt waste tental Protection Agency's (EPA) July 1988 regulatory Determination, the will be analyzed pursuant to the provisions of 40 CFR Part 261 to teardous. I further certify that to my knowledge "hazardous of listed isions of 40 CFR, Part 261, subparts C and D, has not been added or to make the resultant mixture a "hazardous waste" pursuant to the ions 2613.
AGENT:	Sold Hayn
NAME:	Eddie Hopper PRINTED
ADDRESS:	5801 Lovington Hwy Hobbs, NM 88240
DATE:	10//01

† Cardinal cannot accept vertual changes. Please fax written changes to 606-193-2476.

\*

	÷ ១៩៦	
Company Name: HALL : ALL B-ALL CALCALL C. P. L. L. P. L. L. P. L. L. L. C. P. L.	TO ANALYSIS REQUEST	
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OLUNGTO	M A	
HOCOS State: ON 20er 8894		
Project हैं,	177.	*
rmp	#2	
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POR LAB UM ONLY	SAMPLING	
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ne private describerations of the expression of the communication of the communication of the communication of the expression of the expression of the communication of the communication of the expression of the communication of the communic	n) energy or year or the second of the secon	the originates of back.
Sampley Relinquished.  Sampley Relinquished.  1.7.7.7.1.7.1.7.1.7.1.7.1.7.1.7.1.7.1	these goods bearing a few-flat.  Figure Result.: Dives Div. And Prices 8: For Results: Dive Div.	
	2	05/
Refinquished by: (Lab Staff)	1-1001 - commerces	5
Time: AWARTHA	PALL -1	77 30
Delivered By: (Circle One) Condition	(Anthous)	27733
	1	こくのこく



PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 58240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON **6801 LOVINGTON HWY.** HOBBS, NM-88240 FAX TO:

Receiving Date: 12/12/00 Reporting Date: 12/14/00 Project Number: NOT-GIVEN Project Name: WASHBAY SUMP Project Location: HOBBS YARD Sample ID: WASHBAY SLUDGE

Lab Number; H5422-1

1,4-Dichlorobenzene

Analysis Date: 12/13/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

0.100

Sample Received By: BC

Analyzed By: BC

and the second of the second s	EPA	Sample Result	Method			True Value
TCTE AOPULTES (bbm)	LINIT	" 1 <del>15422-</del> 1	Blank	TENTO TOC	%Recov.	i ac
Vinyl Chloride	0.20	<0.005	<0.005	0.108	108	0.100
1,1-Dichloroethylene	0.7	<0.005	<0.006	0.089	89	0.100
Methyl Ethyl Ketone	200	<0.050	<0.050	0.083	83	0,100
Chloroform	6.0	<0.005	<0.005	0.089	.89	0.100
1,2-Dichloroethane	0.5	<0.005 ·	<0.005	0.087	87	0.100
Banzene	0.5	<0.006	<0.005	0.088	88	0.100
Carbon Tetrachionide	0.5	<0.005	<0.005	0.092	92	0.100
Trichloroethylene	0.5	<0.005	<0.005	0.091	91	0.100
Tetrachloroethylene	0.7	<b>✓0.005</b>	<0,005	0.099	99	0.100
Chiorobenzene	100	<0.006	<0.006	0.094	94	0.100

% RECOVERY

Dibromofluoromethane	95
Toluene-d8	91
Bromofluorobenzene	98

METHODS: EPA SW 846-8260, 1311

<0.005

PLEASS NOTE: Liebility and Disnogers. Cardinars liability and client's excussive remody for any claim arising, whether passed in contract or fort, shall be limited to the smount paid by client for Arisiyees. At claims, including those for regispence and any other completion of the approaches In no event shall Condinal de libbio for incutontal or consequential dumages, incutaing, without limitetion, business interruptions, loss of use, or ross of profits incurred by client, its subsidictales, some arraing out of or related to the performance of sorvices hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or othorwise.



PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240 FAX TO:

Receiving Date: 12/12/00 Reporting Date: 12/18/00 Project Number: NOT GIVEN Project Name: WASHBAY SUMP Project Location: HOBBS YARD

Analysis Date: 12/16/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

14-77-500 655 ) \* LABINUMBER SAMPLE ID

From-HALLIBURTON HOBBS

ТРН (mg/Kg)

H5422-1	WASHBAY SLUDGE		77300
	(1975년) (1974년) (1974년)		
	<u> </u>		* * ***********************************
Quality Control			
True Value QC			228 240
% Recovery		-	95.0
Relative Percent	Difference		4.0

METHOD: EPA 600/4-79-020 418.1

H5422T.XLS

PLEASE NOTE: CLIDBURY and compages. Continues a manage and compage and compage of continues made in writing and received by Cardinal within thirty (30) days after complosion or the applicable sorvice. In no event shall Cardinal be label for incidental or consequential camages, including, without imitation, business interruptions, loss of use, or lost of profits incurred by client, its subordiance. allitates or successors arising out of or regulard to the performance of services hereunder by Cardinal, regardess of whether such claim is based upon any of the above-stated reasons or otherwise.

PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240 FAX TO:

Method

<0.005

<0.005

<0.005

Receiving Date: 12/12/00
Reporting Date: 12/14/00
Project Number: NOT GIVEN
Project Name: WASHBAY SUMP
Project Location: HOBBS YARD
Semple ID: WASHBAY SLUDGE

Analysis Date: 12/13/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

92

90

True Value

0.050

0.050

0.050

Sample Received By: BC Analyzed By: BC

0.046

0.045

0.047

Lab Number: H5422-1

2.4-Dinitrotoluene

Hexachlorobenzene

Pentachlorophenol

TOTA SEMINOLATIFES (bbi	m) ········LIMUT(	33 <b>H5422-1</b>	Blankijo	Bas SAs <b>GC</b>	% Recov.	i-loc
Pyridine	5.00	<0.020	<0.005	0.011	22	0.050
1;4-Dichlorobenzene	7.50	<0.020	<0.005	0.024	48	0.050
o-Cresol	200	<0.020	<0.005	0.033	66	0.050
m, p-Cresol	200	<0.020	<0.005	0.033	66	0.050
Hexachloroethane	3.00	,<0.020	<0.005	0.021	42	0.050
Nitrobenzene	2.00	<0.020	<0.005	0.034	68	0.050
Hexachioro-1,3-butadiene	0.500	<0,020	<0.005	0,026	52	0.050
2,4,6-Trichlorophenol	2.00	<0.020	<0.005	0.040	80	0.050
2,4,5-Trichlorophenol	400	<0.020	<0.005	0.048	92	0.050

<0.020

< 0.020

<0.020

Sample Result

% RECOVERY

	<u> </u>
Fluorophenol	56
Phenol-d5	40
Nitrobenzene-d5	104
2-Fluorobiphenyl	68
2,4,6-Tribromophenol	89
Terphenyl-d14	81

100

0.130

0.130

METHODS: EPA SW 848-8270, 1311, 3610

Burgess U. A. Cooke, Ph. D.

12/14/00

Date

PLEASE NOTE: Liability and Demages. Cardinal's abbility and client's exclusive remoty for any claim arising, whether based in contract or for., shall be limited to the amount peid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequents camages, including, without limitation, business interruptions, loss of use, or loss of profus incurred by client, as subsidiaries or successors arising out of or related to the performance of terrinder by Cardinal, regardless of whether such claim is based upon any of the above-exact or choners.

HALLIBURTON ENERGY SERVICES

ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240

FAX TO:

Receiving Date: 12/12/00 Reporting Date: 12/18/00 Project Number: NOT GIVEN

Project Name: WASHBAY SUMP Project Location: HOBBS YARD

Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT Sample Received By: BC

Analyzed By: AH/BC

REACTIVITY

12-25 Garage ALAB NUMBER SAMPLE ID 11 18 12 25

Sulfide (ppm)

Cyanide CORROSIVITY IGNITABILITY

(mag)

(pH)

(°F)

ANALYSIS I	DATE:	12/14/00	12/14/00	12/16/00	12/16/00
H5422-1	WASHBAY	Not reactive	Not reactive	7.65	Nonflammable
	SLUDGE				
		ा चलायः व्यवस्			17 L 15
<u> </u>		<u> </u>		- 1.	<u> </u>
Quality Con	trol	NR.	NR NR	7.03	NR
True Value	QC	NR	NR	7.00	NR
% Recovery	1	NR	NR	100	IINR
Relative Pe	rcent Difference	NR.	NR	0.1	NR

METHOD: EPA SW 846-7.3, 7.2, 1030 (proposed), 1311, 40 CFR 261

District II.; (505) 748-1283 811 S. First Artesia, NM 88210 District III - (505) 334-6178 1000 Rio Brazos Road

# Cil Conservation Division 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

Originated 8/8

Submit Orig Plus 1 C to appropr District Of

ec, NM 87410 stics IV · (505) 827-7131	
REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: Non-Exempt: 🔀	4. GeneratorElectric Submersib
Verbal Approval Received: Yes No No	PUMP  5. Originating Site Hobbs Yard
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter unknown
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State_ NEW MEXICO
7. Location of Material (Street Address or ULSTR) 8426 N. Dal Pas	o Hobbs, NM 88241
9. <u>Circle One</u> :	. Ei
B) All requests for approval to accept non-exempt wastes must be accept PROVE the material is not-hazardous and the Generator's certification listing or testing will be approved.  All transporters must certify the wastes delivered are only those consigned.	on of origin. No waste classified hazardous b
BRIEF DESCRIPTION OF MATERIAL:	
The following analytical results are from Pump's Hobbs facility. This waste is gooff of oil field rental tools. All equathe sump and pumped to a waste water takin a bermed area. I have attached a centain of custody.  Would like approval to accept this mate facility.	enerated by the washing ipment is washed into nk outside the building rtificate of waste and Sundance
Estimated Volume 240 bbls. cy Known Volume (to be entered by the o	perator at the end of the haul) ————————————————————————————————————

(This space for State 1056)
APPROVED BY:

APPROVED BY

TITLE: EUNINON MENTAL Ensurer DATE: 9-26-01

MILE Duean Chief

DATE: 10/2/01

# CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

	THE LASO HUMBS DE BOX40
OILFIELD RIN	SATE
SUNDANCE SER	VICES, PARABO FACILITY,
CE NM 88231	
te is a non—example tal Protection Agenom. To my knowled the provisions of 40 n—hazardous. I fur to "hazardous or list f 40 CPR, Part 261, and with the waste s	r disposal, I hearby certify t waste as defined by the tey's (HPA) July 1988 Regulatory ige, this waste will be analyzed CFR Part 261 to verify the other certify that to my led waste pursuant to the Subparts C and D, has been to as to make the resultant cruant to the provisions of 40
the agent for s waste from the su	ESP ESP
	der die.
Name	Rodrigo Burrila
Title/Angency	ESP
Address	8426 N DAL PASO
	HOBBS NM 88240_
Signature	Kodrigo Burrola
Date	9-25-00
	SUNDANCE SER  CE NM 88231  on of acceptance for the is a non-example tal Protection Ager on. To my knowled the provisions of 40 n-hazardous. I fur to "hazardous or list f 40 CFR, Part 261, ted with the waste is azardous waste" pur the agent for a waste from the su  Name  Title/Angency  Address  Signature

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

AR 211	ARDINAL LABORATORIES, INC. 2111 Beechwood, Abliene, TX 79603 101 E	101 East Mariand, Hobbs, NM 88240	lobbs, NM 88240		Page
!	(915) 573-7001 Fax (915) 573-7020	1	(808) 393-2476		3
Company Kame:	Wood Group ESP		7		
Project Manager:	Kadajo		Company:		
Address OTAGO	Capacity (M.)	1 Mzp: 88240	Aune		
Phone # 505	792. 7999 Fax #	0	Address:		
Deviland fi	Project		C#y:		
Project Name:			Starbe: Zipx		
project ( protion:			Phone #:		
Campler Harne.			Tinc #		
Sempler reside.		MATRIX	DRESERVI SAMPLING	***	
ATHO THE BET BOTA		A.			
Lab I.D.	Sample LD.	GRABORICX CONTAINERS GROUNDWATE WASTEWATER SOIL CRUDE OIL SLUDGE	OTHER: ACID/BASE: ICE/COOL OTHER:	TCLF	
H6/3/-1	test Water	X	12/1/2/		
TARREST STATE OF	to only from the last term where the property of the party last terms are the party last terms and the party last terms are the party last terms a	the state of the s		typild by No deed in the allow amphishment it in capitalists by alone, its autochimies,	Tenny and Candinase being all to despet to it destants rates the being years as it is not all the play for trans to mente played also it trained and all costs of estimators, brinding attempts but.
Sampler Redirique	Surviva Time:	Received By: (Lab Starf)		Phone Result: DYes D Fax Result: DYes D REMARKS:	TRG   Add Pinone #:
Defivered By: (Circle One)  3ampler - UPS - Bus - Other:	(Circle One) Bus - Other:		(In Make)		

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to 805-393-2478.



### PHONE (505) 393-2326 . 101 E MARLAND . HOBBS, NM 86240

ANALYTICAL RESULTS FOR WOOD GROUP ESP ATTN: RODRIGO-BURROLA 8426 N. DAL PASO HOBBS, NM 88240 FAX TO: (505) 392-8190

Receiving Date: 09/04/01 Reporting Date: 09/05/01 Project Number: NOT GIVEN Project Name: NOT GIVEN Project Location: NOT GIVEN Lab Number: H6128-1 Analysis Date: 09/04/01 Sampling Date: 09/04/01 Sample Type: WASTEWATER Sample Condition: COOL & INTACT Sample Received By: BC

Analyzed By: BC

Sample ID: TEST WATER

	EPA	Sample Resuit	Method			True Value
TCLP VOLATILES (ppm)	LIMIT	H6128-1	Blank	QC	%Reçov.	QC
Viny! Chloride	0.20	<0.005	<0.005	0.106	106	0.100
1,1-Dichloroethylene	0.7	<0.005	<0.005	0.092	92	0.100
Methyl Ethyl Ketone	200	<0.050	<0.050	0.115	115	0.100
Chloroform	6.0	<0.005	<0.005	0.091	91	0.100
1,2-Dichloroethane	0.5	<0.005	<0.005	880.0	88	0.100
Benzene	0.5	0.011	<0.005	0.096	96	0.100
Carbon Tetrachloride	0.5	<0.005	<0.005	0.090	90	0.100
Trichloroethylene	0.6	0.104	<0.005	0.098	98	0.100
Tetrachloroethylene	0.7	<0.005	<0.005	0.084	84	0.100
Chlorobenzene	100	<0.005	<0.005	0.098	96	0.100
1,4-Dichlorobenzene	7.5	<0.005	<0.005	0.089	89	. 0.100

		,
"∕6	RECOVERY	

Dibromofluoromethane	103
Toluene-d8	111
Bromofluoroberizene	108

METHODS: EPA SW 846-8260, 1311

Burgess J. A. Cooke, Ph. D.

7/ 2/01

PLEASE NOTE: Liability and Danages. Cordinal's liability and client's exclusive remady for any clean arising, whether lacent in contract or ton, shall be limited to the execut point by client for needly sea, including those for negligence and any other cause whethere shall be deemed unless made in writing and received by Cardinal within thiny (30) days other correction of the operation service. In no seems that Cordinal be liable for included or consequential demandes, including, without limitation, business interruptions, business, or loss of use, or



PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR WOOD GROUP ESP

ATTN: RODRIGO BURROLA

8426 N. DAL PASO HOBBS, NM 88240 FAX TO: (505) 392-8190

Receiving Date: 09/04/01
Reporting Date: 09/11/01
Project Number: NOT GIVEN
Project Name: NOT GIVEN
Project Location: NOT GIVEN
Lab Number: H6128-1
Sample ID: TEST WATER

Extraction Date: 09/04/01
Analysis Date: 09/10/01
Sampling Date: 09/04/01
Sample Type: WASTEWATER
Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

TCLP SEMIVOLATILES (ppm)	EPA LIMIT	Sample Result H6128-1	Method Blank	QC	% Recov.	True Value QC
Pyridine	5.00	<0.020	<0.005	0.006	12	0.050
1,4-Dichlorobenzene	7.50	<0.020	<0.005	0.028	56	0.050
o-Cresol	200	<0.020	<0.005	0.036	72	0.050
m, p-Cresal	200	<0.020	<0.005	0.036	72	0.050
Hexachloroethane	3.00	< 0.020	<0.005	0.024	48	0.050
Nitrobenzene	2.00	<0.020	<0.005	0.044	88	0.050
Hexachloro-1,3-butadiene	0.600	< 0.020	<0.005	0.029	58	0.050
2,4,6-Trichlorophenol	2.00	<0.020	<0.005	0.043	86	0.050
2,4,5-Trichlorophenol	400	<0.020	<0.005	0.042	84	0.050
2,4-Dinitrotoluene	0.130	<0.020	<0.005	0.046	92	0.050
Hexachlorobenzene	0.130	<0.020	<0.005	0.047	94	0.050
Pentachlorophenol	100	<0.020	<0.005	0.051	102	0.050

% RECOVERY

Fluorophenal	36
Phenol-d5	24
Nitrobenzene-d5	75
2-Fluorobiphenyl	59
2,4,6-Tribromophenol	39
Terphenyl-d14	75

METHODS: EPA SW 848-8270, 1311, 3510

Date

PLEASE NOTE: Unbittly and Damegers. Clariflant's listifity and client's sucquisite sprayly for any claim arising, whather based in contract or tort, small bit limited to the amount paid by client for smallyses.

An including those for negligence and any other cause whathoused shall be described and until a major received by Conditional string (30) days after compliance or it is applicable service. In no event shall Candidate be labtle for incidental or consequenced damages, including, without interests interruptions, late of use, or loss of profile incurred by stant, it is substituted, without the string out of or related to the performance of services hereunder by Cardinel, regardless of shadair such client is based upon any of the above-stated measure or sevensias.



PHONE (505) 383-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR WOOD GROUP ESP ATTN: RODRIGO BURROLA 8426 N. DAL PASO HOBBS, NM 88240

FAX TO: (505) 392-8190

Receiving Date: 09/04/01
Reporting Date: 09/07/1
Project Number: NOT GIVEN

Project Name: NOT GIVEN
Project Location: NOT GIVEN

Sampling Date: 09/04/01

Sample Type: WASTEWATER Sample Condition: COOL & INTACT

Sample Received By: BC Analyzed By: AH/BC

### REACTIVITY

(ppm)

LAB NUMBER SAMPLE ID

Sulfide (ppm)

Cyanide CORROSIVITY IGNITABILITY

(pH)

(°F)

ANALYSIS DATE:	09/05/01	09/05/01	09/05/01	09/06/01
H6128-1	Not reactive	Not reactive	7.17	>140
Quality Control	NR	NR	6.94	NR
True Value QC	NR	NR	7.00	NR
% Recovery	NR	NR	99.1	NR
Relative Percent Difference	NR	NR	0.7	NR

METHOD: EPA SW 846-7.3, 7.2, 1010, 1311, 40 CFR 261

Chemist Hotel Contra

Date

PLEASE NOTE: Liability and Desingue. Certifinate inchility and client's would be remarkly to key califf arture, whether besed in contract or lost, abasi be limited to the amount paid by client for analyses. At cashes, including those for negligence and any other cause whetherward stade be desired, even uniting and received by Certifinal within their (50) days either competition of the applicable cannot be facilitied by facilities better for including, including, without limitation, business interruptions, loss of use, or loss of profile including carried according to the performance of services hardwards of contract reasons or otherwise.



PHONE (505) 383-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR WOOD GROUP ESP ATTN: RODRIGO BURROLA 8426 N. DAL PASO HOBBS, NM 88240 FAX TO: (505) 392-8190

Receiving Date: 09/04/01 Reporting Date: 09/07/01 Project Number: NOT GIVEN Project Name: NOT GIVEN Project Location: NOT GIVEN

Sampling Date: 09/04/01 Sample Type: WASTEWATER Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: AH

### TCLP METALS

LAB NO.	SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb mqq	Hg ppm	Şe ppm
ANALYSIS [	DATE:	09/08/01	09/07/01	09/07/01	09/07/01	09/07/01	09/07/01	09/07/01	09/06/01
EPA LIMITS		5	5	100	1	5	5	0.2	1
H6128-1	TEST WATER	<1	<1	<5	<0.1	<1	<1	<0.02	<0.1
					-				
Quality Con	itrol	0.048	4.530	21.90	0.994	4.878	5.062	0.0107	0.199
True Value	QC	0.050	5.000	25.00	1.000	5.000	5.000	0.0100	0.200
% Recovery		96.0	90.6	87.6	99.4	97.6	101	107	99.5
Relative Sta	andard Deviation	2.2	0.2	<del></del>		0.9			2.2
METHODS:	EPA 1311, 600/4-79	206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2

Chernist

Date

H6128MXLS

PLEASE MOTE: Liability and Demagns. Continue's liability and offent's executive remaily for any claim arising, whether based in contract or tort, shall be limited to the emount paid by claim for any claim arising and required by Cardinals within thinly (30) days after completion of the applicable service. In no event multi-cardinal passed by claim a state of interest or consistency of the emount of the applicable. In no event multi-cardinal set state for interest or consequential damages, including, without invalents, business interestings, or loss of profile incurred by claim, at submitteries, stiffsates or aucressors arising out of or related to the performance of services hereundar by Cardinals, regardees of whether such claim is based upon any of the above-stated resource or enterings.

Hobbs, NM 88241-1980 District II - (505) 748-1283 841 S. First Artesia, NM 88210 District III - (505) 334-6178 1000 Rio Brazos Road Aztec, NM 87410 District IV - (505) 827-7131

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

Submir Ph

DATE:

Lorm A Originat

to ap Distr

REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
i. RCRA Exempt: Non-Exempt: X	4. Generator DATETRIBUTION
• 1021003 • 1021003	11711 II LOOK LOOK
Verbal Approval Received: Yes No No	5. Originating Site HOBBS FACI
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter UNKNOWN
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State NEW MEXICO
7. Location of Material (Street Address or ULSTR) 5801 LOVING	ron hyhobbs, n.m. 88240
9. <u>Circle One</u> :	
A. All requests for approval to accept oilfield exempt wastes will be accommon Generator; one certificate per job.  B. All requests for approval to accept non-exempt wastes must be accommon PROVE the material is not-hazardous and the Generator's certification listing or testing will be approved.	companied by necessary chemical analys
All transporters must certify the wastes delivered are only those consigned	d for transport.
BRIEF DESCRIPTION OF MATERIAL:	
The attached MSDS is for sand mixed at Hall This material becomes a waste when ther is material jobs. Sundance would like approval to accept Parabo Disposal Facility.	al left over from sand
Note: This is an ongoing waste stream.	RECEIVED
Franced Volume 200 vds - Volume (a base of the same Volume (a baba) (a base of the same Volume (a base of the same Volume (a base	AIIG 1 6 2001  Environmental Bureau Oil Conservation Division
Estimated Volume 200 yds cy Known Volume (to be entered by the op	perator at the end of the haul)
SIGNATURE: OFFICE Wasse Management Facility Authorized Agent TYPE OR PRINT NAME: DONNA L. ROACHH TE	DATE: 7-27-6/ LEPHONE NO. 505-394-2511
	Minis yang sa North park tong ang timbang sa Komang sing makapatang kapatang pangalan na kapatang ang sa sa sa North San
APPROVED BY: TITLE: Sur	20 Chaf DATE 8/20/0
APPROVED BY:	DATE:

# CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANT/GENERATOR	:	
ADDRESS: 580	1 Lovington Hwy Hobbs, NM	
GENERATING SITE:	HES	
COUNTY <u>Lca</u> TYPE OF WASTE: Sei	_STATE_NM_ nter-Bauxite 12/40 Resin Coated	Sand
,	4,000 lbs.	
GENERATING PROCESS	Unused on job	- (
REMARKS:		
NMOCD FACILITY:	Sundance	
TRUCKING FACILITY: _	Hes	
as defined by the Environmen To my knowledge, this waste verify the nature as non-hazari waste" pursuant to the provisi	for disposal, I hereby certify that this waste is a tal Protection Agency's (EPA) July 1988 regul will be analyzed pursuant to the provisions of 4 dous. I further certify that to my knowledge "hons of 40 CFR, Part 261, subparts C and D, has make the resultant mixture a "hazardous waste" is 2613.	atory Determination.  O CFR Part 261 to azardous of listed not been added or
AGENT: _	SIGNATURE	
NAME:	Eddie Hopper PRINTED	
ADDRESS: _	5801 Lovington Hwy., Hobbs, NM	88240
DATE:	5/24/01	



### MATERIAL SAFETY DATA SHEET

**SAND - BROWN** 

**Revision Date:** 

06/06/2000

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** 

SAND - BROWN

Synonyms:

None

**Chemical Family:** 

Not determined

Manufacturer/Supplier

Halliburton Energy Services

P.O. Box 1431

Duncan, Oklahoma 73536-0431

Emergency Telephone: (800) 666-9260 or (713) 676-3000

**Prepared By** 

**Product Stewardship** 

Telephone: 1-580-251-4335

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

ACGIH TLV-TWA

**OSHA PEL-TWA** 

Substance

Weight Percent (%)

Crystalline silica, quartz

60 - 100%

0.05 mg/m3

0.1 mg/M3

### 3. HAZARDS IDENTIFICATION

### **Hazard Overview**

May cause eye irritation. Potential carcinogen. May cause delayed injury to lungs.

### 4. FIRST AID MEASURES

### Inhalation

14808-60-7

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Skin

Wash with soap and water. Get medical attention if irritation persists.

### Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

### Ingestion

Get immediate medical attention.

### Notes to Physician

Not Applicable

### 5. FIRE FIGHTING MEASURES

Flash Point/Range (F): Not Determined Flash Point/Range (C): Not Determined Not Determined Flash Point Method: **Autoignition Temperature (F):** Not Determined **Autoignition Temperature (C):** Not Determined Flammability Limits in Air - Lower (%): Not Determined Flammability Limits in Air - Lower (oz./ft3): Not applicable Flammability Limits in Air - Upper (%): Not Determined Flammability Limits in Air - Upper (oz./ft3): Not applicable

### Fire Extinguishing Media

All standard firefighting media.

### **Special Exposure Hazards**

Not applicable.

### Special Protective Equipment for Fire-Fighters

Not Determined

**NFPA Ratings:** 

Health 1, Flammability 0, Reactivity 0

**HMIS Ratings:** 

Not Determined

### 6. ACCIDENTAL RELEASE MEASURES

### **Personal Precautionary Measures**

Use appropriate protective equipment. Avoid creating and breathing dust.

### **Environmental Precautionary Measures**

None known.

### Procedure for Cleaning/Absorption

Scoop up and remove.

### 7. HANDLING AND STORAGE

### **Handling Precautions**

Avoid creating or inhaling dust.

Storage Information

### 8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Engineering Controls**

Use in a well ventilated area. Localized ventilation should be used to control dust levels.

### Respiratory Protection

In high concentrations, supplied air respirator or a self-contained breathing apparatus. Dust/mist respirator.

### **Hand Protection**

Cloth gloves.

### **Skin Protection**

Normal work coveralls.

### **Eye Protection**

Wear safety glasses or goggles to protect against exposure.

### **Other Precautions**

Not Determined

### PHYSICAL AND CHEMICAL PROPERTIES

Solid **Physical State:** Color: Brown

Odor: **Odorless** 

pH: Not Determined

Specific Gravity @ 20 C (Water=1): 2.65

Density @ 20 C (lbs./gallon): Not Determined

Bulk Density @ 20 C (lbs/ft3): 94

**Boiling Point/Range (F):** Not Determined **Boiling Point/Range (C):** Not Determined Not Determined Freezing Point/Range (F): Freezing Point/Range (C): Not Determined Vapor Pressure @ 20 C (mmHg): Not Determined Vapor Density (Air=1): Not Determined **Percent Volatiles:** Not Determined Evaporation Rate (Butyl Acetate=1): Not Determined

Solubility in Water (g/100ml): insoluble Not Determined Solubility in Solvents (g/100ml): Not Determined Solubility in Sea Water (g/100ml): Not Determined VOCs (lbs./gallon):

Viscosity, Dynamic @ 20 C

(centipoise): Not Determined

Viscosity, Kinematic @ 20 C

Not Determined (centistrokes): Partition Coefficient/n-Octanol/Water: Not Determined Molecular Weight (g/mole): Not Determined

### 10. STABILITY AND REACTIVITY

**Stability Data:** Stable

**Hazardous Polymerization:** Will Not Occur

### **Conditions to Avoid**

None known.

### Incompatibility (Materials to Avoid)

Hydrofluoric acid.

### **Hazardous Decomposition Products**

None known.

### **Additional Guidelines**

Not Applicable

### 11. TOXICOLOGICAL INFORMATION

### **Principle Route of Exposure**

Eye contact. Inhalation. Skin contact.

### Inhalation

May cause silicosis, which reduces lung function. The lung damage can lead to heart problems.

### **Skin Contact**

None known.

### **Eye Contact**

Dust may cause irritation and inflammation.

### Ingestion

None known

### **Aggravated Medical Conditions**

Respiratory

### **Chronic Effects/Carcinogenicity**

Contains crystalline silica which may cause a delayed, progressive lung disease (silicosis). The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica.

### Other Information

None known.

### **Toxicity Tests**

**Oral Toxicity:** 

Not determined.

**Dermal Toxicity:** 

Not determined

Inhalation Toxicity:

Not determined

**Primary Irritation Effect:** 

Not determined

Carcinogenicity

Not determined

**Genotoxicity:** 

Not determined

Reproductive/Developmental

### 12. ECOLOGICAL INFORMATION

### Mobility (Water/Soil/Air)

Not determined

### Persistence/Degradability

Not determined

### Bio-accumulation

Not Determined

### **Ecotoxicological Information**

Acute Fish Toxicity:

Not determined

Acute Crustaceans Toxicity:

Not determined

Acute Algae Toxicity:

Not determined

### **Chemical Fate Information**

Not determined

### Other Information

Not applicable

### 13. DISPOSAL CONSIDERATIONS

### **Disposal Method**

Bury in a licensed landfill according to federal, state, and local regulations. If not contaminated, reuse product.

### **Contaminated Packaging**

Empty container completely. Transport with all closures in place. Return for reuse or disposal in a sanitary landfill according to national or local regulations.

### 14. TRANSPORT INFORMATION

### **Land Transportation**

DOT

Not restricted

Canadian TDG

Not restricted

**ADR** 

Not restricted

### Air Transportation

ICAO/IATA

### Sea Transportation

**IMDG** 

Not restricted

### Other Shipping Information

Labels:

None

### 15. REGULATORY INFORMATION

### **US Regulations**

### **US TSCA Inventory**

All components listed on inventory.

### **EPA SARA Title III Extremely Hazardous Substances**

Not applicable

### EPA SARA (311,312) Hazard Class

Acute Health Hazard Chronic Health Hazard

### **EPA SARA (313) Chemicals**

This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).

### EPA CERCLA/Superfund Reportable Spill Quantity For This Product

Not applicable.

### **EPA RCRA Hazardous Waste Classification**

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

### California Proposition 65

The California Proposition 65 regulations apply to this product.

### MA Right-to-Know Law

One or more components listed.

### NJ Right-to-Know Law

One or more components listed.

### PA Right-to-Know Law

One or more components listed.

### **Canadian Regulations**

### Canadian DSL Inventory

All components listed on inventory.

### 16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS Not applicable

### **Additional Information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Product Stewardship at 1-580-251-4335.

### **Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

\*\*\*END OF MSDS\*\*\*



### MATERIAL SAFETY DATA SHEET

SAND - WHITE

**Revision Date:** 

06/06/2000

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** 

SAND - WHITE

Synonyms:

None

Chemical Family:

Not determined

Manufacturer/Supplier
Halliburton Energy Services

P.O. Box 1431

Duncan, Oklahoma 73536-0431

Emergency Telephone: (800) 666-9260 or (713) 676-3000

Prepared By

**Product Stewardship** 

Telephone: 1-580-251-4335

2. COMPOSITION/INFORMATION ON INGREDIENTS

ACGIH TLV-TWA OSHA PEL-TWA

<u>Substance</u>

Weight Percent (%)

Crystalline silica, quartz

14808-60-7

60 - 100%

0.05 mg/m3

0.1 mg/M3

### 3. HAZARDS IDENTIFICATION

### **Hazard Overview**

May cause eye irritation. Potential carcinogen. May cause delayed injury to lungs.

### 4. FIRST AID MEASURES

### Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Skin

Wash with soap and water. Get medical attention if irritation persists.

### Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

### Ingestion

Get immediate medical attention.

### Notes to Physician

Not Applicable

### 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):

Not Determined

Flash Point/Range (C):

Not Determined

Flash Point Method:

Not Determined

Autoignition Temperature (F):

Not Determined

Autoignition Temperature (C):

Not Determined

Flammability Limits in Air - Lower (%):

Not Determined

Flammability Limits in Air - Upper (%):

Not Determined

### Fire Extinguishing Media

All standard firefighting media.

### **Special Exposure Hazards**

Not applicable.

### Special Protective Equipment for Fire-Fighters

Not Determined

NFPA Ratings:

Health 1, Flammability 0, Reactivity 0

**HMIS Ratings:** 

Not Determined

### 6. ACCIDENTAL RELEASE MEASURES

### **Personal Precautionary Measures**

Use appropriate protective equipment. Avoid creating and breathing dust.

### **Environmental Precautionary Measures**

None known.

### Procedure for Cleaning/Absorption

Scoop up and remove.

### 7. HANDLING AND STORAGE

### **Handling Precautions**

Avoid creating or inhaling dust.

### Storage Information

Store in a cool, dry location.

### **EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Engineering Controls**

Use in a well ventilated area. Localized ventilation should be used to control dust levels.

### **Respiratory Protection**

In high concentrations, supplied air respirator or a self-contained breathing apparatus. Dust/mist respirator.

Solid

Not Determined

### **Hand Protection**

Cloth gloves.

### Skin Protection

Normal work coveralls.

### **Eve Protection**

Wear safety glasses or goggles to protect against exposure.

### Other Precautions

Not Determined

### PHYSICAL AND CHEMICAL PROPERTIES

Physical State:

White Color: **Odorless** Odor:

pH: Not Determined

Specific Gravity @ 20 C (Water=1): 2.65

Density @ 20 C (lbs./gallon): Not Determined

Bulk Density @ 20 C (lbs/ft3): 100

**Boiling Point/Range (F):** Not Determined **Boiling Point/Range (C):** Not Determined Freezing Point/Range (F): Not Determined Freezing Point/Range (C): Not Determined Vapor Pressure @ 20 C (mmHg): Not Determined

Vapor Density (Air=1): Not Determined

**Percent Volatiles:** 

Not Determined Evaporation Rate (Butyl Acetate=1):

Solubility in Water (g/100ml): Insoluble Not Determined Solubility in Solvents (g/100ml): Solubility in Sea Water (g/100ml): Not Determined

VOCs (lbs./gallon):

Viscosity, Dynamic @ 20 C Not Determined (centipoise):

Viscosity, Kinematic @ 20 C

(centistrokes): Not Determined Partition Coefficient/n-Octanol/Water: Not Determined

Molecular Weight (g/mole):

### 10. STABILITY AND REACTIVITY

**Stability Data:** Stable

**Hazardous Polymerization:** Will Not Occur

**Conditions to Avoid** 

None known.

### Incompatibility (Materials to Avoid)

Hydrofluoric acid.

### **Hazardous Decomposition Products**

None known.

### **Additional Guidelines**

Not Applicable

### 11. TOXICOLOGICAL INFORMATION

### **Principle Route of Exposure**

Eye contact. Inhalation. Skin contact.

### Inhalation

May cause silicosis, which reduces lung function. The lung damage can lead to heart problems.

### **Skin Contact**

None known.

### **Eye Contact**

Dust may cause irritation and inflammation.

### Ingestion

None known

### **Aggravated Medical Conditions**

Respiratory

### Chronic Effects/Carcinogenicity

Contains crystalline silica which may cause a delayed, progressive lung disease (silicosis). The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica.

### Other Information

None known.

**Toxicity Tests** 

**Oral Toxicity:** 

Not determined.

**Dermal Toxicity:** 

Not determined

Inhalation Toxicity:

Not determined

**Primary Irritation Effect:** 

Not determined

Carcinogenicity
Not determined

Genotoxicity:

Not determined

Reproductive/Developmental

Toxicity:

Not determined

### 12. ECOLOGICAL INFORMATION

### Mobility (Water/Soil/Air)

Not determined

### Persistence/Degradability

Not applicable

### Bio-accumulation

Not Determined

### **Ecotoxicological Information**

Acute Fish Toxicity:

Not determined

Acute Crustaceans Toxicity:

Not determined

Acute Algae Toxicity:

Not determined

### Chemical Fate Information

Not determined

### Other Information

Not applicable

### 13. DISPOSAL CONSIDERATIONS

### **Disposal Method**

Bury in a licensed landfill according to federal, state, and local regulations. If not contaminated, reuse product.

### **Contaminated Packaging**

Empty container completely. Transport with all closures in place. Return for reuse or dispose in a sanitary landfill according to national or local regulations.

### 14. TRANSPORT INFORMATION

### **Land Transportation**

DOT

Not restricted

Canadian TDG

Not restricted

**ADR** 

Not restricted

### Air Transportation

ICAO/IATA

Not restricted

### Sea Transportation

**IMDG** 

Not restricted

### Other Shipping Information

Labels:

None

### 15. REGULATORY INFORMATION

### **US Regulations**

### **US TSCA Inventory**

All components listed on inventory.

### **EPA SARA Title III Extremely Hazardous Substances**

Not applicable

### EPA SARA (311,312) Hazard Class

Acute Health Hazard Chronic Health Hazard

### **EPA SARA (313) Chemicals**

This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).

### EPA CERCLA/Superfund Reportable Spill Quantity For This Product

Not applicable.

### **EPA RCRA Hazardous Waste Classification**

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

### California Proposition 65

The California Proposition 65 regulations apply to this product.

### MA Right-to-Know Law

One or more components listed.

### NJ Right-to-Know Law

One or more components listed.

### PA Right-to-Know Law

One or more components listed.

### Canadian Regulations

### Canadian DSL Inventory

All components listed on inventory.

### 16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS Not applicable

### **Additional Information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Product Stewardship at 1-580-251-4335.

### **Disclaimer Statement**

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\*\*\*END OF MSDS\*\*\*



### **MATERIAL SAFETY DATA SHEET**

### INTERPROP I PROPPANT

**Revision Date:** 

03/21/2000

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** 

INTERPROP | PROPPANT

Synonyms:

None

Chemical Family:

Manufacturer/Supplier

Not determined

Halliburton Energy Services

P.O. Box 1431

Duncan, Oklahoma 73536-0431

Emergency Telephone: (800) 666-9260 or (713) 676-3000

Prepared By

**Product Stewardship** 

Telephone: 1-580-251-4335

<b> 2</b> .	COMPO	SITION/IN	FORMATION	ON INGREDIENTS
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	ACGIH TLV-TWA Weight		OSHA PEL-TWA
Substance			
	Percent (%)		
Sintered bauxite 1318-16-7	60 - 100%	Not applicable	Not applicable
	60 - 100%	Not applicable	15 mg/M3
Proprietary Component			
Aluminum oxide	10 - 30%	10 mg/m3	15 mg/M3
1344-28-1			
Iron oxide	1 - 5%	5 mg/m3	10 mg/M3
1309-37-1			
Silica, amorphous fused	1 - 5%	0.1 mg/m3	5 mg/M3
60676-86-0			
Titanium dioxide 13463-67-7	1 - 5%	10 mg/m3	15 mg/M3

### 3. HAZARDS IDENTIFICATION

**Hazard Overview** 

May cause eye and respiratory irritation. Potential carcinogen. May cause delayed injury to lungs.

### 4. FIRST AID MEASURES

### Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

### Skin

Wash with soap and water. Get medical attention if irritation persists.

### Eves

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

### Ingestion

Get immediate medical attention.

### **Notes to Physician**

Not Applicable

### 5. FIRE FIGHTING MEASURES

Flash Point/Range (F): Not Determined Flash Point/Range (C): Not Determined Flash Point Method: Not Determined Autoignition Temperature (F): Not Determined Autoignition Temperature (C): Not Determined Flammability Limits in Air - Lower (%): Not Determined Flammability Limits in Air - Lower (oz./ft3): Not applicable Not Determined Flammability Limits in Air - Upper (%): Flammability Limits in Air - Upper (oz./ft3): Not applicable

### Fire Extinguishing Media

All standard firefighting media.

### **Special Exposure Hazards**

Not applicable.

### Special Protective Equipment for Fire-Fighters

Not Determined

**NFPA Ratings:** 

Not Determined

**HMIS Ratings:** 

Not Determined

### 6. ACCIDENTAL RELEASE MEASURES

### **Personal Precautionary Measures**

Use appropriate protective equipment. Avoid creating and breathing dust.

### **Environmental Precautionary Measures**

None known.

### Procedure for Cleaning/Absorption

Scoop up and remove.

### HANDLING AND STORAGE

### **Handling Precautions**

Not Determined

### Storage Information

Store in a cool, dry location.

### **EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Engineering Controls**

Use in a well ventilated area. Localized ventilation should be used to control dust levels.

### **Respiratory Protection**

Dust/mist respirator.

### **Hand Protection**

Cloth gloves.

### **Skin Protection**

Normal work coveralls.

### **Eye Protection**

Dust proof goggles.

### Other Precautions

Not Determined

### PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Solid Color: Dark brown Odor: Odorless

pH: Not Determined

Specific Gravity @ 20 C (Water=1): 3.17

Density @ 20 C (lbs./gallon): Not Determined

Bulk Density @ 20 C (lbs/ft3): 114

Boiling Point/Range (F): Not Determined Boiling Point/Range (C): Not Determined Freezing Point/Range (F): Not Determined Freezing Point/Range (C): Not Determined Vapor Pressure @ 20 C (mmHg): Not Determined Vapor Density (Air=1): Not Determined **Percent Volatiles:** Not Determined Evaporation Rate (Butyl Acetate=1): Not Determined Solubility in Water (g/100ml): insoluble

Solubility in Solvents (g/100ml): Not Determined Solubility in Sea Water (g/100ml): Not Determined VOCs (lbs./gallon): Not Determined

Viscosity, Dynamic @ 20 C

(centipoise):

Viscosity, Kinematic @ 20 C

(centistrokes): Not Determined

Not Determined

Partition Coefficient/n-Octanol/Water: Molecular Weight (g/mole):

Not Determined

228.1

### 10. STABILITY AND REACTIVITY

Stability Data:

Stable

Hazardous Polymerization:

Will Not Occur

**Conditions to Avoid** 

None anticipated

Incompatibility (Materials to Avoid)

None known.

**Hazardous Decomposition Products** 

None known.

**Additional Guidelines** 

Not Applicable

### 11. TOXICOLOGICAL INFORMATION

### **Principle Route of Exposure**

Eye contact. Inhalation. Skin contact.

### Inhalation

May cause respiratory irritation. May cause silicosis, which reduces lung function. The lung damage can lead to heart problems.

### Skin Contact

None known.

### **Eye Contact**

Dust may cause irritation and inflammation.

### Ingestion

Not determined

### **Aggravated Medical Conditions**

Respiratory

### Chronic Effects/Carcinogenicity

Contains crystalline silica which may cause a delayed, progressive lung disease (silicosis). The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica.

### Other Information

None known.

**Toxicity Tests** 

**Oral Toxicity:** 

Not determined.

**Dermal Toxicity:** 

Not determined

Page 4 of 7

Inhalation Toxicity:

Not determined

**Primary Irritation Effect:** 

Not determined

Carcinogenicity
Not determined

Genotoxicity:

Not determined

Reproductive/Developmental

Toxicity:

Not determined

### 12. ECOLOGICAL INFORMATION

### Mobility (Water/Soil/Air)

Not determined

### Persistence/Degradability

Not applicable

### Bio-accumulation

Not Determined

### **Ecotoxicological Information**

Acute Fish Toxicity:

Not determined

Acute Crustaceans Toxicity:

Not determined

Acute Algae Toxicity:

Not determined

### **Chemical Fate Information**

Not determined

### Other Information

Not applicable

### 13. DISPOSAL CONSIDERATIONS

### **Disposal Method**

Bury in a licensed landfill according to federal, state, and local regulations. If not contaminated, reuse product.

### **Contaminated Packaging**

Empty container completely. Transport with all closures in place. Return for reuse or dispose in a sanitary landfill according to national or local regulations.

### 14. TRANSPORT INFORMATION

### **Land Transportation**

DOT

Not restricted

Canadian TDG

Not-restricted						
ADR .						
Not restricted						
Air Transportation						
CAO/IATA						
Not restricted						
Sea Transportation						
MDG						
Not restricted						
Other Shipping Information						
Labels: None						
15. REGULATORY INFORMATION						
US Regulations						
US TSCA Inventory All components listed on inventory.						
EPA SARA Title III Extremely Hazardous Substances Not applicable						
EPA SARA (311,312) Hazard Class Acute Health Hazard						
EPA SARA (313) Chemicals This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372: Aluminum Oxide//1344-28-1						
EPA CERCLA/Superfund Reportable Spill Quantity For This Product Not applicable.						
EPA RCRA Hazardous Waste Classification f product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.						

INTERPROP I PROPPANT
Page 6 of 7

California Proposition 65
All components listed do not apply to the California Proposition 65 Regulation.

MA Right-to-Know Law
One or more components listed.

NJ Right-to-Know Law
One or more components listed.

PA Right-to-Know Law
One or more components listed.

# Canadian Regulations

Canadian DSL Inventory
All components listed on inventory.

WHMIS Hazard Class
D2B Toxic Materials

# 16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS Not applicable

#### **Additional Information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Product Stewardship at 1-580-251-4335.

#### **Disclaimer Statement**

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\*\*\*END OF MSDS\*\*\*



# **MATERIAL SAFETY DATA SHEET**

# SUPER LC PROPPANT

**Revision Date:** 

06/06/2000

# 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** 

SUPER LC PROPPANT

Synonyms:

None

**Chemical Family:** 

Not determined

Manufacturer/Supplier Halliburton Energy Services

P.O. Box 1431

Duncan, Oklahoma 73536-0431

Emergency Telephone: (800) 666-9260 or (713) 676-3000

Prepared By

Product Stewardship

Telephone: 1-580-251-4335

# COMPOSITION/INFORMATION ON INGREDIENTS

**ACGIH TLV-TWA OSHA PEL-TWA** 

Substance

Weight

Percent (%)

Phenol / formaldehyde resin

1 - 5%

Not applicable

Not applicable

9003-35-4

**ACGIH TLV-TWA** 

OSHA PEL-TWA

Substance

Weight

Percent (%)

Crystalline silica, quartz

60 - 100%

0.05 mg/m3

0.1 mg/M3

14808-60-7

HAZARDS IDENTIFICATION

# **Hazard Overview**

May cause eye and respiratory irritation. Potential carcinogen. May cause delayed injury to lungs. May cause allergic skin and respiratory reaction.

# 4. FIRST AID MEASURES

#### Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult

#### Skin

Wash with soap and water.

#### Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

#### Ingestion

Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

#### Notes to Physician

Not Applicable

# 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):

Not Determined

Flash Point/Range (C):

Not Determined

Flash Point Method:

Not Determined Not Determined

Autoignition Temperature (F): Autoignition Temperature (C):

Not Determined

Flammability Limits in Air - Lower (%):

Not Determined

Flammability Limits in Air - Lower (%): Flammability Limits in Air - Upper (%):

Not Determined

#### Fire Extinguishing Media

All standard firefighting media.

# **Special Exposure Hazards**

Decomposition in fire may produce toxic gases.

#### Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**NFPA Ratings:** 

Health 1, Flammability 0, Reactivity 0

**HMIS Ratings:** 

Not Determined

# 6. ACCIDENTAL RELEASE MEASURES

#### **Personal Precautionary Measures**

Use appropriate protective equipment. Avoid creating and breathing dust.

#### **Environmental Precautionary Measures**

None known.

#### Procedure for Cleaning/Absorption

Scoop up and remove.

#### 7. HANDLING AND STORAGE

#### Handling Precautions

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust.

#### Storage Information

Store in a cool, dry location.

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Engineering Controls**

Use in a well ventilated area, Localized ventilation should be used to control dust levels.

#### **Respiratory Protection**

Dust/mist respirator.

#### **Hand Protection**

Impervious rubber gloves.

# **Skin Protection**

Normal work coveralls.

#### **Eye Protection**

Wear safety glasses or goggles to protect against exposure.

#### Other Precautions

Not Determined

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Color: Light to dark yellow Odor: Saddle soap

pH: Not Determined

Specific Gravity @ 20 C (Water=1): 2.61

Density @ 20 C (lbs./gallon): Not Determined

Bulk Density @ 20 C (lbs/ft3): 99.8

Boiling Point/Range (F):

Boiling Point/Range (C):

Freezing Point/Range (F):

Freezing Point/Range (C):

Vapor Pressure @ 20 C (mmHg):

Vapor Density (Air=1):

Percent Volatiles:

Evaporation Rate (Butyl Acetate=1):

Not Determined

Not Determined

Not Determined

Evaporation Rate (Butyl Acetate=1): Not Determine Solubility in Water (g/100ml): Insoluble

Solubility in Solvents (g/100ml):

Solubility in Sea Water (g/100ml):

Not Determined Not Determined Not Determined

Viscosity, Dynamic @ 20 C

(centipoise): Not Determined

Viscosity, Kinematic @ 20 C

(centistrokes): Not Determined Partition Coefficient/n-Octanol/Water: Not Determined Molecular Weight (g/mole): Not Determined

# 10. STABILITY AND REACTIVITY

Stability Data;

Stable

Hazardous Polymerization:

Will Not Occur

#### **Conditions to Avoid**

None anticipated

#### Incompatibility (Materials to Avoid)

Hydrofluoric acid.

#### **Hazardous Decomposition Products**

Carbon monoxide. Ammonia. Formaldehyde.

#### **Additional Guidelines**

Not Applicable

# 11. TOXICOLOGICAL INFORMATION

# **Principle Route of Exposure**

Eye contact. Inhalation. Skin contact.

#### Inhalation

May cause allergic respiratory reaction. Coughing, chest pains, and breathing difficulty may occur. May cause silicosis, which reduces lung function. The lung damage can lead to heart problems.

#### **Skin Contact**

None known. This product contains ingredients which may produce an allergic skin reaction. It should be treated as a skin sensitizer.

#### **Eye Contact**

Dust may cause irritation and inflammation.

# Ingestion

None known

# **Aggravated Medical Conditions**

Skin disorders. Eye ailments.

#### **Chronic Effects/Carcinogenicity**

Contains crystalline silica which may cause a delayed, progressive lung disease (silicosis). The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica. Formaldehyde, a suspected carcinogen, is released when heated.

#### Other Information

None known.

**Toxicity Tests** 

**Oral Toxicity:** 

Not determined.

**Dermal Toxicity:** 

Not determined

Inhalation Toxicity:

Not determined

Primary Irritation Effect:

Not determined

Carcinogenicity

Not determined

Genotoxicity:

Not determined

Reproductive/Developmental

Toxicity:

Not determined

# 12. ECOLOGICAL INFORMATION

# Mobility (Water/Soil/Air)

Not determined

# Persistence/Degradability

Not determined

#### Bio-accumulation

Not Determined

#### **Ecotoxicological Information**

Acute Fish Toxicity:

Not determined

Acute Crustaceans Toxicity:

Not determined

Acute Algae Toxicity:

Not determined

#### **Chemical Fate Information**

Not determined

#### Other Information

Not applicable

# 13. DISPOSAL CONSIDERATIONS

#### **Disposal Method**

Bury in a licensed landfill according to federal, state, and local regulations. If not contaminated, reuse product.

#### **Contaminated Packaging**

Empty container completely. Transport with all closures in place. Return for reuse or dispose in a sanitary landfill according to national or local regulations.

# 14. TRANSPORT INFORMATION

# **Land Transportation**

DOT

Not restricted

Canadian TDG

Air Transportation	1
ICAO/IATA	
Not restricted	
Sea Transportatio	n
IMDG	
Not restricted	
Other Shipping In	formation
Labels:	None
15. REGULATOR	YINFORMATION
US Regulations	
US TSCA Inventory All components listed o	n inventory.
EPA SARA Title III Ex Not applicable	tremely Hazardous Substances
EPA SARA (311,312) H Acute Health Hazard Chronic Health Hazard	łazard Class
EPA SARA (313) Cher This product does not o CFR 372).	micals contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40
EPA CERCLA/Superfu Not applicable.	and Reportable Spill Quantity For This Product
EPA RCRA Hazardous	s Waste Classification aste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

Not\_restricted

Not restricted

ADR

California Proposition 65
The California Proposition 65 regulations apply to this product.

MA Right-to-Know Law

One or more components listed.

NJ Right-to-Know Law

One or more components listed.

PA Right-to-Know Law

One or more components listed.

# Canadian Regulations

Canadian DSL Inventory
All components listed on inventory.

WHMIS Hazard Class
D2A Very Toxic Materials

# 16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS Not applicable

### **Additional Information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Product Stewardship at 1-580-251-4335.

#### **Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

\*\*\*END OF MSDS\*\*\*



# **MATERIAL SAFETY DATA SHEET**

#### **ACFRAC PRB PROPPANT**

**Revision Date:** 

06/06/2000

# 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** 

**ACFRAC PRB PROPPANT** 

Synonyms:

None

**Chemical Family:** 

Not determined

Manufacturer/Supplier

Halliburton Energy Services

P.O. Box 1431

Duncan, Oklahoma 73536-0431

Emergency Telephone: (800) 666-9260 or (713) 676-3000

Prepared By

**Product Stewardship** 

Telephone: 1-580-251-4335

# COMPOSITION/INFORMATION ON INGREDIENTS

Substance	Weight Percent (%)	ACGIH TLV-TWA	OSHA PEL-TWA
Crystalline silica, quartz 14808-60-7	60 - 100%	0.05 mg/m3	0.1 mg/M3
Phenol / formaldehyde resin 9003-35-4	1 - 5%	Not applicable	Not applicable

# HAZARDS IDENTIFICATION

#### **Hazard Overview**

May cause eye, skin and respiratory irritation. Potential carcinogen. May cause delayed injury to lungs. May cause allergic skin and respiratory reaction.

# FIRST AID MEASURES

#### Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes

difficult.

#### Skin

Wash with soap and water.

#### Eves

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

#### Ingestion

Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

#### Notes to Physician

Not Applicable

# 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):

Flash Point/Range (C):

Flash Point Method:

Autoignition Temperature (F):

Autoignition Temperature (C):

Flammability Limits in Air - Lower (%):

Flammability Limits in Air - Upper (%):

Not Determined

Not Determined

Not Determined

Not Determined

#### Fire Extinguishing Media

All standard firefighting media.

#### Special Exposure Hazards

Decomposition in fire may produce toxic gases.

#### **Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

NFPA Ratings:

Health 1, Flammability 0, Reactivity 0

**HMIS Ratings:** 

Not Determined

# 6. ACCIDENTAL RELEASE MEASURES

#### **Personal Precautionary Measures**

Use appropriate protective equipment. Avoid creating and breathing dust.

#### **Environmental Precautionary Measures**

None known.

#### Procedure for Cleaning/Absorption

Scoop up and remove.

# 7. HANDLING AND STORAGE

#### **Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust.

#### Storage Information

Store in a cool, dry location.

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Engineering Controls**

Use in a well ventilated area. Localized ventilation should be used to control dust levels.

# **Respiratory Protection**

HEPA Respirator. Dust/mist respirator.

#### **Hand Protection**

Impervious rubber gloves.

#### Skin Protection

Normal work coveralls.

#### **Eye Protection**

Dust proof goggles.

#### Other Precautions

Not Determined

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Color: Brown-black

Odor: Odorless

pH: Not Determined

Specific Gravity @ 20 C (Water=1): 2.53

Density @ 20 C (lbs./gallon): Not Determined

Bulk Density @ 20 C (lbs/ft3): 99.8

Boiling Point/Range (F):

Boiling Point/Range (C):

Freezing Point/Range (F):

Freezing Point/Range (C):

Vapor Pressure @ 20 C (mmHg):

Vapor Density (Air=1):

Percent Volatiles:

Not Determined

Not Determined

Not Determined

Evaporation Rate (Butyl Acetate=1): Not Determined Solubility in Water (g/100ml): Insoluble

Solubility in Solvents (g/100ml):

Solubility in Sea Water (g/100ml):

Not Determined Not Determined Not Determined

Viscosity, Dynamic @ 20 C

(centipoise): Not Determined

Viscosity, Kinematic @ 20 C

(centistrokes):Not DeterminedPartition Coefficient/n-Octanol/Water:Not DeterminedMolecular Weight (g/mole):Not Determined

#### 10. STABILITY AND REACTIVITY

Stability Data:

Stable

**Hazardous Polymerization:** Will Not Occur Conditions to Avoid None anticipated Incompatibility (Materials to Avoid) Hydrofluoric acid. **Hazardous Decomposition Products** Carbon dioxide. Silicon dioxide. Aldehydes. Additional Guidelines Not Applicable TOXICOLOGICAL INFORMATION **Principle Route of Exposure** Eye contact. Inhalation. Skin contact. Inhalation May cause allergic respiratory reaction. May cause silicosis, which reduces lung function. The lung damage can lead to heart problems. **Skin Contact** This product contains ingredients which may produce an allergic skin reaction. It should be treated as a skin sensitizer. May cause skin irritation. **Eye Contact** May cause eye irritation. Ingestion Not determined **Aggravated Medical Conditions** Respiratory **Chronic Effects/Carcinogenicity** Contains crystalline silica which may cause a delayed, progressive lung disease (silicosis). The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica. Other Information None known. **Toxicity Tests** Not determined. **Oral Toxicity:** 

**Dermal Toxicity:** 

Not determined

Inhalation Toxicity:

Not determined

**Primary Irritation Effect:** 

Not determined

Carcinogenicity
Not determined

ദ	nn	tas	ric	itv:
ьe	110	w	UU	ILV.

Not determined

# Reproductive/Developmental

Toxicity:

Not determined

# 12. ECOLOGICAL INFORMATION

# Mobility (Water/Soil/Air)

Not determined

# Persistence/Degradability

Not applicable

# **Bio-accumulation**

Not Determined

#### **Ecotoxicological Information**

Acute Fish Toxicity:

Not determined

Acute Crustaceans Toxicity:

Not determined

Acute Algae Toxicity:

Not determined

# **Chemical Fate Information**

Not determined

#### Other Information

Not applicable

# 13. DISPOSAL CONSIDERATIONS

#### **Disposal Method**

Bury in a licensed landfill according to federal, state, and local regulations. If not contaminated, reuse product.

#### **Contaminated Packaging**

Not determined

# 14. TRANSPORT INFORMATION

# **Land Transportation**

DOT

Not restricted

Canadian TDG

Not restricted

**ADR** 

Not restricted

# Air Transportation

#### ICAG/IATA

Not restricted

# Sea Transportation

IMDG

Not restricted

# Other Shipping Information

Labels:

None

# 15. REGULATORY INFORMATION

# **US Regulations**

#### **US TSCA Inventory**

All components listed on inventory.

# **EPA SARA Title III Extremely Hazardous Substances**

Not applicable

#### EPA SARA (311,312) Hazard Class

Acute Health Hazard Chronic Health Hazard

#### **EPA SARA (313) Chemicals**

This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).

# EPA CERCLA/Superfund Reportable Spill Quantity For This Product

Not applicable.

#### **EPA RCRA Hazardous Waste Classification**

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

#### California Proposition 65

The California Proposition 65 regulations apply to this product.

#### MA Right-to-Know Law

One or more components listed.

#### NJ Right-to-Know Law

One or more components listed.

#### PA Right-to-Know Law

One or more components listed.

# **Canadian Regulations**

Canadian DSL Inventory
All components listed on inventory.

WHMIS Hazard Class
D2A Very Toxic Materials

#### 16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS Not applicable

#### **Additional Information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Product Stewardship at 1-580-251-4335.

#### **Disclaimer Statement**

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\*\*\*END OF MSDS\*\*\*



# **MATERIAL SAFETY DATA SHEET**

# **CARBO-LITE PROPPANT**

**Revision Date:** 

04/06/2000

# 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** 

CARBO-LITE PROPPANT

Synonyms:

None

**Chemical Family:** 

Not determined

Manufacturer/Supplier
Halliburton Energy Services

P.O. Box 1431

Duncan, Oklahoma 73536-0431

Emergency Telephone: (800) 666-9260 or (713) 676-3000

Prepared By

**Product Stewardship** 

Telephone: 1-580-251-4335

# 2. COMPOSITION/INFORMATION ON INGREDIENTS

**ACGIH TLV-TWA** 

**OSHA PEL-TWA** 

Substance

Weight Percent (%)

Contains no hazardous

60 - 100%

Not applicable

Not applicable

substances Mixture

# 3. HAZARDS IDENTIFICATION

#### **Hazard Overview**

May cause eye irritation.

# 4. FIRST AID MEASURES

# Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

#### Skin

Wash with soap and water. Get medical attention if irritation persists.

#### Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

#### Ingestion

Get immediate medical attention.

#### Notes to Physician

Not Applicable

# 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):

Flash Point/Range (C):

Flash Point Method:

Autoignition Temperature (F):

Autoignition Temperature (C):

Flammability Limits in Air - Lower (%):

Flammability Limits in Air - Upper (%):

Not Determined

Not Determined

Not Determined

Not Determined

#### Fire Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

#### **Special Exposure Hazards**

Not applicable.

#### Special Protective Equipment for Fire-Fighters

Not Determined

NFPA Ratings:

Health 1, Flammability 0, Reactivity 0

**HMIS Ratings:** 

Not Determined

# 6. ACCIDENTAL RELEASE MEASURES

#### **Personal Precautionary Measures**

Use appropriate protective equipment. Avoid creating and breathing dust.

#### **Environmental Precautionary Measures**

None known.

#### Procedure for Cleaning/Absorption

Scoop up and remove.

# 7. HANDLING AND STORAGE

#### **Handling Precautions**

Avoid creating or inhaling dust.

#### Storage Information

Store in a cool, dry location. Product has a shelf life of 36 months

CARBO-LITE PROPPANT Page 2 of 7

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Engineering Controls**

Use in a well ventilated area.

# **Respiratory Protection**

Not normally needed. But if significant exposures are possible then the following respirator is recommended. Dust/mist respirator.

#### **Hand Protection**

Cloth aloves.

#### Skin Protection

Normal work coveralls.

#### **Eye Protection**

Dust proof goggles.

#### Other Precautions

Not Determined

# 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Color: Yellow to brown

Odor: Phenolic Phenolic Not Determined

Specific Gravity @ 20 C (Water=1): 2.60 to 3.70

Density @ 20 C (Ibs./gallon): Not Determined

Bulk Density @ 20 C (lbs/ft3): 95

Boiling Point/Range (F):

Boiling Point/Range (C):

Freezing Point/Range (F):

Not Determined
Not Determined
Not Determined
Not Determined
Not Determined
Vapor Pressure @ 20 C (mmHg):

Vapor Density (Air=1):

Percent Volatiles:

Not Determined
Not Determined
Not Determined

Evaporation Rate (Butyl Acetate=1): Not Determined Solubility in Water (g/100ml): Insoluble

Solubility in Water (g/100ml): Insoluble
Solubility in Solvents (g/100ml): Not Determined
Solubility in Sea Water (g/100ml): Insoluble Sinks

VOCs (lbs./gallon): Insoluble Sinks
Not Determined

Viscosity, Dynamic @ 20 C

(centipoise): Not Determined

Viscosity, Kinematic @ 20 C

(centistrokes):Not DeterminedPartition Coefficient/n-Octanol/Water:Not Determined

Molecular Weight (g/mole): Not Determined

# 10. STABILITY AND REACTIVITY

Stability Data: Stable

Hazardous Polymerization: Will Not Occur

# **Conditions to Avoid**

None anticipated

# Incompatibility (Materials to Avoid)

Contact with oxidizing agents.

#### **Hazardous Decomposition Products**

Ammonia. Formaldehyde. Carbon monoxide. Carbon dioxide.

#### **Additional Guidelines**

Not Applicable

# 11. TOXICOLOGICAL INFORMATION

#### **Principle Route of Exposure**

Eye contact. Inhalation, Skin contact.

#### Inhalation

Not determined

#### **Skin Contact**

None known.

#### **Eve Contact**

Dust may cause irritation and inflammation.

#### Ingestion

None known

#### **Aggravated Medical Conditions**

None known.

#### Chronic Effects/Carcinogenicity

Effects of prolonged or repeated exposure are not well established.

#### Other Information

None known.

**Toxicity Tests** 

**Oral Toxicity:** 

Not determined.

**Dermal Toxicity:** 

Not determined

Inhalation Toxicity:

Not determined

**Primary Irritation Effect:** 

Not determined

Carcinogenicity
Not determined

Genotoxicity:

Not determined

Reproductive/Developmental

Toxicity:

Not determined

CARBO-LITE PROPPANT Page 4 of 7

# 12. ECOLOGICAL INFORMATION Mobility (Water/Soil/Air) Not determined Persistence/Degradability Not applicable **Bio-accumulation** Not Determined **Ecotoxicological Information** Acute Fish Toxicity: Not determined Acute Crustaceans Toxicity: Not determined Acute Algae Toxicity: Not determined **Chemical Fate Information** Not determined Other Information Not applicable DISPOSAL CONSIDERATIONS **Disposal Method** Bury in a licensed landfill according to federal, state, and local regulations. If not contaminated, reuse product. **Contaminated Packaging** Product may be stored in reusable containers. Do NOT contaminate. Transport with all closures in place. TRANSPORT INFORMATION **Land Transportation** DOT Not restricted Canadian TDG Not restricted **ADR** Not restricted

Air Transportation

ICAO/IATA

Not restricted

# Sea Transportation

**IMDG** 

Not restricted

# Other Shipping Information

Labels:

None

# 15. REGULATORY INFORMATION

# **US Regulations**

#### **US TSCA Inventory**

All components listed on inventory.

# **EPA SARA Title III Extremely Hazardous Substances**

Not applicable

#### EPA SARA (311,312) Hazard Class

Acute Health Hazard

#### EPA SARA (313) Chemicals

This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).

# EPA CERCLA/Superfund Reportable Spill Quantity For This Product

Not applicable.

#### **EPA RCRA Hazardous Waste Classification**

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

#### California Proposition 65

The California Proposition 65 regulations apply to this product.

#### MA Right-to-Know Law

One or more components listed.

#### NJ Right-to-Know Law

One or more components listed.

# PA Right-to-Know Law

One or more components listed.

# **Canadian Regulations**

#### Canadian DSL Inventory

Product contains one or more components not listed on inventory.

#### WHMIS Hazard Class

D2A Very Toxic Materials

# 16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS Not applicable

#### **Additional Information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Product Stewardship at 1-580-251-4335.

#### **Disclaimer Statement**

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\*\*\*END OF MSDS\*\*\*



# MATERIAL SAFETY DATA SHEET

# **ECONOPROP PROPPANT**

**Revision Date:** 

04/06/2000

# 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** 

**ECONOPROP PROPPANT** 

Synonyms:

None

**Chemical Family:** 

Not determined

Manufacturer/Supplier

Halliburton Energy Services

P.O. Box 1431

Duncan, Oklahoma 73536-0431

Emergency Telephone: (800) 666-9260 or (713) 676-3000

Prepared By

**Product Stewardship** 

Telephone: 1-580-251-4335

# COMPOSITION/INFORMATION ON INGREDIENTS

**ACGIH TLV-TWA OSHA PEL-TWA** 

Substance

Weight Percent (%)

60 - 100%

Not applicable

15 mg/M3

Proprietary Component

Crystalline silica, cristobalite 10 - 30%

0.05 mg/m3

0.1 mg/M3

# 3. HAZARDS IDENTIFICATION

#### **Hazard Overview**

Potential carcinogen. May cause delayed injury to lungs. May cause allergic respiratory reaction.

# FIRST AID MEASURES

#### Inhalation

14464-46-1

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

#### Skin

Wash with soap and water. Get medical attention if irritation persists.

#### Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

#### Ingestion

Get immediate medical attention.

#### Notes to Physician

Not Applicable

# 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):

Flash Point/Range (C):

Flash Point Method:

Autoignition Temperature (F):

Autoignition Temperature (C):

Flammability Limits in Air - Lower (%):

Flammability Limits in Air - Upper (%):

Not Determined

Not Determined

Not Determined

Not Determined

#### Fire Extinguishing Media

All standard firefighting media.

#### **Special Exposure Hazards**

Not applicable.

#### Special Protective Equipment for Fire-Fighters

Not Determined

NFPA Ratings:

Health 1, Flammability 0, Reactivity 0

**HMIS Ratings:** 

Not Determined

# 6. ACCIDENTAL RELEASE MEASURES

#### **Personal Precautionary Measures**

Use appropriate protective equipment. Avoid creating and breathing dust.

#### **Environmental Precautionary Measures**

None known.

#### **Procedure for Cleaning/Absorption**

Scoop up and remove.

#### 7. HANDLING AND STORAGE

#### **Handling Precautions**

Avoid creating or inhaling dust.

#### **Storage Information**

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Engineering Controls**

Use in a well ventilated area.

#### Respiratory Protection

Dust/mist respirator.

#### **Hand Protection**

Cloth gloves.

#### **Skin Protection**

Normal work coveralls.

#### **Eye Protection**

Dust proof goggles. Do NOT wear contact lenses.

#### **Other Precautions**

Eyewash fountains and safety showers must be easily accessible.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Color: Cream to light gray

Odor: Odorless PH: Odorless Not Determined

Specific Gravity @ 20 C (Water=1): 2.69

Density @ 20 C (lbs./gallon): Not Determined

Bulk Density @ 20 C (lbs/ft3): 96

Boiling Point/Range (F): Not Determined Boiling Point/Range (C): Not Determined Freezing Point/Range (F): Not Determined Freezing Point/Range (C): Not Determined Vapor Pressure @ 20 C (mmHg): Not Determined Vapor Density (Air=1): Not Determined Percent Volatiles: Not Determined **Evaporation Rate (Butyl Acetate=1):** Not Determined Solubility in Water (g/100ml): Insoluble

Solubility in Solvents (g/100ml):

Solubility in Sea Water (g/100ml):

Not Determined
Insoluble Sinks
VOCs (lbs./gallon):

Not Determined

Viscosity, Dynamic @ 20 C

(centipoise): Not Determined

Viscosity, Kinematic @ 20 C

(centistrokes):Not DeterminedPartition Coefficient/n-Octanol/Water:Not DeterminedMolecular Weight (g/mole):Not Determined

#### 10. STABILITY AND REACTIVITY

Stability Data: Stable

Hazardous Polymerization: Will Not Occur

# Conditions to Avoid None anticipated Chlorine trifluoride.

Incompatibility (Materials to Avoid)

**Hazardous Decomposition Products** 

None known.

**Additional Guidelines** 

Not Applicable

# TOXICOLOGICAL INFORMATION

#### **Principle Route of Exposure**

Eye contact. Inhalation. Skin contact.

Inhalation

Not determined

**Skin Contact** 

None known.

**Eye Contact** 

Dust may cause irritation and inflammation.

Ingestion

None known

# **Aggravated Medical Conditions**

None known.

Chronic Effects/Carcinogenicity

Contains crystalline silica which may cause a delayed, progressive lung disease (silicosis). The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica.

#### Other Information

None known.

**Toxicity Tests** 

**Oral Toxicity:** 

Not determined.

**Dermal Toxicity:** 

Not determined

Inhalation Toxicity:

Not determined

**Primary Irritation Effect:** 

Not determined

Carcinogenicity

Not determined

Genotoxicity:

Not determined

Reproductive/Developmental

**ECONOPROP PROPPANT** Page 4 of 7

# 12. ECOLOGICAL INFORMATION

# Mobility (Water/Soil/Air)

Not determined

# Persistence/Degradability

Not applicable

#### Bio-accumulation

Not Determined

# **Ecotoxicological Information**

Acute Fish Toxicity:

Not determined

Acute Crustaceans Toxicity:

Not determined

Acute Algae Toxicity:

Not determined

# **Chemical Fate Information**

Not determined

#### Other Information

Not applicable

# 13. DISPOSAL CONSIDERATIONS

#### **Disposal Method**

Bury in a licensed landfill according to federal, state, and local regulations. If not contaminated, reuse product.

#### **Contaminated Packaging**

Empty container completely. Transport with all closures in place. Return for reuse or disposal in a sanitary landfill according to national or local regulations.

# 14. TRANSPORT INFORMATION

# **Land Transportation**

DOT

Not restricted

Canadian TDG

Not restricted

**ADR** 

Not restricted

# Air Transportation

ICAO/IATA

# Sea Transportation

**IMDG** 

Not restricted

# Other Shipping Information

Labels:

None

# 15. REGULATORY INFORMATION

# **US Regulations**

#### **US TSCA Inventory**

All components listed on inventory.

#### **EPA SARA Title III Extremely Hazardous Substances**

Not applicable

#### EPA SARA (311,312) Hazard Class

Acute Health Hazard Chronic Health Hazard

# EPA SARA (313) Chemicals

This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).

#### EPA CERCLA/Superfund Reportable Spill Quantity For This Product

Not applicable.

#### **EPA RCRA Hazardous Waste Classification**

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

#### California Proposition 65

The California Proposition 65 regulations apply to this product.

#### MA Right-to-Know Law

One or more components listed.

#### NJ Right-to-Know Law

One or more components listed.

#### PA Right-to-Know Law

One or more components listed.

#### Canadian Regulations

#### Canadian DSL Inventory

All components listed on inventory.

# 16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS Not applicable

#### **Additional Information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Product Stewardship at 1-580-251-4335.

#### **Disclaimer Statement**

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\*\*\*END OF MSDS\*\*\*



# MATERIAL SAFETY DATA SHEET

#### **SBU CERAMAX-E**

**Revision Date:** 

06/28/2000

# 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** 

SBU CERAMAX-E

Synonyms:

None

**Chemical Family:** 

Mineral

Application:

**Proppant** 

Manufacturer/Supplier Halliburton Energy Services P.O. Box 1431

Duncan, Oklahoma 73536-0431

Emergency Telephone: (800) 666-9260 or (713) 676-3000

Prepared By

**Product Stewardship** 

Telephone: 1-580-251-4335

# **COMPOSITION/INFORMATION ON INGREDIENTS**

**ACGIH TLV-TWA OSHA PEL-TWA** 

Substance

Weight Percent (%)

Crystalline silica, quartz

14808-60-7

10 - 30%

0.05 mg/m3

0.1 mg/M3

# HAZARDS IDENTIFICATION

#### **Hazard Overview**

May cause eye irritation. May cause delayed injury to lungs. Potential carcinogen.

# FIRST AID MEASURES

#### Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

#### Skin

Wash with soap and water. Get medical attention if irritation persists.

#### Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

#### Ingestion

Under normal conditions, first aid procedures are not required.

#### Notes to Physician

Not Applicable

# 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):

Flash Point/Range (C):

Flash Point Method:

Autoignition Temperature (F):

Autoignition Temperature (C):

Flammability Limits in Air - Lower (%):

Flammability Limits in Air - Upper (%):

Not Determined

Not Determined

Not Determined

Not Determined

#### Fire Extinguishing Media

All standard firefighting media.

#### **Special Exposure Hazards**

Not applicable.

#### Special Protective Equipment for Fire-Fighters

Not applicable.

NFPA Ratings:

Health 1, Flammability 0, Reactivity 0

**HMIS Ratings:** 

Flammability 0, Reactivity 0, Health 1

#### 6. ACCIDENTAL RELEASE MEASURES

#### **Personal Precautionary Measures**

Use appropriate protective equipment. Avoid creating and breathing dust.

#### **Environmental Precautionary Measures**

None known.

#### Procedure for Cleaning/Absorption

Scoop up and remove.

### 7. HANDLING AND STORAGE

#### **Handling Precautions**

Avoid creating or inhaling dust.

#### Storage Information

#### 8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### **Engineering Controls**

Use in a well ventilated area.

#### **Respiratory Protection**

Dust/mist respirator.

#### **Hand Protection**

Normal work gloves.

#### Skin Protection

Normal work coveralis.

#### **Eye Protection**

Wear safety glasses or goggles to protect against exposure.

#### Other Precautions

None known.

# PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Solid Color: Gray

Odor: Odorless

Not Determined :Ha

Specific Gravity @ 20 C (Water=1): 2.55

Density @ 20 C (lbs./gallon): Not Determined Bulk Density @ 20 C (lbs/ft3): Not Determined Boiling Point/Range (F): Not Determined Boiling Point/Range (C): Not Determined Freezing Point/Range (F): Not Determined Freezing Point/Range (C): Not Determined Vapor Pressure @ 20 C (mmHg): Not Determined Vapor Density (Air=1): Not Determined **Percent Volatiles:** Not Determined Evaporation Rate (Butyl Acetate=1): Not Determined

Solubility in Water (g/100ml): Insoluble

Solubility in Solvents (g/100ml): Not Determined Solubility in Sea Water (q/100ml): Not Determined Not Determined VOCs (lbs./gallon):

Viscosity, Dynamic @ 20 C

Not Determined (centipoise):

Viscosity, Kinematic @ 20 C

Not Determined (centistrokes): Partition Coefficient/n-Octanol/Water: Not Determined Molecular Weight (g/mole): Not Determined

# STABILITY AND REACTIVITY

Stability Data: Stable

**Hazardous Polymerization:** Will Not Occur

# Conditions to Avoid None anticipated Incompatibility (Materials to Avoid) Hydrofluoric acid. Hazardous Decomposition Products None known. Additional Guidelines Not Applicable 11. TOXICOLOGICAL INFORMATION

#### Principle Route of Exposure

Eye or skin contact, inhalation.

#### Inhalation

May cause silicosis, which reduces lung function. The lung damage can lead to heart problems.

#### **Skin Contact**

None known.

#### **Eye Contact**

May cause mechanical irritation to eye.

#### Ingestion

None known

# **Aggravated Medical Conditions**

Lung disorders.

#### **Chronic Effects/Carcinogenicity**

Contains crystalline silica which may cause a delayed, progressive lung disease (silicosis). The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica.

#### Other Information

None known.

**Toxicity Tests** 

**Oral Toxicity:** 

Not determined.

**Dermal Toxicity:** 

Not determined

Inhalation Toxicity:

Not determined

**Primary Irritation Effect:** 

Not determined

Carcinogenicity
Not determined

Genotoxicity:

Not determined

Reproductive/Developmental

# 12. ECOLOGICAL INFORMATION

#### Mobility (Water/Soil/Air)

Not determined

#### Persistence/Degradability

Not applicable

#### Bio-accumulation

Not Determined

#### **Ecotoxicological Information**

Acute Fish Toxicity:

Not determined

Acute Crustaceans Toxicity:

Not determined

Acute Algae Toxicity:

Not determined

#### **Chemical Fate Information**

Not determined

#### Other Information

Not applicable

# 13. DISPOSAL CONSIDERATIONS

#### **Disposal Method**

Bury in a licensed landfill according to federal, state, and local regulations.

#### **Contaminated Packaging**

Follow all applicable national or local regulations.

# 14. TRANSPORT INFORMATION

# **Land Transportation**

DOT

Not restricted

Canadian TDG

Not restricted

**ADR** 

Not restricted

# Air Transportation

ICAO/IATA

Not restricted

# Sea Transportation

IMDG

Not restricted

# **Other Shipping Information**

Labels:

None

# 15. REGULATORY INFORMATION

# **US Regulations**

#### **US TSCA Inventory**

All components listed on inventory.

# **EPA SARA Title III Extremely Hazardous Substances**

Not applicable

# EPA SARA (311,312) Hazard Class

Acute Health Hazard Chronic Health Hazard

#### EPA SARA (313) Chemicals

This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372:

Aluminum Oxide//1344-28-1

#### **EPA CERCLA/Superfund Reportable Spill Quantity For This Product**

Not applicable.

# **EPA RCRA Hazardous Waste Classification**

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

#### California Proposition 65

The California Proposition 65 regulations apply to this product.

#### MA Right-to-Know Law

One or more components listed.

#### NJ Right-to-Know Law

One or more components listed.

#### PA Right-to-Know Law

One or more components listed.

# Canadian Regulations

## Canadian DSL Inventory All components listed on inventory.

WHMIS Hazard Class
D2A Very Toxic Materials

## 16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS Not applicable

#### **Additional Information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Product Stewardship at 1-580-251-4335.

#### **Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

\*\*\*END OF MSDS\*\*\*



## **MATERIAL SAFETY DATA SHEET**

## SINTER BALL PROPPANT

**Revision Date:** 

06/28/2000

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** 

SINTER BALL PROPPANT

Synonyms:

None

Chemical Family:

Mineral

Application:

**Proppant** 

Manufacturer/Supplier
Halliburton Energy Services

P.O. Box 1431

Duncan, Oklahoma 73536-0431

Emergency Telephone: (800) 666-9260 or (713) 676-3000

Prepared By

**Product Stewardship** 

Telephone: 1-580-251-4335

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Z. OCIVII OCITICIANIAI A	SITUIN HOLL	JII III OILEDILII IO		
		ACGIH TLV-TWA	OSHA PEL-TWA	
Substance	Weight			
	Percent (%)	-		
Aluminum oxide 1344-28-1	60 - 100%	10 mg/m3	15 mg/M3	
	1 - 5%	Not applicable	15 mg/M3	
Proprietary Component		• •	•	
• •	< 1%	0.05 mg/m3	0.1 mg/M3	

## 3. HAZARDS IDENTIFICATION

#### **Hazard Overview**

May cause eye irritation. May cause delayed injury to lungs. Potential carcinogen.

## 4. FIRST AID MEASURES

#### Inhalation

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

#### Skin

Wash with soap and water. Get medical attention if irritation persists.

#### Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

#### Ingestion

Under normal conditions, first aid procedures are not required.

#### **Notes to Physician**

Not Applicable

## 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):

Not Determined

Flash Point/Range (C): Flash Point Method:

Not Determined

Autoignition Temperature (F):

Not Determined

Autoignition Temperature (C):

Not Determined

Autoignition Temperature (C): Flammability Limits in Air - Lower (%):

Not Determined

Flammability Limits in Air - Upper (%):

Not Determined Not Determined

## Fire Extinguishing Media

All standard firefighting media.

## **Special Exposure Hazards**

Not applicable.

#### Special Protective Equipment for Fire-Fighters

Not applicable.

NFPA Ratings:

Health 1, Flammability 0, Reactivity 0

**HMIS Ratings:** 

Flammability 0, Reactivity 0, Health 1

## 6. ACCIDENTAL RELEASE MEASURES

#### **Personal Precautionary Measures**

Use appropriate protective equipment. Avoid creating and breathing dust.

## **Environmental Precautionary Measures**

None known.

#### Procedure for Cleaning/Absorption

Scoop up and remove.

#### 7. HANDLING AND STORAGE

#### **Handling Precautions**

Avoid creating or inhaling dust.

#### Storage Information

Store in a cool, dry location. Product has a shelf life of 60 months

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Engineering Controls**

Use in a well ventilated area.

#### **Respiratory Protection**

Dust/mist respirator.

#### **Hand Protection**

Normal work gloves.

#### **Skin Protection**

Normal work coveralls.

#### **Eve Protection**

Wear safety glasses or goggles to protect against exposure.

#### **Other Precautions**

None known.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Color: Dark green Odor: Odorless

pH: Not Determined

Specific Gravity @ 20 C (Water=1): 3.62

Density @ 20 C (lbs./gallon): Not Determined

Bulk Density @ 20 C (lbs/ft3): 124

Boiling Point/Range (F): Not Determined Boiling Point/Range (C): Not Determined Freezing Point/Range (F): Not Determined Freezing Point/Range (C): Not Determined Vapor Pressure @ 20 C (mmHg): Not Determined Vapor Density (Air=1): Not Determined **Percent Volatiles:** Not Determined Evaporation Rate (Butyl Acetate=1): Not Determined

Solubility in Water (g/100ml): Insoluble

Solubility in Solvents (g/100ml):

Solubility in Sea Water (g/100ml):

Not Determined Not Determined Not Determined

Viscosity, Dynamic @ 20 C

(centipoise):

Viscosity, Kinematic @ 20 C

(centistrokes):Not DeterminedPartition Coefficient/n-Octanol/Water:Not DeterminedMolecular Weight (g/mole):Not Determined

## 10. STABILITY AND REACTIVITY

Not Determined

Stability Data:

Stable

**Hazardous Polymerization:** 

Will Not Occur

**Conditions to Avoid** 

None anticipated

Incompatibility (Materials to Avoid)

Hydrofluoric acid.

**Hazardous Decomposition Products** 

None known.

**Additional Guidelines** 

Not Applicable

## 11. TOXICOLOGICAL INFORMATION

## **Principle Route of Exposure**

Eye or skin contact, inhalation.

#### Inhalation

May cause silicosis, which reduces lung function. The lung damage can lead to heart problems.

#### Skin Contact

None known.

#### Eye Contact

May cause mechanical irritation to eye.

#### Ingestion

None known

## **Aggravated Medical Conditions**

Lung disorders.

#### **Chronic Effects/Carcinogenicity**

Contains crystalline silica which may cause a delayed, progressive lung disease (silicosis). The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica.

#### Other Information

None known.

**Toxicity Tests** 

**Oral Toxicity:** 

Not determined.

**Dermal Toxicity:** 

Not determined

Inhalation Toxicity:

Not determined

**Primary Irritation Effect:** 

Not determined

Carcinogenicity Not determined

Genotoxic	it۱	<b>/</b> :
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Not determined

#### Reproductive/Developmental

Toxicity:

Not determined

## 12. ECOLOGICAL INFORMATION

## Mobility (Water/Soil/Air)

Not determined

## Persistence/Degradability

Not applicable

#### Bio-accumulation

Not Determined

#### **Ecotoxicological Information**

Acute Fish Toxicity:

Not determined

Acute Crustaceans Toxicity:

Not determined

Acute Algae Toxicity:

Not determined

## **Chemical Fate Information**

Not determined

#### Other Information

Not applicable

## 13. DISPOSAL CONSIDERATIONS

## **Disposal Method**

Bury in a licensed landfill according to federal, state, and local regulations.

#### **Contaminated Packaging**

Follow all applicable national or local regulations.

## 14. TRANSPORT INFORMATION

## **Land Transportation**

DOT

Not restricted

Canadian TDG

Not restricted

**ADR** 

Not restricted

## Air Transportation

#### ICAO/IATA

Not restricted

## **Sea Transportation**

IMDG

Not restricted

## Other Shipping Information

Labels:

None

## 15. REGULATORY INFORMATION

## **US Regulations**

#### **US TSCA Inventory**

All components listed on inventory.

#### **EPA SARA Title III Extremely Hazardous Substances**

Not applicable

## EPA SARA (311,312) Hazard Class

Acute Health Hazard Chronic Health Hazard

## **EPA SARA (313) Chemicals**

This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372:

Aluminum Oxide//1344-28-1

## EPA CERCLA/Superfund Reportable Spill Quantity For This Product

Not applicable.

## **EPA RCRA Hazardous Waste Classification**

If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

#### California Proposition 65

The California Proposition 65 regulations apply to this product.

#### MA Right-to-Know Law

One or more components listed.

#### NJ Right-to-Know Law

One or more components listed.

#### PA Right-to-Know Law

One or more components listed.

## **Canadian Regulations**

Canadian DSL Inventory
All components listed on inventory.

WHMIS Hazard Class
D2A Very Toxic Materials

## 16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS Not applicable

#### **Additional Information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Product Stewardship at 1-580-251-4335.

#### **Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

\*\*\*END OF MSDS\*\*\*

modds, NM 88241-1980 District II - (505) 748-1283 311 S. First

Artesia: NM 88210 District III - (505) 334-6178 1000 Rio Brazos Road Aztec, NM 87410 District IV - (505) 827-7131

## Energy Minerals and Natural Resources Department Oil Conservation Division

2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

RECEIVED

Submit Origin Plus I Co

LOTHI C-19 Originated 8/8/

JUN 29 2001 to appropria

Environmental Bureau Oil Conservation Division

REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE						
1. RCRA Exempt: Non-Exempt: X	4. Generator Exxon/Nobile						
Verbal Approval Received: Yes No No	5. Originating Site J. L. Greenwood						
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter						
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State NEW MEXICO						
7. Location of Material (Street Address or ULSTR)	Sec 9 T225 R37E						
9. <u>Circle One</u> :							
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.  B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.							
All transporters must certify the wastes delivered are only those consigned	d for transport.						
BRIEF DESCRIPTION OF MATERIAL:							
The following MSDS is for gel water mixed on I that was not performed. This material is need for disposal. I have inclued a certifixate of would like approval to accept this material in Note: a verbal approval would be appreciated.	ded to be hauled off location  f status. Sundance  nto our Parabo disposal facility						
Estimated Volume 1500 bbls cy Known Volume (to be entered by the operator at the end of the haul) cy  SIGNATURE: OFFICE MGR  DATE: 5-33-01							
TYPE OR PRINT NAME: DONNA L. ROACHH  TE  (This space for State Use)	LEPHONE NO505-394-2511						
APPROVED BY: 1 TITLE: T	matel Gavest DATE: 7-2-01						

# CERTIFICATE OF WASTE STATES NON-EXEMPT WASTE MATERIAL

·	- A
ORIGINAT	INGLOCATION: J.L. Grunwood #12
SOURCE	unusea get water
DISPOSAL	LOCATION: SUNDANCE SERVICES INC.
	As a condition of acceptance for disposal, I hearby certify that this waste is a non-exempt waste as defined by the Environmental Protection Agency's (EPA) July 1988 Regulatory Determination. To my knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 251 to verify the nature as non-hazardous. I further cartify that to my knowledge no "hazardous or listed waste" pursuant to the provisions of 40 CFR, Part 261, Subparts C and D, has been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, Section 2513.
	indersigned us the agent for EXXON Mobile the status of the waste from the subject site.
	Name - Timothy R Reep
	Tile/Augency Operations Compliance Tech
•	Denver City, Texas 79.323
	Signature Limity R. Read
	Date 5-23-01

5-2:-01; 7:21AM;HALL|BURTON

LGC-IV W/ DIESEL - BULK

PAGE 1

MATERIAL SAFETY DATA SHEET HALLIBURTON ENERGY SERVICES REVISED DATE 04-07-99

DATE: 05-21-01

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-IV W/ DIESEL - BULK PART NUMBER: 516004830

PKG QTY: CARGO TANK APPLICATION: CONCENTRATE

SERVICE USED: FRACTURING

PERCENT TLVPEL

DIESEL 31-60 % NOT EST NOT EST GUAR GUM DERIVATIVE 31-60 % 10 MG/M3 15 MG/M3

PROPERTY MEASUREMENT

YELLOWISH LIQUID, GEL APPEARANCE

DIESEL ODOR SPECIFIC GRAVITY (H20=1) 1.035

BULK DENSITY 8.62 LB/GAL

PH NOT DETERMINED

SOLUBILITY IN WATER AT

20 DEG C. GMS/100ML H20 NIL BIODEGRADABILITY SLOWLY PERCENT VOLATILES

EVAPORATION RATE (BUTYL ACETATE=1) <1

VAPOR DENSITY 5 - 6 VAPOR PRESSURE (MMHG) N/D

BOILING POINT (760 MMHG) 300 P / 148 C

POUR POINT N/D FREEZE POINT N/D

NOT EVALUATED SOLUBILITY IN SEAWATER PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED

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

NFPA(704) RATING:

FLAMMABILITY 2 HEALTH 2 REACTIVITY 1 SPECIAL NONE

150 F / FLASH POINT 65 C FLASH MTHD PMCC

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:

5-21-01: 7:21AM; HALLIBURTON

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

PN: 516004830 PAGE 2

INJURIES.

INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE, CARBON MONOXIDE AND NITROGEN OXIDES.

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.

FYE

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.

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION.

∃KIN;

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 \* \* \* \* \* \* \* \* \* \* \* \* \* \*

PN: 516004830 PAGE 3

STABILITY: STABLE CONDITIONS TO AVOID:

HEAT, SPARKS AND OPEN FLAME.

INCOMPATIBILITY (MATERIALS TO AVOID):

5-21-01; /:21AM;HALL1BUH:UN

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. DTHER PROTECTIVE EQUIPMENT:

RUBBER APRON TO PREVENT DIRECT SKIN CONTACT.

PRECAUTIONARY LABELING LGC-IV W/ DIESEL - BULK

516,004830

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 \* \* \* \* \* \* \* \* \* \*

PN: 516004830

PAGE 4

DOT SHIPPING DESCRIPTION:

DIESEL FUEL SOLUTION - COMBUSTIBLE LIQUID - 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) 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

X

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 SIVEN 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 JUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS

SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

PAGE 1

CLAYFIX-II MATERIAL - POLY HAL-TANK

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MATERIAL SAFETY DATA SHEET DATE: 05-18-01 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

CHEMICAL CODE: CLAYFIX-II MATERIAL - POLY HAL-TANK PART NUMBER: 516004720

PKG OTY: BULK

APPLICATION: TEMPORARY CLAY STABILIZER

SERVICE USED: FRACTURING & SAND CONTR.

\* \* \* \* \* \* \* \* \* \* \* \* 8BCTION II - COMPONENT INFORMATION \* \* \* \* \* \* \* \* \* \* \*

PERCENT TLVPEL

31-60 % NOT EST NOT EST ALKYLATED QUATERNARY CHLORIDE

PROPERTY MEASUREMENT

CLEAR, LIGHT AMBER LIQUID APPEARANCE

SLIGHT AMINE ODOR

1.020 SPECIFIC GRAVITY (H20=1)

8.50 LB/GAL BULK DENSITY NOT DETERMINED PH

SOLUBILITY IN WATER AT

SOLUBLE 20 DEG C. GMS/100ML H20 BIODEGRADABILITY SLOWLY 45-50 PERCENT VOLATILES EVAPORATION RATE (BUTYL ACETATE=1) N/D VAPOR DENSITY < 1 VAPOR PRESSURE (MMHG) 25.00

BOILING POINT (760 MMHG) /216 F / 102 C

N/D POUR POINT N/D FREEZE POINT

NOT EVALUATED SOLUBILITY IN SEAWATER PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED

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

NFPA (704) RATING:

HEALTH 3 FLAMMABILITY 1 REACTIVITY 1 SPECIAL NONE

FLASH POINT

NONE ND F / AUTOIGNITION TEMPERATURE

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.

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UNUSUAL FIRE AND EXPLOSION HAZARDS:

INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE, CARBON MONOXIDE AND NITROGEN OXIDES.

HEAT OF A FIRE MAY PRODUCE HYDROCHLORIC ACID.

PN: 516004720 PAGE 2

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* 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: ECOTOXICITY:

MYSIDOPSIS BAHIA: 96-HOUR 10.5 PPM TOX ORAL-RAT MALE LD50: 220 MG/KG TOX ORAL-RAT FEMALE LD50: 145 MG/KG

PRODUCT TLV: NOT ESTABLISHED

EFFECTS OF EXPOSURE

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

RYE:

CONCENTRATED SOLUTIONS MAY CAUSE SEVERE BURNS.

SKIN:

CONTACT MAY CAUSE SKIN IRRITATION.

INHALATION:

MAY BE IRRITATING.

INGESTION:

MAY BE FATAL IF SWALLOWED.

CHRONIC EFFECTS:

NO SPECIFIC INFORMATION IS AVAILABLE ON THE CHRONIC BFFECTS OF EXPOSURE.

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:

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:

GIVE UP TO TWO (2) QUARTS OF WATER AND INDUCE VOMITING. DO NOT GIVE ANYTHING BY MOUTH IF PERSON IS DROWSY, UNCONSCIOUS. OR HAS NO GAG REFLEX. SEEK PROMPT MEDICAL ATTENTION OR CALL THE POISON CONTROL CENTER (800) 441-0040.

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

STABILITY: STABLE

ZON/ZBRG10: NOBMINACI: (:O=8:-9

CONDITIONS TO AVOID:

NOT APPLICABLE.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS:

NITROGEN OXIDES, CARBON DIOXIDE AND/OR CARBON MONOXIDE.

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HYDROGEN CHLORIDE.

HAZARD POLYMERIZATION: WON"T OCCUR

CONDITIONS TO AVOID:

NOT APPLICABLE.

PN: 516004720 PAGE

\* \* \* \* \* \* \* \* \* \* \* 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:

PRODUCT SHOULD BE DISPOSED OF IN ACCORDANCE TO FEDERAL, STATE, AND LOCAL GOVERNMENT REGULATIONS.

\* \* \* \* \* \* \* \* \* 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.

PROTECTIVE GLOVES:

BUTYL GLOVES.

EYE PROTECTION:

GOGGLES AND/OR FACE SHIELD.

THE AVAILABILITY OF AN EYE WASH FOUNTAIN AND SAFETY SHOWER IS RECOMMENDED. OTHER PROTECTIVE EQUIPMENT:

RUBBER APRON TO PREVENT DIRECT SKIN CONTACT.

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

PRECAUTIONARY LABELING CLAYFIX-II MATERIAL - POLY HAL-TANK 516,004720

CAUTIONI

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:

IF CONTAINER RETAINS PRODUCT RESIDUES, LABEL PRECAUTIONS MUST BE OBSERVED. STORE CONTAINER WITH CLOSURES IN PLACE. OFFER EMPTY CONTAINER TO RECONDI-TIONOR OR RECYCLER FOR RECONDITIONING OR DISPOSAL. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS.

SPECIAL PRECAUTIONS:

KEEP AWAY FROM FOOD.

PRODUCT HAS A SHELF LIFE OF 24 MONTHS.

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DOT SHIPPING DESCRIPTION: TOXIC LIQUID, ORGANIC, N.O.S. - 6.1 - UN2810 - III (CONTAINS TETRAMETHYLAMMONIUM CHLORIDE)

\* \* \* \* \* \* \* \* \* \* \* 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)
N/A

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

PN: 516004720 PAGE (4

- 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.

LOSURF-300 NONIONIC SURFACTANT - HAL-TANK

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PAGE 1

MATERIAL SAFETY DATA SHEET HALLIBURTON ENERGY SERVICES DUNCAN, OKLAHOMA 73536

DATE: 05-18-01 REVISED DATE 04-07-99

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

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

CHEMICAL CODE: LOSURF-300 NONIONIC SURFACTANT - HAL-TANK PART NUMBER: 516001790

PKG QTY: 330 GALLON TANK APPLICATION: NONEMULSIFIER

SERVICE USED: STIMULATION

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

PERCENT TLV PELISOPROPANOL 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. GM8/100ML H20 DISPERSES

BIODEGRADABILITY
PERCENT VOLATILES
46-50
EVAPORATION RATE(BUTYL ACETATE=1)
VAPOR DENSITY
VAPOR PRESSURE (MMHG)
BOILING POINT(760 MMHG)
POUR POINT
FREEZE POINT
N/D
N/D

SOLUBILITY IN SHAWATER NOT EVALUATED PARTITION COEF (OCTANOL IN WATER) NOT EVALUATED

NFPA(704) RATING:

HEALTH 1 FLAMMABILITY 4 REACTIVITY 0 SPECIAL NONE

FLASH POINT 63 F / 17 C FLASH MIHD PMCC

AUTOIGNITION TEMPERATURE ND F / ND C

FLAMMABLE LIMITS (% BY VOLUME) LOWER N/D UPPER N/D

EXTINGUISHING MBDIA;

USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. SPECIAL FIRE FIGHTING PROCEDURES:

307. \$20000; NOTAUB: JAH: W980: : 110+81-8

W∩RIL→

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

PN: 516001790

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PAGE 2

AND FROM A PROTECTED LOCATION. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND

INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE, CARBON MONOXIDE AND NITROGEN OXIDES.

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.

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.

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

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 SPONTANBOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO LUNGS.

STABILITY: STABLE

PAGE 3 PN: 516001790

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.

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 EFA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE.

\* \* \* \* \* \* \* \* \* \* SECTION VITI - 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.

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

MUTHURI JUANTIMABULI TUTOL-4

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)

PN: 516001790 PAGE 4

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

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

- B. EPA CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)
  N/A
- C. EPA SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES)
  PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS
- D. EPA SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS)
  COMPONENT NAME
  CAS-REG-NO
  PCT
  ISOPROPANOL
  67-63-0
  PROPYLENE OXIDE
  75-56-9
  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

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5-21- 1 · 9:21 ;

MOBIL→

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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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DATE: 05-18-01

REVISED DATE 04-07-99

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#### BE-5 MICROBIOCIDE

MATERIAL SAFETY DATA SHEET HALLIBURTON ENERGY SERVICES

DUNCAN, OKLAHOMA 73536

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

CHEMICAL CODE: BE-5 MICROBIOCIDE PART NUMBER: 516004930

APPLICATION: MICROBIOCIDE PKG QTY: 36 LB BOX

SERVICE USED: FRACTURING

PERCENT TLV PEL 

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-1-10 % 0.1 MG/M3 NOT EST

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NOT EST 1-10 % NOT EST 2-METHYL-4-ISOTHIAZOLIN-3-ONE NOT EST MAGNESIUM CHLORIDE 1-10 % NOT EST 31-60 % 10 MG/M3 (TTWA 6 MG/M3 DIATOMACEOUS EARTH

1-10 % 0.1 MG/M3 0.1 MG/M3 SILICA, CRYSTALLINE--QUARTZ

#### PROPERTY MEASUREMENT

LIGHT GREEN TO YELLOW SOLID APPEARANCE

ODOR MITD

SPECIFIC GRAVITY (H20=1) .720

5.59 BULK DENSITY LB/CU.FT. NOT DETERMINED

SOLUBILITY IN WATER AT

20 DEG C. GMS/100ML H20 DISPERSES

BIODEGRADABILITY N/D PERCENT VOLATILES N/A EVAPORATION RATE (BUTYL ACETATE=1) N/A VAPOR DENSITY >1 VAPOR PRESSURE (MMHG) N/D BOILING POINT (760 MMHG) N/A POUR POINT N/A

FREBZE POINT N/A NOT EVALUATED SOLUBILITY IN SEAWATER

PARTITION COEF (OCTANOL IN WATER) N/D

NFPA(704) RATING:

REACTIVITY 0 SPECIAL NONE HEALTH 3 FLAMMABILITY 1

FLASH POINT NONE

AUTOIGNITION TEMPERATURE ND F / ND C

FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/A UPPER N/A

EXTINGUISHING MEDIA:

MOBIL→

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.

PAGE 2 PN: 516004930

UNUSUAL FIRE AND EXPLOSION HAZARDS:

INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE TOXIC GASES.

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

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

July 111 .

CONTACT WILL PRODUCE SEVERE IRRITATION OR BURNS AND, IF NOT IMMEDIATELY REMOVED, MAY LEAD TO PERMANENT EYE DAMAGE.

SKIN:

CONTACT CAUSES SEVERE IRRITATION OR BURNS WITH POSSIBLE IN-DEPTH INJURY.

INHALATION:

MISTS, AEROSOLS OR VERY HIGH VAFOR CONCENTRATIONS WILL PRODUCE INTENSE EYE NOSE AND RESPIRATORY IRRITATION AND MAY RESULT IN LUNG DAMAGE. PROLONGED EXPOSURE MAY RESULT IN CHEMICAL PNEUMONITIS AND, IN EXTREME CASES, PULMONARY BDEMA (FILLING OF THE LUNGS WITH FLUIDS).

INGESTION:

CAUSES SEVERE IRRITATION OR BURNS TO THE MOUTH AND GASTROINTESTINAL TRACT. IN EXTREME CASES MAY CAUSE KIDNEY AND LIVER DAMAGE.

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 DERMATITIE. 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.

DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE.

MUDIL

NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION.

STABILITY: STABLE CONDITIONS TO AVOID:

----

NOT APPLICABLE.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS:

PN: 516004930 PAGE 3

OXIDES OF SULFUR AND NITROGEN AND HYDROGEN CHLORIDE.

HAZARD POLYMERIZATION: WON"T OCCUR

CONDITIONS TO AVOID:

NOT APPLICABLE.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

DIKE AND ABSORB SPILL USING HYPOCLORITE SOLUTION\* IN AN INERT MATERIAL AND TRANSFER TO A SUITABLE CONTAINER. \*FORMULATION: 8 LBS. CALCIUM HYPOCHLORITE 5 LBS. SODIUM HYDROXIDE AND 77 LBS. WATER. SODIUM HYDROXIDEMUST BE ADDED TO MAINTAIN ALKALINITY AND PREVENT THE EVOLUTION OF CHLORINE GAS.

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 CHEMICAL CARTRIDGE RESPIRATOR WITH A DUST-MIST FILTER.

**VENTILATION:** 

USE ONLY WITH ADEQUATE 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.

PRECAUTIONARY LABBLING BE-5 MICROBIOCIDE

516.004930

DANGER!

MAY CAUSE SEVERE EYE AND SKIN BURNS.

FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.

LABEL IN ACCORDANCE WITH FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT REQUIREMENTS.

EPA REGISTRATION NUMBER: 10707-44-40153

EPA EST. NUMBER: 10707-TX-008

OTHER HANDLING AND STORAGE CONDITIONS:

STORE AWAY FROM OXIDIZERS.

STORE IN A COOL WELL VENTILATED LOCATION.

KEEP CONTAINER CLOSED WHEN NOT IN USB.

AVOID CONTACT WITH SKIN, EYES AND CLOTHING.

AVOID BREATHING VAPORS.

#### CONTAINER DISPOSITION:

وب ووست

TRIPLE RINSE, REUSING RINSATE AS PRODUCT. OFFER CONTAINER FOR RECYCLING OR RECONDITIONING, OR PUNCTURE AND DISPOSE OF IN A SANITARY LANDFILL.

DOT SHIPPING DESCRIPTION: CORROSIVE SOLID, TOXIC, N.O.S. - 8 - UN2923 - II (5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE)

\* \* \* \* \* \* \* \* \* \* \* 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)

والأولايات المساهدات

PN: 516004930

PAGE 4

#### 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 BEC N/D ACOIN N/D NPR NE DRSM NE
- H. EPA RCRA (HAZARDOUS WASTE), 40 CFR 261

A

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 EXPRESSI-PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.



PHONE (915) 678-7001 @ 2111 BEECHWOOD @ ABILENE, TX 79803

PHONE (505) 399-2328 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR

**EXXON MOBIL** 

ATTN: T. REEP & L. SHELTON

HCR BOX 236

SEMINOLE, TX 79360

FAX TO: (806) 592-2812

Receiving Date: 06/04/01 Reporting Date: 06/05/01

Project Number: NOT GIVEN

Project Name: NOT GIVEN

Project Location: J.L. GREENWOOD #12

Analysis Date: 06/05/01

Sampling Date: 06/04/01 Sample Type: LIQUID

Sample Condition: INTACT Sample Received By: HM

Analyzed By: BC

**IGNITABILITY** 

LAB NUMBER SAMPLE ID (°F)

H5901-1 J.L. GREENWOOD#12 >140

Quality Control NR
True Value QC NR
% Accuracy NR
Relative Percent Difference NR

METHOD: SW 846-1010

Date

ARDINAL LABORATORIES, INC.

ANALYSIS REQUEST	of Tue	BINO: EXXON MOBIL
Pageof	(915) 673-7001 Fax (916) 673-7020 (505) 993-2326 Fax (505) 393-2476	(915) 673-7001 Fax (916) 673-7020
	2111 Beechwood, Abilene, TX 79603 191 East Marland, Hobbs, NM 88240 (1987) 1987 (1987)	2111 Beechwood, Abllene, TX 79803
	MC.	ARDINAL LABORATORIES, INC.
DY AND ANALYSIS REQUEST	CHAIN-OF-CUSTODY AN	The state of the s
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20.2	O / State: X	Zip: 79367	Attn:	0		
-908 30	92-185-Fax# 80	542-2812	Address:			
Project #:	Project Owner:		City:	y		
Project Name:	ere.		Siate: Zip:	`+		
Project Location:	J. L. Green	2000d #12	39		********	
Sampler Name: 7	D		Fax#:	<u></u>		
FOR LAB USE ONLY		MAIRIX	PRESERV SAMPLING	-9 -9		
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Lab I.D.	Sample I.D.	(G)RAB OR # CONTAIN GROUNDW WASTEWA SOIL CRUDE OIL SLUDGE	OTHER 2 ACIDMASE ICE / COOL OTHER:	TME I		
H5901-1 J.L	L. Greenwood #12		6-4-01	239 M		
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Sampler Relinquished:	and to the performance	Date: Received by British reported of interior and interi		Phone Result: 1 Yes	□No Add1Phone 8:	
Rollinguished By:		Recoved By: (Let Staff) Hope Small Moreno	and			
By:	(Circle One)	Sample Condition Cool Intact Tree Trees IT No. 1 No.	CHECKED BY:  [Initials]  H.S.M.,		,	

r. O. DOX 1980 Hobbs, NM 88241-1980 <u>District II</u> - (505) 748-1283 811 S. First Artesia, NM 88210 <u>District III</u> - (505) 334-6178

# Energy Minerals and Natural Resources Department Oil Conservation Division

2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131 Submit Origin Plus 1 Co to appropria District Offi

rorm C-13

Originated 8/8/

1000 Rio Brazos Road Aztec, NM 87410 <u>District IV</u> - (505) 827-7131

APPROVED BY:

William to the world of the wor						
REQUEST FOR APPROVAL TO ACCEPT	r solid waste					
1. RCRA Exempt: Non-Exempt: X  Verbal Approval Received: Yes No	4. Generator HALLIBURTON  5. Originating Site HOBBS FACILITY					
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter CHAPARRAL					
	82318. State NEW MEXICO					
7. Location of Material (Street Address or ULSTR) 5801 Lovint	cn HWy Hobbs, NM 88240					
9. <u>Circle One</u> :						
A. All requests for approval to accept oilfield exempt wastes will be acceptance; one certificate per job.  B. All requests for approval to accept non-exempt wastes must be accepted the material is not-hazardous and the Generator's certificate listing or testing will be approved.	companied by necessary chemical analysis to					
All transporters must certify the wastes delivered are only those consigned for transport.						
BRIEF DESCRIPTION OF MATERIAL:						
The following waste is generated by the washing	of tools and oil					
equipment. This analytical is from Halliburtons	Hobbs facility.					
Sundance would like approval to acppet this wast	e into our Parabo facility.					
Estimated Volume 300 bbls cy Known Volume (to be entered by the c	operator at the end of the haul) ————————————————————————————————————					
Waste Management Facility Authorized Agent	E MGR DATE: 4-6-01					
TYPE OR PRINT NAME: DONNA L. ROACHH T	ELEPHONE NO. 505-394-2511					
(This space for State Use)	4					
APPROVED BY: TTTLE:	DATE:					

#### # 1/ 1

## CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATO	R:Halliburton						
ADDRESS:5801 Lovington Hwy							
GENERATING SITE:I	Hobbs Yard						
	COUNTY Lea STATE NM						
TYPE OF WASTE:W	ash Rack Grit						
ESTIMATED VOLUME:	300,000 lbs.						
GENERATING PROCESS	S: Wash Rack Sumps						
REMARKS:							
NMOCD FACILITY:	Sundance						
TRUCKING FACILITY:	Chaparral						
as defined by the Environme To my knowledge, this waste verify the nature as non-haza waste" pursuant to the provise	for disposal, I hereby certify that this waste is a non-exempt waste ntal Protection Agency's (EPA) July 1988 regulatory Determination. will be analyzed pursuant to the provisions of 40 CFR Part 261 to ordous. I further certify that to my knowledge "hazardous of listed sions of 40 CFR, Part 261, subparts C and D, has not been added or make the resultant mixture a "hazardous waste" pursuant to the ons 2613.						
AGENT: _	Signifure						
NAME:	Eddie Hopper PRINTED						
ADDRESS: §	5801 Lovington Hwy Hobbs, NM 88240						
DATE:	3/20/01						

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

le			CHAIN-OF	<b>CUSTODY</b>	CHAIN-OF-GUSTODY AND ANALYSIS REQUEST	
	INC.	MC. 101 East Harland, Hobbs, NM 88240		: :::::::::::::::::::::::::::::::::::	,	
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PHONE (915) 673-7001 - 2111 BEECHWOOD - ABILENE, TX 79603

PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM-88240 FAX TO:

Method

Receiving Date: 12/12/00 Reporting Date: 12/14/00 Project Number: NOT-GIVEN Project Name: WASHBAY SUMP Project Location: HOBBS YARD Sample ID: WASHBAY SLUDGE Lab Number; H5422-1

Analysis Date: 12/13/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

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Sample Received By: BC

Analyzed By: BC

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1	Z-TCI	PV	OLA	TILE	<b>35</b> (	ppm	)

	₩ M	OBITIPIO I COSUIL	Medica			I FMC FG	
TCLE VOLATILES (PRIM)	HEY LIMIT	g <b>7+5422-1</b>	Blank	####AAAAA	%Recov.	T QC	7.817430
Vinyl Chloride	0.20	<0.005	<0.005	0.108	108	0.100	7
1,1-Dichloroethylene	0.7	<0.005	<0.005	0.089	89	0.100	
Methyl Ethyl Ketone	200	<0.050	< 0.050	0.083	83	0,100	
Chloroform	6.0	<0.005	<0.005	0.089	89	0.100	
1,2-Dichloroethane	0.5	<0.005	====<0.005	0.087	<b>6.7 87</b>	0.100	
Benzene	0.5	<0.005	<0.005	0.088	88	0.100	
Carbon Tetrachioride	0.5	<0.005	<0.005	0.092	92	0.100	
Trichloroethylene	0.5	<0.005	<0.005	0.091	91	0.100	
Tetrachloroethylene	0.7	Z.MALY' <b>&lt;0</b> 0005	<0.005	0.099	99	0.100	
Chlorobenzene	100	持進上指<0:005	<0.005	0.094	94	0.100	
1.4-Dichlorobenzene	7.5	<0.005	< 0.005	0.104	104	0.100	

EPA Sample Result

#### % RECOVERY (ACC)

Dibromofluoromethane	95	
Toluene-d8 Lance of 1840	91	Japan Straight Marthers D
Bromofluorobenzene	98	Company Control Thyland Co
Hossi Monary (1975) WER		Secure As I am Call March
METHODS: EPA SW 846-8260, 1311		Actificate from tours officer
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METHODS: EPA SW 846-8260, 1311 Project Layer and a Co. E. Take in

Steplera to: 177 to 10.0, Julius H.

Late Strategy 1980 Med

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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's excitative remedy for any claim arising, whether based in contract or fort, shall be limited to the amount paid by client for analysis All claims, including those for negacence and any other cause whatspoore shall be deemed waived unless made in writing and received by Cardinal which thiny (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limited on; bysiness interruptions, less of use, or loss of profile incurred by client, its subsidiatives, affiliates or successors siming out of or related to the performance of corvices becaused by Cardinal, regardless of whether such claim is pased upon any of the above-stated reasons or otherwise.



PHONE (915) 573-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY. **HOBBS. NM 88240** FAX TO:

Receiving Date: 12/12/00 Reporting Date: 12/18/00 Project Number: NOT GIVEN Project Name: WASHBAY SUMP

Project Location: HOBBS YARD

Analysis Date: 12/16/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

12-20-2008 12:27 T LABINUMBERTS SAMPLE ID

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(mg/Kg)

WASHBAY SLUDGE

**Quality Control** True Value QC 240 % Recovery 95.0 Relative Percent Difference

METHOD: EPA 600/4-79-020 418.1

Remarking facility attraction

Professional Company of the Company

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H5422T.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim string, whether based in contract of tort, shall be limited to the amount paid by client for analyses.

All claims, including those for negligence and any other cause whatevery shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable sortice. In no event shall be kepto for incidental or consequential earnages, including, without furnitation, business interruptions, loss of use, or loss of profits incurred by client, its subordiance. allitates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the appreciated reasons or othe

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PHONE (915) 673-7001 - 2111 BEECHWOOD - ABILENE, TX 79603

PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240 FAX TO:

Receiving Date: 12/12/00
Reporting Date: 12/14/00
Project Number: NOT GIVEN
Project Name: WASHBAY SUMP
Project Location: HOBBS YARD
Sample ID: WASHBAY SLUDGE

Lab Number: H5422-1

Analysis Date: 12/13/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: BC

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Analyzed By: BC

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EPA	Sample Result	Method		True Value
IZ-ZOTCLA SEMIVOLATILES (PPM)	H5422-1	Blank Branch QC	% Recov.	Te QC

Pyridine	5.00	<0.020	<0.005	0.011	22	0.050
1,4-Dichlorobenzene	7.50	<0.020		0.024		0.050
o-Cresol	200	<0.020	<0.005			0.050
m, p-Cresol	200	· <0.020	<0.005	0.033	66	0.050
Hexachloroethane	3.00	<0.020	<0.005	0.021	42	0.050
Nitrobenzene.	2.00	<0.020	<0.005	0.034	68	0.050
Hexachloro-1,3-butadiene	0.500	<0,020	<0.005	0.026	52	0.050
2,4,6-Trichlorophenal	2.00	<0.020	<0.005	0.040	80	0.050
2,4,5-Trichlorophenol	400	ANTA Y (<0.020	<0.005	0.046	92	0.050
2,4-Dinitrotoluene	0.130	<0.020	<0.005	0.046	92	0.050
Hexachlorobenzene	0.130	<0.020	<0.005	0.045	90	0.050
Pentachlorophenol	100	Sail 6 < 0.020	<0.005	0.047	94	0.050

#### MÖDSS, NS 5 123 % RECOVERY

集9年 はからおりかけ

	N INTOCATIVI
Fluorophenol	56
Phenol-d5	40
Nitrobenzene-d5	104
2-Fluorobiphenyl	68
2,4,6-Tribromophenol	89
Terphenyl-d14	81
Large Storage to the annual state of the storage of	

METHODS: EPA SW 846-8270, 1311, 3510

Burgess J. A. Cooke, Ph. D.

· ~ /

Date

4. 32:4

PLEASE NOTE: Liability and Damages. Cardinal's wability and client accurate remaining to any claim arising, whether baced in contract or ton, shall be limited to the amount paid by client for analysos. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thiny (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profus included by client, its subardianes, affiliance or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



PHONE (915) 673-7001 - 2111 BEECHWOOD - ABILENE, TX 79603

PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON

5801 LOVINGTON HWY. HOBBS, NM 88240

Receiving Date: 12/12/00 Reporting Date: 12/18/00 Project Number: NOT GIVEN Project Name: WASHBAY SUMP Project Location: HOBBS YARD

FAX TO:

Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Complete Collective to Escape Collective Col

Sample Received By: BC Analyzed By: AH/BC

REACTIVITY

(mag)

12-20-1000 LAB NUMBER SAMPLE ID 11 HOWS

Sulfide

Cyanide: CORROSIVITY IGNITABILITY: 1988 Factor

(ppm)

(pH)

ANALYSIS DATE:	12/14/00	12/14/00	12/16/00	12/16/00
H5422-1 WASHBAY	Not reactive	Not reactive	7.65	Nonflammable
SLUDGE				
The property of the second section	t a man metal established	Fra Thaywill		
well and the state of the state		— Bilits√,	19 40 4 68 67 F 14 68 71.5	
			4. ***	
	f ·		·_··	
	2 3 7 10 2 3 2 PH 2 1 1	· · · · · · · · · · · · · · · · · · ·		
Quality Control	NR	NR.	7.03	NR
True Value QC	NR	NR	7.00	NR
% Recovery	NR.	NR	100	NR
Relative Percent Difference	NR	NR	0.1	NR

METHOD: EPA SW 846-7.3, 7.2, 1030 (proposed), 1311, 40 CFR 261

Bufleton	LA COD	he	
Chemist U	112 11 11 11 11 11		

Microships Control Condition

Reporting de les estants de Parley de la les de les estants de la les estants de la

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tori, shall be limited to the amount paid by chort for analyses All claims health accessor negligence and any other cause wantscover shall be deemed waived unless made in writing and received by Cardinal within thiny (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services nersunder by Cardinal regardless of whether such dish is based upon any of the above-stated reasons or otherwise.

ruside Cymile on service y



From-HALLIBURTON HOBBS

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON **5801 LOVINGTON HWY** 

**HOBBS, NM 88240** 

FAX TO:

Receiving Date: 12/12/00 Reporting Date: 12/16/00 Project Number: NOT GIVEN Project Name: WASHBAY SUMP

Project Location: HOBBS YARD

Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: AH Analyzed By: AH/GP

## TCLP METALS

LAB NO:001 SAMPLE ID THE WALL	Talkey As	Das Ag	Ва	Cdi	0837278 <b>C</b> r	Pb	7:CiHgi	Se	in it is
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
ANALYSIS DATE:	12/13/00	12/14/00	12/14/00	12/14/00	12/14/00	12/14/00	12/15/00	12/14/00	
EPA LIMITS:	5	5	100	1	5	5	0.2	1	
H5422-1 WASHBAY SLUDGE	<u> </u>	<1	<b>&lt;</b> 5	<u>,,,,,,,,</u> <0.1	L		<0.02	<0.1	
The second of th	4. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	(HIII)	der einderen Stilde alleren	មាន ពីក្រុម ខ្លាំង ។ ប្រ	111 (4.4.4.14)	क्षेत्र र अध्यक्ष	134 124	1 P	The second state of the se
ne se di la la sensa				1.00-1.50	19 4 16 A. J. C.	ara e de la lace	1 13.5 £	701, 1 T	
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				· —					
		ATMAY T	DAL 27.53	NIN FOR			t		
		HALLE.	Die	gradinati	NAME:				
1		(4) TVE (	30773	1. 1 1 1. 2 1. 1					
		SEM CO	1 <u>838</u> 000	\$4.W				r	
Quality Control	0.193	4.719	44.56	1.047	5.009	0.00945	5.076	0.053	
True Value QC	0.200	5.000	50.00	1.000	5.000	0.01000	5.000	0.050	
% Recovery	96.5	94.4	89.1	105	100	TH: 94.5	102	106	
Relative Standard Deviation	2.0	0.5	3.7	0.3		36: ₹ <b>5.8</b>	0.4	2.0	
distribution of the relation				7.	หิธเสอ			<u> </u>	
METHODS: EPA 1311, 600/4-91/01	206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2	
ephones have but in 1922 had a			·		11.1,334	Age Children	,		

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*	Amin Hill	10 kg	ភិទ្ធ ស្វាត	$\mathcal{F}_{i}(0,1)$	Salar Parkat	धमा पुगराम	2-1	10-00	
-	Chemist?					Date			
	ENGLE 7	. )		- 1 1	100		1	The second secon	· .
	Manufactive Manufacture of the state of the		-	;				1	,
	H5422M.XLS				1		£ .		;
		i" í					1		

PLEASE NOTE: Liability and Damages. Cardinal's liability and cherit's exclusive remedy for any claim ensing, who more based in contract or rort, shall be limited to the amount paid by client for analysis.
All claims, including those for negligence and any other cause whatsoever shall be deemed walved unless made in writing and received by Cardinal within thiny (30) days after completion of the applicable spanics. In no evant shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its substitutes. affiliates or successors arising out of or related to the performance of services horolunger by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

r. U. DOX 178U Holibs, 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

TACM TATCATION Energy Minerals and Natural Resources Department

2040 South Pacheco Street JUN 2 9 200 banta Fe, New Mexico 87505 (505) 827-7131

Environmental Bureau Oil Conservation Division JUN 1 8 2001

PARTE TRANSPORT

Submit Origin Plus I Čo to appropria District Offi

rorm **C-1**3

Originated 8/8/

REOLIEST FOR APPROVAL TO ACCEPT SOLUTION WASTE

1. RCRA Exempt: Non-Exempt: X 6-14-01  Verbal Approval Received: Yes Yes No Solution Sundance Services Inc.  2. Management Facility Destination SUNDANCE SERVICES INC.  3. Address of Facility Operator P.O. BOX 1737 Eunice NM 882318. State NEW MEXICO	2010 824 (
2. Management Facility Destination SUNDANCE SERVICES INC. 6. Transporter GANDY CORP.	824
2. Management Facility Destination SUNDANCE SERVICES INC. 6. Transporter GANDY CORP.	
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 882318. State NEW MEXICO	١
7. Location of Material (Street Address or ULSTR) 1802 W. Marky Hobbs, Wm 88240	¥
9. <u>Circle One</u> :	
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from Generator; one certificate per job.  All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analystic PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous listing or testing will be approved.	is to
All transporters must certify the wastes delivered are only those consigned for transport.	
BRIEF DESCRIPTION OF MATERIAL:	
Sump WASte (304DS)	
Estimated Volume 30 4ds. cy Known Volume (to be entered by the operator at the end of the haul)	– cy
SIGNATURE: Dana Roach TITLE: OFFICE MGR DATE: 6-13-01	/
TOTAL OF LA	
TYPE OR PRINT NAME: DONNA D. ROACHS  TELEPHONE NO. 505-394-2511	
(This space for State Use)	
APPROVED BY: DATE:	
APPROVED BY Monty John TITLE Eurinoam by Garast DATE: 7-2-01	

TraceAnalysis, Inc.

6701 Aberdeen Ava., Suite 9

Lubbock, TX 79424-1515

(806) 794-1296

A99

Report Date: June 8, 2001 Order Number: A01060401 Weatherford Exit Assessment

Page Number: 1 of 1 1805 W Marland Hobbs, NM

## Summary Report

Robbie Walker

**BNC-Midland** 

P.O. Box 1271

Midland, Tx. 79707

Report Date:

June 8, 2001

Order ID Number: A01060401

Project Number:

Project Name:

Project Location:

Weatherford Exit Assessment 1802 W Marland Houbs, NM

Date

Time

Date

Sample

172351

Description

SCI

Matrix Suil

Taken 5/30/01 laken

Received

15:00 6/2/01

This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

			BTEX		1,7	TPH DRG	TPH CRO
	Всигене	Toluene	lithy/benzone	M,P,O-Xylene	Total BTEX	DRO	GHO
Sample - Field Code	(mg/Rg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
172351 - SCI	<0.025	<(1.025	< 0.025	< 0.025	< 0.025	5400	3.2

Sample: 172351 - SCI Param

Param	Flag	Result	Units
Corrosivity			
Corresivity (EPA limit = >5.5 mm/yr)		Non-corresive	mm/yr
pH (EPA limit = <2 >12.8)		7.4	5.U.
Ignitability		non-ignitable	•
Reactivity			
Reactivity		Non-reactive	
Hydrogen Sulfide (EPA limit - 500)		<10	mg/Kg
Hydrogen Cyanide (EPA limit = 250)		<2.5	mg/Kg
TCLP Mercury (EPA limit = 0.20)		<0.010	mg/L
TCLP Metals			
TCLP Arsenic (EPA limit = 5.0)		<1.0	mg/L
TCLP Barium (EPA limit = 100.0)		<1.0	mg/L
TCLP Cadmium (EPA limit = 1.0)		<.50	mg/L
TCLP Chromium (EPA limit = 5.0)		<.10	ng/L
TCLP Lead (EPA limit - 5.0)		<.50	mg/L
TCLP Selenium (EPA limit = 1.0)		<1.0	mg/l.
TCLP Silver (EFA limit = 5.0)		<.10	mg/L

Jun.14. 2001— 8:41AM≏

No.2291-

## CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

	_					<del>nder t. "</del>
DISPOSAL L	OCATION:	SUNDANCE	SERVICES	INC.		
SOURCE:	Wash Basi	nured	for cleaning	downhole	of field	<u>pumps</u>
ORIGINATI	NG LOCATIO	N: 180	L West	Marland	Hobbs	NM

As a condition of acceptance for disposal, I hearby certify that this waste is a non-exempt waste as defined by the Environmental Protection Agency's (EPA) July 1988 Regulatory Determination. To my knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 261 to verify the nature as non-hazardous. I further certify that to my knowledge no "hazardous or listed waste" pursuant to the provisions of 40 CFR, Part 261, Subparts C and D, has been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, Section 2613.

L, the undersigned as the agent for \(\frac{11 \cappa + \text{for c}}{12}\)
concur with the status of the waste from the subject site.

Name Robbie O. Walker

Ticle: Angency BUC Environmental Serva

Address 4400 N Big Spring Ste A-7

Midland, TX 79705

Signature Sabli Walker

Date 6/ 101

1. U. DOX 178U 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

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

(505) 827-7131

rorm C-13 Originated 8/8/

> Submit Origin Plus 1 Co to appropria District Offi

DECLIECTEOD ADDDONAL TO ACCEPT COLID VALACTE

REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: Non-Exempt: 🔀	4. Generator PRO WELL TESTING
Verbal Approval Received: Yes No No	5. Originating Site hobbs stacility
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter unknown
	82318. State NEW MEXICO
7. Location of Material (Street Address or ULSTR) 2815 Loving	ton they, Asbos, NM 88240
9. <u>Circle One</u> :	
A. All requests for approval to accept oilfield exempt wastes will be accepted accept; one certificate per job.  B. All requests for approval to accept non-exempt wastes must be accepted accepted to accept non-exempt wastes must be accepted accep	companied by necessary chemical analysis to
All transporters must certify the wastes delivered are only those consigne	
BRIEF DESCRIPTION OF MATERIAL:	** H
facility. This waste is generated by the was wireline tools. I have attached a certifical custody. Sundance would like to request appoint our Parabo disposal facility.	ate of waste and chain or
Estimated Volume 00 bb1s. cy Known Volume (to be entered by the o	perator at the end of the haul) ————————————————————————————————————
SIGNATURE: A Onny & Charle TITLE OFFICE	E MGR DATE: 4-6-01
Waste Management Facility Authorized Agent	505 204 254
THE OR PRINT INAIVIE:	ELEPHONE NO
(This space for State Use)	
APPROVED BY:TTTLE:	DATE:
APPROVED BY: Monthym 97h. TITLE: Environm	ental Godast DATE: 4-10-01

## CERTIFICATE OF WASTE STATUS

88240

Hobbs,

## NON-EXEMPT WASTE MATERIAL

ORIGINATING LOCATION: 2815 Lovington Hwy,

SOURCE:	_wash ba	y sump an	d holding tank	_	•
DISPOSAL	LOCATION:	SUNDANCE	E SERVICES INC.	_ _	
	that this waste Environmenta Determination pursuant to the nature as non- knowledge no ' provisions of 40 added or mixed mixture a "haza CFR, Section 2	is a non—exemil Protection Age. To my knowled provisions of 4-hazardous. If hazardous or life CFR, Part 26: If with the waste product waste product was a redous waste professional procession of the procession o	for disposal, I hearby certify pure waste as defined by the ency's (EPA) July 1988 Regulatory edge, this waste will be analyzed 40 CFR Part 261 to verify the further certify that to my sted waste" pursuant to the 1, Subparts C and D, has been as o as to make the resultant cursuant to the provisions of 40  Prowell Testing and Wire	line	Servi
	ndersigned as the he status of the w	•			501 71.0
	·	Name	Merv Buckner		
		Title/Angency	manager		
		Address	2815 Lovington, Hwy, Hobbs,	NM	88240
		Signature	men Buch		
		Date	4-2-01		
	•				

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES, INC.
2111 Beechwood, Abliene, TX 79603 101 East Marland, Hobbs, NM 88240

	(915) 673-7001 Fax (915) 673-7020	0 (505) 393-2326 Fax (505) 393-2476	x (505) 393-2476		9	Page of
Company Name:	PROMOBIL TESTINGS	Wiceline Seli	01 T118		ANALYSIS REQ	REQUEST
Project Manager:	meen buckner		P.O. #:			
Address: 2815	15 Lovington Itwo	25	Company:			
CHY: 140 VDC	State:	01288 :412 WI	Attn:			<u></u>
Phone #:	Fax #:		Address:			
Project #:	Project Owner:		City:			
Project Name:	SU HAM AMING	ا	State: Zip:			
Project Location:	HODOS ,		Phone #:			
Sampler Name:			Fax #:			
FOR LAB USE ONLY		MATRUX	PRESERV. SAMPLING	)		
		RS TER		if		
Lab I.D.	Sample I.D.	(G)RAB OR (C # CONTAINER GROUNDWAT WASTEWATE SOIL CRUDE OIL SLUDGE	OTHER: ACID/BASE: ICE/COOL OTHER:	TME		
15000	dung		C 11/13/00	7		
NEASE HOTE: Unbilly and bu	rages. Cardina's lability and elect's exclusive reme on for nadizzacos and any other custo whethoever of	by for any claim arising whether besed in contract of	fort, stad to bashed to the second paid by the clerit for the	add by the clear, for the	form and Conditions leavest will be sharped on all occurs an	and will be charged on all accounts on
eardos, in ro exert shall Carde officials of excussions arising o	t be <u>liable for</u> incidental or coresquental dumages, included of or related to the performance of services hereunder t	ry without britation, business intempolens, bus by Cardinal, regardless of whether such dakin is	hamptons, bes of uso, to loss of profits hoursed by client, its than such claim is based upon any of the shows stated reasons a		i i	and all coats of collections, brokeling alloway's face.
	, i	Techned by.		Fax Result: Tes	□ No Add1 Fax #:	
70 (00)			, ,		march is	708 25
None Management C.				30% 25	o Risneil	
Delivered By: (Circle One)	(Circle One)	Sample Condi	lact (Initiate)	$\beta$ C.	112 80	
Sampler - UPS - Bus - Other:	Bus - Other:		X68	17	1/15/00	



PHONE (915) 673-7001 · 2111 BEECHWOOD · ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR

PRO-WELL TESTING & WIRELINE SERVICES

ATTN: MERV BUCKNER 2815 LOVINGTON HWY HOBBS, NM 88240

FAX TO:

Sampling Date: 11/13/00

Sample Type: SLUDGE

(70% SOLID, 30% LIQUID) Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: AH/BC

Receiving Date: 11/13/00 Reporting Date: 11/16/00 Project Number: NOT GIVEN Project Name: SUMP ANALYSIS

Project Location: HOBBS, NM

REACTIVITY

LAB NUMBER SAMPLE ID	Sulfide	Cyanide C	ORROSIVITY	IGN	ITABILITY
	(ppm)	(ppm)	(pH)		(°F)

ANALYSIS DATE:	11/15/00	11/15/00	11/14/00	11/14/00
H5333-1 SUMP	Not reactive	Not reactive	7.08	>140
			<del></del>	
				-
Quality Control	NR	NR	7.04	NR
True Value QC	NR	NR	7.00	NR
% Recovery	NR	NR	101	NR
Relative Percent Difference	NR	NR	0	NR

METHOD: EPA SW 846-7.3, 7.2, 1010, 1311, 40 CFR 261





PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR PRO-WELL TESTING & WIRELINE SERVICES ATTN: MERV BUCKNER 2815 LOVINGTON HWY HOBBS, NM 88240 FAX TO:

Receiving Date: 11/13/00
Reporting Date: 11/16/00
Project Number: NOT GIVEN
Project Name: SUMP ANALYSIS
Project Location: HOBBS NM
Sample ID: SLIMP

Sample ID: SUMP Lab Number: H5333-1 Analysis Date: 11/15/00 Sampling Date: 11/13/00 Sample Type: SLUDGE

(70% SOLID, 30% LIQUID)
Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: BC

TCLP VOLATILES (ppm	(۱	EPA LIMIT	Sample Result H5333-1	Method Blank	QC	%Recov.	True Value QC
Vinyl Chloride		0.20	<0.005	<0.005	0.108	108	0.100
1,1-Dichloroethylene		0.7	<0.005	<0.005	0.089	89	0.100
Methyl Ethyl Ketone		200	<0.050	<0.050	0.083	83	0.100
Chloroform		6.0	<0.005	<0.005	0.089	89	0.100
1,2-Dichloroethane		0.5	<0.005	<0.005	0.087	87	0.100
Benzene		0.5	0.503	<0.005	0.088	88	0.100
Carbon Tetrachloride		0.5	<0.005	<0.005	0.092	92	0.100
Trichloroethylene		0.5	<0.005	<0.005	0.091	91	0.100
Tetrachloroethylene		0.7	<0.005	<0.005	0.099	99	0.100
Chlorobenzene		100	<0.005	<0.005	0.094	94	0.100
1,4-Dichlorobenzene	1	7.5	<0.005	<0.005	0.104	104	0.100
			% RECOVERY				
Dibromofluoromethane			98				
Toluene-d8			88				

METHODS: EPA SW 846-8260, 1311

Bromofluorobenzene

NOTE: Analysis performed on a 70:30 mixture of leachate & liquid.

DWG OFFU (B)OW) Burgese J. A. Cooke, Ph. D.

Date



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR

PRO-WELL TESTING & WIRELINE SERVICES

ATTN: MERV BUCKNER 2815 LOVINGTON HWY HOBBS, NM 88240

FAX TO:

Receiving Date: 11/13/00
Reporting Date: 11/16/00
Project Number: NOT GIVEN
Project Name: SUMP ANALYSIS
Project Location: HOBBS, NM

Sample ID: SUMP Lab Number: H5333-1 Analysis Date: 11/14/00 Sampling Date: 11/13/00 Sample Type: SLUDGE

(70% SOLID, 30% LIQUID)

Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: BC

TCLP SEMIVOLATILES (ppm)	EPA LIMIT	Sample Result H5333-1	Method Blank	QC	% Recov.	True Value QC
Pyridine	5.00	<0.050	<0.005	0.008	16	0.050
1,4-Dichlorobenzene	7.50	<0.050	<0.005	0.032	64	0.050
o-Cresol	200	<0.050	<0.005	0.028	56	0.050
m, p-Cresol	200	0.174	<0.005	0.026	52	0.050
Hexachloroethane	3.00	<0.050	<0.005	0.019	38	0.050
Nitrobenzene	2.00	<0.050	<0.005	0.040	80	0.050
Hexachloro-1,3-butadiene	0.500	<0.050	<0.005	0.027	54	0.050
2,4,6-Trichlorophenol	2.00	<0.050	<0.005	0.041	82	0.050
2,4,5-Trichlorophenol	400	<0.050	<0.005	0.041	82	0.050
2,4-Dinitrotoluene	0.130	<0.050	<0.005	0.045	90	0.050
Hexachlorobenzene	0.130	<0.050	<0.005	0.040	80	0.050
Pentachlorophenol	100	<0.050	<0.005	0.043	86	0.050

## % RECOVERY

Fluorophenol	38
Phenol-d5	32
Nitrobenzene-d5	83
2-Fluorobiphenyl	82
2,4,6-Tribromophenol	53
Terphenyl-d14	94

METHODS: EPA SW-846 8270, 1311, 3510

NOTE: Analysis performed on a 70:30 mixture of leachate & liquid.

Burgess J. A. Cooke Ph. D.

Date



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR PRO-WELL TESTING & WIRELINE SERVICES ATTN: MERV BUCKNER 2815 LOVINGTON HWY HOBBS, NM 88240

FAX TO:

Receiving Date: 11/13/00
Reporting Date: 11/17/00
Project Number: NOT GIVEN
Project Name: SUMP ANALYSIS
Project Location: HOBBS, NM

ARDINAL

Sampling Date: 11/13/00 Sample Type: SLUDGE

(70% SOLID, 30% LIQUID)

Sample Condition: COOL & INTACT

Sample Received By: AH

Analyzed By: AH

## **TCLP METALS**

LAB NO.	SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS	DATE:	11/16/00	11/14/00	11/14/00	11/14/00	11/14/00	11/14/00	11/16/00	11/15/00
EPA LIMITS	S:	5	5	100	1	5	5	0.2	1
H5333-1	SUMP	<1	<1	<5	<0.1	<1	<1	<0.02	<0.1
		1:							
Quality Con	ntrol	0.195	4.773	23.10	1.034	5.206	0.935	0.0098	0.214
True Value		0.200	5.000	25.00	1.000	5.000	1.000	0,0100	0.200
% Recovery	<del></del>	97.5	95.5	92.4	103	104	93.5	98.0	107
	andard Deviation	2.3	0.4	7.5	0.3	3.1	5.2	2.2	2.2
METHODS:	EPA 1311, 600/4-7	9- 206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2

NOTE: Analyses performed on 70:30 mixtures of leachate & liquid.

H5333M.XLS

obbs, NM 88241-1980 District II x (505) 748-1283 814 SeFirst Artesia, NM 88210 District III - (505) 334-6178 1000 Rio Brazos Road Aziec, NM 87410 District IV - (505) 827-7131

## Energy Minerals and Natural Resources Department Oil Conservation Division

2040 South Pacheco Street Santa Fe, New Mexico 87505 SERVATION DM. (505) 827-7131

MI FFR LE

Submit Orig Plus 1 C to appropr

Originated 8/1

District Of

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: Non-Exempt: X	,	4. Generator Permian Mack
Verbal Approval Received: Yes 🔲 1	No 🔲	5. Originating Site Hobbs Facili
2. Management Facility Destination SUNDANCE SE	RVICES INC.	6. Transporter Maclaskey
3. Address of Facility Operator P.O. BOX 1737	Eunice NM 88	2318. State NEW MEXICO
7. Location of Material (Street Address or ULSTR)	2121 W West Cou	nty Road Hobbs, NM 88240
9. <u>Circle One</u> :		,
A. All requests for approval to accept oilfield exergence Generator; one certificate per job.  All requests for approval to accept non-exem PROVE the material is not-hazardous and the listing or testing will be approved.	pt wastes must be acco	ompanied by necessary chemical analysis to
All transporters must certify the wastes delivered ar	e only those consigned	for transport.
BRIEF DESCRIPTION OF MATERIAL:		
The following analytical refacility. This waste was shop tools into the grit to waste status and chain of to accept this material in	generated by th rap. I have in custody. Sunda	e washing of trucks and cluded ancertificate of nce would like approval
	•	
Estimated Volume 200 hbls. cy Known Volume	(to be entered by the ope	crator at the end of the haul) ————————————————————————————————————
SIGNATURE: Waste Management Facility Authorized Agent TYPE OR PRINT NAME: DONNA L. ROACHH	TTTLE: OFFICE	MGR DATE: 2-7-0/ EPHONE NO. 505-394-2511
(This space for State Use)		
APPROVED BY: Martin This.	TITLE:	mbal Gallyso DATE 2-17-01
		<i>V</i> ,

JAN-29-1990

ORIGINATING LOCATION:

# CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

2121 West County Road Hobbs, NM

	wash h	ay grit	trap			
DISPOSAL	LOCATION:	SUNDAN	ICE SERV	ICES IN	<b>:</b> .	
	•				11	
na mari - 2012 - 2012 anna 1885 ann an a	As a condition that this waste	is a non—ex	rempi wasis i	s defined by	the	السدويين بالسام عدائة تتعسيد أدائهم
14:01	Environmenta Determination	Protection	Agency's (El	PA) July 198	8 Regulator	Y
	pursuant to the	e provisions • To my an	of 10 CLS 5 owiedly for	wasie will di vel 261 la ve	sallyzed eife the	
:-	naiws as non-	-bazardous.	I further cer	tify that to z	DA TWA TITC	
	knowledge so	Bazardous (	or listed was to	o pursuant	to the	•
	provisions of 4	OCFR, Part	261, Subpart	s Cand D, h	es been	
	added or mixed	d with the w	1510 50 55:10 1 1 - 35 46 136 3	nake the res	ultant	
	mixture a haz CFR, Section 2	*100U3 W#3(0 )61:3			ons of 40	
		6 8 5 6 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Company at 41 to 120	Alleria, a	
					ń.	
Lthe u	ndersigned as the	dt morii stes	e subject alte	rmien M	ack Sale	S. C.
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open with t	be status of the w	aste from th Name Tule/Ange	Pe subject site	rmian M	ChRIP MANA	a talah kecama
open with t	be status of the w	Name Name Tale/Ange Address Signature	Pe subject site	Ref 3	ChRIP LAANA 678 8240	a talah kecama
open with t	be status of the w	Name Name Tub/Ange	Pe subject site	Ref 3	ChRIP MANA 678 6240 2001	a talah kecama
open with t	be status of the w	Name Name Tale/Ange Address Signature	Pe subject site	Ref 3	ChRIP LAANA 678 8240	a talah kecama
open with t	be status of the w	Name Name Tale/Ange Address Signature	Pe subject site	Ref 3	ChRIP MANA 678 6240 2001	a talah kecama

# CHAM-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES, INC.
THI Becchwood, Abbana, TX 78803 104 Each Barriand, Nebba, NZ 88340

STACKED THE TOUR TO SERVE STACKED STAC		(100) 100-2128 Few (100) 100-2478			7	
1 CAN WAR SERVING	- 1		<b>非常制度</b>	SKTWRE	MALYSIS REQUEST	
		\$0.0		,		
Materians 190, 163 1678		Consequences.				سابید الاستان
Loss	BHENDER PROMINERS	A134				
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न्यां है।	Project Owner:	Cay	المراد	:	1	
Profest Research			n			
Project Leveling		**	(Q)	:	:	
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Bocaptay UTS - Bas - Other:		RY704		<b>7</b> .		

↑ Carolinal control accept weight changes. Planes fax verifies changes to 886-385-2678.



PHONE (915) 878-7001 . 2111 BEECHMOOD - ASILENE TX 79803

PHONE (905) 393-2325 - 101 E. MARLAND - HOSBS, NM 88240

ANALYTICAL RESULTS FOR PERMIAN MACK SALES OF NM, INC.

ATTN: RANDY P.O. BOX 1878 HOBBS, NM 88240

FAX TO:

Sampling Date: 09/07/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: GP Analyzed By: BC/AH ....

Receiving Date: 09/07/00

Reporting Date: 09/14/00 Project Owner: NOT GIVEN

Project Name: NOT GIVEN ... Project Location: NOT GIVEN

REACTIVITY

Cyanide CORROSIVITY IGNITABILITY LAB NUMBER SAMPLE ID Suffide 50 f - 10-2009 - 69:37 MOGLESI (Bbim) (ppm)

ANALYSIS DATE!	9/12/00	9/12/00	9/13/00	9/13/00
H5180-1 GRIT TRAP	Not reactive	Not reactive	6.60	>140
				<u> </u>
	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
				1
				ļ <u></u>
Quality Control	NR NR	NR	6.99	NR
True Value QC	NR	NR	7.00	NR
% Recovery	NR	NR	99.9	NR
Relative Percent Difference	NR	NR	Ò	NR

METHOD: EPA 8W 848-7.3, 7.2, 1010, 1311, 40 CFR 261



PHONE (815) 875-7001 - 2111 BEECHWOOD . ABILENE, TX 79003

PHONE (505) 393-2328 - 101 E MARLAND - HOBBS, NM 88240

ANALYTICAL REBULTS FOR
PERMIAN MACK SALES OF NM, INC...
ATTN: RANDY
P.O. BOX 1576
HOBBS, NM \$8240
FAX.TO:

Reporting Date: 09/07/00
Reporting Date: 09/14/00
Project Owner: NOT GIVEN
Project Name: NOT GIVEN
Project Location: NOT GIVEN

Sampling Date: 09/07/00 Sample Type: \$EUDGE

Sample Condition: COOL & INTACT

Bample Received By: GP

Analyzed By: AH

## TCLP METALS

LAB NO. SAMPLE ID	ASC	CLASK <b>89</b>	Ba	Cd	Cr	Pb	Hg	60
:	ppm	. ppm	תוקק	.ppm	bbtu	ppm	bbu	. ppm
ANALYSIS DATE:	09/11/00	09/11/00	09/11/00	09/11/00	09/14/00	9411000	0943400	09/11/00
EPA LIMITS:	6	5	100	1	. 6	5	0.2	• •
HS180-1 GRITTRAP	<1	. <1	<\$	<0.1	· 4	<1	<0:02	<0.1
			Market The					
Carlo as a second					11.11			
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			Kening and		4.			
			Tist.					
		:	4					
Quality Control	0.055	4.882	24.53	0.949	5,273	5.182	0.0105	0.215
True Value QC	0.050	5.000	25.00	1.000	5,000	6.000	0.0100	0.200
% Recovery	110	97,0	98,1	94.9	105	104	105	108
Relative Standard Deviation	2.3	0.5	1.3	0.4	2.4	0.1	13.2	5.4
<ul> <li>Solvensky state</li> </ul>								
METHODS: EPA 1311, 600/4-91/	206.2	272.1	208.1	213,1	218,1	239.1	245.1	270.2

Honey Hill

9-14-00 Dete ||

H\$160.XL8

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PHONE (915) 673-7001 . 2111 BEECHWOOD . ABILENE, TX 79803

PHONE (606) 393-2326 - 101 E. MARLAND - HOGBS, NM 86240

ANALYTICAL RESULTS FOR PERMIAN MACK SALES OF NM, INC. ATTN: RANDY P.O. BOX 1678 HOBBS, NM 88240 FAX TO:

Receiving Date: 09/07/00
Reporting Date: 09/11/00
Project Owner: NOT GIVEN
Project Name: NOT GIVEN
Project Location: NOT GIVEN

Project Location: NOT GIVE Lab Number: H0160-1 Sample ID: GRIT TRAP

Analysis Date: 09/08/00 Sempling Date: 09/07/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Scripte Received By ... GR

Analyzed By: BC

the second and bosons to a superfiction of the second seco	EPA	Sample Result	- "Method"	A take 1	No. 40	True Value
TCLP VOLATILES (ppm):	LIMITO	TLASK <b>#15160-1</b>	Blank	ØC.	%Recov.	OC.
Vinyl Chloride	0.20	<0.005	<0.006	0.087	87	0.100
1,1-Dichloroethylene	0.7	<0.005	<0.006	0.102	102	0.100
Methyl Ethyl Ketone	200	0.113	<0.050	0.109	109	0.100
Chloroform	8.0	<0.005	<0.005	0.104	104	0.100
1,2-Dichloroetherre	0.5	<0.005	<0.006	0.114	114	0,100
Benzane	0.5	<0.005	<0.005	0.108	108	0.100
Carbon Tetrachlorida	0.5	¢0.005	<0.005	0.105	105	0.100
Trichloroathylene	0.5	<0.005	<0.005	0.109	109	0.100
Tetrachioroethylene	0.7	0.011	<0.005	0.106	106	0.100
Chlorobenzene	100	<0.005	<0.005	0.106	108	0.100
1.4-Dichloropenzene	75	<0.005	<0.005	0.111	111	0.100

,	4	RECO	VER	Y.

	70.000	<del></del>	
Dibromofluoromethane		. 96	
Taluene-d8		96	
Bromofluorobenzene		98	·

METHODS: EPA SW 846-8260, 1311

BUTGES JIA Coffe D. O.

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r. O. Dox 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

# Energy Minerals and Natural Resources Department Oil Conservation Division

2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131 Submit Origin
Plus 1 Co
CONSERVATION DIV. to appropria
OU FED 1 -

rom C-13

Originated 8/8/

.C

01 FEB 16 PM 2-12

REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: Non-Exempt: X  Verbal Approval Received: Yes X  No	4. Generator HALLIBURTON  5. Originating Site LEVELLAND TX
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter CHAPARRAL SERV
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State NEW MEXICO
7. Location of Material (Street Address or ULSTR)  HWY 114 LEVI	LLAND TX
<ul> <li>9. Circle One: <ul> <li>A. All requests for approval to accept oilfield exempt wastes will be accepted.</li> <li>B. All requests for approval to accept non-exempt wastes must be accepted.</li> <li>B. All requests for approval to accept non-exempt wastes must be accepted.</li> </ul> </li> <li>All transporters must certify the wastes delivered are only those consistents.</li> </ul>	ompanied by necessary chemical analysis to on of origin. No waste classified hazardous by
All transporters must certify the wastes delivered are only those consigned BRIEF DESCRIPTION OF MATERIAL:	or transport.
The following analytical results are from Halli This waste is generated by the washing of oilf a cetificate of waste status and chain of cust approval to accept this material into our Para	ield tools. I have included tody. Sundance would like the facility.
Note: A verbal approval would be apprecated.  Estimated Volume  full and in danger of overflow.  Cy Known Volume (to be entered by the op  SIGNATURE: Wasse Management Facility Authorized Agent  TYPE OR PRINT NAME: DONNA L. ROACHH  TEI	· · · · · · · · · · · · · · · · · · ·
(This space for State Use)	
APPROVED BY: TTTLE:	DATE:
APPROVED BY: Martin Oth TITLE: Emilyen	man to / Coulous + DATE: 2-17-01

## 394-2590

## CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATOR: Halliburton Energy Serv.
ADDRESS: Hwy 114, Levelland TX
GENERATING SITE: Same
COUNTYSTATE
TYPE OF WASTE: Waste Water 1 5055987080
ESTIMATED VOLUME: 125 666
GENERATING PROCESS: Water from the Washing
of Tookshipper was a principle
REMARKS: A STEEL THE MEN IN THE STEEL THE STEE
Content recorde ricos: 100 / 1/2 or real 100 / 1/2
NMOCD FACILITY: Sun dance
TRUCKING FACILITY: Chappare 11 Services
As a condition of acceptance for disposal, I hereby certify that this waste is a non-exempt waste as defined by the Environmental Protection Agency's (EPA) July 1988 regulatory Determination. To my knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 261 to verify the nature as non-hazardous. I further certify that to my knowledge "hazardous of listed waste" pursuant to the provisions of 40 CFR, Part 261, subparts C and D, has not been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, Sections 2613:
AGENT: Ellie Hogger  FOR SIGNATURE TO COM-
NAME: Eddie Hoppin  ADDRESS: 5801 Loving ton Huy  DATE: 1-201

Treject Managers				The state of the s		-	_					1	
Scott Nelson			,, . 1	FAXA				; ; ;	KTVKY	ISZDÓZZ ESKTYKY	শ্		*
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Project Lacations				Paragraphic Signal	27.53		,						
HWY 114			 	Re	aland,	スとり	Ø	Be C	Ī		; ; ;		30 g
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"Don't Treat Your Soil Like Dirt!"

HALLIBURTON ENERGY SERVICES ATTN: MR. SCOTT NELSON 5801 LOVINGTON HWY HOBBS, NM 98240 FAX: 505-392-7062

Sample Type: Water

Sample Condition: Intact/load/HOI

Project #: None Given
Project Name: None Given
Project Location; Hww. 114

Sampling Date: 02/25/00 Receiving Date: 02/25/00 Analysis Date: 02/28/00

1	ribject	Charles to annot be admired to the state of				
1.57(\$8.4	ELT#	12:2: PRIN. DUST. SVC.CTR.W	TPH mg/L	Dississif (Dental)	F CIVI	,
F. 12	23790	Outside Tank	7			
			17 10 10 10 10 10 10 10 10 10 10 10 10 10			
		QUALITY CONTROL TRUE VALUE % PRECISION BLANK	267 360 102	(		
-	Methods	The end of the Language of the September				
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AND ALL YOURS ALL TO LEE TO HAND AND TELEFON HOUSE TELEFON HOUSE



"Don't Treat Your Soil Like Dirt!"

HALLIBURTON ENERGY SERVICES ATTN: MR. SCOTT NELSON 5801 LOVINGTON HWY HOBBS, NM 88240 FAX: 505-392-7062

Sample Type: Water

111

Sample Condition: Intact/load

Project Location: Hwy, 114

Sampling Date: 02/25/00 Receiving Date: 02/25/00

Project 4: None Given Analysis Date: 9/03 & 3/08/00

10: 德士斯斯巴里森罗斯丁

## TCLP METALS (mg/L)

	gertage en en eggen en en a	• ,	•	TCLP M	ETALS (	ng/L)			
ELTS	Field Code		As	Ba	Cd	Cr	Hg	Pb	Se
	EPA LIMIT	5,00	5.00	100.0	1.00	5.00	0.20	5.00	1.00
23790	Outside Tank	0.02	<0.002	0.20	0.009	<0.03	0.003	<0.10	<0.002
	計型には関す物域ができました。	Constitution of the second		,					
	REPORTING LIMIT	0.01	0.002	0.10	0.005	0.03	9,002	0.10	0.002
	W INICTOLINACHIT ACCUIDACE	1 / 9 9 7 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -			100		00	00	100
	% INSTRUMENT ACCURACY % EXTRACTION ACCURACY	7	94	104 106		102 97	98 85	98 94	102 95
		1	Maria de la compansión de La compansión de la compa		,		***	• •	

\*\* METHODS: EPA SW 846-1311, 7760, 7062, 7080, 7130, 7190, 7470, 7420, 7742

1984 of 11 and 14 of



"Don't Treat Your Soil Like Dirt!"

HALLIBURTON ENERGY SERVICES ATTN: MR. SCOTT NELSON 5801 LOVINGTON HWY HOBBS, NM 88240 FAX: 505-392-7062

Sample Type: Water

4.1.61...

Sample Condition: Intact/Iced/HCI

Project #: None Given
Project Name: None Given
Project Location: Hwy. 114

Sampling Date: 02/25/00 Receiving Date: 02/25/00 Analysis Date: 03/09/00 Field Code: Outside Tank

TCLP	SAMPLE	R.MIDLF	(X)	Dv 8169	\$P\$特殊特别!	
VOLATILES (mg/l)	23790	PQL	BLANK	%EA_	%DEV	
1.1-Dichloroethene	1.411					***************************************
	ND	0.001	ND	118	<b>~3.1</b>	
2-Butanone	ND	0.010	. ND		2.5	
Chloroform	ND	**O.001	ND ND		-2.0	
Benzene	ND	0.001	ND	118	4.9	
1.2-Dichloroethane	ND	0.001	ND		3.1	
Vinyl Chloride	ND	0.001	ND		3.0	
Carbon Tetrachloride	ND	0.001	ND		-5.6	
Trichloroethene	ND	0.001	ND	118	-9.3	
Tetrachloroethene	ND	0.001	ND MAKE		-6.2	
Chlorobenzene		0.001	ND	95	-15	
1,4-Dichlorobenzene	ND	0.001	ND N	,	-5.5	
			্টিভাল হ'লীয়াজ্য হ'জ। ভূলাকাল ভূলাকা		<del></del>	
SYSTEM MONITORING COMPO	NINDS	T., B&C	% RECOVERY			
dibromofluoromethane	OUDS	7				
			105			•
taluene d8 per 45 min.			111	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9.4	
4-bromoffuorobenzene	* * * * * * * * * * * * * * * * * * *		116			
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PQL = PRACTICAL QUANTITATION LIMIT Methods: EPA SW 846-8240, 1311

.....

Raland K. Tuttle

3-/4-00 Date

村间。张龙山的野山市是一个山山

THEFT BY I

5/6



"Don't Treat Your Soll Like Dirt!"

HALLIBURTON ENERGY SERVICES ATTN: MR SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240 FAX: 505-392-7082

Sample Type: Water Sample Condition; Intact/Iced

Project#: None Given Project Name: None Given

THE A COURT LA Project Locations Hwy. 114 . CER. MIDLAND

Sampling Date: 02/25/00 Receiving Date: 02/25/00 Analysis Date: 03/05/00

YD: 915664501

TCLP SEMIVOLATILE ORBANICS (mg/L)	REPORTING LIMIT	S ELT# 28790	
Want of the Control	<0.040	ND	
Cresol  1,4-Dichlorobenzene		Purity ND:	
2,4-Dinitrotoluene	<0.040	ND.	
Нежаспістовелжене	<0.040	ND	
Hexachlor-1,3-butadien	<0.040	AD مورية	
Heachloroethane	<0.040 <0.040	ND .	
Nitrobenzene	<0.040	ND	
Pantachlorophenol	<0.040	ND	
Pyridine	<0.040	ND	
2.4,5-Trichlorophenol	<0.040	TO SEASON DO SERVER SE ANTICO	
2.4,6-Trichlorophenal	<0.040	Control of the state of the sta	

Properties 19.1.

Method: SW 846-8270,1311

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Participate the second

Hardy 5

fr wer 1 1 10 12 25 25 25 25 25

Reland K. Tuttle

1980 West Lon Fort - Oddon Town 70700

6/6



"Don't Treat Your Soil Like Dirt!"

HALLIBURTON ENERGY SERVICES ATTN: MR. SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240 FAX: 505-392-7062

Sample Type: Water

Sample Condition: Intact/Iced

Project #: None Given

Project Name: None Given
18 C - 1 Project Location: Hwy. 114

Sampling Date: 02/25/00

Receiving date: 02/25/00

Analysis Date: See Below

ID: B1 HADBASS1

12: 11: 13 42 43

the Electric Control	Field Code	REACTIVITY H2S CN-	CORROSIVITY (s.u.)	IGNITABILITY
	1.1	NON-REACTIVE	NON-CORROSIVE	
		(ppm) (ppm) <20.0 <2.0		
23790	Outside Tank	<20.0	Non Compsive 8.00	>200 deg, F
	Control of the Control	· 15 00 (1) 10 10 10 10 10 10 10 10 10 10 10 10 10		

**ANALYSIS DATE** 

e property of 1900 mg 320

3/1/00

METHODS: EPA SW-846-9045. 1010M

194 1 1 1 m

6 (1.4)

SUNDANCE SERVICES INC.

11

P.O. BOX 1737 EUNICE, NM 88231 505-394-2511

505-394-2590FAX

FACSIMILE TRA	ANSMITTAL SHEET
TO: MArtyne Kule	FROM: Donna Local
COMPANY:	DATE: 2-7-01
FAX NUMBER: 476-3462	TOTAL NO. OF PAGES INCLUDING COVER:
PHONE NUMBER:	SENDER'S REFERENCE NUMBER:
RE:	YOUR REFERENCE NUMBER:
NOTES/COMMENTS: Sorry to tak th:	s to you. Halliburton of Changing environmental s one get to full. a verbal.
is in the process	s one get to full.
Please review for	- a verbal,
	Thanks
	Donn'

FER- (-AL MED 13:12

APPROVED BY: / Munt

Y. UZ SUNDANUE SERVICES INC. FAX NU. 5053942590 Energy Minerals and Natural Resources Department Originated 8/8/

TITLE: Environmen/ 6cdosisa DATE: 02/07/01

Contact to

Oil Conservation Division 2040 South Pacheco Street Santa Fe. New Mexico 87505 (505) 827.7131

Submit Origin Plus 1 Co to appropris

Hobby, NM 88241-1980 District 11 - (505) 748-1283 811 9 Eitil -Artesia, NM 88210 District III - (505) 334-6178 Artes, NIM 97410 District IV - (505) 827-7131

<u>11101 17 - (303) 827-7131</u>	,
REQUEST FOR APPROVAL TO ACC	EPT SOLID WASTE
1. RÇRA Exempt: Non-Exempt: X	4. Cenerator HAT,T.TBIIHTION
Yerhal Approval Received: Yes 🔲 No 🛄	f. Odginating Cit. DEVELLAND I'A
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter CHAPARRAL SERV
3. Address of Facility Operator P.O. BOX 1737 Eunice NM	882318, State NEW MEXICO
7. Location of Material (Street Address or ULSTR)	LEVELLAND TX
9. Circle One:	
A. All requests for approval to accept oilfield exempt wastes will be Generator; one certificate per job.  All requests for approval to accept nonexempt wastes must be PROVE the material is not-hazardous and the Generator's certificating or testing will be approved.	e accompanied by necessary chemical analysis to ication of origin. No waste classified hazardous by
All transporters must certify the wastes delivered are only those cons	Igned for transport.
BRIEF DESCRIPTION OF MATERIAL:	
the serented seatherent managen and trom Ma	Allburtone Lowelland Facility
This waste is generated by the washing of o	ilfield tools. I have included
a retificate of waste status and chain of d	ustody. Sundance would like
approval to accept this material into our P	arabo facility.
	e e e e e e e e e e e e e e e e e e e
Note: A verbal approval would be apprecate full and in danger of overflow.  Estimated Volume (to be entered by the state of the state o	td. This location is extremely the operator at the end of the haul) ————————————————————————————————————
SIGNATURE CONSTRUCTION PROBLEM TO OFF	TOF MAR BURNE TETAL
	_
(This opens for Court Use)	The second section of the sect
APPROVED BY: TITLE:	DATE:
$\Omega_{A}$	

## CERTIFICATE OF WASTESTATUS MON-FYEMPT WASTE MATERIAL AS REQUIRED BY New Marks CONSERVATION DIVISION

COMPANYIGENER ATOR. Halliburton Energy Sorv.
ADDRESS: Hury 114, Levelland TX
CHINIGRATING SITE:
COUNTYSTATE
TYPE OF WASTE: Waste Water
ESTIMATED VOLUME: 125 666
GENERATING PROCESS: Water from the Washing
of Tools with the state of
REMARKS: Test Results on File
NMININ FARMITY: Sundance
TRUCKING FACILITY:
As a condition of acceptance for disposal, I hereby certify that this waste is a non-exempt waste as destroed by the environmental Procedum Assumption (TPA) July 1988 regulatory Detarmination To my knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 261 to wastly the manner value largeston. I further security that in my knowledge "hazardons of listed unsula" amount to the provision of 40 CFR Part 261, Submarts C and P has not been added or it with the manner on in make the multimental "hazardons" pursuant to me provisions of 40 CFR Sections 2613;
AGENT: SIGNATURE ASSIGNATURE
NADOR: Eddie Hoppis
DATE:

<b></b>				 													and the same of th	NE STATE
Z	See of the last	7,										ならら	(Mangr)	40	No.	Ha.	Scot	PANE.
Sept 19	a	4										Qu text	3000 CJ34	Hwy 114	The Office	askamien	allege Scytt Nelson	Environmental Lab of Texas, Inc. 1260 Wat 128 bat come, Issue 77753
2725-89	¥	if.										Fac.	25		"			ab of T
83								-			W	-	e containers		Levellant,			exas, l
3							- : 	7111 <b>8</b>				ک	WATER SOIL	u		7,42	,	<b>21.</b> 30
7:00	~.				: ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	— T <u>E</u>							AIR SLUDGE OTHER	P	THE		Process or	52 (51.d
0	Bacada Sa	Specimed Sys	-					-			7	3		Round				019563-IP FAX (915)563-17163
L'EL		-	30 33VOQ43	 -			<del></del>		-		4	33.8	U.M.	11		Ŋ		5. GT. 3.
-	L.,	STANABLE										SP.7.8	TIME &		4		,	
		. 8						1-1-	-	+	3	1	THE 418-1 TOLP WHEN AN	* 1	Cr Fo No	50	,	CHAIN-CC-CUSTO
	•		*********	 							7	1	TCLP Metale Ag A La case average Ag A TCLP Valuables TCLP Seeral Volume	1	TALL		ANA	Castropi
	,											3	ROLUETO TOTAL	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			ארבאמסובע ממלגראי	V ORCODE
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ENVIRONMENTAL

"Don't Treat Your Soil Like Dirt!"

HALLIBURTON ENERGY SERVICES ATTN: MR. SCOTT NELSON 5801 LOVINGTON HWY HOBBS. NM 88240 FAX: 505-302-7082

Sample Type: Water

Sample Condition: Intact/load/HOI

Project #: None Given Project Name: Nene Given Project Location: Hwy. 114 Sampling Date: 02/25/00 Receiving Date: 02/25/00 Analysis Date: 02/28/00

**ELTP** 

TPH ...

FIELD CODE

91790 Outoide Tank

QUALITY CONTROL TRUEVALUE % PRECISION BLANK

360

102

Methods: EFA 418.1

ENVIRONMENTAL

"Don't Treat Your Soll Like Dirt!"

HALLIBURTON ENERGY SERVICES ATTN: MR. SCOTT NELSON 5801 LOVINGTON HWY HORBS, NM 88240 FAX: 505-392-7062

Sample Type: Water

Sample Candition: Intact/Iced

Project & None Given.....

Project Name: None Given

Project Location: Hwy. 114

Sampling Date: 02/25/00 Receiving Date: 02/25/00

Analysis Date: 3/03 & 3/08/00 --

THE PROPERTY OF TOLP METALS (mg/L)

ELT#	Field Code	Δg	As _	Ba	Cdi	Cr	Hg	_Pb	30
Annual Street, Section 201	EPA LIMIT	5,00	5.00	100.0	1.00	5.00	0.20	5.00	1.00
23790	Outside Tank	0.02	<0.002	0.20	0.009	<0.03	600,0	<0.10	<0.002
			:						
	APPARTING LIMIT	0.01	0.002	2.10	9,995	0.03	2,992	0.10	2.992
	% INSTRUMENT ACCURACY	99	95	104.	100	102	98	98	102
	% EXTRACTION ACCURACY	104	94	108	92	97	85	94	95

METHODS: EPA SW 846-1311, 7760, 7062, 7080, 7180, 7190, 7470, 7420, 7742

19.22. 11. 11. 7. 12.

P. 09



"Dan't Treat Your Soli Like Dirt!"

HALLIBURTON ENERGY SERVICES ATTN: MR. SCOTT NELSON 5801 LOVINGTON HWY.

HOBBS. NM 58240 FAX: 505-992-7062

Sample Type: Water

Enemplo Candidon: intustilend

Project f: None Given Project Name: None Given Project Location: Hwy. 114

Sampling Date: 02/25/00

Receiving dates 17/35/100

...... Analysis Date: See Belgw

THE STATE OF THE S

AND COLUMNSON TO CO.

		REACTIVITY	CORROSIVITY	<b>IGNITABILITY</b>		
ELT	Field Code	H2S CN-	(s.v.)			
		NON-REACTIVE	NON-CORROSIVE			
		mode) (pried				
23790	Outside Tank	<20.0	Non Compaive 8.00	>200 deg. F		

ANALYSIS DATE

8/1/00

METHODS; EPA SW-846-9045, 1010M

19800 Weel 1-90 Feet - Oderes Town Total - Intel Fra tone Fa Intel

SUNDANCE SERVICES INC.
P.O. BOX 1737
FIINICF. NM 88711
505 394 2511
505-394-2590FAX

FACSIMILE TRANSMITTAL SHEET
TO: Martyn Kule FROM! Donna Dad
FAX NUMBER: TOTAL NO. OF PAGES INCLUDING COVER:
476-3468 Seinder 2 velekeinge inomider:
RE: YOUR REFERENCE NUMBER:
TIBGENT TEOR REVIEW THE PLEASE COMMENT THE PLEASE REPLY THE PLEASE RECYCLE
Notes/comments:  Survey to fax this to you. Halliburton  Survey to fax this to you. Halliburton  Is in the process of changing environmental  Men and let this one get "to fall.  Please viewiew for a verbal,
Thanks
« Donn

r. U. DOX 178U Hobbs, NM 85241-1980 District II - (305) 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

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

(505) 827-7131

rorm C-13 Originated 8/8

> Submit Origi: Plus I Cc to appropri: District Off

	REQUEST FURAPPROVAL TO ACCEPT	SOLID WASTE
1.	RCRA Exempt: Non-Exempt: X	4. Generator HALLIBURTON
	Verbal Approval Received: Yes No No	5. Originating Site HOBBS FACILITY
2.	Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter CHAPARRAL
3.	Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State NEW MEXICO
7.	Location of Material (Street Address or ULSTR) 5801 Lovinto	n HWy Hobbs, NM 88240
9.	Circle One:	

9. Circle One:

APPROVED BY

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. 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:

The following waste is generated by the washing of tools and oil. This analytical is from Halliburtons Hobbs facility. Sundance would like approval to acppet this waste into our Parabo facility.

	, И
Estimated Volume 300 bbls cy Known Volume	e (to be entered by the operator at the end of the haul) cy
SIGNATURE: A COLL	TITLE: OFFICE MGR DATE: 1-8-01
Wasse Management Facility Authorized Agent TYPE OR PRINT NAME: DONNA L. ROACHH	TELEPHONE NO
(This space for State Use)  APPROVED BY DOMAN IN COMMO	THE Ingramment of many Specialist

C) qe

Project m

† Cardinal cannot accept verbal changes. Please fax written changes to 605-193-2476.



PHONE (915) 673-7001 - 2111 BEECHWOOD - ABILENE, TX 79603

PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM-88240 FAX TO:

Receiving Date: 12/12/00
Reporting Date: 12/14/00
Project Number: NOT-GIVEN
Project Name: WASHBAY SUMP
Project Location: HOBBS YARD
Sample ID: WASHBAY SLUDGE

Lab Number; H5422-1

Analysis Date: 12/13/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

	EPA	Sample Result	Method			True Value
TCLR VOLATILES (ppm)	Hart A <b>LIMIT</b> I	TH5422-1	Blank	TOC .	%Recov.	QC
Vinyl Chloride	0.20	<0.005	<0.005	0.108	108	0.100
1,1-Dichloroethylene	0.7	<0.005	<0.005	0.089	89	0.100
Methyl Ethyl Ketone	200	<0.050	<0.050	0.083	83	0,100
Chloroform	6.0	<0.005	<0.005	0.089	89	0.100
1,2-Dichlorbethane	0.5	<0.005		0.087	87	0.100
Benzene	0.5	<0.005	<0.005	0.088	88	0.100
Carbon Tetrachionide	0.5	<0.005	<0.005	0.092	92	0.100
Trichloroethylene	0.5	<0.005	<0.005	0.091	91	0.100
Tetrachioroethylene	0.7	<0.005	<0.005	0.099	99	0.100
Chlorobenzene	100	<0.006	<0.006	0.094	94	, 0,100
1,4-Dichlorobenzene	7.6	< 0.005	<0.005	0.104	104	0.100

% RECOVERY

Dibromofluoromethane	95
Toluene-d8	91
Bromofluorobenzene	98

METHODS: EPA SW 846-8260, 1311

Burgess V.A. Cooks, Ph. D.

Date

PLEASE NOTE: Liability and Demages. Cardinal's liability and client's exclusive remedy for any claim arising, whether cased in contract or fort, shall be limited to the smouth paid by client for Analysis All claims, including those for negations and any other cause watercover shall be desired welved unless made in writing and received by Cardinal within triny (30) days after completion of the applicable service. In no event shall Cardinal de liable for neutonal or consequential demages, including, without limited on, business interruptions, loss of less, or loss of profile incurred by client, its subsidicules, attilizes or exoccessors arising out of or related to the performance of convices hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



PHONE (915) 573-7001 . 2111 BEECHWOOD . ABILENE, TX 79603

PHONE (505) 393-2326 . 101 E. MARLAND . HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240 FAX TO:

Receiving Date: 12/12/00
Reporting Date: 12/18/00
Project Number: NOT GIVEN
Project Name: WASHBAY SUMP
Project Location: HOBBS YARD

Analysis Date: 12/16/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: BC

Analyzed By: BC

12-77-8010 1 1933 1 LABINUMBER SAMPLE ID

From-HALLIBURTON HOBBS

TPH (mg/Kg)

H5422-1	H5422-1 WASHBAY SLUDGE		
	Part (Tag	grafia Ngarawan katanga	
Quality Control		228	
True Value QC		240	
% Recovery		95.0	
Relative Percent	Difference	4.0	

METHOD: EPA 600/4-79-020 418.1

Luces Ad Cooke

12/18/00

H5422T.XLS

PLEASE NOTE: Liability and Damages. Cardinal's habity and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the temount paid by client for analyzon. All claims, including mose for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after complotion or the applicable sorvice. In no event shall Cardinal be table for incidental or consequential camages, including, without irritation, business intemptions, loss or use, or loss of profits incurred by client, its subordance, altitiates or successors arising out of or related to the portormance of services hereunder by Cardinal, regardees of whether such claim is based upon any of the above-stated reasons or otherwise.

PHONE (915) 673-7001 . 2111 BEECHWOOD . ABILENE, TX 79603

PHONE (505) 393-2326 . 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240 FAX TO:

Method

< 0.005

<0.005

Receiving Date: 12/12/00
Reporting Date: 12/14/00
Project Number: NOT GIVEN
Project Name: WASHBAY SUMP
Project Location: HOBBS YARD
Sample ID: WASHBAY SLUDGE

Lab Number: H5422-1

Hexachlorobenzene

Pentachlorophenol

Analysis Date: 12/13/00 Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

90

0.050

True Value

Sample Received By: BC

Analyzed By: BC

0.045

TCLP SEMIVOLATILES (pp	m) LIMIT	H5422-1	Blank "	MA.GC	% Recov.	T- QC
Pyridine	5.00	<0.020	<0.005	0.011	22	0.050
1,4-Dichlorobenzene	7.50	<0.020	<0.005	0.024	48	0.050
o-Cresol	200	<0.020	<0.005	0.033	66	0.050
m, p-Cresol	200	· <0.020	<0.005	0.033	66	0.050
Hexachloroethane	3.00	,<0.020	<0.005	0.021	42	0.050
Nitrobenzene.	2.00	<0.020	<0.005	0.034	68	0.050
Hexachloro-1,3-butadlene	0.500	<0,020	<0.005	0.026	52	0.050
2,4,6-Trichlorophenol	2.00	<0.020	<0.005	0.040	80	0.050
2,4,5-Trichlorophenol	400	<0.020	<0.005	0.048	92	0.050
2.4-Dinitrotoluene	0 130	<0.020	<0.005	0.048	92	0.050

< 0.020

< 0.020

EPA Sample Result

% RECOVERY

Fluorophenol	56
Phenol-d5	40
Nitrobenzene-d5	104
2-Fluorobiphenyl	68
2,4,6-Tribromophenol	89
Terphenyl-d14	81

0.130

100

METHODS: EPA SW 848-8270, 1311, 3510

Burgess J. A. Cooke, Ph. D.

12/14/00

Date

PLEASE NOTE: Liability and Damages. Cardinal's sability and client's exclusive remady for any claim scieng, whether based in contract or ten, shall be limited to the amount paid by client for analysis.

All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thiny (50) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profule incurred by client, its subaddanes, antilases or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-erated reasons or otherwise.



PHONE (915) 673-7001 - 2111 BEECHWOOD - ABILENE, TX 79603

PHONE (505) 393-2326 - 101 E. MARLAND - HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY. HOBBS, NM 88240

FAX TO:

Sampling Date: 12/12/00

Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: BC Analyzed By: AH/BC

Receiving Date: 12/12/00

Reporting Date: 12/18/00 Project Number: NOT GIVEN Project Name: WASHBAY SUMP Project Location: HOBBS YARD

REACTIVITY

12-day no LAB NUMBER SAMPLE ID 11 12 12 12

Sulfide (ppm)

Cyanide CORROSIVITY IGNITABILITY (maga)

(pH)

ANALYSIS DATE:	12/14/00	12/14/00	12/16/00	12/16/00	
H5422-1 WASHBAY	Not reactive	Not reactive	7.65	Nonflammable	
SLUDGE					
	1 NOTE OF BUILDING				
		<del></del>			
Quality Control	NR	NR	7.03	, , NR	
True Value QC	NR	NR	7.00	NR	
% Recovery	NR	NR	100	NR	
Relative Percent Difference	NR NR	NR	0.1	NR	

METHOD: EPA SW 846-7.3, 7.2, 1030 (proposed), 1311, 40 CFR 261

Brooker a brown a k Brooker a brown a l

ASE NOTE: Liability and Damages. Cerdinate liability and clears exclusive remedy for any claim arising, whether peadd in contract or rorr, shall be limited to the annual paid by chort for analyses are placed and any other cause with some shall be deemed walved unless made in writing and received by Cardinal within thiny (20) days after completion of the applicable on in no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business intempolicity, loss of use of justs of incidental incurred by client, its substitutions or successors arising out of or relaxed to the portormance of services normalists. regardless of whether such stall in based upon any of the above-stated reasons or otherwise.



From-HALLIBURTON HOBBS

PHONE (915) 673-7001 • 2111 BEECHWOOD • ASILENE, TX 79603

PHONE (505) 393-2326 - 101 E MARLAND + HOBBS, NM 88240

ANALYTICAL RESULTS FOR HALLIBURTON ENERGY SERVICES ATTN: SCOTT NELSON 5801 LOVINGTON HWY HOBBS, NM 88240 FAX TO:

Receiving Date: 12/12/00
Reporting Date: 12/16/00
Project Number: NOT GIVEN
Project Name: WASHBAY SUMP
Project Location: HOBBS YARD

Sampling Date: 12/12/00 Sample Type: SLUDGE

Sample Condition: COOL & INTACT

Sample Received By: All Analyzed By: AH/GP

#### TCLP METALS

LAB NO. 188 SAMPLE ID BOOK SAMPLE	and As	138 <b>Ag</b>	Ba	Cd	337 1704 <b>C</b> r	Pb	Hg	Se
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
ANALYSIS DATE:	12/13/00	12/14/00	12/14/00	12/14/00	12/14/00	12/14/00	12/15/00	12/14/00
EPA LIMITS:	5	5	100	1	5	5	0.2	1
H6422-1 WASHBAY SLUDGE	<1	<1	<5	<0.1	<1	<b>&lt;</b> 1	<0.02	<0.1
		18.00	minimus a laborie a	संस्था ३१ ५४४	5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	F F 122 (2)	7	200
				· —				
		J. 1877	<b>V</b> - 1	1. The second se				
		25.43			7			
		1	1. A 1. I					
		11 1	175.3				! 11	
Quality Control	0.193	4.719	44.56	1,047	5.009	0.00945	5.076	0.053
True Value QC	0.200	5.000	50.00	1.000	5.000	0.01000	6.000	0.050
% Recovery	96.5	94.4	89.1	105	100	94.5	102	106
Relative Standard Deviation	2.0	0.5	3.7	0.3	2.9	5.8	0.4	2.0
SPR ( of 48 to a to 11) is the	A			,	7		·	
METHODS: EPA 1311, 600/4-91/01	206.2	272,1	208.1	213.1	218.1	239.1	245.1	270.2

H5422M YI S

PLEASE NOTE: Liability and Damages. Cardinal's liability and cleant's exclusive remady for any claim arising, whomor based in contract or fort, shall be limited to the amount paid by chent for analyses.

All claims, including mose for negligange and any other cause whatsoever shall be depended walved unless made in writing and received by Cardinal within think (30) days other completion of the applicable, applied. In no event shall Cardinal be liable for incidental or consequently damages, including, without limitation, business interruptions, loss of use, or loss of profits incurring by client, its substitutes, affiliates or successors arising out of or related to the performance of services herounder by Cardinal, regardless of whother such claim is based upon any of the above-stated reasons or otherwise.

Hobbs, NM 88241-1980 District II - (505) 748-1283 811 S. First Artesia, NM 88210

<u>District VI</u> - (505) 334-6178
1000 Rio. Brazos Road

Aztec, NM \$7410

<u>District IV</u> (505) 827-7131

# Energy Minerals and Natural Resources Department Oil Conservation Division 2040 South Pacheco Street

Santa Fe, New Mexico 87505 (505) 827-7131

Submit Origin Plus 1 Co to appropri: District Off

Originated 8/8

REQUEST FOR APPROVAL TO ACCEPT	SOLID WASTE
1. RCRA Exempt: Non-Exempt: X	4. Generator KOCH ASPHALT PLAN
Verbal Approval Received: Yes No No	5. Originating Site ARTESIA NM
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter UNKNOWN
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State NEW MEXICO
7. Location of Material (Street Address or ULSTR)	2411 North Freeman
9. Circle One:	
A. All requests for approval to accept oilfield exempt wastes will be accepted.  B. All requests for approval to accept non-exempt wastes must be accepted.  PROVE the material is not-hazardous and the Generator's certification listing or testing will be approved.	ompanied by necessary chemical analysis to
All transporters must certify the wastes delivered are only those consigned	for transport.
BRIEF DESCRIPTION OF MATERIAL:	
The following MSDS is for Sylvablend D40T. The emulsion preparation at these plant. No other to this material. It has been left in a tank would like approval to accept this material in	there on location. Sundance
Estimated Volume 100 bbls. cy Known Volume (to be entered by the op	
Waste Management FacilityAuthorized Agent TYPE OR PRINT NAME: DONNA L. ROACHH TEI	EPHONE NO. 505-394-2511
(This space for State Use)	
APPROVED BY: DENIED TITLE:	DATE:
APPROVED BY:TTTLE:	DATE:

#### **CERTIFICATE OF WASTE STATUS**

## Non-Exempt Waste Material

ORIGINATION LOCATION: Koch Asphalt Plant, Artesia, New Mexico

SOURCE: Emulsion preparation Waste Sylvablend® D40T (Tall Oil)

DISPOSAL LOCATION: Parabo, Eunice Facility

As a condition of acceptance for disposal, I hereby certify that this waste is non-exempt waste as defined by the Environmental Protection Agency's (EPA) July 1988 Regulatory Determination. To my knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 261 to verify the nature as non-hazardous. I further certify that to my knowledge no "hazardous or listed waste" pursuant to the provisions of 40 CFR, Part 261, Subparts C and D, has been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, Section 261.3.

I, the undersigned as the agent for Koch Pavement Solutions concur with the status of the waste from subject site.

Name: Bob Allen

Title/Agency: Safety & Environmental Solutions, Inc.

Address: 703 E. Clinton, Hobbs, New Mexico

Signature:

Date: January 3, 2001

": #

1

	SYLVABLEND® D40T	MSDS#	6220
Notes to Physician	Provide general supportive measures and treat symptomatically. In case of ingestion or not to induce vomiting should be made by the attending physician. If burn is presburn.		
***If victims of chemica	over-exposure are taken for medical attention, give a conv of the label or MSDS to the physician/	realth profess	ional.***

Section 5. Fire an	d Explosion Data					
Flammability of the Product	Nonflammable.	NFPA 704 Flammability				
Auto-Ignition Temperature	Not available.	Health Reactivity				
Flash Point	>260°C (500°F).	0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe  Specific Hazard				
Flammable Limits	Not available.	This information is for people trained in the National Fire Protection Association's (NFPA 704) Identification of the Fire Hazards of Materials.				
General Fire Hazards	Product is not considered combustible. If heated above its flash point in the presence of air, product can support combustion. Porous material such as rags, paper, insulation, or organic day may spontaneously combust when wetted with this material. If mist is generated, minimum flash point may be reduced.					
Hazardous Decomposition Products	Smoke, carbon monoxide, carbon dioxide, water, trace quantities of sulfur oxides, and other normal products of combustion.					
Extinguishing Media	Carbon dioxide, dry chemical or wate	r. Avoid using a direct stream of water.				
Fire Fighting Equipment and Instructions	, ,,	g self-contained positive pressure/pressure demand breathing apparatus, water spray to cool fire-exposed containers and to protect personnel.				

Section 6. Accid	ental Release Measures
Containment	Contain the discharged material. Do not allow product to enter sewer or waterways. Check with local and state environmental agencies for guidance.
Clean-up Procedures	Spills may present a slipping (physical) hazard. Wear appropriate protective equipment and clothing during clean-up. Avoid skin and eye contact. Absorb spill with inert material. Shovel material into appropriate container for disposal. Thoroughly wash spill area with water after clean-up. WATER SPILL: product is regulated as an oil under the Clean Water Act. Follow all applicable regulations. Follow all Local, State, Federal and Provincial regulations for disposal.
Evacuation Procedures	Isolate area. Keep unnecessary personnel away. In case of large spills, follow all facility emergency response procedures.
Special Instructions	Remove soiled clothing and launder before reuse (see Section 7 - Storage). Avoid excessive skin contact with spilled material. Wear appropriate personal protective equipment.

Section 7. I	landling and Storage
Handling .	Avoid prolonged or repeated skin contact with this material. Wash thoroughly after handling. Avoid inhalation of mists/vapors/fumes. Keep this product from heat, sparks, or open flame. Do not use air pressure or apply heat with open flame to remove contents of drum. After emptied, drum may retain solid, liquid and/or vapor residues. Continue to observe all precautions on label as if drum were full. Do not cut, puncture, torch or weld on or near the emptied drum. Do not use for other purposes. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet or applying cosmetics.
Storage	Store at ambient temperature and atmospheric pressure. Porous material such as clothing, rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material.

#### Section 8. Exposure Controls/Personal Protection

#### **Engineering Controls**

Provide local exhaust and general ventilation systems to maintain airborne concentrations below OSHA, ACGIH, and manufacturer recommended exposure limits. Local exhaust ventilation is preferred because it prevents contaminant dispersion into work areas by controlling it at its source. Local exhaust ventilation is recommended when generating excessive levels of vapors from handling or thermal processing. Use local and general exhaust ventilation to effectively remove and prevent buildup of mists/vapors/fumes generated from the handling of this product.

#### Personal Protection

Eye/Face:

Wear chemical goggles and face shield if splashing is possible. Ensure compliance with OSHA's personal protective equipment (PPE) standard for eye and face protection, 29 CFR 1910.133.

Skin:

Use impervious gloves. Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves. For heated/molten product, use any type thermal insulating gloves and other clothing as necessary to protect from thermal burns. Ensure compliance with OSHA's personal protective equipment (PPE) standard, 29 CFR 1910.132 (general) and 138 (hand protection).

Respiratory:

GAS/VAPOR: Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2-1992). A written respiratory protection program, including provisions for medical certification, training, fit-testing, exposure assessments, maintenance, inspection, cleaning, and convenient, sanitary storage, must be implemented. For concentrations above the TLV and/or PEL but less than 10 times these limits, a NIOSH approved half-facepiece respirator equipped with appropriate chemical cartridges may be used. For concentrations greater than 10 times the TLV and/or PEL, consult the NIOSH respirator decision logic found in Publicaton No. 87-116 or ANSI Z88.2-1992. Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

General:

Eye wash fountains and emergency showers are recommended. Launder contaminated clothing before reuse. Use good industrial hygiene practices in handling this material.

Observe exposure limits for Oil Mist (NOC):

ACGIH TWA: 5 mg/m3 Respirable; STEL 10 mg/m3 Respirable;

OSHA TWA: 5 mg/m<sup>3</sup> Respirable.

Chemical Name or Product Name	CAS#	OSHA PEL	ACGIH TLV	
1) Tall Oil Fractions	Proprietary	Not established	Not established	

NOTE: The 1989 OSHA PELSs were vacated in 1993 and are not currently enforceable by Federal OSHA. However, some state OSHA programs may still enforce the 1989 limits.

Section 9. Phy	sical and Chemical Prope	erties	
Physical state and appearance	Liquid.	Vapor Density	Not available.
Odor	Fatty.	Percent Volatile (EPA Method 24)	Not available.
Color	Dark.	Solubility (water)	Negligible
Molecular Weight	Not applicable.	Density (vs. water)	Not available.
Specific Gravity	0.98 (Water = 1)	Flash Point	>260°C (500°F).
Boiling Point	>260°C (500°F)	R/B Softening Point	Not applicable.
~m	Net annlicable	Anid No (nov ACTM D 44	40 167 <sub>-</sub> 170

Section 10. Stabi	ility and Reactivity Data
Chemical Stability	The product is stable.
Conditions to avoid	Avoid strong oxidizing agents. Avoid prolonged contact with porous materials.
Incompatibility	This product may react with strong oxidizing agents.
Hazardous Decomposition Products	None, except extreme high temperatures may lead to decomposition, releasing furnes containing carbon monoxide, carbon dioxide, water, trace sulfur oxides, and/or hydrocarbons of varying molecular weights.
Continued on Nex	t Page Page Number: 3

Hazardous polymerization will not occur.

#### Section 11. Toxicological Information

#### Toxicity to Animals

No toxicological information is available for this product. However, tall oil fractions may contain some or all of the following:

#### Tail Oil Rosin:

ORÁL, rat, LD50 = 7600 mg/kg; ORAL, mouse, LD50 = 4600 mg/kg; ORAL, guinea pig, LD50 = 4600 mg/kg; DERMAL, rabbit: LD50 = > 2500 mg/kg.

#### **Tall Oil Fatty Acids:**

ORAL, rat, LD50 = > 10,000 mg/kg. DERMAL, rabbit, LD50 = > 2000 mg/kg.

Tall oil fatty acids were not found to be an eye or skin irritant in rabbits. No alteration of reproductive physiology was found in rats at feeding levels of 5% and 10% of their diet. Tall oil fatty acids were non-mutagenic in the Ames Salmonella Assay. Some tall oil fatty acids were found to cause skin sensitization in 50% of exposed guinea pigs.

#### Tall Oil Heads:

ORAL, rat, LD50 = > 9000 mg/kg.

#### Tall Oil Pitch:

A mixture of tall oil pitch and tall oil heads was found to cause skin sensitization in 16% of exposed guinea pigs. Tall oil pitch alone may not cause skin sensitization.

#### **Dimer Fatty Acids:**

ORAL, rat, LD50 = > 5000 mg/kg.

In laboratory tests, guinea pigs exposed to dimer fatty acids did not exhibit a skin sensitization response. This product was not found to be a skin irritant in rabbits.

#### Toxicity to Humans

Contact may cause skin or eye irritation. Exposure to oil mists/fumes/vapors may cause respiratory tract irritation with throat discomfort, coughing, and difficulty breathing.

A similar product was not found to be a skin sensitizer in adult males following prolonged or repeated skin contact.

CARCINOGENIC EFFECTS: None of this product's components are listed as carcinogens by ACGIH, IARC, NIOSH, NTP or OSHA. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. No information available on the toxicity of this product to the reproductive system.

#### Section 12. Ecological Information

#### **Ecotoxicity**

When spilled, this product may act as an oil, causing a film, sheen, emulsion, or sludge at or beneath the surface of a body of water. Oils of any kind can cause: (a) drowning of waterfowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility; (b) lethal effects on fish by coating gill surfaces, preventing respiration; (c) potential fish kills resulting from alteration in biochemical oxygen demand; (d) asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom; and (e) adverse aesthetic effects of fouled shoreline and blackers.

No toxicological information is available for this product. However, tall oil fractions may contain some or all of the following:

#### Tail Oil Fatty Acids:

Acute fish toxicity (zebra): LC50 (24h) = 50-100 mg/l; LC50 (96h) = 10-20 mg/l, (NOEC = 10 mg/l).

Immobilization studies (Daphnia magna):

EC50 (48 hr) = 55.7 mg/l.

Respiratory inhibition studies using activated sludge showed 50% inhibition for tall oil fatty acids was not reached after 30 minutes at the highest concentration tested (1000 mg/l).

#### Continued on Next Page

-	SYLVABLEND® D40T M	SDS#	6220
	Tall Oil Pitch:		
	Acute fish toxicity (Zebra):		
	LC50 (96h) = > 400  mg/l.		
	Growth inhibition studies (Fresh water algae):		
•	EC50 (72 hr) = > 1000 mg/l, (NOEC = 5000 mg/l).		
	Immobilization studies (Daphnia magna):		
	EC50 (48 hr) = > 2000 mg/l.		
Environmental Fate	Biodegradability studies showed tall oil fatty acids to be readily biodegradable, and degrades seven days.	aded 5	50% with

# Section 13. Disposal Considerations Waste Disposal Waste Disposal Waste smust be tested using methods described in 40 CFR 261 to determine if it meets applicable definitions of hazardous waste. No EPA Waste Numbers are applicable for this product's components. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Write to the address listed in Section 1 for information on heavy metals analysis and other disposal information.

Section 14. Trans	port Information
DOT Classification	Not a DOT controlled material (United States).
Proper Shipping Name	None.
DOT Identification Number	None.
Packing Group	None.
Hazardous Substances Reportable Quantity	Not available.
Special Provisions for Transport	IF SHIPPED OVER 100°C (but less than product flash point): DOT Shipping Name: Elevated temperature liquid, n.o.s.; Hazard Class: 9; UN/NA Number: UN3257; Packing group III (bulk shipping requires "HOT" placard).
Additional Shipping Information	Not Determined
International Transportation Regulations	Not Determined

Section 15. Re	gulatory Information
Federal and State Regulations	OSHA: Not hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
8	SARA TITLE III:
	SARA Section 302 (40 CFR 355 Appendix A): None of this product's components are listed; SARA Section 311/312 (40 CFR 370.2): None;
	SARA Section 313 (40 CFR 372.65): None of this product's components are listed;
	CERCLA (40 CFR 302.4): None of this product's components are listed.
	EPA, Clean Water Act: Regulated as a non-petroleum based oil. Spills of this material to navigable waters in quantities sufficient to produce "sheen" are reportable.
	TSCA Inventory: All of this product's components are listed.
	State Lists: This product can contain a component on the State of Minnesota Hazardous Substance List: Rosin
	This product does not contain any chemicals currently on the California List of Known Carcinogens and Reproductive Toxins.

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#### SYLVABLEND® D40T

MSDS# 6220

#### Section 16. Other Information

#### Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists. ANSI = American National Standards Institute! ASTM = American Society for Testing and Materials. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. DOT = Department of Transportation. EPA = Environmental Protection Agency. IARC = International Agency for Research on Cancer. LD = Lethal Dose. NIOSH = National Institute of Occupational Health and Safety. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. PEL = Permissible Exposure Limit. SARA = Superfund Amendments and Reauthorization Act. TLV = Threshold Limit Value. TSCA = Toxic Substance Control Act.

Validated by Richard Moye on 05/22/2000.

Verified by Regulatory Affairs Dept..

Printed 11/27/2000.

Supersedes Date

05/01/98

Reason for Revision

**Update Section 1** 

#### Notice to Reader

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Last Page of MSDS

Page Number: 6



CHEM	oma Ical	Materi	al Sa	fety Data Sheet	
Section 1. Chem	nical Product and Co	mpany Identification			
Product/Trade Name	SYLVABLEND® D40T (formerly ACINTOL® D40T & SYLVATAL® D40T)		Code MSDS# Validation	D40T 6220 n Date 05/22/2000	
Supplier / Manufacturer	Arizona Chemical P.O. Box 550850 Jacksonville, FL 32255-0850 USA (800) 526-5294 / (904) 928-8700		Print Date 11/27/2000  EMERGENCY PHONE CHEMTREC: 1-800-424-9300		
Chemical Name	Tall Oil		(transportation and medical)		
Section 2. Comp	osition and Informa	tion on Ingredients			
Name		CAS#		% by Weight	
1) Tall Oil Fractions		Proprietary		100	
	See Section 8 for Exposure Co	ontrols/ Exposure Limits/ Personal Pro	otection info	rmation.	
Section 3. Haza	rds Identification				
combustible. Howe product may spont heated product cont of mists/vapors/fum irritation with throat	liquid with a fatty odor. ever, after prolonged contaneously combust. Ma tacts the eye and/or skin, les generated by heating	Product is not consider act with highly porous mate by cause eye and skin irrit thermal burns may result. In this product may cause result difficulty breathing. Aspiroulmonary edema.	rials, this ation. If nhalation espiratory	FIRE:  REACTIVITY:  PPE: see Section 8	
Potential Health Effects				,	
Eye Contact	Product may cause eye irrit	ation. If heated product contacts t	he eye, the	ermal burns may result.	
Skin Contact	Product may cause skin irrit	tation. When it is heated, this proc	duct may ca	ause thermal burns.	
Inhalation	harmful vapors. Inhalation		d by heatin	n. Heating this product may release g this product may cause respiratory	
Ingestion				ces including irritation, nausea, and chemical pneumonitis and pulmonary	
Section 4. First	Aid Measures				

Eye Contact	Immediately flush eyes with flooding amounts of cool, low pressure water for at least 15 minutes. If irritation persists, get medical attention. If hot product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately.
Skin Contact	In case of skin contact, wash immediately with soap and water. If irritation develops or persists, get medical attention. If hot product contacts skin, cool under running water and get medical attention. Launder contaminated clothing before reuse.
Inhalation	Move person to non-contaminated air. If affected person is not breathing, apply artificial respiration. Seek medical attention.
Ingestion	If swallowed, contact a physician or poison control center immediately. DO NOT induce vomiting unless directed to do so by medical personnel.

#### SYLVABLEND® D40T

MSDS# 6220

#### Section 16. Other Information

#### Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists. ANSI American National Standards Institute. ASTM = American Society for Testing and Materials. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. DOT = Department of Transportation. EPA = Environmental Protection Agency. IARC = International Agency for Research on Cancer. LD = Lethal Dose. NIOSH = National Institute of Occupational Health and Safety. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. PEL = Permissible Exposure Limit. SARA = Superfund Amendments and Reauthorization Act. TLV = Threshold Limit Value. TSCA = Toxic Substance Control Act.

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Printed 11/27/2000.

Supersedes Date

05/01/98

Reason for Revision

Update Section 1

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Last Page of MSDS

Page Number: 6

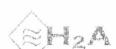
# SUNDANCE SERVICES INC. PO BOX 1737 EUNICE, NM 88231 505-394-2511 505-394-2590FAX

Martyne Kieling		Donna Roach									
NMOCD FAX NUMBER: 505-476-3462 PHONE NUMBER		DATE.  1-16-00  TOTAL NO OF PAGES INCLUDING COVER.  / / // SENDER'S REFERENCE NUMBER.									
							K.F.	* *	YOUR R	EPERENCE NUMBER	3 M HOMPHARIO V
							☐ URGENT	☐ FOR REVIEW	☐ PLEASE COMMENT	D PLEASE REPLY	☐ PLEASE RECYCLI

Please review these approvals. This first analytical results are from Equilon Jal tank farm. They are empting monitor wells around the tank farm, that have diesal in them(justa skim).m They would they would like to haul ASAP. The Asphalt plant would like to haul by friday. Please give me a call as soon as you can.

Thank you.

Donna Roach



#### ENVIRONMENTAL, LTD.

ASSESSMENT · REMEDIATION · RISK ASSESSMENT · COMPLIANCE · LITIGATION / ENFORCEMENT SUPPORT

#### FAX TRANSMITTAL

10

Donna

FAX:

505-394-2590

FROM:

Theresa Nix

Sundance Services

PHONE:

361-777-0860

DATE

01/16/01

RE

Water disposal

H<sub>2</sub>A Job No. 106.001

Total No. of Pages (including cover sheet): 8

Donna,

The analytical data for the material to be hauled is attached. Please call me after you look over this so we can schedule the trucks. We would like to begin hauling this today. We have approximately 450 – 500 bbls.

#### Thanksi

CAT reges/4:24/Jat - 106/6011St ndency Fax \$1-15-01 dec

ANALYSIS BEQUEST & CHAIN OF CUSTODY RECORD

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11078 EXCEPTION SIZE D. CAROL N. 1829S 972-421-4534

Preservatives - Various (Y), HOLDH-2 (N), HESON PH-2 (S), HNOS pH-2 (N), NarOH-Asba Acid (NAA), ZnAo+NaOH (ZA), (Cool-4C) (CA), None (N), See Label (SL), Other (O) SIZE day (A). Boy (A). Sono (A) Minitario and 11 (1) softwirt to Tanker Roar (B) Minis (M) Other

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APPANISH Charges are Pre-Approved upon Requesting them, All Terms Apply

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# Certificate of Analysis Summary 200378

#### KEY Consultants, Ltd., Carrolton, TX

Project Name: Jal Station

Date Received in Lab: Thu Jan-20-00 10:30 AM

Data Report Faxed: fri Jan-28-00 XENCO Contact: Debbie Simmons

Project ID: 910103

Project Manager: Sieve Fruendt

Project Location: Jai, New Mexico

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4-Chlorophenyi Phenyl Ether	7.00	BRL 0.010			
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1,3-Dichlorohemene		0.010	Constitution of the second second as the second sec	AND THE RESERVE OF THE PERSON	and the state of t
1,4-Dichlarobenzene	A section of the sect	BRL 0.010			and the second s
7,4 Dichlomphonot	and the opposite of the second	BRL 0.010			

This analytical report, and the entire data package it repotents, has been made for your exclusive and considerable use.
The interpretations and coults expressed throughout this analytical apport represent the basi judgment of XENCO Laboratories, however assumes no responsibility and makes no variently to the ond use of the data hereby presented.

BHL Helow Reporting Clinic

Eddie L. Clemons, II



Project Manager: Steve Froendt

# Certificate of Analysis Summary 200378

#### KEI Consultants, Ltd., Carrolton, TX

Project Name: Jal Station

Date Received in Lab: Thu Jan-20-00 10:30 AM

Date Report Faxed: fri Jan-28-00 XENCO Contact: Debbie Simmons

Project Location: Jal, New Mexico			XENCO Contact: Debbie Simmons
Analysis Requested	Flets 1D : Plets 1D : Depth : Mutrix : Sampled :	2003/8-001 Effluent Prac Water Jan-19-2000	
SVOAs by EPA 8270C	Aublyzed: Units:	781-24-2000 mg/L R.L	
Dictivyl Phthalate		BRL 0,010	
Diraciliyi Fhihalate		BRL 0.010	
7,4-Dimethylphenol		0.039 0.010	
4,6-dinimo-2-metayi pheno:		BRL 0.010	THE AMERICAN STREET, S
1,4-Dudpophenol	7 7 1 118	BRL 0,020	The same of the sa
2,6-Dinitrotoiuene	A COLUMN AVOID	BRL 0010	
2-Diphenylhydrazine	to a secretarior comment with the second	BRL 0.020	
Pivorentians		BRL 0.002	200 At 100 At 10
Thereire		BRL 0.002	The second section of the second section of the second section of the second section s
Heyachlorobenzene		BRL 0.010	
*i-xachiorolmumilene		BRL 0.010	The state of the s
Hexachiorocyclopentacliene	The state of the s	BRI 0.010	
Secretarechans	pulse securities i like in method of months and in figure	DRL 0.010	
Sudeno(1, 2,3-c,d)Pyreae		BRL 0.002	
Bophoxone		BRL 0.010	
2-Methylnaphthalene	Control and Control of the Control o	0.109 0.002	The state of the s
2-methylphenol	no resource and a second	BRL 0.010	WTW TALL TRANSPORT
3/24-Methylphonet		BRL 0.010	the second secon
Nophthalone		0.061 0.002	A STATE OF THE STA
4-Nilmanifine	1	BRL 0,020	PROJECT PT - ATT CONTROL OF CO.
3-Nitroaniluse			CONTRACTOR OF THE PARTY OF THE
2-Mitrogniline	the second		
Vitrobenzene		BRL 0.020	
Nitrophanol		BRL 0.020	
E-Plarophenoi		BRL 0.010	
n-Nitrosodi-n-Propylamine		BRL 0.010	TO The Company of the
-Nitrosofiphenylamine		BRL 0.010	
E-n-Octyl Phthalate		BRL 0,010	
servayi raumate		BRL 0.010	

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BKL Below Reporting Limit

Éddie L. Clemons, II QA/QC Director



Project Manager: Steve Fruendt

Project Location: Jal, New Mexico

## Certificate of Analysis Summary 200378

## KEI Consultants, Ltd., Carrolton, TX

Project Name: Jal Station

Date Received in Lab: Thu Jan-20-00 10:30 AM

Date Report Faxed: ftl Jan-28-00.
XENCO Contact: Debbie Simmons

Analysis Requested	Lab ED: Fleid (D: Depth: Moorts; Sampled;	219978-961 Effluent Frac Water Jan-19-2000	are used on the second relation of the second secon		et and the second se
SVOAs by EPA 8270C	Analyzea: Unlis:	Tan-24-2000 mg/L	green the material of the first of the second section of the section of the second section of the section of the second section of the sect	terfere de els policifier y est com l'ament elemente le rennanció que míl. L'acentes de substitute de la male	
Feetachlorophenol		BRL 0.010		realization of the same and the	
The Chica Car Come		0.020 0.002			
Pacaol		BRL 0.010			
yenic		0.003 0.002			
7,4-Trichlemberrene		BRL 0.010	1		The second secon
4,6-Trichlorophenot	AND THE PARTY OF T	BRL 0.010	- Carrier Constitution Constitu	and the same of th	The second of the second secon
4.5-Trichlarophenol		BRL 0.010			and the second s

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hereby presented.

BRL Below Reporting Linit

Eddie L. Clemons, II QA/QC Director



Project Manager: Steve Fruendt

# Certificate of Analysis Summary 200378

### KEI Consultants, Ltd., Carrolion, TX

Project Name: Jal Station

Date Received in Lab: Thu Jan-20-00 10:30 AM

Date Report Faxed: fri Jan-28-00 XENCO Contact: Debbie Simmons

roject Location: Jal, New Mexico			XENCO Contact: Debbie Simmons
Analysis Requested	Lab ID : Fleid ID : Depth : Mairix : Sampled :	200378-004 Effluent Frac Water Jan-19-2000	
VOAs by SW-846 8260	Analyzed:	Jan-24-2000	ticked the Control of
	Units:	mg/L R.L	
Hanzene		0.021 0.005	
Promobenzeno		BRL 0.005	American Development of the Control
Bromochloromethene		BRL 0.005	
Bromodichioromethase		9RL 0.005	
Promoform		BRI. 0.003	
Promomethans		BRL 0.003	
MTBE	-	0.020 0.005	
ieri-Buylbenzone		BRL 0.003	
Sec-Hotylbenzene		0.026 0.005	
n-Butylbenzene		BRL 0.005	
Carbon Tetrachlorida	-	BRL 0.063	A CHARLES TO THE LOCAL CONTRACT OF THE CONTRAC
Chlorobenzane		BRL 0.003	
Chloroethmis		BRI. 0.010	The second secon
Chlarafona		BRL 0.005	
Chloromethane		BRL 0.010	
2-Chlorotofuens		BRI. 0.005	
4-Chlorisoluene		BRL 0.005	
p-Cymene (p-Isopropyltolucec)		0.010 0,003	The state of the s
1,2-Dibromo-3-Chioropropage		BRI. 0.005	a consideration of the same of
Dibromochloromethree		BR1. 0.005	A STATE OF THE PROPERTY OF THE
Discornoracthage		BRL 0.005	1
1.2-Dichlorobenzens		BRL. 0.005	
3-Dichlerobenzene	1.0000000	BRL 0.005	
4-Dichlorobeacene		BRL 0.005	
Dichlorodiffuoroscethare		BRL 0.005	
2-Dichlorocthane		BRL 0.005	
L-Dichloroethaue		BRL 0.005	
rans-1.2-dichlometions		BRL 0,003	

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BELL BRIOW Reporting Limit

Eddie L. Clemons, II QA/QC Director

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Project ID: 910103

Project Manager: Steve Fruendt

# Certificate of Analysis Summary 200378

KEI Consultants, Ltd., Carrolton, TX

Project Name: Jal Station

Date Received in Lab: Thu Jan-20-00 10:30 AM

Date Report Faxed: fri Jan-28-00 XENCO Contact: Debbie Simmons

Project Location: Jal, New Mexico			XENCO Contact: Debbie Simmons
Analysis Requested	Lah ID: Field ID: Depth: Starks: Samples:	200378-001 Siftwest Press Water Jan-19-2000	TOTAL MATERIAL SECTION AND ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADM
VOAs by SW-846 8266	Analyzed: Units:	mg/L R L	CONTROL OF THE BOOK OF THE STATE OF THE STAT
cls-1,2-Diphlorosthene	.1	BRI 0.003	
1,1-Dichloroethene		BRL 0.005	THE STATE OF THE S
2,2-Dichleropropans		ERI. 0,005	
T.3 Dickloropropens		BRL 0.005	AND A CONTRACT OF THE CONTRACT
1,2-Dichloropropane	AND THE RESIDENCE TO TH	BRL 0.005	
trans-1,3-dlchloropropere		BRL 0.005	HERE CO. TO THE CO.
I,I-Dichleropropaga		BRL 0.003	an administrative to the second
ols-1,3-Dichloropropens		BRL 0.005	
Chylbanzone		0.080 0.005	A1000000 NO.
Florechlorobutadiesic		BRI. 0.005	
supropythenzene		0.024 0.005	
Nophthaless		0.098 0.010	No. 10 to 10
n-Propylbenzene		0.027 0.005	
Styrene		BRI. 0.005	
1.1.1,2-Tetrachtorouthuse	-		
1,1,2,2-Teirschlonochuse	A LOW AN PROPERTY LICENSE		
Tolirac	and the state of t	BRL 0.005	
		0.114 0.005	
1,2,4-Trichlorobenzene	here, hidh i girigan i gh	BRIL 0.003	
.2.3-Trichlorobenzens		BRL 0.005	
.) Z-tvichloroethane		BRL 0.005	
1.1-Trichloroethene		BRL 0.005	AND THE STATE OF T
richloraethene	and the same of th	BRL 0.005	
richlorofluurusethuse	- Caronia	BRL 0.005	
2,3-1 defiloropropane	ACTION CANADA	BRL 0.005	
2.4-Trimethylbenzene	and the second	0.078 0.005	
3,5-trimethylbertzere	Part of the second seco	9.017 0.005	The state of the s
Nayl Chloride		BRL 0.005	
Xylons		0.060 0.005	

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Éddie L. Clemons, II. QA/QC Director

BRI Below Reporting Larns



Project Manager: Steve Fruendt

Project Location: Jal, New Mexico

# Certificate of Analysis Summary 200378

KEI Consultants, Ltd., Carrolton, TX

Project Name: Jal Station

Date Received in Lab: Thu Jan-20-00 10:30 AM

Date Report Faxed: fri Jan-28-00

XENCO Contact Debbie Simmons

Analysis Requested	Field ID: Field ID: Depth: Matrix: Sanwled:	200378-001 Eiffluent Frze Wates Isn-19-2000	
VOAs by SW-346 8268	Anotyzen: Units:	Ind-24-2020 mg/L R.L	
p-Xylenes		0.098 0.005	10 mark 10 mar
ethylene Chloride		BRL 0.020	4
trachloroethylene		BRI 0.005	

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BRI. Below Reporting Land.

Eddie L. Clemons, II QA/QC Director

JAN-16-UI JUE 16:42 SUNDANCE SERVICES INC. FAX NO. 5U5394259U Hobbs, NM 88241-1980 District II - (505) 748-1283 BITS. First Artesia, NM 88210 District III - (505) 334-6178 1000 Rio Brazos Road

Discrice IV - (503) 827-7131

THE STATE OF THE PARTY OF THE P

Aztec, NM 87410

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

f. 10 roim C-13 Originated 8/8

> Submit Origin to appropris District Off

REQUESTFORA	PPROVAL TO A	ACCEPT	SOLID WAS	STE
	Andrew and the second s			

(505) 827-7131

1. RCRA Exempt: Non-Exempt: X	4. Generator KOCH ASPHALT PLA
Verbal Approval Received: Yes No No	5. Originating Site ARTESIA NM
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter UNKNOWN
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88	2318. State NEW MEXICO
7. Location of Material (Street Address or ULSTR)	2411 North Freeman
9 Circle One	1 29 LL BUILLI FICEMON
A. All requests for approval to accept oilfield exempt wastes will be accept. Generator: one certificate per Job.  All requests for approval to accept non-exempt wastes must be accept. PROVE the material is not-hazardous and the Generator's certification bround or testing will be approved.	ompanied by necessary chemical analysis to on of origin. No waste classified hazardous by
All transporters must certify the wastes delivered are only those consigned	for transport.
BRIEF DESCRIPTION OF MATERIAL:	4.60
The following MSDS is for Sylvablend D40T. The emulsion preparation at the plant. No other to this material. It has been left in a tank would like approval to accept this material in	chemicals have been added there on location. Sundance to our Sunandace Facility.
SIGNATURE A ONTO DESCRIPTION OFFICE	MGR DATE: /-3-01
TELL	EPHONE NO
(This space for State Use).	Presenting the Notice of the Control
APPROVED BYTITLE	DATE:
APPROVED BY:	DATE:

# CERTIFICATE OF WASTE STATUS

# Non-Exempt Waste Material

ORIGINATION LOCATION: Koch Asphalt Plant, Artesia, New Mexico

SOURCE: Emulsion preparation Waste Sylvablend® D40T (Tall Oil)

DISPOSAL LOCATION: Parabo, Eunice Facility

As a condition of acceptance for disposal, I hereby certify that this waste is non-exempt waste as defined by the Environmental Protection Agency's (EPA) July 1988 Regulatory Determination. knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 261 to verify the nature as non-hazardous. I further certify that to my knowledge no "hazardous or fisted waste" pursuant to the provisions of 40 CFR, Part 261, Subparts C and D, has been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, Section 261.3.

I, the undersigned as the agent for Koch Pavement Solutions concur with the status of the waste from subject site.

Name: Bob Allen

fine A oney: Safety & Environmental Solutions, Inc.

Address: 703 E. Clinton, Hobbs, New Mexico

Signature: Bot aller

Date: January 3, 2001

	SYLVABLEND* D40T	MSDS# 6220
Notes to Physician	Provide general supportive measures and treat symptomatically. In case of or not to induce vomiting should be made by the attending physician. If burn burn.	
***If victions of chemica	over exposure are taken for medical attention, while a conv of the label or MSDS to the of	husician/health professional ***

Section 5. Fire an	d Explosion Data	
Flancinability of the Product	Nonflammable.	NFPA 704 Planmability
Anto Ignition Temperature	Not available.	Health Reactivity
Elech Point	>260°C (500°F).	0=Minimal; 1=Sight; 2=Modsrafa; 3=Sanous; 4=Sovers
Flammable Libraits	Not available.	This information is for people trained in the National Fire Protection Association's (NEPA 704) Identification of the Fire Hazards of Materials.
Ceneral Fire Hazards	support combustion. Perous mi	dustible if heated above its flash point in the presence of air product can atenal such as rags, paper, insulation, or organic clay may spontaneously laterial. If mist is generated, minimum flash point may be reduced
Hazardous Decomposition Products	Smoke carbon monoxide carbon of combustion.	n dioxide, water, trace quantities of sulfur oxides, and other normal products
Extragmenting Media	Carbon dioxide, dry chemical or v	water. Avoid using a direct stream of water.
For Fighting Equipment and Instructions		uding self-contained positive pressure/pressure demand breathing apparatus. Use water spray to cool fire-exposed containers and to protect-personnel.

Centainment	Contain the discharged material. Do not allow product to enter sewer or waterways. Check with local and state environmental agencies for guidance.
Chan-up Procedures	Spills may present a slipping (physical) hazard. Wear appropriate protective equipment and dothing during clean-up. Avoid skin and eye contact. Absorb spill with linert material. Shove material into appropriate container for disposal. Thoroughly wash spill area with water after clean-up. WATER SPILL: product is regulated as an oil under the Clean Water Act, Follow all applicable regulations. Follow all Local State, Federal and Provincial regulations for disposal.
Evecandon Procedures	Isolate area. Keep unnecessary personnel away. In case of large spills, follow all facility emergency response procedures
Special Instructions	Remova soited clothing and launder before reuse (see Section 7 - Storage). Avoid excessive skin contact with spilled material. Wear appropriate personal protective equipment.

H adling	Avoid prolonged or repeated skin contact with this material. Wash thoroughly after handling. Avoid inhalation of misis/vapors/fumes. Keep this product from heat, sparks, or open flame. Do not use air pressure or applicate with open flame to remove contents of drum. After emptied, drum may retein solld, liquid and/or vaporesidues. Continue to observe all precautions on label as if drum were full. Do not cut, puncture, forch or well on or near the emptied drum. Do not use for other purposes. Never eat, drink, or smoke in work areas Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet or applying cosmetics.
	Store at amblent temperature and atmospheric pressure. Porous material such as clothing, rags, paper insulation, or organic day may spontaneously combust when wetted with this material.

The second secon	er management in whitelesser of the secretary of the secr	SYLVA	BLEND* D40T	MSDS# 6220
Section 8. Expos	sure Controls	Personal Pr	otection	engelid dez un actuu i suda. Enem altita altera lez proci un flan until adam califeren en continue fina fecces en entil este
Englocering Controls	ACGIH, and ma prevents contain recommended v	mufacturer recomm niriant dispersion in when generating ex least ventilation to	nended exposure limits. Local ito work areas by controlling it cassive levels of vapors from it	ally alrhome concentrations below OSHA exhaust ventilation is preferred because at its source. Local exhaust ventilation in anothing or thermal processing. Use local buildup of mists/Vapors/fumes generated
Personal Protection				
Eve/Face:			shield if splashing is possible rd for eye and face protection, 2	Ensure compliance with OSHA's persona 29 CFR 1910.133.
Shin.	and long sleave necessary to pri	s. For heated/mol	ten product use any type them	contact should be worn, such as coverall nat insulating gloves and other clothing as th OSHA's personal protective equipmen- tion).
Respiratory:	professional follostandard for re provisions for no cleaning, and co PEL but less the appropriate cher consult the NIO	owing, requirement spiratory protection nedical certification nvenient, sanitary nen 10 times thes nical cartridges ma SH respirator decis	s found in OSHA's respirator on (Z88.2-1992). A written rentraining, fit-testing exposure starage, must be implemented by the USH approved by be used. For concentrations	the direction of a trained health and safet standard (29 CFR 1910.134) and ANSI espiratory protection program, including a assessments, maintenance, inspection For concentrations above the TLV and/o half-facepiece respirator equipped with greater than 10 times the TLV and/or PEL to 87-416 or ANSI Z88 2-1992. Warning atmospheres.
General:	reuse. Use good Observe exposu ACGIH TWA: 5	I industrial hyglene re limits for Oil Mis	practices in handling this mater	<ol> <li>Launder contaminated clothing before rat.</li> </ol>
Chemical Name or Produc	(Name	CAS#	OSHA PEL	ACGIH TLV
1) Tall Oil Frections		Proprietary	Not established	Not established
NOTE - The 1989 OSHA PELS	is were vacaled in 1993 an	f are not currently enforce	eable by Federal OSH4. However, some s	state OSHA programs may still enfarce the 1989 limits
Section 9. Physic	cal and Chem	ical Properti	es	
Physical state and appearance	Liquid.		Vapor Density	Not available
Odor	Fatty		Percent Volatile (EPA Method 24)	Not avallable
Color	Dark .		Solubility (water)	Negligible
Molecular Weight	Not applicable		[Jennity (vs. water)	Not available
Specific Cravity	0.98 (Water = 1)		Flash Point	>260°C (500°F).
Italing Point	>260°C (600°F)		R/B Softening Point	Not applicable

Chemical Stability	The product is stable.
Conditions to avoid	Avoid strong exidizing agents. Avoid protonged contact with porous materials.
Incompatibility	This product may react with strong oxidizing agents
Hazardous Decomposition Products	None sxcept extreme high temperatures may lead to decomposition, releasing fumes containing carbon monoxide, carbon dioxide, water, trace sulfur oxides, and/or hydrocarbons of varying molecular weights.

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# SYLVABLEND® D40T MSDS# 6220

Hazardous Polymerization

Hazardous polymerization will not occur.

#### Section 11. Toxicological Information

foricity to Animals

No toxicological information is available for this product. However, tall oil fractions may contain some or all of the following:

Tall Oil Rosin:

ORAL, rat, LD50 = 7600 mg/kg.
ORAL mouse, LD50 = 4600 mg/kg.
ORAL, guinea plg, LD50 = 4600 mg/kg.
DERMAL rabbit LD50 = 2500 mg/kg.

Tall Oil Fatty Acids:

ORAL, ret, LD50 = > 10,000 mg/kg, DERMAL, rebbit, LD50 = > 2000 mg/kg.

Tall oil faity acids were not found to be an eye or skin irritant in rabbits. No alteration of reproductive physiology was found in rats at feeding toyels of 5% and 10% of their diet. Tall oil faity acids were non-mutagenic in the Ames Salmonella Assay. Some tall oil faity acids were found to cause skin sensitization in 50% of exposed guinea pigs.

Tall Oil Heads:

ORAL, rst. LD50 = > 8000 mg/kg.

Tall Oil Pitch:

A mixture of tall oil pitch and tall oil heads was found to cause skin sensitization in 16% of exposed guinea pigs. Tall oil pitch alone may not cause skin sensitization.

Olmer Fatty Acids:

OR/AL, rat. LD50 = > 5000 mg/kg

In laboratory tests, guinea pigs exposed to dimer fatty acids did not exhibit a skin sensitization response. This product was not found to be a skin imitant in rabbits.

locicity to Humans

Contact may cause skin or eye initation. Exposure to oil mists/fumes/vapors may cause respiratory fract irritation with throat discomfort, coughing, and difficulty breathing.

A similar product was not found to be a skin sensitizer in adult males following prolonged or repeated skin contact

CARCINOGENIC EFFECTS: None of this product's components are listed as carcinogens by ACGIH, IARC, NIOSH NTP or OSHA. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available no information available on the toxicity of this product to the reproductive system.

#### Section 12. Ecological Information

Emissicity

When spilled, this product may act as an oil, causing a film, sheen, emulsion, or sludge at or beneath the surface of a body of water. Oils of any kind can cause, (a) drowning of waterfowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility. (b) lethal effects on fish by coating gill surfaces, preventing respiration; (c) potential fish kills resulting from alteration in biochemical oxygen demand; (d) asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom; and (e) adverse aesthetic effects of foured shoreline and beaches.

No toxicological information is available for this product. However, tall oil fractions may contain some or ell of the following.

Tall Oil Fatty Acids:

Active lish toxicity (2ebra). LC50 (24h) = 50-160 mg/l; LC50 (98h) = 10-20 mg/l; (NOEC = 10 mg/l).

immobilization studies (Daphnia magna):

EC50 (48 hr) = 55.7 mg/t.

Respiratory inhibition studies using activated studge showed 50% inhibition for tall oil fatty acids was not reached after 30 minutes at the highest concentration tested (1000 mg/l).

SUNDANCE SERVICES INC

OUT TO A COMPANY REPORT MONEY VIOLENCE OF THE GOVERNMENT AND AND ADMINISTRATION OF THE GOVERNMENT AND ADMINISTRATION OF TH	SYLVABLENO* D40T	novel frankrit trakerin sanda eronake	MSDS# 6220
	Tall Oil Pitch: Acute fish toxicity (Zebra): LC50 (98h) = > 400 mg/l.		
	Growth inhibition studies (Fresh water algae). EC50 (72 hr) = > 1000 mg/l, (NOEC = 5000 mg/l).		
	fmmobilization studies (Daphnia magna); EC50 (48 hr) = > 2000 mg/l.		
nvizonmental Pare	Biodegradability studies showed tall oil fatty acids to seven days.	be readily biodegradat	ofe, and degraded 50% with

#### Section 13, Disposal Considerations

Waste Disposal

Wastes must be tested using methods described in 40 CFR 261 to determine if it meets applicable definitions of hazardous waste. No EPA Waste Numbers are applicable for this product's components. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Write to the address listed in Section 1 for information on heavy metals analysis and other disposal information.

Section 14. Transp	port Information		
DOT Ussification	Not a DOT controlled material (United States)		
Proper Shipping Name	None.		
1817 (dentification Number	None.		
Pack og Group	None.		
Hazardons Substances Reportable Quantity	Not available		
Special Provisions for Transport	IF SHIPPED OVER 100°C (but less than product flash point): DOT Shipping Name: Elevated temperature liquid, n.o.s.; Hazard Class. 9; UN/NA Number: UN3257; Packing group III. (bulk shipping requires "HOT" placard)		
Additional Shipping Information	Not Determined		
lineitiational Transportation Regulations	Not Determined		

## Section 15. Regulatory Information

Federal and State

OSHA: Not hazardous by definition of Hazard Communication Standard (29 CFR 1910 1200)

SARA TITLE

SARA Section 302 (40 CFR 355 Appendix A): None of this product's components are listed:

SARA Section 311/312 (40 CFR 370.2). None:

SARA Section 313 (40 CFR 372.65): None of this product's components are listed:

CERCLA (40 CER 302.4). Mone of this product's components are listed.

EPA. Clean Water Act: Regulated as a non-petroleum based oil. Spills of this material to navigable waters in quantities sufficient to produce "sheen" are reportable.

TSCA inventory: All of this product's components are listed.

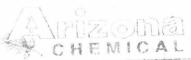
State Lists: This product can contain a component on the State of Minnesota Hazardous Substance List: Rooth

This product does not contain any chemicals currently on the California List of Known Carcinogens and Reproductive Toxics





#### MSDS# 6220 SYLVABLEND® D407 Section 16. Other Information Wey/Logend ACGIH = American Conference of Governmental Industrial Hygienists. ANSI = American National Standards Institute ARTM = American Society for Testing and Materials | CERCLA = Comprehensive Environmental Response, Compensation and Liability Act | DOT = Department of Transportation | EPA = Environmental Protection Agency, IARC = International Agency for Research on Cancer. LD = Lethal Dose: NIOSH = National Institute of Occupational Health and Safety NTP = National Toxicology Program, OSHA = Occupational Safety and Health Administration, PEL = Permissible Exposure Limit, SARA = Superfund Amendments and Reauthorization Act. TLV = Threshold Limit Value TSCA = Toxic Substance Control Act Validated by Richard Moye on 95/22/2000. Verified by Regulatory Affairs Dept. Printed 11/27/2000. Reason for Revision Update Section 1 Supersedes Date 05/01/98 Notice to Reader Research to care has been taken in the preparation of this information, but the manufactures makes no warranty of merchantability or any other warranty expressed or inclied with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, e dental or consequential damages resulting form its use. Page Number: 6 Last Page of MSDS



# Material Safety Data Sheet

Section 1. Cher	nical Product and	Company Identification	Code	tion of the control of the control of the first parties of the first parties of the control of t	
iduei/Trade		SYLVABLEND® D40T  (formerly ACINTOL® D40T & SYLVATAL® D40T)  Arizona Chemical P.O. Box 550850 Jacksonville FL 32256-0850 USA (800) 526-5294 I (904) 928-8700  Tall Oil		D40T 6220	
-1171,				e 05/22/2000	
	(formerly ACINT)			11/27/2000	
pplier / . aculacturer	P.O. Box 550850			EMERGENCY PHONE CHEMTREC: 1-800-424-9300 (transportation and medical)	
hemical Name	Tall Oil				
Carting 2 Car	enesition and Info	ormation on Ingredients	ental di memoratione di consenti di Santa di Sa	er til kanna sen samst samstromen, for known at desprisent er en places, at solven i enterfore a translations side in	
		CAS#	- o 1	y Weight	
Tail Oil Fractions		Proprietary	10	One and service control of	
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Section & Ma	rards Identificatio	(i)	The state of the s		
combustible. Ho product may sp heated product of mists/vapors/limitation with the jungs may cause	rk liquid with a fatty invever, after prolonge ontaneously combus ontacts the eye and/o fumes generated by roat discomfort, coug e chemical pneumonit	odor. Product is not consided contact with highly porous mast. May cause eye and skin it or skin, thermal burns may result heating this product may cause hing or difficulty breathing. As and pulmonary edema.	rritation. If Inhalation respiratory	HEALTH: 1 FIRE 1 REACTIVITY: 0 PPE: see Section 8 of this MSDS.  Only name 1/2 Signt 2-4/cde/ate 3-5cmals, 4-5cvete: 7-Covered health nazard.	
Countiel Hyalth Effect Eye Counte	Downers way 2018	a ave imiation. If heated product conta	cts the eye thor	nal burns may result.	
Skin Contac		When it is heated, this product may cause trieting some			
Inhistoion	narmful vapers	exposure to all mistavapore/fumes may cause respiratory tract imitation. Heating this product may release the oil mistavapore/fumes may cause respirated by heating this product may cause respirate the product may result in gastromates and discomposition including impletion. Includes and pulmonities and pulmonities are product the product may result in gastromates and discompositions of large quantities may result in gastromates and pulmonities are product may be producted the product may result in gastromates and pulmonities are producted to the product may result in gastromates and pulmonities are producted to the product may result in gastromates and pulmonities are producted to the product may result in gastromates and producted the producted the producted to the producted the			
' Ingestion	Ingestion of large crambea Aspiral edema	e quantities may result in gastrointes tion into lungs may causa savera dam	Hinal disturbance hage, includios di	es including limbarous radiases, or semical phaemical phaemical phaemical series and pulmor	
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Fve Contact	immediately flush eyes with flooding amounts of cool, low pressure water for at least 15 minutes. If irritation persists get medical attention. If hot product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately.
S) in Contact	In case of skin contact wash immediately with soap and water. If instation develops of persists, got modes attention. If hot product contacts skin, good under running water and get medical attention. Launder attention.
Fahslotion	Move person to non-contaminated air. If affected person is not breathing, apply artificial respiration. Seek
Togestion	medical attention.  If swallowed, contact a physician or polson control center immediately. DO NOT induce vomiting unless directed to do so by medical personnel.

Continued on Next Page

Page Number: 1