

NM1

.

3

C-138

YEAR(S):

2001-2000



NORM 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 FILES!*

WP

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

Sundance Services, Inc.

P.O. Box 1737 * Eunice, NM 88231
(505) 394-2511

No 29209

LEASE OPERATOR/SHIPPER/COMPANY: Rice

LEASE NAME: EME-M-33

TRANSPORTER COMPANY: Walton

TIME: AM/PM

DATE: 6-7-00 VEHICLE NO.: 209

DRIVER NO.:

CHARGE TO: Rice

TYPE OF MATERIAL

Production Water

Drilling Fluids

Completion Fluids

Tank Bottoms

Contaminated soil

C-117 No.:

Other Material:

BS&W Content: _____

Description: _____

Wood

VOLUME OF MATERIAL BBLs. _____ : 2 YARD 5 : _____

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 § 361.001, 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.

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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.

DRIVER: [Signature]
(SIGNATURE)

FACILITY REPRESENTATIVE: [Signature]
(SIGNATURE)

Sundance Services, Inc.

P.O. Box 1737 * Eunice, NM 88231
(505) 394-2511

No 29194

LEASE OPERATOR/SHIPPER/COMPANY: Rice

LEASE NAME: EME M-33

TRANSPORTER COMPANY: Walton const.

TIME: _____ AM/PM

DATE: 6-7-00 VEHICLE NO.: 57

DRIVER NO.:

CHARGE TO: Rice

TYPE OF MATERIAL

- Production Water
- Tank Bottoms
- Other Material:

- Drilling Fluids
- Contaminated soil
- BS&W Content: _____

- Completion Fluids
- C-117 No.: _____

Description: _____

wood.

VOLUME OF MATERIAL BBLs. _____ : YARD 25 : _____

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 § 361.001, 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.

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DRIVER: [Signature]
(SIGNATURE)

FACILITY REPRESENTATIVE: [Signature]
(SIGNATURE)

Sundance Services, Inc.

P.O. Box 1737 * Eunice, NM 88231
(505) 394-2511

No 29193

LEASE OPERATOR/SHIPPER/COMPANY: Rice

LEASE NAME: EME M-33

TRANSPORTER COMPANY: Walton Const.

TIME: AM/PM

DATE: 6-7-00 VEHICLE NO.: # 209

DRIVER NO.:

CHARGE TO: Rice

TYPE OF MATERIAL

Production Water

Drilling Fluids

Completion Fluids

Tank Bottoms

Contaminated soil

C-117 No.:

Other Material:

BS&W Content: _____

Description: _____

wood

VOLUME OF MATERIAL BBLs. _____

YARD 5 _____

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 § 361.001, 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.

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DRIVER: *[Signature]*
(SIGNATURE)

FACILITY REPRESENTATIVE: *[Signature]*
(SIGNATURE)

these aren't clear
but you can read
the originals

Sundance Services, Inc. P.O. Box 1737 ★ Eunice, NM 88231 (505) 394-2511			NE 25117
LEASE OPERATOR/SHIPPER/COMPANY: _____			
LEASE NAME: <u>6-21</u>			
TRANSPORTER COMPANY: _____	TIME: _____	AM/PM	
DATE: _____	VEHICLE NO.: _____	DRIVER NO.: _____	
CHARGE TO: _____			
TYPE OF MATERIAL			
<input type="checkbox"/> Production Water	<input type="checkbox"/> Drilling Fluids	<input type="checkbox"/> Completion Fluids	
<input type="checkbox"/> Tank Bottoms	<input type="checkbox"/> Contaminated soil	<input type="checkbox"/> C-117 No.: _____	
<input type="checkbox"/> Other Material:	<input type="checkbox"/> BS&W Content: _____		
Description: _____			
VOLUME OF MATERIAL <input type="checkbox"/> BBLs. _____ : <input type="checkbox"/> YARD _____ : <input type="checkbox"/> _____			
<p>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 § 361.001, 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.</p> <p>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.</p> <p><i>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.</i></p>			
DRIVER: _____ (SIGNATURE)			
FACILITY REPRESENTATIVE: _____ (SIGNATURE)			
White-Sundance Canary-Sundance Acct#1 Pink-Sundance Acct#2 Gold-Transporter Revised 12/27/95			

Sundance Services, Inc.

P.O. Box 1737 ★ Eunice, NM 88231
(505) 394-2511

NO 25072

LEASE OPERATOR/SHIPPER/COMPANY:

LEASE NAME:

L-21

TRANSPORTER COMPANY:

TIME:

AM/PM

DATE:

VEHICLE NO.:

DRIVER NO.:

CHARGE TO:

TYPE OF MATERIAL

Production Water

Drilling Fluids

Completion Fluids

Tank Bottoms

Contaminated soil

C-117 No.: _____

Other Material:

BS&W Content: _____

Description: _____

VOLUME OF MATERIAL BBLs. _____ :

YARD _____ :

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 § 361.001, 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.

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DRIVER: _____

(SIGNATURE)

FACILITY REPRESENTATIVE: _____

(SIGNATURE)

White-Sundance Canary-Sundance Acct#1 Pink-Sundance Acct#2 Gold-Transporter
Revised 12/27/95

Sundance Services, Inc.

P.O. Box 1737 * Eunice, NM 88231
(505) 394-2511

112 25177

LEASE OPERATOR/SHIPPER/COMPANY:

LEASE NAME: 6-21

TRANSPORTER COMPANY: _____ TIME: _____ AM/PM

DATE: _____ VEHICLE NO.: _____ DRIVER NO.: _____

CHARGE TO: _____

TYPE OF MATERIAL

- Production Water
- Tank Bottoms
- Other Material:
- Drilling Fluids
- Contaminated soil
- BS&W Content: _____
- Completion Fluids
- C-117 No.: _____

Description: _____

VOLUME OF MATERIAL BBLs. _____ : YARD _____ : _____

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 § 361.001, 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.

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DRIVER: _____ (SIGNATURE)

FACILITY REPRESENTATIVE: _____ (SIGNATURE)

Sundance Services, Inc.		
P.O. Box 1737 ★ Eunice, NM 88231 (505) 394-2511		NO 25129
LEASE OPERATOR/SHIPPER/COMPANY:		
LEASE NAME: L-21		
TRANSPORTER COMPANY:		TIME: AM/PM
DATE:	VEHICLE NO.:	DRIVER NO.:
CHARGE TO:		
TYPE OF MATERIAL		
<input type="checkbox"/> Production Water	<input type="checkbox"/> Drilling Fluids	<input type="checkbox"/> Completion Fluids
<input type="checkbox"/> Tank Bottoms	<input checked="" type="checkbox"/> Contaminated soil	<input type="checkbox"/> C-117 No.: _____
<input type="checkbox"/> Other Material:	<input type="checkbox"/> BS&W Content: _____	
Description: _____		
2000		
VOLUME OF MATERIAL <input type="checkbox"/> BBLs. _____ : <input type="checkbox"/> YARD _____ : <input type="checkbox"/> _____		
<p>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.</p> <p>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.</p> <p><i>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.</i></p>		
DRIVER: _____ (SIGNATURE)		
FACILITY REPRESENTATIVE: _____ (SIGNATURE)		
White-Sundance Canary-Sundance Acct#1 Pink-Sundance Acct#2 Gold-Transporter Revised 12/27/95		

Sundance Services, Inc.

P.O. Box 1737 ★ Eunice, NM 88231
(505) 394-2511

NO 25056

LEASE OPERATOR/SHIPPER/COMPANY: *Rice*

LEASE NAME: *M-E 1+20*

TRANSPORTER COMPANY: *Walton Court*

TIME: AM/PM

DATE: *11/7/00* VEHICLE NO.: *37*

DRIVER NO.:

CHARGE TO: *Rice*

Wood

TYPE OF MATERIAL

- Production Water
- Tank Bottoms
- Other Material:
- Drilling Fluids
- Contaminated soil
- BS&W Content: _____
- Completion Fluids
- C-117 No.: _____

Description: *oil dirt*

VOLUME OF MATERIAL BBLs. _____ : YARD *17.4* : _____

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 § 361.001 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.

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DRIVER: *Ramon Hernandez*
(SIGNATURE)

FACILITY REPRESENTATIVE: *Shannon Garcia*
(SIGNATURE)

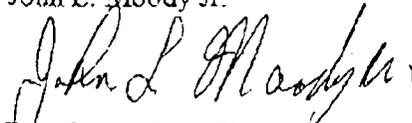
RICE Operating Company

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 1-3-00 by
John L. Moody Jr.


Regulatory Compliance coordinator

Cc: WM File

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

DATE 1-3-00

TIME 10:30 AM

SURVEY PERFORMED BY (INDIVIDUALS SIGNATURE)

John L. Mandy

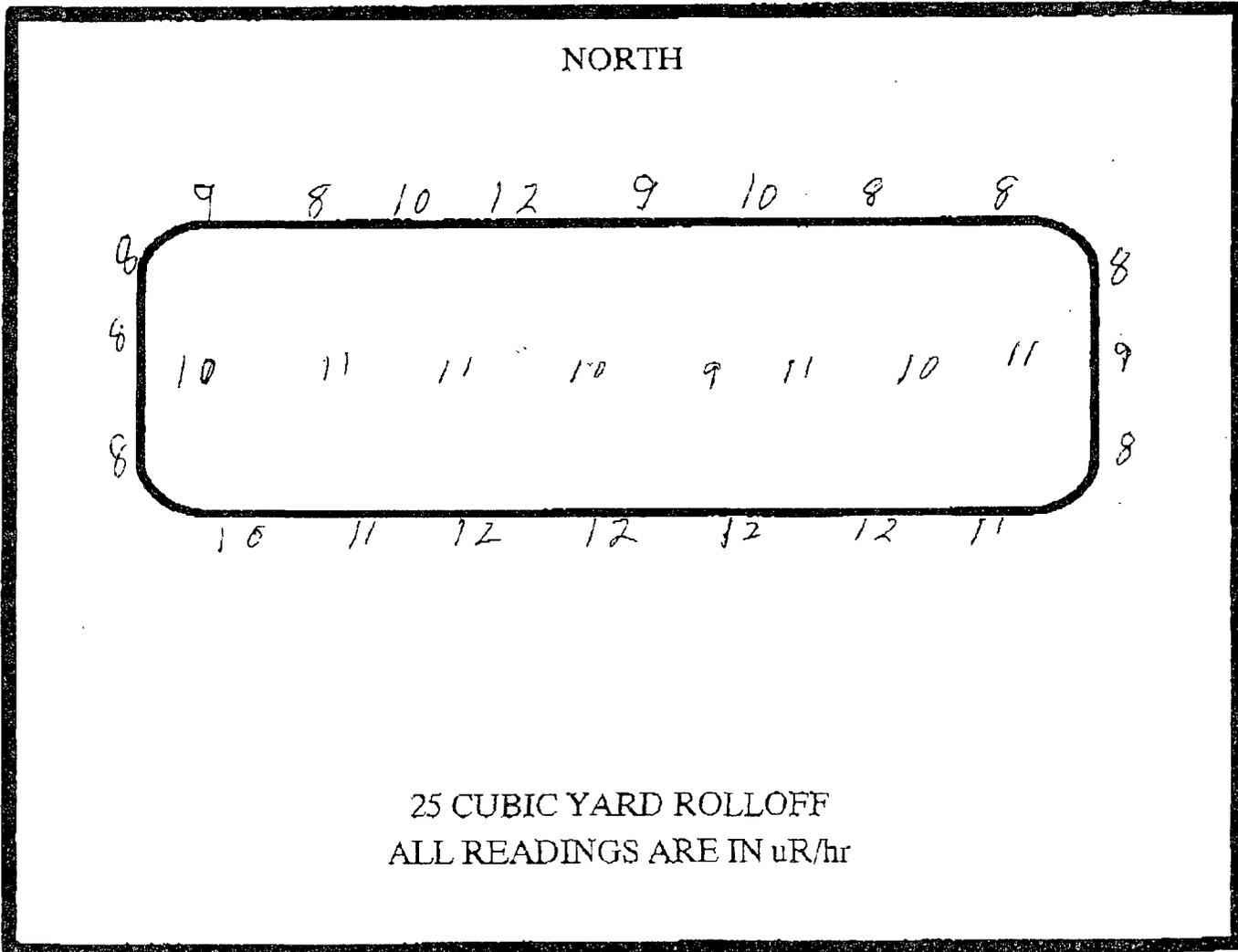
CLIENT: WASTE MANAGEMENT

LOCATION: RICE YARD

EXPOSURE RATE INSTRUMENT (TYPE, SERIAL #) Model 19 SER #127382

CALIBRATION DUE DATE 10-1-00 BACKGROUND READING 8 uR/hr

BATTERY AND RESPONSE CHECKS PERFORMED SATISFACTORY?



RICE Operating Company

122 West Taylor

HOBBS, NEW MEXICO 88240

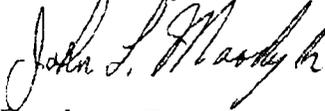
(505) 393-9174

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 1-31-00 by

John L. Moody Jr.



Regulatory Compliance coordinator

Cc: WM File

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

DATE 1-31-00

TIME 4:00 PM

SURVEY PERFORMED BY (INDIVIDUALS SIGNATURE)

John L. Moody

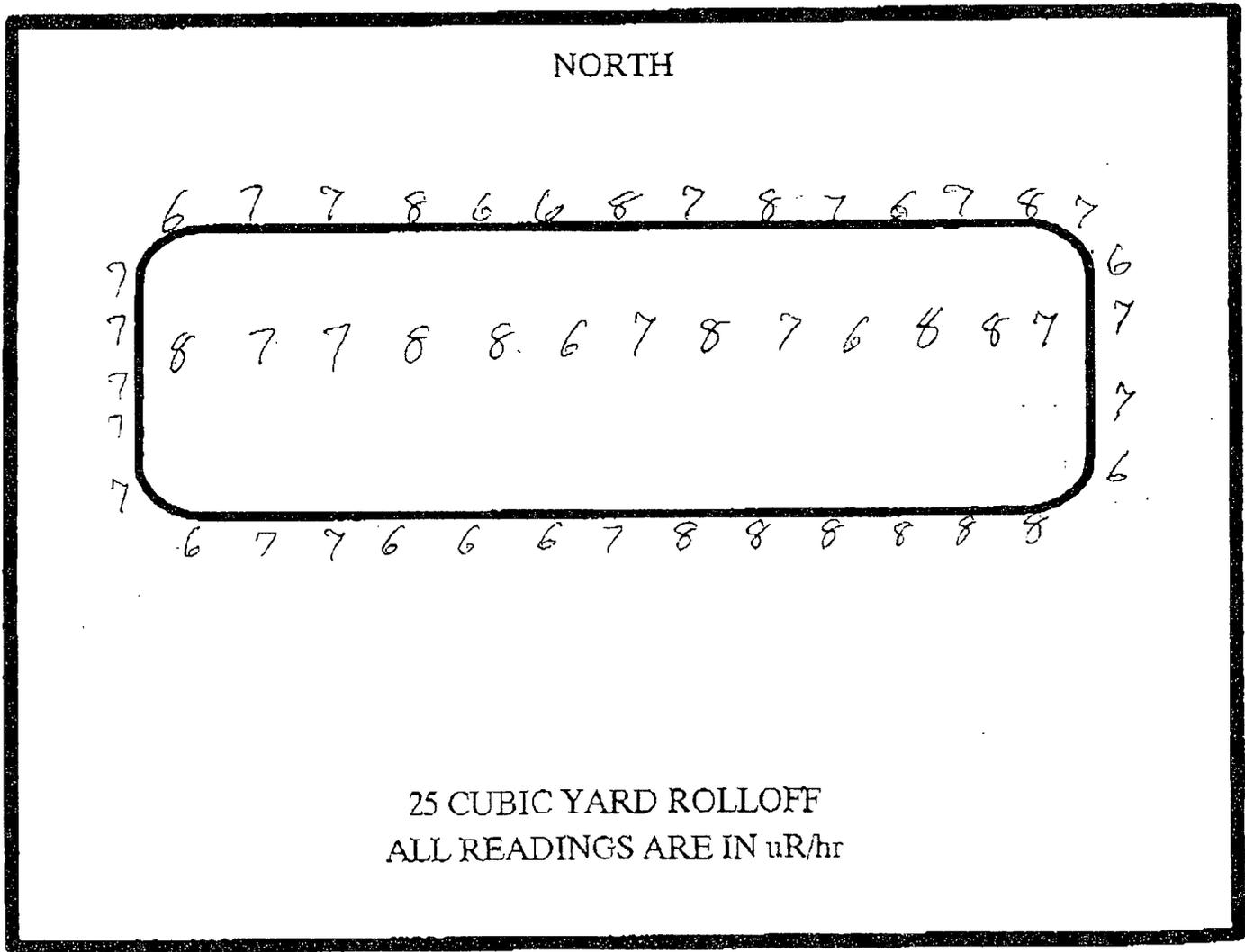
CLIENT: WASTE MANAGEMENT

LOCATION: RICE YARD

EXPOSURE RATE INSTRUMENT (TYPE, SERIAL #) Mod 19 #120918

CALIBRATION DUE DATE 14 APR - 00 BACKGROUND READING 6 uR/hr

BATTERY AND RESPONSE CHECKS PERFORMED SATISFACTORY?



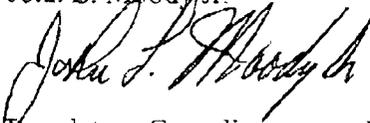
RICE Operating Company

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 12-13-99 by
John L. Moody Jr.


Regulatory Compliance coordinator

Cc: WM File

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

DATE 12-13-99

TIME 1:30 pm

SURVEY PERFORMED BY (INDIVIDUALS SIGNATURE) John L. Moody

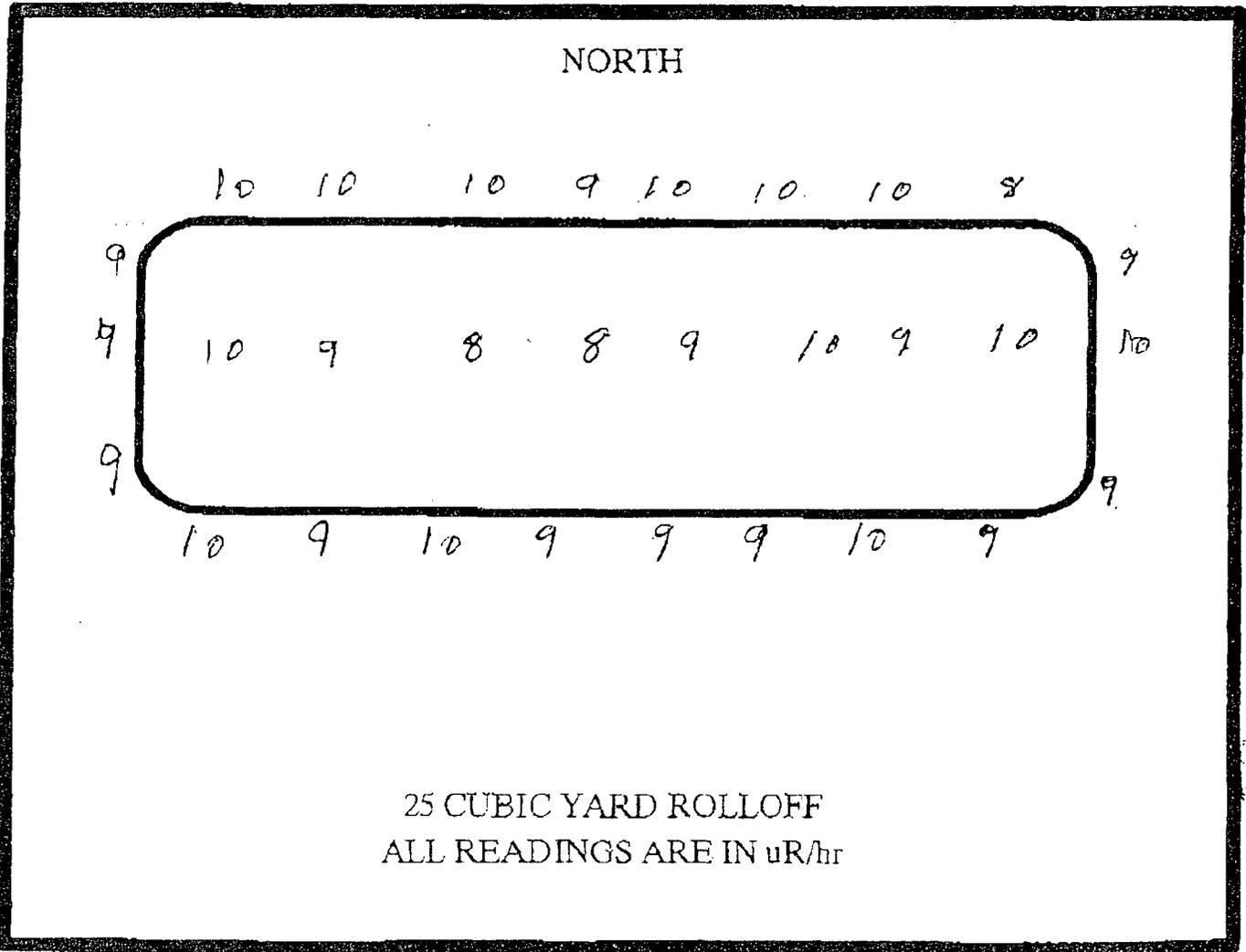
CLIENT: WASTE MANAGEMENT

LOCATION: RICE YARD

EXPOSURE RATE INSTRUMENT(TYPE, SERIAL #) Mod-19 SRR# 127364

CALIBRATION DUE DATE 11-1-00 BACKGROUND READING 7-8 uR/hr

BATTERY AND RESPONSE CHECKS PERFORMED SATISFACTORY? YES



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 12-16-99 by

John L. Moody Jr.



Regulatory Compliance coordinator

Cc: WM File

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

DATE 12-16-99

TIME 2:00 pm

SURVEY PERFORMED BY (INDIVIDUALS SIGNATURE) John L. Moody Jr.

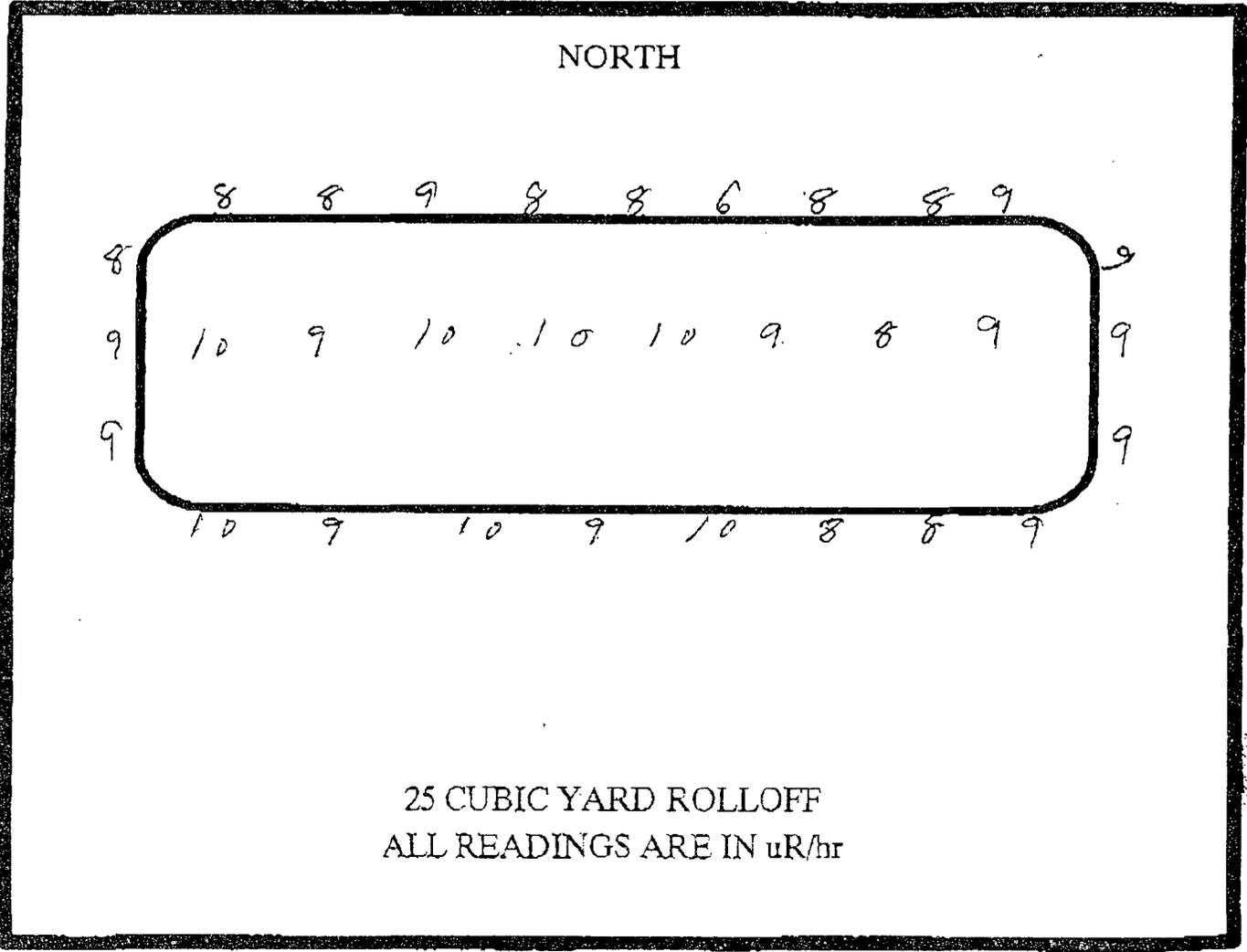
CLIENT: WASTE MANAGEMENT

LOCATION: RICE YARD

EXPOSURE RATE INSTRUMENT (TYPE, SERIAL #) Mod. 19 SER # 127382

CALIBRATION DUE DATE 10 AUG 00 BACKGROUND READING 6 uR/hr

BATTERY AND RESPONSE CHECKS PERFORMED SATISFACTORY?





726 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	rb
Ra-228	0.31	0.09	pCi/gm	0.011	0.003	Bq/gm	EPA 901.1M	08/15/01 13:41	rb
Pb-210	2.47	0.97	pCi/gm	0.091	0.036	Bq/gm	EPA 901.1M	08/15/01 13:41	rb
Total Activity	20.00	N/A	pCi/gm	0.740	N/A	Bq/gm	EPA 901.1M	08/15/01 13:41	rb

Notes: Job: Hobbs

Jodie L. Lewis
 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 client.



1726 Wooddale Court • Baton Rouge, Louisiana 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	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	4.95	0.36	pCi/gm	0.183	0.013	Bq/gm	EPA 901.1M	08/15/01 13:40	rb
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

Notes: Job: Hobbs

Jodie Galus
 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 client.



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 I.D.: Grid #20 comp. 30cm ARS Sample I.D.: ARS-01-4882
 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	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	pCi/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	rb
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

Jodie L. Kelly
 Quality Assurance Review

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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	Bq/gm	EPA 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	rb
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

John Kelly
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ARS Tracking 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	Analysis Technician
Ra-226	1.87	0.64	pCi/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	rb
Pb-210	0.99	0.58	pCi/gm	0.037	0.021	Bq/gm	EPA 901.1M	08/15/01 15:16	rb
Total Activity	13.16	N/A	pCi/gm	0.487	N/A	Bq/gm	EPA 901.1M	08/15/01 15:16	rb

Notes: Job: Hobbs

Jane Salvo
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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	08/15/01 16:09	rb
Ra-228	0.33	0.07	pCi/gm	0.012	0.003	Bq/gm	EPA 901.1M	08/15/01 16:09	rb
Pb-210	1.85	0.79	pCi/gm	0.068	0.029	Bq/gm	EPA 901.1M	08/15/01 16:09	rb
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

John L. Allen
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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	rb
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

Joni L. Allen
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ARS Tracking Number: ARS-01-1171 P.O. Number: Verbal
 Client I.D.: HS-1 15cm ARS Sample I.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 Sigma	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	rb
Ra-228	0.32	0.10	pCi/gm	0.012	0.004	Bq/gm	EPA 901.1M	08/15/01 13:03	rb
Pb-210	5.99	1.73	pCi/gm	0.222	0.064	Bq/gm	EPA 901.1M	08/15/01 13:03	rb
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

Jodi L. Allen
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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

Kelli L. Allen
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ARS Tracking Number: ARS-01-1171 P.O. Number: Verbal
 Client I.D.: HS-2 30cm ARS Sample I.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 Sigma	Analysis Units	Analysis 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	pCi/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	rb
Total Activity	10.59	N/A	pCi/gm	0.392	N/A	Bq/gm	EPA 901.1M	08/15/01 13:02	rb

Notes: Job: Hobbs

Jodi L. Allen
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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	Bq/gm	EPA 901.1M	08/15/01 11:48	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	08/15/01 11:48	rb

Notes: Job: Hobbs

Johnnie D. Allen
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ARS Tracking Number: ARS-01-1168 P.O. Number: Verbal
Client I.D.: Grid #32 comp. 15cm ARS Sample I.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 Sigma	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	rb
Ra-228	0.23	0.03	pCi/gm	0.009	0.001	Bq/gm	EPA 901.1M	08/16/01 08:43	rb
Pb-210	1.85	0.33	pCi/gm	0.068	0.012	Bq/gm	EPA 901.1M	08/16/01 08:43	rb
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 L. Lally
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ARS Tracking Number: ARS-01-1168 P.O. Number: Verbal
 Client I.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	pCi/gm	0.117	0.030	Bq/gm	EPA 901.1M	08/16/01 08:45	rb
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	EPA 901.1M	08/16/01 08:45	rb

Notes: Job: Hobbs

Jodie L. Allen
 Quality Assurance Review

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ARS Tracking Number: ARS-01-1168 P.O. Number: Verbal
 Client I.D.: Grid #22 comp. 15cm ARS Sample I.D.: 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	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	2.96	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	0.001	Bq/gm	EPA 901.1M	08/16/01 07:55	rb
Pb-210	1.99	0.31	pCi/gm	0.074	0.011	Bq/gm	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	rb

Notes: Job: Hobbs

John Zalko
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ARS Tracking Number: ARS-01-1168 P.O. Number: Verbal
 Client I.D.: Grid #21 comp. 15cm ARS Sample I.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 Units	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	rb
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	rb
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

[Signature]
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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	rb
Pb-210	1.13	0.29	pCi/gm	0.042	0.011	Bq/gm	EPA 901.1M	08/15/01 10:44	rb
Total Activity	11.94	N/A	pCi/gm	0.442	N/A	Bq/gm	EPA 901.1M	08/15/01 10:44	rb

Notes: Job: Hobbs

John Talbot
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ARS Tracking Number: ARS-01-1167 P.O. Number: Verbal
 Client I.D.: Grid #9 comp. 15cm ARS Sample I.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
Ra-228	0.26	0.04	pCi/gm	0.010	0.001	Bq/gm	EPA 901.1M	08/15/01 11:17	rb
Pb-210	1.87	0.27	pCi/gm	0.069	0.010	Bq/gm	EPA 901.1M	08/15/01 11:17	rb
Total Activity	15.90	N/A	pCi/gm	0.588	N/A	Bq/gm	EPA 901.1M	08/15/01 11:17	rb

Notes: Job: Hobbs

John L. L...
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ARS Tracking Number: ARS-01-1167 P.O. Number: Verbal
 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 & Time	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	08/15/01 10:11	rb
Pb-210	2.04	0.29	pCi/gm	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

Jodi L. Allen
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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 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	4.42	0.81	pCi/gm	0.164	0.030	Bq/gm	EPA 901.1M	08/15/01 10:11	rb
Ra-228	0.23	0.06	pCi/gm	0.009	0.002	Bq/gm	EPA 901.1M	08/15/01 10:11	rb
Pb-210	3.59	1.12	pCi/gm	0.133	0.041	Bq/gm	EPA 901.1M	08/15/01 10:11	rb
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

Jodie Talley
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ARS Tracking Number: ARS-01-1167 P.O. Number: Verbal
 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 Units	Analysis Result	Analysis Error +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	08/15/01 10:45	rb
Pb-210	2.15	0.80	pCi/gm	0.080	0.030	Bq/gm	EPA 901.1M	08/15/01 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

Notes: Job: Hobbs

Jane L. Allen
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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 nuclides. 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 solely alpha or beta particles.
- 6.0) Ra-228 is determined 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:

- | | | |
|-------|-----------------|--|
| 1.0) | 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) | B | Method Blank |
| 5.0) | D | Method Duplicate |
| 6.0) | MS | Matrix 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.

11000, 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

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Environmental Bureau
 Oil Conservation Division

Originated

Submit On
 Plus 1
 to appro
 District

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator Halliburton
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	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 882318, State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) 2311 S. First Artesia, NM 88210	
9. Circle One:	
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.	
<input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.	
All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The following analytical results are for Halliburton Energy's Artesia Facility. This waste is generated by the washing of trucks and flowing into the wash rack sump. I have included a certificate of waste status and chain of custody. Sundance Services would like approval to accept this into our Parabo disposal facility.

Estimated Volume 150 yards cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: Donna L. Roach TITLE: OFFICE MGR DATE: 12-10-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY: Paul R. [Signature] TITLE: Environmental Eng DATE: 12-12-01

APPROVED BY: Maty [Signature] TITLE: Environmental [Signature] DATE: 12-18-01



ARDIT LABORAT

Company Name:
 Project Manager:
 Address: 2311
 City: Alesia
 Phone #: SOS
 Fax #: SOS
 Project #: Was
 Project Name:
 Project Location:

LAB ID. #

I

PLEASE NOTE: Labeling and shipping instructions, including those for refrigerated samples, are on the back of the label. Check for additional labeling instructions.

Sampler Requisition:

SOST N

Requisition Br: SOS

SOST N

Delivered By: TC

UPS - Fed Ex - B

Company Name:
 Project Manager:
 Address: 2311
 City: Alesia
 Phone #: SOS
 Fax #: SOS
 Project #: Was
 Project Name:
 Project Location:

LAB ID. #

I

Sampler Requisition:

SOST N

Requisition Br: SOS

SOST N

Delivered By: TC

UPS - Fed Ex - B

CERTIFICATE OF WASTE STATUS
NON-EXEMPT WASTE MATERIAL
AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATOR: Halliburton

ADDRESS: 2311 S. 1ST ST

GENERATING SITE: ARTESIA Yard

COUNTY EDDY STATE NM

TYPE OF WASTE: Wash Rack Grit

ESTIMATED VOLUME: 300,000 lbs.

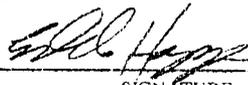
GENERATING PROCESS: Wash Rack Sumps

REMARKS: _____

NMOCD FACILITY: Sundance

TRUCKING FACILITY: Chaparral

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 or 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: 
SIGNATURE

NAME: Eddie Hopper
PRINTED

ADDRESS: 5801 Lovington Hwy Hobbs, NM 88240

DATE: 12/14/01



PHONE (816) 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
6801 LOVINGTON HWY
HOBBS, NM 88240
FAX TO: (505) 392-7062**

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: SLUDGE
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: AH/GP

TCLP METALS

LAB NO.	SAMPLE ID	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS DATE:		12/23/99	12/22/99	12/22/99	12/22/99	12/22/99	12/22/99	12/22/99	12/23/99
EPA LIMITS:		5	5	100	1	5	5	0.2	1
H4516-1	#1 WASH RACK GRIT	<1	<1	<5	<0.1	<1	<1	<0.02	<0.1
Quality Control		0.198	4.759	51.10	1.002	5.058	5.045	0.00355	0.053
True Value QC		0.200	5.000	50.00	1.000	5.000	5.000	0.00400	0.050
% Recovery		97	95	102	100	101	101	89	106
Relative Standard Deviation		4.3	0.2	1.7	0.2	0.8	0.6	1.3	0.2
METHODS:	EPA 1311, 600/4-91/01	206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2

*Sample contains <10% solid.

 Chemist	12/23/99	1	2	5	5
	Date	12/23/99			
H4516M.XLS					

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**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: 12/27/99
 Project Number: NOT GIVEN
 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

LAB NUMBER SAMPLE ID Sulfide (ppm) Cyanide (ppm) CORROSIVITY (pH) IGNITABILITY (°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
GRIT				
LABORATORIES				
Quality Control	NR	NR	7.07	NR
True Value QC	NR	NR	7.00	NR
% Recovery	NR	NR	101	NR
Relative Percent Difference	NR	NR	0.6	NR

*Sample contains <10% solid.

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

Buizer / Cashe
 Chemist

12/27/99
 Date

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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) 392-7082

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
 Sample ID: #1 WASH RACK GRIT

Analysis Date: 12/16/99
 Sampling Date: 12/16/99
 Sample Type: LIQUID*
 Sample Condition: COOL & INTACT
 Sample Received By: GP
 Analyzed By: BC

TCLP SEMIVOLATILES (ppm)	EPA LIMIT	Sample Result H4516-1	Method Blank	QC % Recov.	True Value QC
Pyridine	5.00	<0.020	<0.005	0.006	12 0.050
1,4-Dichlorobenzene	7.50	0.035	<0.005	0.038	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
2,4,6-Trichlorophenol	400	<0.020	<0.005	0.038	72 0.050
2,4-Dinitrotoluene	0.130	<0.020	<0.005	0.045	90 0.050
Hexachlorobenzene	0.130	<0.020	<0.005	0.044	88 0.050
Pentachlorophenol	100	<0.020	<0.005	0.040	80 0.050

% RECOVERY

Fluorophenol	23
Phenol-d5	22
Nitrobenzene-d5	62
2-Fluorobiphenyl	87
2,4,6-Tribromophenol	72
Terphenyl-d14	99

METHODS: EPA SW 846-8270, 1311, 3510

*Sample contains <10% solid.

Burgess J. A. Cooke
 Burgess J. A. Cooke, Ph. D.

12/17/99
 Date

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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
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

TCLP VOLATILES (ppm)	EPA LIMIT	Sample Result H4516-1	Method Blank	True Value	
				QC	%Recov. QC
Vinyl Chloride	0.20	<0.005	<0.005	0.097	97
1,1-Dichloroethylene	0.7	<0.005	<0.005	0.101	101
Methyl Ethyl Ketone	200	<0.050	<0.050	0.088	88
Chloroform	6.0	<0.005	<0.005	0.097	97
1,2-Dichloroethane	0.5	<0.005	<0.005	0.103	103
Benzene	0.6	<0.005	<0.005	0.097	97
Carbon Tetrachloride	0.5	<0.005	<0.005	0.112	112
Trichloroethylene	0.5	<0.005	<0.005	0.098	98
Tetrachloroethylene	0.7	<0.005	<0.005	0.114	114
Chlorobenzene	100	<0.005	<0.005	0.102	102
1,4-Dichlorobenzene	7.5	<0.005	<0.005	0.099	99

% RECOVERY

Dibromofluoromethane	85
Toluene-d8	80
Bromofluorobenzene	82

METHODS: EPA SW 846-8260, 1311

*Sample contains <10% solid.

Burgess J. A. Cooke
Burgess J. A. Cooke, Ph. D.

12/17/99
Date

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 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

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 Environmental Bureau
 Oil Conservation Division
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 to apprt
 District

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator HALLIBURTON
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	5. Originating Site HOBBS FACIL
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter CHAPARRAL
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 882318. State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) 5801 Lovinton Hwy Hobbs, NM 88240	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis. 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 equipment. This analytical is from Halliburtons Hobbs facility. Sundance would like approval to accept this waste into our Parabo facility.

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

SIGNATURE: Donna L. Roach TITLE: OFFICE MGR DATE: 12-10-01
Waste Management Facility Authorized Agent
 TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)
 APPROVED BY: Charles Cleary TITLE: Environmental Eng. DATE: 12-12-01
 APPROVED BY: Monty J. G. [Signature] TITLE: Environmental Geologist DATE: 12-18-01

CERTIFICATE OF WASTE STATUS
NON-EXEMPT WASTE MATERIAL
AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATOR: Halliburton

ADDRESS: 5801 Lovington Hwy

GENERATING SITE: Hobbs Yard

COUNTY Lea STATE NM

TYPE OF WASTE: Wash Rack Grit

ESTIMATED VOLUME: 300,000 lbs.

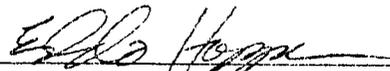
GENERATING PROCESS: Wash Rack Sumps

REMARKS: _____

NMOCD FACILITY: Sundance

TRUCKING FACILITY: Chaparral

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 or 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 261.3.

AGENT: 
SIGNATURE

NAME: Eddie Hopper
PRINTED

ADDRESS: 5801 Lovington Hwy Hobbs, NM 88240

DATE: 12/6/01

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 161 East Marland, Hobbs, NM 88240
 (815) 673-7801 Fax (815) 673-7020 (505) 393-2328 Fax (505) 393-2478

Company Name: HALLIBURTON ENERGY SERVICES P.O. #:

Project Manager: SCOTT NELSON

Address: 5801 LOVINGTON HWY

City: HOBBS State: NM Zip: 88240

Phone #: _____ Fax #: _____

Project #: _____ Project Owner: _____

Project Name: WASHBAY SUMP

Project Location: HOBBS YARD

Sampler Name: _____

FOR LAB USE ONLY

Lab ID.	Sample ID.	(GRAB OR COMP.)	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	AC/BASE:	ICE/COOL	OTHER:	DATE	TIME
H5422-1	Washbay Sump							X					12/12	1:15

Matrix: _____

Preserv: _____

Sampling: _____

Phone Results: Yes No Add'l Phone #:

Fax Results: Yes No Add'l Fax #:

Remarks: 1- TCCP - Complete - 1150
1- TPH, 418.1
STATS TAX 72.30
1277.30

Received By: (Lab Staff) _____

Delivered By: (Circle One) _____

Sampler: JIPB - Bus - Other:

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2478.



ARDINAL LABORATORIES

PHONE (915) 873-7001 • 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

Analysis Date: 12/13/00
Sampling Date: 12/12/00
Sample Type: SLUDGE
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

TCLR VOLATILES (ppm)	EPA LIMIT	Sample Result H5422-1	Method Blank	QC	%Recov.	True Value QC
Vinyl Chloride	0.20	<0.005	<0.006	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	8.0	<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	7.6	<0.005	<0.005	0.104	104	0.100

% RECOVERY

Dibromofluoromethane	95
Toluene-d8	91
Bromofluorobenzene	98

METHODS: EPA SW 846-8260, 1311

Burgess J. A. Cooke
Burgess J. A. Cooke, Ph. D.

12/14/00
Date

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PHONE (505) 593-2326 • 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

LAB NUMBER SAMPLE ID TPH
(mg/Kg)

H5422-1	WASHBAY SLUDGE	77300
Quality Control		228
True Value QC		240
% Recovery		95.0
Relative Percent Difference		4.0

METHOD: EPA 600/4-79-020 418.1

Burgess J. Coche
Chemist

12/18/00
Date

H5422T.XLS

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**ARDINAL
LABORATORIES**

PHONE (816) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79605

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

TCLP SEMIVOLATILES (ppm)	EPA LIMIT	Sample Result H5422-1	Method Blank	SECURITY QC	% Recov.	True Value 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-Trichlorophenol	2.00	<0.020	<0.005	0.040	80	0.050
2,4,6-Trichlorophenol	400	<0.020	<0.005	0.048	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	94	0.050

% RECOVERY

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

METHODS: EPA SW 846-8270, 1311, 3610

Burgess J. A. Cooke
Burgess J. A. Cooke, Ph. D.

12/14/00
Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, 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 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 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.

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

LAB NUMBER SAMPLE ID

Sulfide (ppm) Cyanide (ppm) CORROSION (pH) IGNITABILITY (°F)

ANALYSIS DATE:	12/14/00	12/14/00	12/18/00	12/18/00
H5422-1 WASHBAY SLUDGE	Not reactive	Not reactive	7.65	Nonflammable
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

Burgess A. Coche
 Chemist

12/18/00
 Date

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MOODS, 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

FORM O-1
 Originated 8/8

RECEIVED
 DEC 18 2001
 Environmental Bureau
 Oil Conservation Division

Submit Original
 Plus 1 Copy
 to appropriate
 District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator HALLIBURTON
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	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 88231g. State TEXAS	
7. Location of Material (Street Address or ULSTR) 1301 W. Webb Brownfield, Texas 79316	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The following analytical results are from Halliburton's Brownfield yard. This waste was generated from the washing of oilfield equipment. I have included a certificate of waste status and chain of custody. Sundance would like approval to accept this material into our Parabo Facility.

Estimated Volume 150 yds cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: Donna L. Roach TITLE: OFFICE MGR DATE: 12-10-01
Waste Management Facility Authorized Agent
 TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)
 APPROVED BY: [Signature] TITLE: Environmental Engr. DATE: 12-12-01
 APPROVED BY: [Signature] TITLE: Environmental Geologist DATE: 12-18-01

7-10912

CERTIFICATE OF WASTE STATUS
NON-EXEMPT WASTE MATERIAL
AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATOR: Halliburton

ADDRESS: 1301 W WEBB

GENERATING SITE: BROWNFIELD Yard

COUNTY TERRY STATE TX

TYPE OF WASTE: Wash Rack Grit

ESTIMATED VOLUME: 300,000 lbs.

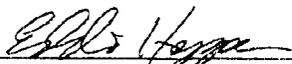
GENERATING PROCESS: Wash Rack Sumps

REMARKS: _____

NMOCD FACILITY: Sundance

TRUCKING FACILITY: Chaparral

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 or 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: 
SIGNATURE

NAME: Eddie Hopper
PRINTED

ADDRESS: 5801 Lovington Hwy Hobbs, NM 88240

DATE: 12/12/01



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

TCLP VOLATILES (ppm)	EPA LIMIT	Sample Result H5425-1	Method Blank	QC	%Recov.	True Value
Vinyl Chloride	0.20	<0.005	<0.005	0.108	108	0.100
1,1-Dichloroethylene	0.7	<0.006	<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

% RECOVERY

Dibromofluoromethane	83
Toluene-d8	88
Bromofluorobenzene	92

METHODS: EPA SW 846-8260, 1311

Burgess J.A. Cooke
 Burgess J.A. Cooke, Ph. D.

12/14/00
 Date

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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

TCLP SEMI-VOLATILES (ppm)	EPA LIMIT	Sample Result H5425-1	Method Blank	QC	% Recov.	True Value 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-Trichlorophenol	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	94	0.050

% RECOVERY

Fluorophenol	51
Phenol-d5	44
Nitrobenzene-d5	99
2-Fluorobiphenyl	68
2,4,6-Tribromophenol	88
Terphenyl-d14	91

METHODS: EPA SW 846-8270, 1311, 3510

Burgess J. Cooke
Burgess J. S. Cooke, Ph. D.

12/14/00
Date

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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

12-20-2000 02:30 LAB NUMBER SAMPLE ID

505927062 TPH
(mg/Kg)

H5425-1	WASHBAY SLUDGE	19100
Quality Control		228
True Value QC		240
% Recovery		95.0
Relative Percent Difference		4.0

METHOD: EPA 600/4-79-020 418.1

Bryan J. Cook
Chemist

12/18/00
Date

H5425T.XLS

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**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

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

Sulfide (ppm) Cyanide (ppm) CORROSIVITY (pH) IGNITABILITY (°F)

LAB NUMBER	SAMPLE ID	Sulfide (ppm)	Cyanide (ppm)	CORROSIVITY (pH)	IGNITABILITY (°F)
ANALYSIS DATE:		12/14/00	12/14/00	12/16/00	12/16/00
H5425-1	WASHBAY	Not reactive	Not reactive	8.63	Nonflammable
	SLUDGE				
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

Burgess A. Roach
Chemist

12/18/00
Date

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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	As ppm	Ag ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se 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
H5425-1	WASHBAY SLUDGE	<1	<1	<5	<0.1	<1	<1	<0.02	<0.1
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
METHODS:	EPA 1311, 800/4-91/01	206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2

Amy Hill

Chemist

12-16-00

Date

H5425M.XLS

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10000, 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

RECEIVED

NOV 26 2001

Submit Orig
Plus 1 C
to approp
District Off

Environmental Bureau
Oil Conservation Division

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator Halliburton
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	5. Originating Site Hobbs Facility
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter Halliburton
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 882318. State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) 5801 Lovington Hwy, Hobbs, NM 88240	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

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 then 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 Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: Donna L. Roach TITLE: OFFICE MGR DATE: 11-12-01
Waste Management Facility Authorized Agent
TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY: [Signature] TITLE: Environmental Engr. DATE: 11-16-01

APPROVED BY: [Signature] TITLE: Environmental Geologist DATE: 11-26-01

CERTIFICATE OF WASTE STATUS
NON-EXEMPT WASTE MATERIAL
AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATOR: Halliburton Energy Services

ADDRESS: 5801 Lovington Hwy

GENERATING SITE: Hobbs Yard

COUNTY Lea STATE NM

TYPE OF WASTE: Cement

ESTIMATED VOLUME: 1,000, sacks

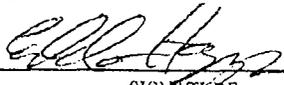
GENERATING PROCESS: Unused cement

REMARKS: _____

NMOCD FACILITY: Sundance

TRUCKING FACILITY: Halliburton

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: 
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 - 8101

For Emergency Contact:
Name: Steve Luscomb
Telephone: (505) 392-6531

Driver _____
U.S. DOT Hazmat Reg. No. -051496 005 031E

Total Net Lbs 31,100 No. Cont. _____ Type: Bulk

Not Restricted
Halco Name & Number: Cement-Bulk
Gross Lbs./Pkg. 90,924 #5K ERG
94,282 #5K

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.

Signature: _____

Time Loaded _____

Bulk Ticket No. _____ Freight Bill No. _____

Premium Cement	23,154	lbs.
Poz Mix	3,960	lbs.
Silica	2,904	lbs.
HAI-9	21	lbs.
CFR-3	92	lbs.
gilsonite	1,320	lbs.
HAIAD-344	115	lbs.
HR-7	46	lbs.
Salt (Cement grade)	264	lbs.

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

LOCATION: 15540

FOR EMERGENCY CONTACT:
NAME: STEVE LUSCOMBE
TELEPHONE: (505) 392-6531

DRIVER:
U.S. DOT HAZMAT REG. NO. - 060497 003 42F

*HM:*****
* * TOT GROSS LBS _____ NUM CONTAINERS: TYPE: BULK
* *****
* * NOT RESTRICTED
* *
* *
* *
* *HALCO NAME & NO.: CEMENT - CLASS H - PREMIUM - BULK 516.00272
* * * GROSS LBS/PKG: ERG =>

* * TOT GROSS LBS _____ NUM CONTAINERS: TYPE: BULK
* *****
* * NOT RESTRICTED
* *
* *
* *
* *HALCO NAME & NO.: POZMIX(R) A - BULK 516.00286
* * * GROSS LBS/PKG: ERG =>

* * TOT GROSS LBS _____ NUM CONTAINERS: TYPE: BULK
* *****
* * NOT RESTRICTED
* *
* *
* *
* *HALCO NAME & NO.: SILICALITE ADDITIVE - 50/50 W/ POZMIX 516.00443
* * * GROSS LBS/PKG: ERG =>

* * TOT GROSS LBS _____ NUM CONTAINERS: TYPE: 50 LB BAG
* *****
* * NOT RESTRICTED
* *
* *
* *
* *HALCO NAME & NO.: HALAD(R) 9 CEMENT ADDITIVE 70.15556
* * * GROSS LBS/PKG: ERG =>

* * TOT GROSS LBS _____ NUM CONTAINERS: TYPE: 50 LB BAG
* *****
* * NOT RESTRICTED
* *
* *
* *
* *HALCO NAME & NO.: CFR-3 CEMENT FRICTION REDUCER DEFOAM 516.00295
* * * GROSS LBS/PKG: ERG =>

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

LOCATION: 15540

FOR EMERGENCY CONTACT:
NAME: STEVE LUSCOMBE
TELEPHONE: (505) 392-6531

DRIVER:
U.S. DOT HAZMAT REG. NO. - 060497 003 42F

*HM:*****

* * TOT GROSS LBS _____ NUM CONTAINERS: TYPE: BULK
* *****
* * NOT RESTRICTED
* *
* *
* *

* *HALCO NAME & NO.: GILSONITE(R) RESIN - BULK 516.00337
* * * GROSS LBS/PKG: ERG =>

* * TOT GROSS LBS _____ NUM CONTAINERS: TYPE: 50 LB BAG
* *****
* * NOT RESTRICTED
* *
* *
* *

* *HALCO NAME & NO.: HALAD(R) 344 CEMENT ADDITIVE 516.00227
* * * GROSS LBS/PKG: ERG =>

* * TOT GROSS LBS _____ NUM CONTAINERS: TYPE: 50 LB BAG
* *****
* * NOT RESTRICTED
* *
* *
* *

* *HALCO NAME & NO.: HR-7 ADDITIVE 890.50903
* * * GROSS LBS/PKG: ERG =>

* * TOT GROSS LBS _____ NUM CONTAINERS: TYPE: BULK
* *****
* * NOT RESTRICTED
* *
* *
* *

* *HALCO NAME & NO.: SALT - CEMENT GRADE - BULK 516.00315
* * * 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.

SIGNATURE _____

MATERIAL 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
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: CEMENT

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

COMPONENT+++++	PERCENT	TLV	PEL
PORTLAND CEMENT	> 60 %	10 MG/M3	10 MG/M3
SILICA, CRYSTALLINE--QUARTZ	< 3 %	0.1 MG/M3	0.1 MG/M3

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

PROPERTY	MEASUREMENT
APPEARANCE	GRAY SOLID, POWDER
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	3.150
BULK DENSITY	94.00 LB/CU.FT.
PH	12.4
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	.1-1.0
BIODEGRADABILITY	N/A
PERCENT VOLATILES	0
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 0 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
FLASH POINT N/A
AUTOIGNITION TEMPERATURE NO F / NO C
FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/D UPPER N/D

EXTINGUISHING MEDIA:
NONCOMBUSTIBLE
SPECIAL FIRE FIGHTING PROCEDURES:
NOT APPLICABLE.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
NO FIRE HAZARD.
NOT APPLICABLE.

***** 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: 10 MG/M3

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

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

EYE:

MAY CAUSE SEVERE IRRITATION WHICH MAY BE PERSISTENT.

SKIN:

CEMENT DUST CAN BE IRRITATING TO SKIN. WET CEMENT CAN DRY THE SKIN AND
CAUSE ALKALI BURNS. SENSITIVE INDIVIDUALS MAY DEVELOP ALLERGIC DERMATITIS.

INHALATION:

MAY BE IRRITATING.
TREAT AS NUISANCE DUST.

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" MEANS 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 WORSENERD BY
EXPOSURE TO THIS PRODUCT.

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

EYE:

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

SKIN:

PROMPTLY WASH SKIN WITH SOAP AND WATER.

INHALATION:

REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION,

INGESTION:

DO NOT INDUCE VOMITING! IN GENERAL, NO TREATMENT IS NECESSARY UNLESS LARGE
QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED.

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

STABILITY: STABLE

CONDITIONS TO AVOID:

STORE IN A DRY LOCATION.

INCOMPATIBILITY (MATERIALS TO AVOID):

NONE KNOWN.

HAZARDOUS DECOMPOSITION PRODUCTS:

NONE KNOWN.

HAZARD POLYMERIZATION: WON'T OCCUR

CONDITIONS TO AVOID:

NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST.

WASTE DISPOSAL METHOD:

IF NOT CONTAMINATED, REUSE PRODUCT.

GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):

TOXIC DUST/MIST RESPIRATOR.

VENTILATION:

USE ONLY WITH ADEQUATE VENTILATION.

PROTECTIVE GLOVES:

NORMAL WORK GLOVES.

EYE PROTECTION:

DUST PROOF GOGGLES.

OTHER PROTECTIVE EQUIPMENT:

NORMAL WORK COVERALLS.

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

PRECAUTIONARY LABELING CEMENT - CLASS H - PREMIUM - BULK 516.002720

WARNING!

CONTAINS A SMALL 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

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

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

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

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

MATERIAL SAFETY DATA SHEET
HALLIBURTON ENERGY SERVICES
DUNCAN, OKLAHOMA 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: POZMIX(R) A - BULK PART NUMBER: 516002860
PKG QTY: BULK APPLICATION: LIGHT WEIGHT CEMENT ADDITIVE
SERVICE USED: CEMENT

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

COMPONENT+ + + + + + + + +	PERCENT	TLV	PEL
SILICA, CRYSTALLINE--QUARTZ	31-60 X	0.1 MG/M3	0.1 MG/M3
CALCIUM OXIDE	1-10 X	2 MG/M3	5 MG/M3
IRON OXIDE	1-10 X	5 MG/M3	10 MG/M3
MAGNESIUM OXIDE	1-10 X	10 MG/M3	10 MG/M3
SILICA, CRYSTALLINE-CRISTOBALITE	1-10 X	0.05 MG/M3	0.05 MG/M3
ALUMINUM OXIDE	11-30 X	10 MG/M3	10 MG/M3

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

PROPERTY	MEASUREMENT
APPEARANCE	GRAY OR BLACK SOLID, POWDER
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	2.300
BULK DENSITY	74.00 LB/CU.FT.
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	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 MMHG)	N/A
POUR POINT	N/A
FREEZE POINT	N/A
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:

HEALTH 1 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
FLASH POINT N/A FLASH MTHD
AUTOIGNITION TEMPERATURE
FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/A UPPER N/A

EXTINGUISHING MEDIA:

USE MEDIA APPROPRIATE FOR SURROUNDING MATERIALS.
SPECIAL FIRE FIGHTING PROCEDURES:
NOT APPLICABLE.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
NOT APPLICABLE.

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

CALIFORNIA PROPOSITION 65:

PRODUCT OR PRODUCT COMPONENTS ARE 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)

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

PRIMARY ROUTES OF EXPOSURE:

INHALATION.

EYE:

DUST MAY CAUSE A MECHANICAL IRRITATION TO THE EYES.

SKIN:

ESSENTIALLY NON-IRRITATING.

INHALATION:

MAY BE IRRITATING.

REPEATED OVEREXPOSURE TO CRYSTALLINE SILICA MAY CAUSE ACUTE SILICOSIS, A FIBROTIC LUNG CONDITION THAT REDUCES LUNG FUNCTION AND MAY LEAD TO CARDIOPULMONARY IMPAIRMENT. SILICOSIS IS RAPIDLY PROGRESSIVE AND THE 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" MEANS 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:

PROMPTLY WASH SKIN WITH SOAP AND WATER.

INHALATION:

REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.

INGESTION:

DO NOT INDUCE VOMITING! IN GENERAL, NO TREATMENT IS NECESSARY UNLESS LARGE QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED.

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

STABILITY: STABLE

CONDITIONS TO AVOID:

NOT APPLICABLE.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS:

NONE KNOWN.

HAZARD POLYMERIZATION: WON'T OCCUR

CONDITIONS TO AVOID:

NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST.

WASTE DISPOSAL METHOD:

IF NOT CONTAMINATED, REUSE PRODUCT.

GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):

TOXIC DUST/MIST RESPIRATOR.

VENTILATION:

USE ONLY WITH ADEQUATE VENTILATION.

PROTECTIVE GLOVES:

NORMAL WORK GLOVES.

EYE PROTECTION:

DUST PROOF GOGGLES.

OTHER PROTECTIVE EQUIPMENT:

NORMAL WORK COVERALLS.

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

PRECAUTIONARY LABELING POZMIX(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 MILD 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 - 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

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

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

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

MATERIAL SAFETY DATA SHEET
 HALLIBURTON ENERGY SERVICES
 DUNCAN, OKLAHOMA 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: SILICALITE ADDITIVE - 50/50 W/ POZHIX PART NUMBER: 516004430
 PKG QTY: BULK APPLICATION: CEMENT ADDITIVE
 SERVICE USED: CEMENT

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

COMPONENT+ + + + + + + +	PERCENT	TLV	PEL
SILICA, AMORPHOUS-FUMED	> 60	10 MG/M3	6 MG/M3

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

PROPERTY	MEASUREMENT
APPEARANCE	BLACK SOLID, POWDER
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	2.380
BULK DENSITY	26.30 LB/CU.FT.
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	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 (OCTANDL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:

HEALTH 0 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
 FLASH POINT N/A
 AUTOIGNITION TEMPERATURE ND ND
 FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/D 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 *****

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

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

PRODUCT TOXICITY DATA: TOX ORL-RAT LD50: 3160 MG/KG
TOX IPR-RAT LD01: 50 MG/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:

MAY BE IRRITATING.

CONTAINS A SMALL AMOUNT OF CRYSTALLINE SILICA, REPEAT OR PROLONG EXPOSURES
MAY CAUSE A DELAYED RESPIRATORY SYSTEM ILLNESS, SILICOSIS. SYMPTOMS INCLUDE
SHORTNESS OF BREATH, COUGH, FEVER, WEIGHT LOSS, CHEST PAIN, REDUCTION OF
LUNG FUNCTION AND HEART IMPAIRMENT. ONSET OF SYMPTOMS MAY BE DELAYED.

INGESTION:

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" MEANS 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:

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

INHALATION:

REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION,

INGESTION:

DO NOT INDUCE VOMITING! IN GENERAL, NO TREATMENT IS NECESSARY UNLESS LARGE
QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED.

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

STABILITY: STABLE

CONDITIONS TO AVOID:

NOT APPLICABLE.

INCOMPATIBILITY (MATERIALS TO AVOID):

HYDROGEN FLUORIDE OR HYDROFLUORIC ACID.

HAZARDOUS DECOMPOSITION PRODUCTS:

NONE KNOWN.

HAZARD POLYMERIZATION: WON'T OCCUR

CONDITIONS TO AVOID:

NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING

DUST.
WASTE DISPOSAL METHOD:
IF NOT CONTAMINATED, REUSE PRODUCT.
GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
TOXIC DUST/MIST RESPIRATOR.
VENTILATION:
USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE
USED IN DUSTY ENVIRONMENTS.
PROTECTIVE GLOVES:
NORMAL WORK GLOVES.
EYE PROTECTION:
DUST PROOF GOGGLES.
OTHER PROTECTIVE EQUIPMENT:
NORMAL WORK COVERALLS.

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

PRECAUTIONARY LABELING SILICALITE ADDITIVE - 50/50 W/ POZMIX 516.004430

WARNING!

CONTAINS A SMALL 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 RESPIRATORY IRRITATION.

DUST MAY 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 MIXTURE 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
TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE

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

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

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

MATERIAL SAFETY DATA SHEET
HALLIBURTON ENERGY SERVICES
DUNCAN, OKLAHOMA 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 *****

CHEMICAL 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 *****

COMPONENT+++++	PERCENT	TLV	PEL
CONDENSATE OF SULFONATED ORGANIC SALT	31-60 %	10 MG/M3	15 MG/M3

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

PROPERTY	MEASUREMENT
APPEARANCE	TAN SOLID POWDER
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	1.220
BULK DENSITY	37.20 LB/CU.FT.
PH	5.5
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	10
BIODEGRADABILITY	READILY
PERCENT VOLATILES	N/A
EVAPORATION RATE(BUTYL ACETATE=1)	N/A
VAPOR DENSITY	N/A
VAPOR PRESSURE (MMHG)	N/A
BOILING POINT(760 MMHG)	N/A
POUR POINT	N/A
FREEZE POINT	N/A
SOLUBILITY IN SEAWATER	FORMS GEL
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
HEALTH 0 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
FLASH POINT N/A
AUTOIGNITION TEMPERATURE ND ND
FLAMMABLE LIMITS (% BY VOLUME) LOWER N/D UPPER N/D

EXTINGUISHING MEDIA:
USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES:
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 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

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".

PRODUCT TOXICITY DATA: AQU TLM96: >3300 PPM(BROWN SHRIMP)

PRODUCT TLV: NUISANCE: 10 MG/M3(T)

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

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

EYE:

DUST MAY CAUSE SEVERE EYE IRRITATION.

SKIN:

DUST MAY CAUSE MILD SKIN IRRITATION.

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 WORSENERD 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:

IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE
REMOVING CONTAMINATED CLOTHING AND SHOES. IF IRRITATION PERSISTS, SEEK
PROMPT MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE.

INHALATION:

REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION,

INGESTION:

DO NOT INDUCE VOMITING! IN GENERAL, NO TREATMENT IS NECESSARY UNLESS LARGE
QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED.

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

STABILITY: STABLE

CONDITIONS TO AVOID:

NOT APPLICABLE.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS:

OXIDES OF SULFUR, CARBON DIOXIDE AND/OR CARBON MONOXIDE.

HAZARD POLYMERIZATION: WON'T OCCUR

CONDITIONS TO AVOID:

NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING
DUST.

IF NOT CONTAMINATED, REUSE PRODUCT.
GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):

TOXIC DUST/MIST RESPIRATOR.

VENTILATION:

USE ONLY WITH ADEQUATE VENTILATION.

PROTECTIVE GLOVES:

NORMAL WORK GLOVES.

EYE PROTECTION:

DUST PROOF GOGGLES.

OTHER PROTECTIVE EQUIPMENT:

NORMAL WORK COVERALLS.

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

PRECAUTIONARY LABELING HALAD(R) 9 CEMENT ADDITIVE

070.155560

WARNING!

MAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS.

MAY CAUSE SKIN AND RESPIRATORY IRRITATION.

MAY CAUSE SEVERE EYE IRRITATION.

AIRBORNE DUST MAY BE EXPLOSIVE!

PRODUCT IS VERY SLIPPERY WHEN WET! DO NOT SPREAD WITH WATER.

FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.

OTHER HANDLING AND STORAGE CONDITIONS:

STORE AWAY FROM OXIDIZERS.

STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY. REQUIRES COVERED STORAGE.

AVOID CREATING OR INHALING DUST.

CONTAINER DISPOSITION:

EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE.

RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING

LANDFILL OPERATOR'S AUTHORIZATION.

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

DOT SHIPPING DESCRIPTION:

NOT RESTRICTED

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

EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION

FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y

CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX

B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)

N/A

C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES)

PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS

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

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

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

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

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MATERIAL 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
 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 *****

COMPONENT	PERCENT	TLV	PEL
SULFONIC ACID SALT	> 60 %	NOT EST	NOT EST
SILICA, AMORPHOUS-DIATOMACEOUS EARTH	1-10 %	10 MG/M3	6 MG/M3

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

PROPERTY	MEASUREMENT
APPEARANCE	DARK RED SOLID, POWDER
ODOR	MUSTY
SPECIFIC GRAVITY (H2O=1)	1.290
BULK DENSITY	38.00 LB/CU.FT.
PH	7
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	SOLUBLE
BIODEGRADABILITY	N/D
PERCENT VOLATILES	0
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	> 600,000
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
 HEALTH 1 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
 FLASH POINT N/A
 AUTOIGNITION TEMPERATURE NO NO
 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:
 AVOID CREATING DUST CLOUDS WITH EXTINGUISHERS.
 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 HOUSEKEEPING PROCEDURES ARE REQUIRED TO MINIMIZE THIS POTENTIAL HAZARD.

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

CALIFORNIA PROPOSITION 65:
PRODUCT OR PRODUCT COMPONENTS ARE REGULATED UNDER CALIF. PROPOSITION 65.

CARCINOGENIC DETERMINATION:
PRODUCT OR COMPONENTS ARE 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/M3 (T); 5 MG/M3 (R)

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

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

EYE:

DUST MAY CAUSE MILD 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 WORSENERD BY
EXPOSURE TO THIS PRODUCT.

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

EYE:

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

SKIN:

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

INHALATION:

REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.

INGESTION:

DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE.
NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL
ATTENTION.

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

STABILITY: STABLE

CONDITIONS TO AVOID:

NOT APPLICABLE.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS:

OXIDES OF SULFUR, CARBON DIOXIDE AND/OR CARBON MONOXIDE.

HAZARD POLYMERIZATION: WON'T OCCUR

CONDITIONS TO AVOID:

NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING
DUST.

WASTE DISPOSAL METHOD:
IF NOT CONTAMINATED, REUSE PRODUCT.
GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):

NOT NORMALLY NECESSARY.
TOXIC DUST/MIST RESPIRATOR.

VENTILATION:

USE ONLY WITH ADEQUATE VENTILATION.

PROTECTIVE GLOVES:

NORMAL WORK GLOVES.

EYE PROTECTION:

GOGGLES 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 MAY BE EXPLOSIVE!

PRODUCT IS VERY SLIPPERY WHEN WET! DO NOT SPREAD WITH WATER.

FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.

OTHER HANDLING AND STORAGE CONDITIONS:

STORE AWAY FROM OXIDIZERS.

STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY. REQUIRES COVERED STORAGE.

AVOID CREATING OR INHALING DUST.

CONTAINER DISPOSITION:

EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE.

RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING

LANDFILL OPERATOR'S AUTHORIZATION.

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

DOT SHIPPING DESCRIPTION:

NOT RESTRICTED

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

EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION

FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y

CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: PURE

B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)

N/A

C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES)

PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS

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

CHEMICAL CONTAINS NO TOXIC INGREDIENTS

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES

TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE

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

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

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

MATERIAL 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
 AFTER HOURS: 405/251-3760

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

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 *****

COMPONENT*****	PERCENT	TLV	PEL
NATURAL ASPHALT	> 60 %	10 MG/M3	15 MG/M3

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

PROPERTY	MEASUREMENT
APPEARANCE	DARK-BROWN SOLID
ODOR	ASPHALTIC
SPECIFIC GRAVITY (H2O=1)	1.050
BULK DENSITY	65.55 LB/CU.FT.
PH	5.8
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	NIL
BIODEGRADABILITY	SLOWLY
PERCENT VOLATILES	2
EVAPORATION RATE(BUTYL ACETATE=1)	N/A
VAPOR DENSITY	N/A
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	N/A
POUR POINT	N/A
FREEZE POINT	N/A
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
 HEALTH 0 FLAMMABILITY 1 REACTIVITY 1 SPECIAL NONE
 FLASH POINT 599 F / 315 C FLASH MTHD COC
 AUTOIGNITION TEMPERATURE NO NO
 FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER 0.020 UPPER N/D

***** EXTINGUISHING MEDIA: *****

USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.
 SPECIAL FIRE FIGHTING PROCEDURES:
 FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.
 UNUSUAL FIRE AND EXPLOSION HAZARDS:
 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.

***** 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/M3 (N)

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

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

EYE:

DUST MAY CAUSE A MECHANICAL IRRITATION TO THE EYES.

SKIN:

MAY CAUSE MILD IRRITATION.

INHALATION:

MAY 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 WORSENER BY
EXPOSURE TO THIS PRODUCT.

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

EYE:

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

SKIN:

PROMPTLY WASH SKIN WITH SOAP AND WATER.

INHALATION:

REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION,

INGESTION:

DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE.
NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL
ATTENTION.

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

STABILITY: STABLE

CONDITIONS TO AVOID:

NOT APPLICABLE.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON 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 REMOVE, AVOID CREATING OR INHALING
DUST.

WASTE DISPOSAL METHOD:

IF NOT CONTAMINATED, REUSE PRODUCT.

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:

NORMAL WORK COVERALLS.

***** 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 *****

DOT SHIPPING DESCRIPTION:

NOT RESTRICTED

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

EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION

FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y
CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX

B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)

N/A

C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES)

PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS

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

CHEMICAL CONTAINS NO TOXIC INGREDIENTS

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES

TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE ORSM NE

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

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

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

MATERIAL SAFETY DATA SHEET
HALLIBURTON ENERGY SERVICES
DUNCAN, OKLAHOMA 73536

DATE: 12-30-97
REVISED DATE 08-19-97

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

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

CHEMICAL 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 *****

COMPONENT+++++	PERCENT	TLV	PEL
MODIFIED ACRYLAMIDE COPOLYMER	> 60 %	10 MG/M3	15 MG/M3

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

PROPERTY	MEASUREMENT
APPEARANCE	WHITE TO OFF-WHITE SOLID POWDER
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	1.220
BULK DENSITY	26.00 LB/CU.FT.
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	SOLUBLE
BIODEGRADABILITY	N/D
PERCENT VOLATILES	<5
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	N/A
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	N/D
POUR POINT	N/A
FREEZE POINT	N/A
SOLUBILITY IN SEAWATER	SOLUBLE
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
 HEALTH 1 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
 FLASH POINT N/A
 AUTOIGNITION TEMPERATURE NO NO
 FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/D UPPER N/D

***** EXTINGUISHING MEDIA: *****

USE MEDIA 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 MONOXIDE AND NITROGEN 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.

***** 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: NOT ESTABLISHED

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

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

EYE:

MAY CAUSE MILD 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 WORSENERD BY EXPOSURE TO THIS PRODUCT.

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

EYE:

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

SKIN:

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

INHALATION:

REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.

INGESTION:

DO NOT INDUCE VOMITING! IN GENERAL, NO TREATMENT IS NECESSARY UNLESS LARGE QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED.

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

STABILITY: STABLE

CONDITIONS TO AVOID:

NOT APPLICABLE.

INCOMPATIBILITY (MATERIALS TO AVOID):

NONE KNOWN.

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. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST.

WASTE DISPOSAL METHOD:

IF NOT CONTAMINATED, REUSE PRODUCT.

GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):

TOXIC DUST/MIST RESPIRATOR.

VENTILATION:

USE ONLY WITH ADEQUATE VENTILATION.

PROTECTIVE GLOVES:

NORMAL WORK GLOVES.

EYE PROTECTION:

GOGGLES OR SAFETY GLASSES.

OTHER PROTECTIVE EQUIPMENT:

NORMAL WORK COVERALLS.

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

PRECAUTIONARY LABELING HALAD(R) 344 CEMENT ADDITIVE

516.002270

CAUTION!

MAY CAUSE MILD 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

FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y

CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: PURE

B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)

N/A

C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES)

PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS

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

CHEMICAL CONTAINS NO TOXIC INGREDIENTS

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES

TSCA YES CEPA NE EEC NO ACOIN NO NPR NE DRSM NE

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

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

HAZARDOUS WASTE

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

MATERIAL SAFETY DATA SHEET
HALLIBURTON ENERGY SERVICES
DUNCAN, OKLAHOMA 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 *****

COMPONENT	PERCENT	TLV	PEL
MODIFIED LIGNOSULFONATE	UNK	X 10 MG/M3	15 MG/M3

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

PROPERTY	MEASUREMENT
APPEARANCE	BLACK SOLID, POWDER
ODOR	MOLASSES-LIKE
SPECIFIC GRAVITY (H2O=1)	1.410
BULK DENSITY	38.00 LB/CU.FT.
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	FREELY
BIODEGRADABILITY	SLOWLY
PERCENT VOLATILES	N/A
EVAPORATION RATE (BUTYL ACETATE=1)	N/A
VAPOR DENSITY	N/A
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT (760 MMHG)	N/A
POUR POINT	N/A
FREEZE POINT	N/A
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
 HEALTH 0 FLAMMABILITY 1 REACTIVITY 0 SPECIAL NONE
 FLASH POINT N/A
 AUTOIGNITION TEMPERATURE ND ND
 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:

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 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

HOUSEKEEPING 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".

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.

EYE:

MAY CAUSE MILD IRRITATION.

SKIN:

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 WORSENER BY
EXPOSURE TO THIS PRODUCT.

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

EYE:

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

SKIN:

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

INHALATION:

REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION,

INGESTION:

DO NOT INDUCE VOMITING! IN GENERAL, NO TREATMENT IS NECESSARY UNLESS LARGE
QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED.

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

STABILITY: STABLE

CONDITIONS TO AVOID:

NOT APPLICABLE.

HAZARDOUS DECOMPOSITION PRODUCTS:

OXIDES OF SULFUR, CARBON DIOXIDE AND/OR CARBON MONOXIDE.

HAZARD POLYMERIZATION: WON'T OCCUR

CONDITIONS TO AVOID:

NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING
DUST.

WASTE DISPOSAL METHOD:

GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):

NOT NORMALLY NECESSARY.
TOXIC DUST/MIST RESPIRATOR.

VENTILATION:

USE ONLY WITH ADEQUATE VENTILATION.

PROTECTIVE GLOVES:

NORMAL WORK GLOVES.

EYE PROTECTION:

GOGGLES OR SAFETY GLASSES.

OTHER PROTECTIVE EQUIPMENT:

NORMAL WORK COVERALLS.

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

PRECAUTIONARY LABELING HR-7 ADDITIVE

890.509030

CAUTION!

MAY CAUSE MILD 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.

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

DOT SHIPPING DESCRIPTION:

NOT RESTRICTED

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

EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION

FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y

CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX

B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)

N/A

C. EPA - SARA TITLE III, CFR 355 (EXTREMELY HAZARDOUS SUBSTANCES)

PRODUCT CONTAINS NO EXTREMELY HAZARDOUS COMPONENTS

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

CHEMICAL CONTAINS NO TOXIC INGREDIENTS

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES

TSCA YES CEPA NE EEC N/D ACOIN N/D NPR NE DRSM NE

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

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

THE INFORMATION WHICH IS CONTAINED IN THIS DOCUMENT IS BASED UPON AVAILABLE DATA AND BELIEVED TO BE CORRECT. HOWEVER, AS SUCH AS IT HAS BEEN OBTAINED FROM VARIOUS SOURCES, INCLUDING THE MANUFACTURER AND INDEPENDENT LABORATORIES, IT IS

BEING 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.

SALT-CEMENT GRADE, BULK

PAGE

MATERIAL SAFETY DATA SHEET
HALLIBURTON SERVICES
DUNCAN, OKLAHOMA 73536

DATE: -
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: S1600
PKG QTY: BULK APPLICATION: ACCELERATOR
SERVICE USED: CEMENT

SECTION II - COMPONENT INFORMATION

Table with 4 columns: COMPONENT, PERCENT, TLV, PEL. Row 1: SODIUM CHLORIDE, 60%, 10 MG/M3, 15 MG/M3

SECTION III - PHYSICAL DATA

Table with 2 columns: PROPERTY, MEASUREMENT. Rows include APPEARANCE (WHITE SOLID, CRYSTALLINE), SPECIFIC GRAVITY (2.165), BULK DENSITY (71.00 LB/CU.FT.), PH (5.2 FOR SAT SOL), SOLUBILITY IN WATER AT 20 DEG C (35.7), BIODEGRADABILITY (N/A), PERCENT VOLATILES (N/A), EVAPORATION RATE (N/A), VAPOR DENSITY (N/A), VAPOR PRESSURE (N/D), BOILING POINT (N/A), POUR POINT (N/A), FREEZE POINT (N/A), SOLUBILITY IN SEAWATER (SOLUBLE), PARTITION COEF (NOT EVALUATED)

SECTION IV - FIRE AND EXPLOSION DATA

NFPA (704) RATING: HEALTH 0 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
FLASH POINT NONE
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/D 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

CARCINOGENIC DETERMINATION:

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

PRODUCT TOXICITY DATA: IRR SKN-RBT 50 MG/24H MLD
 IRR EYE-RBT 100 MG/34H SEV
 TOX ORL-HMN TDLO:12357 MG/KG/23D-C
 TOX ORL-RAT LD50: 3000 MG/KG
 AQU TLM96:OVER 1000 PPM

PRODUCT TLV: 10 MG/M3 (N)

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

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

EYE:

MAY BE IRRITATING.

SKIN:

MAY BE IRRITATING.

INHALATION:

MAY BE IRRITATING.

INGESTION:

NO DATA AVAILABLE

CHRONIC EFFECTS:

NO CHRONIC EFFECTS EXPECTED.

OTHER SYMPTOMS AFFECTED:

REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENER BY EXPOSURE TO THIS PRODUCT.

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

STABILITY: STABLE

CONDITIONS TO AVOID:

NOT APPLICABLE.

HAZARDOUS DECOMPOSITION PRODUCTS:

NONE KNOWN.

HAZARD POLYMERIZATION: WON'T OCCUR

CONDITIONS TO AVOID:

NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST.

WASTE DISPOSAL METHOD:

IF NOT CONTAMINATED, REUSE PRODUCT.

GET APPROVAL FROM LANDFILL OPERATOR AND TRANSPORT TO SANITARY LANDFILL.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):

NOT NORMALLY NECESSARY.

TOXIC DUST/MIST RESPIRATOR.

VENTILATION:

USE ONLY WITH ADEQUATE VENTILATION.

PROTECTIVE GLOVES:

NORMAL WORK GLOVES.

EYE PROTECTION:

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

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 STORAGE. AVOID CREATING OR INHALING DUST.

CONTAINER DISPOSITION:

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

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

DOT SHIPPING DESCRIPTION:

NOT RESTRICTED

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

EPA SUPERFUND(SARA) TITLE III - HAZARD CLASSIFICATION & ASSOCIATED INFORMATION

FIRE: N PRESSURE: N REACTIVE: N ACUTE (IMMEDIATE): Y
CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX

B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)
N/A

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

D. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS)
CHEMICAL CONTAINS NO TOXIC INGREDIENTS

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES

TSCA YES CEPA NE EEC YES ACOIN YES NPR INE DRSM NE

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

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

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Energy Minerals and Natural Resources Department

Oil Conservation Division

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

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NOV 26 2001

Environmental Bureau
Oil Conservation Division

Submit Origin
Plus 1 Cc
to appropriate
District Office

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811 S. First
Aztec, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator Baker Atlas
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	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 88231g. State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) 1718 S. Dal Paso Hobbs', NM 88240	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The following analytical results are from Baker Atlas Hobbs facility. This waste is generated by the washing of oilfield equipment and tools. I have included a certificate of waste status and chain of custody. Sundance would like approval to accept this material into our Parabo Facility.

Estimated Volume 500 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: Donna L. Roach TITLE: OFFICE MGR DATE: 11-5-01
Waste Management Facility Authorized Agent
TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO: 505-394-2511

(This space for State Use)

APPROVED BY: [Signature] TITLE: Environmental Engr. DATE: 11-15-01

APPROVED BY: [Signature] TITLE: Environmental Geologist DATE: 11-26-01

CERTIFICATE OF WASTE STATUS

NON-EXEMPT WASTE MATERIAL

ORIGINATING LOCATION: Baker Atlas Hobbs NM
 SOURCE: Wash rock sump Holding tank
 DISPOSAL LOCATION: SUNDANCE SERVICES INC.

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 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 Baker Atlas concur with the status of the waste from the subject site.

Name Jerry L. Antero
 Title/Agency Engineer In Charge
 Address 1718 S Dal Paso
Hobbs NM 88240
 Signature [Signature]
 Date 10-29-2001



ARDINAL LABORATORIES

PHONE (815) 673-7001 • 3111 BEECHWOOD • ABILENE, TX 79603

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

Receiving Date: 03/28/00
Reporting Date: 03/31/00
Project Owner: NOT GIVEN
Project Name: SUMP
Project Location: DAL PASO YARD
Lab Number: H4748-1
Sample ID: SUMP

Analysis Date: 03/30/00
Sampling Date: 03/28/00
Sample Type: SLUDGE
Sample Condition: COOL & INTACT
Sample Received By: AH/GP
Analyzed By: BC

TCLP SEMIVOLATILES (ppm)	EPA LIMIT	Sample Result H4748-1	Method Blank	QC	% Recov.	True Value QC
Pyridine	5.00	<0.020	<0.008	0.004	8	0.050
1,4-Dichlorobenzene	7.50	<0.020	<0.008	0.037	74	0.050
o-Cresol	200	<0.020	<0.008	0.023	46	0.050
m, p-Cresol	200	0.024	<0.008	0.021	42	0.050
Hexachloroethane	3.00	<0.020	<0.008	0.038	72	0.050
Nitrobenzene	2.00	<0.020	<0.008	0.040	80	0.050
Hexachloro-1,3-butadiene	0.500	<0.020	<0.008	0.043	86	0.050
2,4,6-Trichlorophenol	2.00	<0.020	<0.008	0.048	96	0.050
2,4,8-Trichlorophenol	400	<0.020	<0.008	0.049	98	0.050
2,4-Dinitrotoluene	0.130	<0.020	<0.008	0.050	100	0.050
Hexachlorobenzene	0.130	<0.020	<0.008	0.058	118	0.050
Pentachlorophenol	100	<0.020	<0.008	0.052	104	0.050

% RECOVERY

Fluorophenol	37
Phenol-d5	34
Nitrobenzene-d5	81
2-Fluorobiphenyl	85
2,4,6-Tribromophenol	89
Terphenyl-d14	111

METHODS: EPA SW 846-8270, 1311, 3510

Burgess J. Cooke
Burgess J. Cooke, Ph. D.

3/31/00
Date

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

Receiving Date: 03/29/00
Reporting Date: 04/08/00
Project Owner: NOT GIVEN
Project Name: 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
LAB NUMBER SAMPLE ID Sulfide (ppm) Cyanide (ppm) CORROSIVITY (pH) IGNITABILITY (°F)

ANALYSIS DATE:	04/04/00	04/04/00	04/07/00	04/07/00
H4740-1 SUMP	Not reactive	Not reactive	7.43	>140
Quality Control	NR	NR	6.98	NR
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 CFR 261

Burgess J. Carter

Chemist

4/8/00

Date

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

Receiving Date: 03/29/00
Reporting Date: 03/31/00
Project Owner: NOT GIVEN
Project Name: BUMP
Project Location: DAL PASO YARD
Lab Number: H4749-1
Sample ID: BUMP

Analysis Date: 03/30/00
Sampling Date: 03/29/00
Sample Type: SLUDGE
Sample Condition: COOL & INTACT
Sample Received By: AH/GP
Analyzed By: BC

TCLP VOLATILES (ppm)	EPA LIMIT	Sample Result H4749-1	Method Blank	QC	%Recov.	True Value QC
Vinyl Chloride	0.20	<0.005	<0.005	0.083	83	0.100
1,1-Dichloroethylene	0.7	<0.005	<0.005	0.093	93	0.100
Methyl Ethyl Ketone	200	<0.050	<0.050	0.087	87	0.100
Chloroform	6.0	<0.005	<0.005	0.087	87	0.100
1,2-Dichloroethane	0.5	<0.005	<0.005	0.099	99	0.100
Benzene	0.5	<0.005	<0.005	0.101	101	0.100
Carbon Tetrachloride	0.5	<0.005	<0.005	0.101	101	0.100
Trichloroethylene	0.5	0.016	<0.005	0.103	103	0.100
Tetrachloroethylene	0.7	<0.005	<0.005	0.103	103	0.100
Chlorobenzene	100	<0.005	<0.005	0.100	100	0.100
1,4-Dichlorobenzene	7.5	<0.005	<0.005	0.100	100	0.100

% RECOVERY:

Dibromofluoromethane	88
Toluene-d8	100
Bromofluorobenzene	82

METHODS: EPA SW 846-8260, 1311

Burgess J. A. Cooke
Burgess J. A. Cooke, Ph. D.

3/31/00
Date

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

Originate

Submit
 Plus
 to app
 Distric

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OCT 23 2001

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator HALLIBURTON
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	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 882318, State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) 5801 Lovinton HWY Hobbs, NM 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.	
<input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous 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 equipment. This analytical is from Halliburtons Hobbs facility. Sundance would like approval to accep this waste into our Parabo facility.

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

SIGNATURE: *Donna L. Roach* TITLE: OFFICE MGR DATE: 10-1-01
Waste Management Facility Authorized Agent
 TYPE OR PRINT NAME: DONNA L. ROACHH TELEPHONE NO. 505-394-2511
SSIDONNA@AOL.COM

(This space for State Use)

APPROVED BY: *Mark C. ...* TITLE: Environmental Eng DATE: 10-15-01
 APPROVED BY: *Mark J. ...* TITLE: Environmental Geologist DATE: 10-23-01

CERTIFICATE OF WASTE STATUS
NON-EXEMPT WASTE MATERIAL
AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATOR: Halliburton

ADDRESS: 5801 Lovington Hwy

GENERATING SITE: Hobbs Yard

COUNTY Lea STATE NM

TYPE OF WASTE: Wash Rack Grit

ESTIMATED VOLUME: 300,000 lbs.

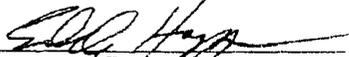
GENERATING PROCESS: Wash Rack Sumps

REMARKS: _____

NMOCD FACILITY: Sundance

TRUCKING FACILITY: Chaparral

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 261.3.

AGENT: 
SIGNATURE

NAME: Eddie Hopper
PRINTED

ADDRESS: 5801 Lovington Hwy Hobbs, NM 88240

DATE: 10/1/01



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

PHONE (805) 393-2328 • 101 E. MARLAND • HOBBS, NM 88240

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

Analysis Date: 12/13/00
 Sampling Date: 12/12/00
 Sample Type: SLUDGE
 Sample Condition: COOL & INTACT
 Sample Received By: BC
 Analyzed By: BC

12- TCLR VOLATILES (ppm)	EPA LIMIT	Sample Result H5422-1	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	<0.005	<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	0.084	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 A. Cooke
 Burgess A. Cooke, Ph. D.

12/14/00
 Date

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**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

LAB NUMBER SAMPLE ID

TPH
(mg/Kg)

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)
H5422-1	WASHBAY SLUDGE	77300
Quality Control		228
True Value QC		240
% Recovery		95.0
Relative Percent Difference		4.0

METHOD: EPA 600/4-79-020 418.1

Burgess J. Coche
Chemist

12/18/00
Date

H5422T.XLS

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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

TCLP SEMIVOLATILES (ppm)	EPA LIMIT	Sample Result H5422-1	Method Blank	QC	% Recov.	True Value
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-Trichlorophenol	2.00	<0.020	<0.005	0.040	80	0.050
2,4,6-Trichlorophenol	400	<0.020	<0.005	0.048	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	94	0.050

% RECOVERY

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

METHODS: EPA SW 846-8270, 1311, 3510


Burgess J. A. Cooke, Ph. D.

12/14/00
Date

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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

LAB NUMBER	SAMPLE ID	Sulfide (ppm)	Cyanide (ppm)	CORROSIVITY (pH)	IGNITABILITY (°F)
12-20-0000					
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				
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

Burgess J. Coche
 Chemist

12/18/00
 Date

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

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

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 Submit Orig
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 to appropr
 District Of

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator Electric Submersib PUMP
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	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 882318. State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) 8426 N. Dal Paso Hobbs, NM 88241	
9. Circle One:	
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.	
<input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.	
All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The following analytical results are from Electric Submersible Pump's Hobbs facility. This waste is generated by the washing off of oil field rental tools. All equipment is washed into the sump and pumped to a waste water tank outside the building in a bermed area. I have attached a certificate of waste and chain of custody. Sundance would like approval to accept this material into our Parabo facility.

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

SIGNATURE: Donna L. Roach TITLE: OFFICE MGR DATE: 9-26-01
Waste Management Facility Authorized Agent
 TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY: [Signature] TITLE: Environmental Engineer DATE: 9-26-01
 APPROVED BY: [Signature] TITLE: Bureau Chief DATE: 10/2/01

10/2/01
 E-mailed

CERTIFICATE OF WASTE STATUS
NON-EXEMPT WASTE MATERIAL

ORIGINATING LOCATION: ESP 8426 N DAL PASO HOBBS NM 88240
SOURCE: OILFIELD RINSATE
DISPOSAL LOCATION: SUNDANCE SERVICES, PARABO FACILITY,
P.O. BOX 1737 EUNICE NM 88231

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 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 ESP
concur with the status of the waste from the subject site.

Name Rodrigo Barrota
Title/Agency ESP
Address 8426 N DAL PASO
HOBBS NM 88240
Signature Rodrigo Barrota
Date 9-25-00



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

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

ANALYTICAL RESULTS FOR
WOOD GROUP ESP
ATTN: RODRIGO-BURROLA
8428 N. DAL PASO
HOBBS, NM 88240
FAX TO: (505) 392-8180

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
Sample ID: TEST WATER

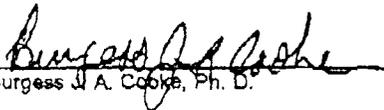
Analysis Date: 09/04/01
Sampling Date: 09/04/01
Sample Type: WASTEWATER
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

TCLP VOLATILES (ppm)	EPA LIMIT	Sample Result H6128-1	Method Blank	QC	%Recov.	True Value QC
Vinyl 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	0.088	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

% RECOVERY

Dibromofluoromethane	103
Toluene-d8	111
Bromofluorobenzene	108

METHODS: EPA SW 846-8260, 1311


Burgess J. A. Cooke, Ph. D.

9/5/01
Date

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**ARDINAL
LABORATORIES**

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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-Cresol	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	0.500	<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

Fluorophenol	38
Phenol-d5	24
Nitrobenzene-d5	75
2-Fluorobiphenyl	59
2,4,6-Tribromophenol	39
Terphenyl-d14	75

METHODS: EPA SW 846-8270, 1311, 3510


Burgess J.A. Cooke, Ph. D.


Date

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

ANALYTICAL RESULTS FOR
 WOOD GROUP ESP
 ATTN: RODRIGO BURROLA
 8428 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/BC

LAB NUMBER SAMPLE ID	REACTIVITY			
	Sulfide (ppm)	Cyanide (ppm)	CORROSIVITY (pH)	IGNITABILITY (°F)
ANALYSIS DATE:	09/05/01	09/05/01	09/05/01	09/06/01
H8128-1	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

Burrola
 Chemist

9/7/01
 Date

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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 ppm	Hg ppm	Se ppm
ANALYSIS DATE:		09/06/01	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 Control		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 Standard Deviation		2.2	0.2	1.4	0.7	0.9	1.4	6.5	2.2
METHODS: EPA 1311, 600/4-79		206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2

Amy Hill
Chemist

9-7-01
Date

H6128M.XLS

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Hobbs, NM 88241-1980
 District II - (505) 748-1283
 BHS, 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

Form 4
 Original
 Submit
 Pl.
 to ap
 Distr

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator HALLIBURTON
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	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 882318. State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) 5801 LOVINGTON, hyHOBBS, N.M. 88240	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous listing or testing will be approved.	
All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The attached MSDS is for sand mixed at Halliburton's Hobbs facility. This material becomes a waste when there is material left over from sand frac jobs. Sundance would like approval to accept this material into our Parabo Disposal Facility.

Note: This is an ongoing waste stream.

RECEIVED
 AUG 16 2001
 Environmental Bureau
 Oil Conservation Division

Estimated Volume 200 yds cy Known Volume (to be entered by the operator at the end of the haul) _____

SIGNATURE: Donna L. Roach TITLE: OFFICE MGR DATE: 7-27-01
Waste Management Facility Authorized Agent
 TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)
 APPROVED BY: [Signature] TITLE: Bureau Chief DATE: 8/20/01
 APPROVED BY: _____ TITLE: _____ DATE: _____

10088927082

4

CERTIFICATE OF WASTE STATUS
NON-EXEMPT WASTE MATERIAL
AS REQUIRED BY New Mexico CONSERVATION DIVISION

COMPANY/GENERATOR: HES

ADDRESS: 5801 Lovington Hwy Hobbs, NM

GENERATING SITE: HES

COUNTY Lca STATE NM

TYPE OF WASTE: Senter-Bauxite 12/40 Resin Coated Sand

ESTIMATED VOLUME: 4,000 lbs.

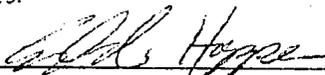
GENERATING PROCESS: Unused on job

REMARKS: _____

NMOCD FACILITY: Sundance

TRUCKING FACILITY: Hes

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 261.3.

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

<u>Substance</u>	<u>Weight Percent (%)</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
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 - 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

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

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
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
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):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	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 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 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

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

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

<u>Substance</u>	<u>Weight Percent (%)</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
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.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Color:	White
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./ft ³):	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:	0
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):	Not Determined
Viscosity, Kinematic @ 20 C (centistrokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	Not Determined
Molecular Weight (g/mole):	65

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.

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

INTERPROP I PROPPANT

Revision Date: 03/21/2000

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: INTERPROP I 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

<u>Substance</u>	<u>Weight Percent (%)</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Sintered bauxite 1318-16-7	60 - 100%	Not applicable	Not applicable
Proprietary Component	60 - 100%	Not applicable	15 mg/M3
Aluminum oxide 1344-28-1	10 - 30%	10 mg/m3	15 mg/M3
Iron oxide 1309-37-1	1 - 5%	5 mg/m3	10 mg/M3
Silica, amorphous fused 60676-86-0	1 - 5%	0.1 mg/m3	5 mg/M3
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.

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 - Lower (oz./ft ³):	Not applicable
Flammability Limits in Air - Upper (%):	Not Determined
Flammability Limits in Air - Upper (oz./ft ³):	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.

7. HANDLING AND STORAGE

Handling Precautions

Not Determined

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

Cloth gloves.

Skin Protection

Normal work coveralls.

Eye Protection

Dust proof goggles.

Other Precautions

Not Determined

9. 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):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	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

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

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

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

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

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

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Substance</u>	<u>Weight Percent (%)</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Phenol / formaldehyde resin 9003-35-4	1 - 5%	Not applicable	Not applicable

<u>Substance</u>	<u>Weight Percent (%)</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Crystalline silica, quartz 14808-60-7	60 - 100%	0.05 mg/m ³	0.1 mg/M ³

3. 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

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

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):	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):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	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

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.

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

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Substance</u>	<u>Weight Percent (%)</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Crystalline silica, quartz 14808-60-7	60 - 100%	0.05 mg/m ³	0.1 mg/M ³
Phenol / formaldehyde resin 9003-35-4	1 - 5%	Not applicable	Not applicable

3. 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.

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
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
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):	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):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	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 dioxide. Silicon dioxide. Aldehydes.

Additional Guidelines

Not Applicable

11. 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

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
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

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

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

<u>Substance</u>	<u>Weight Percent (%)</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Contains no hazardous substances Mixture	60 - 100%	Not applicable	Not applicable

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):	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

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

HMS 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

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 gloves.

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
pH:	Not Determined
Specific Gravity @ 20 C (Water=1):	2.60 to 3.70
Density @ 20 C (lbs./gallon):	Not Determined
Bulk Density @ 20 C (lbs/ft³):	95
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):	Insoluble Sinks
VOCs (lbs./gallon):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	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)

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.

Eye 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

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

Product may be stored in reusable containers. Do NOT contaminate. Transport with all closures in place.

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

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

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Substance</u>	<u>Weight Percent (%)</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Proprietary Component	60 - 100%	Not applicable	15 mg/M3
Crystalline silica, cristobalite 14464-46-1	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.

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. 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

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

Chlorine trifluoride.

Hazardous Decomposition Products

None known.

Additional Guidelines

Not Applicable

11. 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

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 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

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

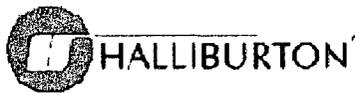
For additional information on the use of this product, contact your local Halliburton representative.

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

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

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Substance</u>	<u>Weight Percent (%)</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Crystalline silica, quartz 14808-60-7	10 - 30%	0.05 mg/m ³	0.1 mg/M ³

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):	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 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.

Eye Protection

Wear safety glasses or goggles to protect against exposure.

Other Precautions

None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid
Color:	Gray
Odor:	Odorless
pH:	Not Determined
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 (g/100ml):	Not Determined
VOCs (lbs./gallon):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	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

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

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

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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

<u>Substance</u>	<u>Weight Percent (%)</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Aluminum oxide 1344-28-1	60 - 100%	10 mg/m ³	15 mg/M ³
Proprietary Component	1 - 5%	Not applicable	15 mg/M ³
Crystalline silica, cristobalite 14464-46-1	< 1%	0.05 mg/m ³	0.1 mg/M ³

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):	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 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.

Eye 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):	Not Determined
Solubility in Sea Water (g/100ml):	Not Determined
VOCs (lbs./gallon):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	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

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 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

Hobbs, NM 88241-1980
 District II - (505) 748-1283
 511 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

FORM C-13
Originated 8/87

RECEIVED Submit Origin
 Plus 1 Co
 to appropriate
 District Office
 JUN 29 2001

Environmental Bureau
 Oil Conservation Division

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator Exxon/Nobile
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	5. Originating Site J.L. Greenwood #12
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter unknown
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88231g. State NEW MEXICO	
7. Location of Material (Street Address or ULSTR)	Sec 9 T22S R37E
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The following MSDS is for gel water mixed on location for a frac job that was not performed. This material is needed to be hauled off location for disposal. I have included a certifixate of status. Sundance would like approval to accept this material into our Parabo disposal facility

Note: a verbal approval would be appreciated.

Estimated Volume ~~1500~~ bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: Donna L. Roach TITLE: OFFICE MGR DATE: 5-23-01
Waste Management Facility Authorized Agent
 TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY: _____ TITLE: _____ DATE: _____

APPROVED BY: Monty J. Kelly TITLE: Environmental Geologist DATE: 7-2-01

**CERTIFICATE OF WASTE STATUS
NON-EXEMPT WASTE MATERIAL**

ORIGINATING LOCATION: J.L. Greenwood #12
SOURCE: Unused gel water
DISPOSAL LOCATION: SUNDANCE SERVICES INC.

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 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 Exxon/Mobile
concur with the status of the waste from the subject site.

Name - Timothy R. Reep
Title/Agency Operations Compliance Tech.
Address P.O. Box 1760
Denver City, Texas 79323
Signature Timothy R. Reep
Date 5-23-01

LGC-IV W/ DIESEL - BULK

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MATERIAL SAFETY DATA SHEET
HALLIBURTON ENERGY SERVICES
DUNCAN, OKLAHOMA 73536

DATE: 05-21-01
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: LGC-IV W/ DIESEL - BULK PART NUMBER: 516004830
PKG QTY: CARGO TANK APPLICATION: CONCENTRATE
SERVICE USED: FRACTURING

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

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

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

PROPERTY	MEASUREMENT
APPEARANCE	YELLOWISH LIQUID, GEL
ODOR	DIESEL
SPECIFIC GRAVITY (H2O=1)	1.035
BULK DENSITY	8.62 LB/GAL
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	NIL
BIODEGRADABILITY	SLOWLY
PERCENT VOLATILES	100
EVAPORATION RATE(BUTYL ACETATE=1)	<1
VAPOR DENSITY	5-6
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	300 F / 148 C
POUR POINT	N/D
FREEZE POINT	N/D
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:

HEALTH 2 FLAMMABILITY 2 REACTIVITY 1 SPECIAL NONE
FLASH POINT 150 F / 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:
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.

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

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

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

PRODUCT TOXICITY DATA: NOT DETERMINED

PRODUCT TLV: NOT ESTABLISHED

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

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

EYE:

MAY CAUSE 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 CONTINUOUS CONTACT WITH THE PRODUCT.

OTHER SYMPTOMS AFFECTED:

BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS.

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

EYE:

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

SKIN:

PROMPTLY WASH SKIN WITH SOAP AND WATER. IF IRRITATION DEVELOPS, SEEK MEDICAL ATTENTION.

INHALATION:

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

INGESTION:

DO NOT INDUCE VOMITING! ASPIRATION INTO LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO LUNGS.

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

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STABILITY: STABLE

CONDITIONS TO AVOID:

HEAT, SPARKS AND OPEN FLAME.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS:

NITROGEN OXIDES, CARBON DIOXIDE AND/OR CARBON MONOXIDE.

HAZARD POLYMERIZATION: WON'T OCCUR

CONDITIONS TO AVOID:

NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AREA AND STOP LEAK WHERE SAFE. REMOVE IGNITION SOURCES. CONTAIN AND ABSORB SPILL WITH SAND OR OTHER INERT MATERIAL. SCOOP OR SWEEP UP USING NON-SPARKING TOOLS. IN ENCLOSED AREAS, WEAR SELF-CONTAINED BREATHING APPARATUS.

WASTE DISPOSAL METHOD:

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

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):

ORGANIC VAPOR CARTRIDGE RESPIRATOR WITH A DUST-MIST FILTER.

IN OXYGEN DEFICIENT AREAS OR CONFINED SPACES, POSITIVE PRESSURE SUPPLIED-AIR RESPIRATOR WITH 5-MINUTE AUXILIARY BOTTLE, OR PRESSURE-DEMAND OR POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS.

VENTILATION:

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

LOCAL EXHAUST VENTILATION MUST BE DESIGNED FOR COMBUSTIBLE ATMOSPHERES (NEC CLASS II EQUIPMENT).

PROTECTIVE GLOVES:

IMPERVIOUS RUBBER GLOVES.

EYE PROTECTION:

WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM.

OTHER PROTECTIVE EQUIPMENT:

RUBBER APRON TO PREVENT DIRECT SKIN CONTACT.

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

PRECAUTIONARY LABELING LGC-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 *****

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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 BEC N/D ACOIN N/D NPR NE DRSM NE

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

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

IGNITABILITY

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

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

MATERIAL SAFETY DATA SHEET
 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: CLAYFIX-II MATERIAL - POLY HAL-TANK PART NUMBER: 516004720
 PKG QTY: BULK APPLICATION: TEMPORARY CLAY STABILIZER
 SERVICE USED: FRACTURING & SAND CONTR.

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

COMPONENT	PERCENT	TLV	PEL
ALKYLATED QUATERNARY CHLORIDE	31-60 %	NOT EST	NOT EST

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

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR, LIGHT AMBER LIQUID
ODOR	SLIGHT AMINE
SPECIFIC GRAVITY (H2O=1)	1.020
BULK DENSITY	8.50 LB/GAL
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O	SOLUBLE
BIODEGRADABILITY	SLOWLY
PERCENT VOLATILES	45-50
EVAPORATION RATE (BUTYL ACETATE=1)	N/D
VAPOR DENSITY	< 1
VAPOR PRESSURE (MMHG)	25.00
BOILING POINT (760 MMHG)	/216 F / 102 C
POUR POINT	N/D
FREEZE POINT	N/D
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

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

 EXTINGUISHING MEDIA:
 USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.
 SPECIAL FIRE FIGHTING PROCEDURES:
 USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES.
 FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE, CARBON
MONOXIDE AND NITROGEN OXIDES.
HEAT OF A FIRE MAY PRODUCE HYDROCHLORIC ACID.

PN: 516004720

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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: 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.

EYE:
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 EFFECTS 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

CONDITIONS TO AVOID:
 NOT APPLICABLE.
 INCOMPATIBILITY (MATERIALS TO AVOID):
 STRONG OXIDIZERS.
 HAZARDOUS DECOMPOSITION PRODUCTS:
 NITROGEN OXIDES, CARBON DIOXIDE AND/OR CARBON MONOXIDE.
 HYDROGEN CHLORIDE.
 HAZARD POLYMERIZATION: WON'T OCCUR
 CONDITIONS TO AVOID:
 NOT APPLICABLE.

PN: 516004720 PAGE 3

***** 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

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 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.

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

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

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

PN: 516004720

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

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

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



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

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MATERIAL SAFETY DATA SHEET
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

Table with 4 columns: COMPONENT, PERCENT, TLV, PEL. Rows include ISOPROPANOL, AROMATIC SOLVENT, PROPYLENE OXIDE, NAPHTHALENE.

SECTION III - PHYSICAL DATA

Table with 2 columns: PROPERTY, MEASUREMENT. Rows include APPEARANCE, ODOR, SPECIFIC GRAVITY, BULK DENSITY, PH, SOLUBILITY, BIODEGRADABILITY, etc.

SECTION IV - FIRE AND EXPLOSION DATA

NFPA(704) RATING: HEALTH 1 FLAMMABILITY 4 REACTIVITY 0 SPECIAL NONE
FLASH POINT 63 F / 17 C FLASH MTHD PMCC
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (% BY VOLUME) LOWER N/D UPPER N/D

EXTINGUISHING MEDIA:

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

USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES.
 FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.
 UNUSUAL FIRE AND EXPLOSION HAZARDS:
 MAY BE IGNITED BY HEAT, SPARKS, OR FLAMES. FIGHT FIRE FROM A SAFE DISTANCE

PN: 516001790

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AND FROM A PROTECTED LOCATION. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND INJURIES.
 INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE, CARBON MONOXIDE AND NITROGEN OXIDES.

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

CALIFORNIA PROPOSITION 65:
 PRODUCT OR PRODUCT COMPONENTS ARE REGULATED UNDER CALIF. PROPOSITION 65.

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

PRODUCT TOXICITY DATA: AQU TLM96: 3.3-10 PPM(BROWN SHRIMP)

PRODUCT TLV: NOT ESTABLISHED

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

ROUTES OF EXPOSURE:
 EYE OR SKIN CONTACT, INHALATION.

EYE:
 MAY CAUSE EYE IRRITATION.

SKIN:
 FREQUENT OR PROLONGED CONTACT WILL DRY AND DEFAT THE SKIN, POSSIBLY LEADING TO IRRITATION AND DERMATITIS. REPEATED CONTACT MAY SENSITIZE THE SKIN.

INHALATION:
 HIGH CONCENTRATIONS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. THIS MAY BE EVIDENCED BY GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS.
 VAPORS, MIST OR SPRAY MAY CAUSE IRRITATION.

INGESTION:
 ASPIRATION INTO LUNGS BY INGESTION OR VOMITING, MAY CAUSE CHEMICAL PNEUMONITIS RESULTING IN EDEMA AND HEMORRAGE AND MAY BE FATAL. SYMPTOMS INCLUDE INCREASED RESPIRATORY RATE AND BLUISH DISCOLORATION OF SKIN. COUGHING AND GAGGING ARE OFTEN NOTED AT THE TIME OF ASPIRATION.

CHRONIC EFFECTS:
 CHRONIC OVEREXPOSURE MAY CAUSE LIVER AND KIDNEY DISORDERS.

OTHER SYMPTOMS AFFECTED:
 BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. BREATHING OF VAPOR AND/OR MISTS MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE.

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

EYE:
 IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION.

SKIN:
 IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE.

INHALATION:

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

INGESTION:

DO NOT INDUCE VOMITING! ASPIRATION INTO LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO LUNGS.

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

STABILITY: STABLE

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.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AREA AND STOP LEAK WHERE SAFE. REMOVE IGNITION SOURCES. CONTAIN AND ABSORB SPILL WITH SAND OR OTHER INERT MATERIAL. SCOOP OR SWEEP UP USING NON-SPARKING TOOLS. IN ENCLOSED AREAS, WEAR SELF-CONTAINED BREATHING APPARATUS.

WASTE DISPOSAL METHOD:

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

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):

ORGANIC VAPOR CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE.

VENTILATION:

USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION. LOCAL EXHAUST VENTILATION MUST BE DESIGNED FOR EXPLOSIVE ATMOSPHERES (NEC CLASS I EQUIPMENT).

PROTECTIVE GLOVES:

IMPERVIOUS RUBBER GLOVES.

EYE PROTECTION:

GOGGLES AND/OR FACE SHIELD.

OTHER PROTECTIVE EQUIPMENT:

RUBBER APRON TO PREVENT DIRECT SKIN CONTACT.

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

PRECAUTIONARY LABELING LOSURF-300 NONIONIC SURFACTANT - HAL-TANK516.001790

WARNING!

MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE EYE IRRITATION. MAY CAUSE DEFATTING OF SKIN WHICH MAY LEAD TO IRRITATION OR DERMATITIS. FLAMMABLE!

FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
OTHER HANDLING AND STORAGE CONDITIONS:

- STORE AWAY FROM OXIDIZERS.
- KEEP FROM HEAT, SPARKS, AND OPEN FLAME.
- KEEP CONTAINER CLOSED WHEN NOT IN USE.
- AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
- AVOID BREATHING VAPORS.

CONTAINER DISPOSITION:

EMPTY CONTAINER COMPLETELY. TRANSPORT CONTAINER WITH ALL CLOSURES IN PLACE. RETURN FOR REUSE OR DISPOSE IN A SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION.

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

DOT SHIPPING DESCRIPTION:

FLAMMABLE LIQUID, N.O.S. - 3 - UN1993 - II
(CONTAINS ISOPROPANOL)

PN: 516001790

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***** 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	31-60 %
PROPYLENE OXIDE	75-56-9	TRACE %
NAPHTHALENE	91-20-3	1-10 %

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

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

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

IGNITABILITY

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

CUSTOMER, THERE IS NO GUARANTEE THAT THE HEALTH AND SAFETY PRECAUTIONS SUGGESTED WILL BE PROPER UNDER ALL CONDITIONS. IT IS THE SOLE RESPONSIBILITY OF EACH USER OF THE LISTED PRODUCT TO DETERMINE AND COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE LAWS AND REGULATIONS REGARDING ITS USE OR DISPOSAL. THIS INFORMATION IS GIVEN SOLELY FOR THE PURPOSES OF HEALTH AND SAFETY TO PERSONS AND PROPERTY. ANY OTHER USE OF THIS INFORMATION IS EXPRESSLY PROHIBITED. HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT, HALLIBURTON ENERGY SERVICES.

MATERIAL SAFETY DATA SHEET
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: BE-5 MICROBIOCID PART NUMBER: 516004930
PKG QTY: 36 LB BOX APPLICATION: MICROBIOCID
SERVICE USED: FRACTURING

SECTION II - COMPONENT INFORMATION

Table with 4 columns: COMPONENT, PERCENT, TLV, PEL. Rows include 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE, 2-METHYL-4-ISOTHIAZOLIN-3-ONE, MAGNESIUM CHLORIDE, DIATOMACEOUS EARTH, SILICA, CRYSTALLINE--QUARTZ.

SECTION III - PHYSICAL DATA

Table with 2 columns: PROPERTY, MEASUREMENT. Rows include APPEARANCE (LIGHT GREEN TO YELLOW SOLID), ODOR (MILD), SPECIFIC GRAVITY (H2O=1) (.720), BULK DENSITY (5.59 LB/CU.FT.), PH (NOT DETERMINED), SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H2O (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), FREEZE POINT (N/A), SOLUBILITY IN SEAWATER (NOT EVALUATED), PARTITION COEF (OCTANOL IN WATER) (N/D).

SECTION IV - FIRE AND EXPLOSION DATA

NFPA(704) RATING: HEALTH 3 FLAMMABILITY 1 REACTIVITY 0 SPECIAL NONE
FLASH POINT NONE
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER N/A UPPER N/A
EXTINGUISHING MEDIA:

USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES:

USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES.

FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.

PN: 516004930

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UNUSUAL FIRE AND EXPLOSION HAZARDS:

INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE TOXIC GASES.

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

CALIFORNIA PROPOSITION 65:

PRODUCT OR PRODUCT COMPONENTS ARE REGULATED UNDER CALIF. PROPOSITION 65.

CARCINOGENIC DETERMINATION:

PRODUCT OR COMPONENTS ARE LISTED AS A POTENTIAL CARCINOGEN ACCORDING TO : NTP, AND IARC

PRODUCT TOXICITY DATA: NOT DETERMINED

PRODUCT TLV: NOT ESTABLISHED

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

ROUTES OF EXPOSURE:

EYE OR SKIN CONTACT, INHALATION.

EYE:

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 VAPOR 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 EDEMA (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 DERMATITIS. BREATHING OF VAPOR AND/OR MISTS MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE.

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

EYE:

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

SKIN:

IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE.

INHALATION:

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

INGESTION:

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

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

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

STABILITY: STABLE
 CONDITIONS TO AVOID:
 NOT APPLICABLE.
 INCOMPATIBILITY (MATERIALS TO AVOID):
 STRONG OXIDIZERS.
 HAZARDOUS DECOMPOSITION PRODUCTS:

PN: 516004930

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OXIDES OF SULFUR AND NITROGEN AND HYDROGEN CHLORIDE.
 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:
 DIKE AND ABSORB SPILL USING HYPOCHLORITE 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 HYDROXIDE MUST 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.

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

PRECAUTIONARY LABELING 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 USE.
 AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
 AVOID BREATHING VAPORS.

CONTAINER DISPOSITION:

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

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

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)

PN: 516004930

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



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.



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

PHONE (505) 393-2328 • 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

LAB NUMBER	SAMPLE ID	IGNITABILITY (°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

[Handwritten Signature]
 Chemist

6/5/01
 Date

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

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

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

FORM C-13
Originated 8/87

Submit Origin
Plus 1 Co
to appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator HALLIBURTON
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	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 882318. State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) 5801 Lovinton Hwy Hobbs, NM 88240	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

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 accept this waste into our Parabo facility.

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

SIGNATURE: *Donna L. Roach* TITLE: OFFICE MGR DATE: 4-6-01
Waste Management Facility Authorized Agent
TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY: _____ TITLE: _____ DATE: _____

APPROVED BY: *Montezuma J. Kelly* TITLE: Environmental Ecologist DATE: 4-10-01

**CERTIFICATE OF WASTE STATUS
NON-EXEMPT WASTE MATERIAL
AS REQUIRED BY New Mexico CONSERVATION DIVISION**

COMPANY/GENERATOR: Halliburton

ADDRESS: 5801 Lovington Hwy

GENERATING SITE: Hobbs Yard

COUNTY Lea STATE NM

TYPE OF WASTE: Wash Rack Grit

ESTIMATED VOLUME: 300,000 lbs.

GENERATING PROCESS: Wash Rack Sumps

REMARKS: _____

NMOCD FACILITY: Sundance

TRUCKING FACILITY: Chaparral

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: 
SIGNATURE

NAME: Eddie Hopper
PRINTED

ADDRESS: 5801 Lovington Hwy Hobbs, NM 88240

DATE: 3/20/01



ARDINAL LABORATORIES

PHONE (915) 873-7001 • 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

TCLP VOLATILES (ppm)	EPA LIMIT	Sample Result H5422-1	Method Blank	QC	%Recov.	True Value
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	7.6	<0.005	<0.005	0.104	104	0.100

% RECOVERY

Dibromofluoromethane	95
Toluene-d8	91
Bromofluorobenzene	98

METHODS: EPA SW 846-8260, 1311

Project Location: HOBBS YARD
Sample Location: WASHBAY SUMP
Lab Number: H5422-1

Burgess J. A. Cooke
Burgess J. A. Cooke, Ph. D.

12/14/00
Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, 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 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.



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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

TCLP SEMIVOLATILES (ppm)	EPA LIMITS	Sample Result H5422-1	Method Blank	QC	% Recov.	True Value
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-Trichlorophenol	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	94	0.050

% RECOVERY

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

METHODS: EPA SW 846-8270, 1311, 3510

Burgess J. A. Cooke
 Burgess J. A. Cooke, Ph. D.
 Date: 12/14/00

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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

Sampling Date: 12/12/00
Sample Type: SLUDGE
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH/BC

REACTIVITY

12-20-2000 LAB NUMBER SAMPLE ID

Sulfide (ppm) Cyanide (ppm) CORROSIVITY (pH) IGNITABILITY (°F)

ANALYSIS DATE:	12/14/00	12/14/00	12/16/00	12/16/00
H5422-1 WASHBAY SLUDGE	Not reactive	Not reactive	7.65	Nonflammable
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

Burgess A. Coche
Chemist

12/18/00
Date

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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. SAMPLE ID As Ag Ba Cd Cr 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
H5422-1 WASHBAY SLUDGE	<1	<1	<5	<0.1	<1	<1	<0.02	<0.1
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	6.8	0.4	2.0
METHODS: EPA 1311, 600/4-91/01	206.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2

Amy Hill
Chemist

12-16-00
Date

H5422M.XLS

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

NEW MEXICO
Energy Minerals and Natural Resources Department

RECEIVED Oil Conservation Division

JUN 29 2001
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Environmental Bureau (505) 827-7131
Oil Conservation Division

JUN 18 2001

FORM C-15
Originated 8/87

Submit Origin
Plus 1 Co
to appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/> Verbal Approval Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>6-14-01 mjk</i>	4. Generator <i>Weatherford</i>
2. Management Facility Destination <i>SUNDANCE SERVICES INC.</i>	5. Originating Site <i>1802 W. MARLAND HOBBS, NM 88240</i>
3. Address of Facility Operator <i>P.O. BOX 1737 Eunice NM 882318. State NEW MEXICO</i>	6. Transporter <i>CANON CORP.</i>
7. Location of Material (Street Address or ULSTR) <i>1802 W. MARLAND Hobbs, NM 88240</i>	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. <input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

Sump waste (30yds)

Estimated Volume 30yds. cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: *Donna Roach* TITLE: OFFICE MGR DATE: 6-13-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY: _____ TITLE: _____ DATE: _____

APPROVED BY: *Monty J. Kelly* TITLE: Environmental Geologist DATE: 7-2-01



Trace Analysis, Inc. 6701 Aberdeen Ave., Suite 9 Lubbock, TX 79424-1515 (806) 794-1296

Report Date: June 8, 2001 Order Number: A01060401 Page Number: 1 of 1
A99 Weatherford Exit Assessment 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: A99
Project Name: Weatherford Exit Assessment
Project Location: 1805 W Marland Hobbs, NM

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
172351	SCI	Soil	5/30/01	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.

Sample - Field Code	BTEX					TPH DRG (mg/Kg)	TPH CRO (mg/Kg)
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	M,P,O-Xylene (mg/Kg)	Total BTEX (mg/Kg)		
172351 - SCI	<0.025	<0.025	<0.025	<0.025	<0.025	5400	3.2

Sample: 172351 - SCI

Param	Flag	Result	Units
Corrosivity			
Corrosivity (EPA limit = >6.5 mm/yr)		Non-corrosive	mm/yr
pH (EPA limit = <2 >12.8)		7.4	s.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	ug/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	mg/L
TCLP Lead (EPA limit = 5.0)		<.50	mg/L
TCLP Selenium (EPA limit = 1.0)		<1.0	mg/l.
TCLP Silver (EPA limit = 5.0)		<.10	mg/l.

TraceAnalysis, Inc.

5701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

4725 Ripley Dr., Ste A
El Paso, Texas 79822-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

Company Name: BNC Environmental Phone #: 915 686 7006
 Address: 4400 N. Business St. - 7 Milk & Jk Fax #: 915 686 7076
 Contact Person: Robbie Walker
 Invoice to: (If different from above)
 Project #: A 99 Project Name: Weatherford Exp. Access
 Project Location: 1865 W. Medical Sampler Signature: [Signature]

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ANALYSIS REQUEST

(Circle or Specify Method No.)

MTBE 80218/602	X	
BTEX 80218/602	X	
TPH 418.1/TX1008	X	8015
PAH 8270C		
Total Metals Ag As Ba Cd Cr Pb Se Hg 60102/200.7	X	
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	X	
TCLP Volatiles		
TCLP Semi Volatiles		
TCLP Pesticides		
RCI	X	
GC/MS Vol. 8260B/624		
GC/MS Semi. Vol. 8270C/625		
PCBs 8082/608		
Pesticides 8081A/808		
BOD, TSS, PH		
Turn Around Time if different from standard	X	

REMARKS:

DISUSE ONLY
 100% Rush
 Turnaround
 Carrier # [Signature]

FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX			PRESERVATIVE METHOD					SAMPLING				
			WATER	SOIL	AIR	SLUDGE	HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	DATE	TIME
S01	1	100	X								X			6/10/01	1632

Relinquished by: [Signature] Date: 6/10/01 Time: 1632
 Received by: [Signature] Date: 6/10/01 Time: 1632
 Relinquished by: _____ Date: _____ Time: _____
 Received by: _____ Date: _____ Time: _____

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C. 1 Sample HS
 CHART COPY

**CERTIFICATE OF WASTE STATUS
NON-EXEMPT WASTE MATERIAL**

ORIGINATING LOCATION: 1802 West Marland, Hobbs N.M
SOURCE: Wash Basin, used for cleaning down hole oil field pumps
DISPOSAL LOCATION: SUNDANCE SERVICES INC.

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 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 Weatherford
concur with the status of the waste from the subject site.

Name Robbie O. Walker
Title/Agency BNC Environmental Serv.
Address 4400 N Big Springs Ste A-7
Midland, TX 79705
Signature *Robbie Walker*
Date 6/1/01

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

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

FORM C-15
 Originated 8/87

Submit Origin
 Plus 1 Co.
 to appropriate
 District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator PRO WELL TESTING
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	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 882318. State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) 2815 Lovington Hwy, Hobbs, NM 88240	
9. Circle One:	
A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.	
<input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.	
All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The following analytical results are from Pro Well Testing's Hobbs facility. This waste is generated by the washing of well testing and wireline tools. I have attached a certificate of waste and chain of custody. Sundance would like to request approval to accept this waste into our Parabo disposal facility.

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

SIGNATURE: Donna L. Roach TITLE: OFFICE MGR DATE: 4-6-01
Waste Management Facility Authorized Agent
 TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY: _____ TITLE: _____ DATE: _____
 APPROVED BY: Monty J. Kelly TITLE: Environmental Geologist DATE: 4-10-01

CERTIFICATE OF WASTE STATUS

NON-EXEMPT WASTE MATERIAL

ORIGINATING LOCATION: 2815 Lovington Hwy, Hobbs, NM 88240

SOURCE: wash bay sump and holding tank

DISPOSAL LOCATION: SUNDANCE SERVICES INC.

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 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 Prowell Testing and Wireline Service
concur with the status of the waste from the subject site.

Name Merv Buckner

Title/Agency manager

Address 2815 Lovington Hwy, Hobbs, NM 88240

Signature *Merv Buckner*

Date 4-2-01



**ARDINAL
LABORATORIES**

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

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

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

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

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

LAB NUMBER SAMPLE ID	REACTIVITY			
	Sulfide (ppm)	Cyanide (ppm)	CORROSIVITY (pH)	IGNITABILITY (°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
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


Chemist

11/16/00
Date

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



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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: 11/15/00
 Sampling Date: 11/13/00
 Sample Type: SLUDGE
 (70% SOLID, 30% LIQUID)
 Sample Condition: COOL & INTACT
 Sample Received By: AH
 Analyzed By: BC

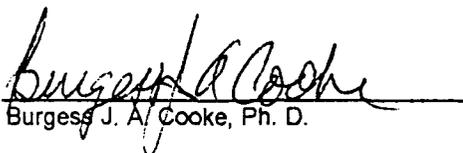
TCLP VOLATILES (ppm)	EPA LIMIT	Sample Result H5333-1	Method Blank	QC	%Recov.	True Value QC
Vinyl Chloride	0.20	<0.005	<0.005	0.108	108	0.100
1,1-Dichloroethylene	0.7	<0.005	<0.005	0.089	89	0.100
Methyl Ethyl Ketone	200	<0.050	<0.050	0.083	83	0.100
Chloroform	6.0	<0.005	<0.005	0.089	89	0.100
1,2-Dichloroethane	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	7.5	<0.005	<0.005	0.104	104	0.100

% RECOVERY

Dibromofluoromethane	98
Toluene-d8	88
Bromofluorobenzene	87

METHODS: EPA SW 846-8260, 1311

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


 Burgess J. A. Cooke, Ph. D.

11/16/00
 Date



ARDINAL LABORATORIES

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

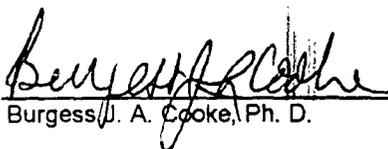
TCLP SEMIVOLATILES (ppm)	EPA LIMIT	Sample Result H5333-1	Method Blank	QC	% Recov.	True Value QC
Pyridine	5.00	<0.050	<0.005	0.008	16	0.050
1,4-Dichlorobenzene	7.50	<0.050	<0.005	0.032	64	0.050
o-Cresol	200	<0.050	<0.005	0.028	56	0.050
m, p-Cresol	200	0.174	<0.005	0.026	52	0.050
Hexachloroethane	3.00	<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.

11/16/00
Date



ARDINAL LABORATORIES

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: 11/17/00
Project Number: NOT GIVEN
Project Name: SUMP ANALYSIS
Project Location: HOBBS, NM

Sampling Date: 11/13/00
Sample Type: SLUDGE
(70% SOLID, 30% LIQUID)
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

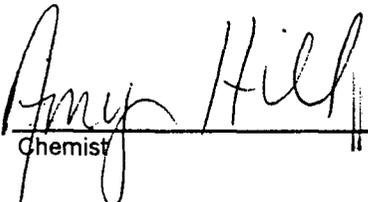
TCLP METALS

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:		5	5	100	1	5	5	0.2	1
H5333-1	SUMP	<1	<1	<5	<0.1	<1	<1	<0.02	<0.1
Quality Control		0.195	4.773	23.10	1.034	5.206	0.935	0.0098	0.214
True Value QC		0.200	5.000	25.00	1.000	5.000	1.000	0.0100	0.200
% Recovery		97.5	95.5	92.4	103	104	93.5	98.0	107
Relative Standard Deviation		2.3	0.4	7.5	0.3	3.1	5.2	2.2	2.2

METHODS: EPA 1311, 600/4-79-	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.



Chemist

11-17-00

Date

H5333M.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, 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 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.

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

Originated 8/1
Submit Orig
Plus 1 C
to appropr
District Of

01 FEB 16 PM 2:12

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator Permian Mack
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	5. Originating Site Hobbs Facili
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter Maclaskey
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 882318. State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) 2121 W West County Road Hobbs, NM 88240	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.	
All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The following analytical results are from Permian Mack's Hobbs facility. This waste was generated by the washing of trucks and shop tools into the grit trap. I have included a certificate of waste status and chain of custody. Sundance would like approval to accept this material into our Parabo facility.

Estimated Volume 200 bbls cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: Donna L. Roach TITLE: OFFICE MGR DATE: 2-7-01
Waste Management Facility Authorized Agent
TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY: _____ TITLE: _____ DATE: _____

APPROVED BY: Monty J. Kelly TITLE: Environmental Geologist DATE: 2-17-01

CERTIFICATE OF WASTE STATUS NON-EXEMPT WASTE MATERIAL

ORIGINATING LOCATION: 2121 West Gounty Road Hobbs, NM

SOURCE: wash bay grit trap

DISPOSAL LOCATION: SUNDANCE SERVICES INC.

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 1985 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.

JAN-20-1980 14:01

I, the undersigned as the agent for Permian Mack Sales concur with the status of the waste from the subject site.

Name

GARY SCHRIE

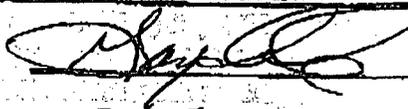
Title/Agency

SERVICE MANAGER

Address

P. O. Box 1678
Hobbs, NM 88240

Signature



Date

2-7-2001



PHONE (915) 973-7001 • 2111 BEECHWOOD • ABILENE, TX 79803

PHONE (906) 393-2328 • 101 E. MARLAND • HOBBS, NM 88240

**ANALYTICAL RESULTS FOR
PERMIAN MACK SALES OF NM, INC.**

**ATTN: RANDY
P.O. BOX 1878
HOBBS, NM 88240
FAX TO:**

**Receiving 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: SLUDGE
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: SCIAH**

REACTIVITY

LAB NUMBER SAMPLE ID Sulfide Cyanide CORROBIVITY IGNIFABILITY
10-2000 09137 ENCLAS (ppm) (ppm) (pH) (°F)

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
Quality Control		NR	NR	6.99	NR
True Value QC		NR	NR	7.00	NR
% Recovery		NR	NR	99.9	NR
Relative Percent Difference		NR	NR	0	NR

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

Burgess for Cardal
 Chemist

9/14/00
 Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All other claims 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 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 theories or otherwise.



**ARDINAL
LABORATORIES**

PHONE (815) 873-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 983-2328 • 101 E MARLAND • HOBBS, NM 88240

**ANALYTICAL RESULTS FOR
PERMIAN MACK SALES OF NM, INC.**

ATTN: RANDY
P.O. BOX 1878
HOBBS, NM 88240
FAX TO:

Receiving 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: SLUDGE
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: AH

TCLP METALS

LAB NO.	SAMPLE ID	As ppm	Cl ppm	Ba ppm	Cd ppm	Cr ppm	Pb ppm	Hg ppm	Se ppm
ANALYSIS DATE:		09/11/00	09/11/00	09/11/00	09/11/00	09/11/00	09/11/00	09/13/00	09/11/00
EPA LIMITS:		5	5	100	1	5	5	0.2	1
H5160-1	GRIT TRAP	<1	<1	<5	<0.1	<2	<1	<0.02	<0.1
Quality Control		0.066	4.882	24.63	0.949	5.273	6.182	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
METHODS: EPA 1311, 800/4-91A		208.2	272.1	208.1	213.1	218.1	239.1	245.1	270.2

Amy Hill
Chemist

9-14-00
Date

H5160.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, 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 subcontractors, 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.



PHONE (817) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (806) 393-2326 • 101 E. MARLAND • HOBBBS, NM 88240

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
 Lab Number: H5160-1
 Sample ID: GRIT TRAP

Analysis Date: 09/08/00
 Sampling Date: 09/07/00
 Sample Type: SLUDGE
 Sample Condition: COOL & INTACT
 Sample Received By: GR
 Analyzed By: BC

TCUP VOLATILES (ppm)	EPA LIMIT	Sample Result	Method	True Value		
				Blank	QC	%Recov. QC
Vinyl Chloride	0.20	<0.005	<0.005	0.087	87	0.100
1,1-Dichloroethylene	0.7	<0.005	<0.005	0.102	102	0.100
Methyl Ethyl Ketone	200	0.113	<0.050	0.109	109	0.100
Chloroform	6.0	<0.005	<0.005	0.104	104	0.100
1,2-Dichloroethane	0.5	<0.005	<0.005	0.114	114	0.100
Benzene	0.6	<0.005	<0.005	0.108	108	0.100
Carbon Tetrachloride	0.5	<0.005	<0.005	0.105	105	0.100
Trichloroethylene	0.5	<0.005	<0.005	0.109	109	0.100
Tetrachloroethylene	0.7	0.011	<0.005	0.108	108	0.100
Chlorobenzene	100	<0.005	<0.005	0.106	106	0.100
1,4-Dichlorobenzene	7.5	<0.005	<0.005	0.111	111	0.100

% RECOVERY

Dibromofluoromethane	95
Toluene-d8	96
Bromofluorobenzene	98

METHODS: EPA SW 846-8260, 1311

Burgess J.A. Cooke, Ph. D.
 Burgess J.A. Cooke, Ph. D.

9/11/00
 Date

PLEASE NOTE: Liability and Coverage. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for services. 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 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 remedies or otherwise.

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

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

Form C-13
 Originated 8/8/
 Submit Origin
 Plus 1 Co
 to appropriate
 District Office

OIL CONSERVATION DIV.
 01 FEB 16 PM 2:12

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator HALLIBURTON
Verbal Approval Received: Yes <input checked="" type="checkbox"/> 2701 No <input type="checkbox"/>	5. Originating Site LEVELLAND TX
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter CHAPARRAL SERVICE
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 88231g. State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) HWY 114 LEVELLAND TX	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The following analytical results are from Halliburton's Levelland facility. This waste is generated by the washing of oilfield tools. I have included a certificate of waste status and chain of custody. Sundance would like approval to accept this material into our Parabo facility.

Note: A verbal approval would be appreciated. This location is extremely full and in danger of overflow.
 Estimated Volume 125 bbls. cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: Donna L. Roach TITLE: OFFICE MGR DATE: 2-7-01
Waste Management Facility Authorized Agent
 TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY: _____ TITLE: _____ DATE: _____

APPROVED BY: Montana J. Kelly TITLE: Environmental Geologist 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

COUNTY _____ STATE _____

TYPE OF WASTE: Waste Water

ESTIMATED VOLUME: 125 bbls

GENERATING PROCESS: Water from the Washing
of Tools

REMARKS: Test Results on File

NMOCDF FACILITY: Sundance

TRUCKING FACILITY: Chapparell 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: Eddie Hopper
SIGNATURE

NAME: Eddie Hopper
PRINTED

ADDRESS: 5801 Lovington Hwy

DATE: 1-7-01

ENVIRONMENTAL LAB OF , INC.

"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/HCl
Project #: None Given
Project Name: None Given
Project Location: Hwy. 114

Sampling Date: 02/25/00
Receiving Date: 02/25/00
Analysis Date: 02/28/00

TPH mg/L

23790 Outside Tank 7

QUALITY CONTROL 367
TRUE VALUE 360
% PRECISION 102
BLANK <1

Methods: EPA 418.1

Roland K. Tuttle
Roland K. Tuttle

3-14-00
Date

QUALITY CONTROL 367
TRUE VALUE 360
% PRECISION 102
BLANK <1

ENVIRONMENTAL LAB OF , INC.

"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
Project Location: Hwy. 114

Sampling Date: 02/25/00
Receiving Date: 02/25/00
Analysis Date: 3/03 & 3/08/00

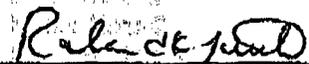
TCLP METALS (mg/L)

ELT#	Field Code	Ag	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

REPORTING LIMIT 0.01 0.002 0.10 0.005 0.03 0.002 0.10 0.002

% INSTRUMENT ACCURACY 99 95 104 100 102 98 98 102
% EXTRACTION ACCURACY 104 94 106 92 97 85 94 95

METHODS: EPA SW 846-1311, 7760, 7062, 7080, 7130, 7190, 7470, 7420, 7742


Raland K. Tuttle

3-14-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil 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/HCl
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

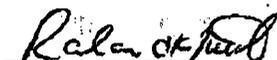
TCLP VOLATILES (mg/l)	SAMPLE 28790	PQL	BLANK	%EA	%DEV
1,1-Dichloroethene	ND	0.001	ND	118	-3.1
2-Butanone	ND	0.010	ND		2.3
Chloroform	ND	0.001	ND		-2.0
Benzene	ND	0.001	ND	118	4.9
1,2-Dichloroethane	ND	0.001	ND		3.1
Vinyl Chloride	ND	0.001	ND		3.0
Carbon Tetrachloride	ND	0.001	ND		-5.6
Trichloroethene	ND	0.001	ND	118	-9.3
Tetrachloroethene	ND	0.001	ND		-6.2
Chlorobenzene	ND	0.001	ND	95	-15
1,4-Dichlorobenzene	ND	0.001	ND		-5.5

SYSTEM MONITORING COMPOUNDS	% RECOVERY
dibromofluoromethane	105
toluene-d8	111
4-bromofluorobenzene	116

ND = < PQL

PQL = PRACTICAL QUANTITATION LIMIT

Methods: EPA SW 846-8240, 1311


Roland K. Tuttle

3-14-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

HALLIBURTON ENERGY SERVICES
ATTN: MR. SCOTT NELSON
5801 LOVINGTON HWY.
HOBBS, NM 88240
FAX: 505-382-7082

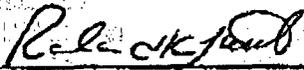
Sample Type: Water
Sample Condition: Intact/Iced
Project #: None Given
Project Name: None Given
Project Location: Hwy. 114

Sampling Date: 02/25/00
Receiving Date: 02/25/00
Analysis Date: 03/05/00
Field Code: Outside Tank

TCLP SEMIVOLATILE ORGANICS (mg/L)	REPORTING LIMIT	ELT#
		23790
Cresol	<0.040	ND
1,4-Dichlorobenzene	<0.040	ND
2,4-Dinitrotoluene	<0.040	ND
Hexachlorobenzene	<0.040	ND
Hexachlor-1,3-butadien	<0.040	ND
Hexachloroethane	<0.040	ND
Nitrobenzene	<0.040	ND
Pentachlorophenol	<0.040	ND
Pyridine	<0.040	ND
2,4,5-Trichlorophenol	<0.040	ND
2,4,6-Trichlorophenol	<0.040	ND

ND= NOT DETECTED, < REPORTING LIMIT

Method: SW 846-8270,1311


Reland K. Tuttle

3-14-00
Date

12600 West Loop East, Odessa, Texas 79768

ENVIRONMENTAL LAB OF , INC.

"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
Project Location: Hwy. 114

Sampling Date: 02/25/00
Receiving date: 02/25/00
Analysis Date: See Below

FROM: CUST. SVC. CTR. MIDLAND

ID: 9156864591

PAGE 6/6

ELT#	Field Code	REACTIVITY		CORROSIVITY	IGNITABILITY
		H ₂ S (ppm)	CN- (ppm)	(s.u.)	
23790	Outside Tank	<20.0	<2.0	Non Corrosive 8.00	>200 deg. F

"Don't Treat Your Soil Like Dirt!"

ANALYSIS DATE

3/1/00 3/1/00 2/29/00 3/1/00

METHODS: EPA SW-846-9045, 1010M


Roland K. Tuttle

3-1-00
Date

SUNDANCE SERVICES INC.
P.O. BOX 1737
EUNICE, NM 88231
505-394-2511
505-394-2590 FAX

FACSIMILE TRANSMITTAL SHEET

TO: Martyn Kule FROM: Donna Road
COMPANY: OCD DATE: 2-7-01
FAX NUMBER: 476-3462 TOTAL NO. OF PAGES INCLUDING COVER: 9
PHONE NUMBER: SENDER'S REFERENCE NUMBER:
RE: YOUR REFERENCE NUMBER:

URGENT FOR REVIEW PLEASE COMMENT PLEASE REPLY PLEASE RECYCLE

NOTES/COMMENTS:

Sorry to fax this to you. Halliburton
is in the process of changing environmental
men and let this one get to full.
Please review for a verbal.

Thanks
Donna

FEB-7-01 WED 13:15
 Hobbs, NM 88241-1980
 District II - (505) 748-1283
 811 E. Hill
 Artesia, NM 88210
 District III - (505) 334-6178
 1000 Rio Brazos Road
 Artesia, NM 87410
 District IV - (505) 827-7131

SUNDANCE SERVICES INC. FAX NO. 5053942590
Energy Minerals and Natural Resources Department
Oil Conservation Division
 2040 South Pacheco Street
 Santa Fe, New Mexico 87505
 (505) 827-7131

P. 02
 Form O-13
 Originated 8/87
 Submit Origin
 Plus 1 Co
 to appropriate
 District Em

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator HALLIBURTON
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	5. Originating City LEVELLAND TX
2. Management Facility Destination SUNDANCE SERVICES INC.	6. Transporter CHAPARRAL SERVICE
3. Address of Facility Operator P.O. BOX 1737 Eunice NM 882318, State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) HWY 114 LEVELLAND TX	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The following analytical results are from Halliburton Levelland facility. This waste is generated by the washing of oilfield tools. I have included a certificate of waste status and chain of custody. Sundance would like approval to accept this material into our Parabo facility.

Note: A verbal approval would be appreciated. This location is extremely full and in danger of overflow.
 Estimated Volume 125 bbls. cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: [Signature] _____ TITLE: OFFICE MGR _____ DATE: 2-7-01
 Waste Management Facility Authorized Agent
 TELEPHONE NO. _____

(This space for SUNDANCE USE)

APPROVED BY: _____ TITLE: _____ DATE: _____
 APPROVED BY: [Signature] TITLE: Environmental Geologist DATE: 02/07/01

394-2590

CERTIFICATE OF WASTE STATUS
NON-EXEMPT WASTE MATERIAL
AS REQUIRED BY NEW MEXICO CONSERVATION DIVISION

COMPANY/GENERATOR: Halliburton Energy Serv.

ADDRESS: Highway 114, Lovelland TX

GENERATING SITE: 5000 R.

COUNTY _____ STATE _____

TYPE OF WASTE: Waste Water

ESTIMATED VOLUME: 125 bbls

GENERATING PROCESS: Water from the Washing
of Tools

REMARKS: Test Results on File

NMCD FACILITY: Sundance

TRUCKING FACILITY: Chapparral 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 waste is not hazardous. I further certify that to my knowledge "hazardous or listed waste" pursuant to the provisions of 40 CFR Part 261, subparts C and D, has not been added or mixed with the waste in or on to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR Sections 261.3.

AGENT: Eddie Hopper

NAME: Eddie Hopper

ADDRESS: 5801 Lovington Hwy

DATE: 1-2-01

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

HALLIBURTON ENERGY SERVICES
ATTN: MR. SCOTT NELSON
5801 LOVINGTON HWY
HOBBS, NM 88240
FAX: 505-382-7062

Sample Type: Water
Sample Condition: Intact/ced/HOI
Project #: None Given
Project Name: None Given
Project Location: Hwy. 114

Sampling Date: 02/25/00
Receiving Date: 02/25/00
Analysis Date: 02/28/00

CLT#	FIELD CODE	TPH mg/L
01700	Outside Tank	7

QUALITY CONTROL	367
TRUE VALUE	360
% PRECISION	102
BLANK	<1

Methods: EPA 418.1

Roland K. Tuttle
Roland K. Tuttle

3-14-00
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

HALBURTON 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
 Project Location: Hwy. 114

Sampling Date: 02/25/00
 Receiving Date: 02/25/00
 Analysis Date: 3/03 & 3/08/00

TCLP METALS (mg/L)

ELT#	Field Code	Ag	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
23780	Outside Tank	0.02	<0.002	0.20	0.008	<0.03	0.003	<0.10	<0.002
	REPORTING LIMIT	0.01	0.002	0.10	0.005	0.03	0.002	0.10	0.002
	% INSTRUMENT ACCURACY	99	95	104	100	102	98	98	102
	% EXTRACTION ACCURACY	104	94	105	92	97	85	94	95

METHODS: EPA SW 846-1311, 7760, 7062, 7080, 7180, 7190, 7470, 7420, 7742


 Roland K. Tuttle

3-14-00
 Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

HALLIBURTON ENERGY SERVICES
ATTN: MR. SCOTT NELSON
5801 LOVINGTON HWY.
HOBBS, NM 88240
FAX: 505-392-7062

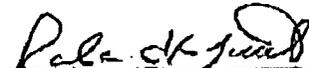
Sample Type: Water
Sample Condition: Intact/leak
Project #: None Given
Project Name: None Given
Project Location: Hwy. 114

Sampling Date: 02/25/00
Releasing date: 02/28/00
Analysis Date: See Below

ELT#	Field Code	REACTIVITY		CORROSIVITY (s.u.)	IGNITABILITY
		H2S ppm	CN- ppm		
23790	Outside Tank	<20.0	<2.0	Non Corrosive 8.00	>200 deg. F

ANALYSIS DATE	3/1/00	3/1/00	2/29/00	3/1/00
---------------	--------	--------	---------	--------

METHODS: EPA SW-846-9045.1010M


Roland K. Tuttle

3-14-00
Date

SUNDANCE SERVICES INC.
P.O. BOX 1737
BUNNIF, NM 88711
505 394 2511
505-394-2590 FAX

FACSIMILE TRANSMITTAL SHEET

TO: Martyn Keeley FROM: Donna Road
 COMPANY: OCD DATE: 2-7-01
 FAX NUMBER: 476-3462 TOTAL NO. OF PAGES INCLUDING COVER: 9
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 RE: _____ YOUR REFERENCE NUMBER: _____

URGENT FOR REVIEW PLEASE COMMENT PLEASE REPLY PLEASE RECYCLE

NOTES/COMMENTS:

Sorry to fax this to you. Halliburton is in the process of changing environmental men and let this one get to fall. Please review for a verbal.

Thanks

Donna

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

NEW MEXICO

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

FORM C-13
 Originated 8/8
 Submit Original
 Plus 1 Copy
 to appropriate
 District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator HALLIBURTON
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	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 882318, State NEW MEXICO	
7. Location of Material (Street Address or ULSTR) 5801 Lovinton HWY Hobbs, NM 88240	
9. Circle One: A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job. B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved. All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

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 accept this waste into our Parabo facility.

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

SIGNATURE: *Donna Roach* TITLE: OFFICE MGR DATE: 1-8-01
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY: *Donna Williams* TITLE: Environmental Engineer Specialist DATE: 01-17-01

APPROVED BY: *Monty Kelly* TITLE: Environmental Geologist DATE: 01-29-01



ARDINAL LABORATORIES

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

PHONE (805) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Analysis Date: 12/13/00
Sampling Date: 12/12/00
Sample Type: SLUDGE
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

TCLR VOLATILES (ppm)	EPA LIMIT	Sample Result H5422-1	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	<0.005	<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	7.6	<0.005	<0.005	0.104	104	0.100

% RECOVERY

Dibromofluoromethane	95
Toluene-d8	91
Bromofluorobenzene	98

METHODS: EPA SW 846-8260, 1311

Burgess J. A. Cooke
Burgess J. A. Cooke, Ph. D.

12/14/00
Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, 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 subcontractors, 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.



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LABORATORIES**

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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: 12/18/00
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

LAB NUMBER SAMPLE ID

TPH
(mg/Kg)

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)
H5422-1	WASHBAY SLUDGE	77300
Quality Control		228
True Value QC		240
% Recovery		95.0
Relative Percent Difference		4.0

METHOD: EPA 600/4-79-020 418.1

Bryan J. Coche
Chemist

12/18/00
Date

H5422T.XLS

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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

TCLP SEMIVOLATILES (ppm)	EPA LIMIT	Sample Result H5422-1	Method Blank	QC	% Recov.	True Value 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-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
Hexachlorobenzene	0.130	<0.020	<0.005	0.045	90	0.050
Pentachlorophenol	100	<0.020	<0.005	0.047	94	0.050

% RECOVERY

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

METHODS: EPA SW 846-8270, 1311, 3510

Burgess J. A. Cooke
Burgess J. A. Cooke, Ph. D.

12/14/00
Date

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, 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 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 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.



**ARDINAL
LABORATORIES**

PHONE (915) 873-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (805) 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

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 Sulfide (ppm) Cyanide (ppm) CORROSIVITY (pH) IGNITABILITY (°F)

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				
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

Burgess A. Coche
Chemist

12/18/00
Date

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

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

Originated 8/8

Submit Origin
 Plus 1 Co
 to appropri:
 District Off

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator KOCH ASPHALT PLAN
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	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 882318	State NEW MEXICO
7. Location of Material (Street Address or ULSTR)	2411 North Freeman
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.	
<input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.	
All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The following MSDS is for Sylvablend D40T. This waste is used as an emulsion preparation at this plant. No other chemicals have been added to this material. It has been left in a tank there on location. Sundance would like approval to accept this material into our Sunandace Facility.

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

SIGNATURE: *Donna Roach* TITLE: OFFICE MGR DATE: 1-3-01
Waste Management Facility Authorized Agent
 TYPE OR PRINT NAME: DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY: **DENIED** TITLE: _____ DATE: _____
Not oil field app

APPROVED BY: _____ TITLE: _____ DATE: _____

CERTIFICATE OF WASTE STATUS

Non-Exempt Waste Material

ORIGINATION LOCATION: Koch Asphalt Plant, Artesia , New Mexico

SOURCE: Emulsion preparation Waste Sylvablen[®] 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: Bob Allen

Date: January 3, 2001

Notes to Physician Provide general supportive measures and treat symptomatically. In case of ingestion, the decision of whether or not to induce vomiting should be made by the attending physician. If burn is present, treat as any thermal burn.

If victims of chemical over-exposure are taken for medical attention, give a copy of the label or MSDS to the physician/health professional.

Section 5. Fire and Explosion Data

Flammability of the Product Nonflammable.

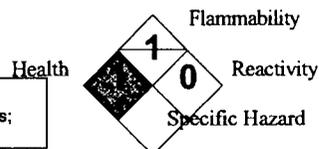
Auto-Ignition Temperature Not available.

Flash Point >260°C (500°F).

Flammable Limits Not available.

NEPA 704

0=Minimal; 1=Slight;
2=Moderate; 3=Serious;
4=Severe



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 clay 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 water. Avoid using a direct stream of water.

Fire Fighting Equipment and Instructions Wear full protective clothing, including self-contained positive pressure/pressure demand breathing apparatus, helmet, and protective clothing. Use water spray to cool fire-exposed containers and to protect personnel.

Section 6. Accidental 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. Handling 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 Publication 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/m³ Respirable.

Chemical Name or Product Name	CAS #	OSHA PEL	ACGIH TLV
1) Tall Oil Fractions	Proprietary	Not established	Not established

NOTE: The 1989 OSHA PELs 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. Physical and Chemical Properties

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.
nd	Not applicable	Acid No. (per ASTM D 462)	167-170

Section 10. Stability 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 fumes containing carbon monoxide, carbon dioxide, water, trace sulfur oxides, and/or hydrocarbons of varying molecular weights.

Continued on Next Page

Page Number: 3

Hazardous Polymerization Hazardous polymerization will not occur.

Section 11. Toxicological Information

<p>Toxicity to Animals</p>	<p>No toxicological information is available for this product. However, tall oil fractions may contain some or all of the following:</p> <p>Tall Oil Rosin: ORAL, rat, LD50 = 7600 mg/kg; ORAL, mouse, LD50 = 4600 mg/kg; ORAL, guinea pig, LD50 = 4600 mg/kg; DERMAL, rabbit: LD50 = > 2500 mg/kg.</p> <p>Tall Oil Fatty Acids: ORAL, rat, LD50 = > 10,000 mg/kg. DERMAL, rabbit, LD50 = > 2000 mg/kg.</p> <p>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.</p> <p>Tall Oil Heads: ORAL, rat, LD50 = > 9000 mg/kg.</p> <p>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.</p> <p>Dimer Fatty Acids: ORAL, rat, LD50 = > 5000 mg/kg.</p> <p>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.</p>
<p>Toxicity to Humans</p>	<p>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.</p> <p>A similar product was not found to be a skin sensitizer in adult males following prolonged or repeated skin contact.</p> <p>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.</p>

Section 12. Ecological Information

<p>Ecotoxicity</p>	<p>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 beaches.</p> <p>No toxicological information is available for this product. However, tall oil fractions may contain some or all of the following:</p> <p>Tall Oil Fatty Acids: Acute fish toxicity (zebra): LC50 (24h) = 50-100 mg/l; LC50 (96h) = 10-20 mg/l, (NOEC = 10 mg/l).</p> <p>Immobilization studies (Daphnia magna): EC50 (48 hr) = 55.7 mg/l.</p> <p>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).</p>
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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 degraded 50% within seven days.

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. Transport 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. Regulatory Information

Federal and State Regulations OSHA: Not hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

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.

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

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Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product/Trade Name	SYLVABLEND® D40T <i>(formerly ACINTOL® D40T & SYLVATAL® D40T)</i>	Code	D40T
		MSDS#	6220
Supplier / Manufacturer	Arizona Chemical P.O. Box 550850 Jacksonville, FL 32255-0850 USA (800) 526-5294 / (904) 928-8700	Validation Date	05/22/2000
		Print Date	11/27/2000
Chemical Name	Tall Oil	EMERGENCY PHONE CHEMTREC: 1-800-424-9300 (transportation and medical)	

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight
1) Tall Oil Fractions	Proprietary	100

See Section 8 for Exposure Controls/ Exposure Limits/ Personal Protection information.

Section 3. Hazards Identification

EMERGENCY OVERVIEW

Product is a dark liquid with a fatty odor. Product is not considered to be combustible. However, after prolonged contact with highly porous materials, this product may spontaneously combust. May cause eye and skin irritation. If heated product contacts the eye and/or skin, thermal burns may result. Inhalation of mists/vapors/fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing or difficulty breathing. Aspiration into lungs may cause chemical pneumonitis and pulmonary edema.

HMIS

HEALTH:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FIRE:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
REACTIVITY:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PPE:	see Section 8 of this MSDS.		

0=Minimal; 1=Slight; 2=Moderate;
3=Serious; 4=Severe;
(*)=Chronic health hazard.

Potential Health Effects

Eye Contact	Product may cause eye irritation. If heated product contacts the eye, thermal burns may result.
Skin Contact	Product may cause skin irritation. When it is heated, this product may cause thermal burns.
Inhalation	Exposure to oil mists/vapors/fumes may cause respiratory tract irritation. Heating this product may release harmful vapors. Inhalation of mists/vapors/fumes generated by heating this product may cause respiratory tract irritation with throat discomfort, coughing and difficulty breathing.
Ingestion	Ingestion of large quantities may result in gastrointestinal disturbances including irritation, nausea, and diarrhea. Aspiration into lungs may cause severe damage, including chemical pneumonitis and pulmonary edema.

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.

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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

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Last Page of MSDS

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SUNDANCE SERVICES INC.
P O BOX 1737
EUNICE, NM 88231
505-394-2511
505-394-2590 FAX

FACSIMILE TRANSMITTAL SHEET

TO Martyne Kieling	FROM Donna Roach
COMPANY NMOC	DATE 1-16-00
FAX NUMBER 505-476-3462	TOTAL NO. OF PAGES (INCLUDING COVER) 18
PHONE NUMBER	SENDER'S REFERENCE NUMBER
RE	YOUR REFERENCE NUMBER

URGENT FOR REVIEW PLEASE COMMENT PLEASE REPLY PLEASE RECYCLE

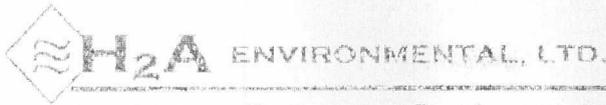
NOTES/COMMENTS

Martyne,

Please review these approvals. This first analytical results are from Equilon Jal tank farm. They are emptying monitor wells around the tank farm, that have diesel in them(justa skin).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



ASSESSMENT • REMEDIATION • RISK ASSESSMENT • COMPLIANCE • LITIGATION / ENFORCEMENT SUPPORT

FAX TRANSMITTAL

TO: Donna
Sundance Services

FAX: 505-394-2590

FROM: Theresa Nix

PHONE: 361-777-0880

DATE: 01/16/01

RE: Water disposal

H₂A 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 bbis.

Thanks!

C:\T\era\2001\01-16-01\Sundance Fax 01-16-01.doc

24730

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD
On-Line Help & Technical Services at www.xenco.com
Company COC No. 200378-H Work Order No.

1381 Macdonough, Suite L, Houston, TX 77082, 281-589-0652
5006 Wurzbach Road, Suite 104, San Antonio, TX 78258, 210-505-8354
11075 Hamilton Ln, Suite D, Dallas, TX 75229, 972-481-4999

Lab Only

Phone 712-984-4197
Project ID 910103
Project Director (PD) JFelt
Fax Results to PPM and/or

Company KEI
Project Name San Antonio
Location Jalisco, New Mexico
Project Manager (PM) SOT
Invoice to Accounting, Invoice/Invoice with Final Report Adm PM, Invoice must have a P.O. Bill to 910103/6/E
Quote No. P.O. No. Call for a P.O.
Special DLs (RR, RP, DW, OAPP, Sub Lab PM, Col Ref, PM)

Sampler Name Steve Freundt Signature [Signature]
Sample ID CAF1 next Fac
Sampling Date 01/14/00
Time 10:45
Date & Time Relinquished to (Initials and Sign.) [Signature]
Date & Time Relinquished to (Initials and Sign.) [Signature]
Total Containers per COC 1
Rush TAs Fax Due: 1/14/00
Final Report Due Date: 1/14/00

Lab Only	Analysis	Date	Rev By:	From:	Remarks
					Field Analysis
					Added Part Above mg/L W mg/L's Higher than
					TAT on 12h 20h 24h 48h 5d 7d 14d 21d Starting 24h's 10 Working Days
					unless otherwise agreed in writing. But often recorded in Sampling Data
					VOA by 6021 624 BTEX MTE PPM TCEP PPT Seal Lit Col PM
					VOA by 6021 624 BTEX MTE PPM TCEP Seal Lit Col PM
					Metals by 6020 6021 6022 6023 6024 6025 6026 6027 6028 6029 6030 6031 6032 6033 6034 6035 6036 6037 6038 6039 6040 6041 6042 6043 6044 6045 6046 6047 6048 6049 6050 6051 6052 6053 6054 6055 6056 6057 6058 6059 6060 6061 6062 6063 6064 6065 6066 6067 6068 6069 6070 6071 6072 6073 6074 6075 6076 6077 6078 6079 6080 6081 6082 6083 6084 6085 6086 6087 6088 6089 6090 6091 6092 6093 6094 6095 6096 6097 6098 6099 6100 6101 6102 6103 6104 6105 6106 6107 6108 6109 6110 6111 6112 6113 6114 6115 6116 6117 6118 6119 6120 6121 6122 6123 6124 6125 6126 6127 6128 6129 6130 6131 6132 6133 6134 6135 6136 6137 6138 6139 6140 6141 6142 6143 6144 6145 6146 6147 6148 6149 6150 6151 6152 6153 6154 6155 6156 6157 6158 6159 6160 6161 6162 6163 6164 6165 6166 6167 6168 6169 6170 6171 6172 6173 6174 6175 6176 6177 6178 6179 6180 6181 6182 6183 6184 6185 6186 6187 6188 6189 6190 6191 6192 6193 6194 6195 6196 6197 6198 6199 6200 6201 6202 6203 6204 6205 6206 6207 6208 6209 6210 6211 6212 6213 6214 6215 6216 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7017 7018 7019 7020 7021 7022 7023 7024 7025 7026 7027 7028 7029 7030 7031 7032 7033 7034 7035 7036 7037 7038 7039 7040 7041 7042 7043 7044 7045 7046 7047 7048 7049 7050 7051 7052 7053 7054 7055 7056 7057 7058 7059 7060 7061 7062 7063 7064 7065 7066 7067 7068 7069 7070 7071 7072 7073 7074 7075 7076 7077 7078 7079 7080 7081 7082 7083 7084 7085 7086 7087 7088 7089 7090 7091 7092 7093 7094 7095 7096 7097 7098 7099 7100 7101 7102 7103 7104 7105 7106 7107 7108 7109 7110 7111 7112 7113 7114 7115 7116 7117 7118 7119 7120 7121 7122 7123 7124 7125 7126 7127 7128 7129 7130 7131 7132 7133 7134 7135 7136 7137 7138 7139 7140 7141 7142 7143 7144 7145 7146 7147 7148 7149 7150 7151 7152 7153 7154 7155 7156 7157 7158 7159 7160 7161 7162 7163 7164 7165 7166 7167 7168 7169 7170 7171 7172 7173 7174 7175 7176 7177 7178 7179 7180 7181 7182 7183 7184 7185 7186 7187 7188 7189 7190 7191 7192 7193 7194 7195 7196 7197 7198 7199 7200 7201 7202 7203 7204 7205 7206 7207 7208 7209 7210 7211 7212 7213 7214 7215 7216 7217 7218 7219 7220 7221 7222 7223 7224 7225 7226 7227 7228 7229 7230 7231 7232 7233 7234 7235 7236 7237 7238 7239 7240 7241 7242 7243 7244 7245 7246 7247 7248 7249 7250 7251 7252 7253 7254 7255 7256 7257 7258 7259 7260 7261 7262 7263 7264 7265 7266 7267 7268 7269 7270 7271 7272 7273 7274 7275 7276 7277 7278 7279 7280 7281 7282 7283 7284 7285 7286 7287 7288 7289 7290 7291 7292 7293 7294 7295 7296 7297 7298 7299 7300 7301 7302 7303 7304 7305 7306 7307 7308 7309 7310 7311 7312 7313 7314 7315 7316 7317 7318 7319 7320 7321 7322 7323 7324 7325 7326 7327 7328 7329 7330 7331 7332 7333 7334 7335 7336 7337 7338 7339 7340 7341 7342 7343 7344 7345 7346 7347 7348 7349 7350 7351 7352 7353 7354 7355 7356 7357 7358 7359 7360 7361 7362 7363 7364 7365 7366 7367 7368 7369 7370 7371 7372 7373 7374 7375 7376 7377 7378 7379 7380 7381 7382 7383 7384 7385 7386 7387 7388 7389 7390 7391 7392 7393 7394 7395 7396 7397 7398 7399 7400 7401 7402 7403 7404 7405 7406 7407 7408 7409 7410 7411 7412 7413 7414 7415 7416 7417 7418 7419 7420 7421 7422 7423 7424 7425 7426 7427 7428 7429 7430 7431 7432 7433 7434 7435 7436 7437 7438 7439 7440 7441 7442 7443 7444 7445 7446 7447 7448 7449 7450 7451 7452 7453 7454 7455 7456 7457 7458 7459 7460 7461 7462 7463 7464 7465 7466 7467 7468 7469 7470 7471 7472 7473 7474 7475 7476 7477 7478 7479 7480 7481 7482 7483 7484 7485 7486 7487 7488 7489 7490 7491 7492 7493 7494 7495 7496 7497 7498 7499 7500 7501 7502 7503 7504 7505 7506 7507 7508 7509 7510 7511 7512 7513 7514 7515 7516 7517 7518 7519 7520 7521 7522 7523 7524 7525 7526 7527 7528 7529 7530 7531 7532 7533 7534 7535 7536 7537 7538 7539 7540 7541 7542 7543 7544 7545 7546 7547 7548 7549 7550 7551 7552 7553 7554 7555 7556 7557 7558 7559 7560 7561 7562 7563 7564 7565 7566 7567 7568 7569 7570 7571 7572 7573 7574 7575 7576 7577 7578 7579 7580 7581 7582 7583 7584 7585 7586 7587 7588 7589 7590 7591 7592 7593 7594 7595 7596 7597 7598 7599 7600 7601 7602 7603 7604 7605 7606 7607 7608 7609 7610 7611 7612 7613 7614 7615 7616 7617 7618 7619 7620 7621 7622 7623 7624 7625 7626 7627 7628 7629 7630 7631 7632 7633 7634 7635 7636 7637 7638 7639 7640 7641 7642 7643 7644 7645 7646 7647 7648 7649 7650 7651 7652 7653 7654 7655 7656 7657 7658 7659 7660 7661 7662 7663 7664 7665 7666 7667 7668 7669 7670 7671 7672 7673 7674 7675 7676 7677 7678 7679 7680 7681 7682 7683 7684 7685 7686 7687 7688 7689 7690 7691 7692 7693 7694 7695 7696 7697 7698 7699 7700 7701 7702 7703 7704 7705 7706 7707 7708 7709 7710 7711 7712 7713 7714 7715 7716 7717 7718 7719 7720 7721 7722 7723 7724 7725 7726 7727 7728 7729 7730 7731 7732 7733 7734 7735 7736 7737 7738 7739 7740 7741 7742 7743 7744 7745 7746 7747 7748 7749 7750 7751 7752 7753 7754 7755 7756 7757 7758 7759 7760 7761 7762 7763 7764 7765 7766 7767 7768 7769 7770 7771 7772 7773 7774 7775 7776 7777 7778 7779 7780 7781 7782 7783 7784 7785 7786 7787 7788 7789 7790 7791 7792 7793 7794 7795 7796 7797 7798 7799 7800 7801 7802 7803 7804 7805 7806 7807 7808 7809 7810 7811 7812 7813 7814 7815 7816 7817 7818 7819 7820 7821 7822 7823 7824 7825 7826 7827 7828 7829 7830 7831 7832 7833 7834 7835 7836 7837 7838 7839 7840 7841 7842 7843 7844 7845 7846 7847 7848 7849 7850 7851 7852 7853 7854 7855 7856 7857 7858 7859 7860 7861 7862 7863 7864 7865 7866 7867 7868 7869 7870 7871 7872 7873 7874 7875 7876 7877 7878 7879 7880 7881 7882 7883 7884 7885 7886 7887 7888 7889 7890 7891 7892 7893 7894 7895 7896 7897 7898 7899 7900 7901 7902 7903 7904 7905 7906 7907 7908 7909 7910 7911 7912 7913 7914 7915 7916 7917 7918 7919 7920 7921 7922 7923 7924 7925 7926 7927 7928 7929 7930 7931 7932 7933 7934 7935 7936 7937 7938 7939 7940 7941 7942 7943 7944 7945 7946 7947 7948 7949 7950 7951 7952 7953 7954 7955 7956 7957 7958 7959 7960 7961 7962 7963 7964 7965 7966 7967 7968 7969 7970 7971 7972 7973 7974 7975 7976 7977 7978 7979 7980 7981 7982 7983 7984 7985 7986 7987 7988 7989 7990 7991 7992 7993 7994 7995 7996 7997 7998 7999 8000 8001 8002 8003 8004 8005 8006 8007 8008 8009 8010 8011 8012 8013 8014 8015 8016 8017 8018 8019 8020 8021 8022 8023 8024 8025 8026 8027 8028 8029 8030 8031 8032 8033 8034 8035 8036 8037 8038 8039 8040 8041 8042 8043 8044 8045 8046 8047 8048 8049 8050 8051 8052 8053 8054 8055 8056 8057 8058 8059 8060 8061 8062 8063 8064 8065 8066 8067 8068 8069 8070 8071 8072 8073 8074 8075 8076 8077 8078 8079 8080 8081 8082 8083 8084 8085 8086 8087 8088 8089 8090 8091 8092 8093 8094 8095 8096 8097 8098 8099 8100 8101 8102 8103 8104 8105 8106 8107 8108 8109 8110 8111 8112 8113 8114 8115 8116 8117 8118 8119 8120 8121 8122 8123 8124 8125 8126 8127 8128 8129 8130 8131 8132 8133 8134 8135 8136 8137 8138 8139 8140 8141 8142 8143 8144 8145 8146 8147 8148 8149 8150 8151 8152 8153 8154 8155 8156 8157 8158 8159 8160 8161 8162 8163 8164 8165 8166 8167 8168 8169 8170 8171 8172 8173 8174 8175 8176 8177 8178 8179 8180 8181 8182 8183 8184 8185 8186 8187 8188 8189 8190 8191 8192 8193 8



Certificate of Analysis Summary 200378

KEY Consultants, Ltd., Carrollton, TX

Project Name: Jal Station

Project ID: 910103

Date Received in Lab: Thu Jan-20-00 10:30 AM

Project Manager: Steve Freundt

Date Report Faxed: Fri Jan-28-00

Project Location: Jal, New Mexico

XENCO Contact: Debbie Simmons

Analysis Requested	Lab ID:	400378-001		
	Field ID:	Effluent Frac		
	Depth:			
	Matrix:	Water		
	Sampled:	Jan-19-2000		
	Analysis Unit:	Jan-24-2000		
		mg/L		
			R L	
SVOAs by EPA 8270C				
Acenaphthene		BRL	0.002	
Acenaphthylene		BRL	0.002	
Anthracene		BRL	0.002	
Benzo(a)anthracene		BRL	0.002	
Benzo(a)pyrene		BRL	0.002	
Benzo(b)fluoranthene		BRL	0.002	
Benzo(g,h,i)perylene		BRL	0.002	
Benzo(k)fluoranthene		BRL	0.002	
Benzyl Alcohol		BRL	0.020	
Benzyl Butyl Phthalate		BRL	0.010	
Bis(2-chloroethoxy) methane		BRL	0.010	
Bis(2-chloroethyl) ether		BRL	0.010	
Bis(2-chloroisopropyl) ether		BRL	0.010	
Bis(2-ethylhexyl) phthalate		BRL	0.010	
4-Bromophenyl-phenylether		BRL	0.010	
n-Butyl Phthalate		BRL	0.010	
4-Chloro-3-methylphenol		BRL	0.010	
4-Chloroaniline		BRL	0.020	
2-Chloronaphthalene		BRL	0.010	
2-Chlorophenol		BRL	0.010	
4-Chlorophenyl Phenyl Ether		BRL	0.010	
Chrysene		BRL	0.002	
Dibenz(a,h)Anthracene		BRL	0.002	
Dibenzofuran		0.031	0.010	
1,2-Dichlorobenzene		BRL	0.010	
1,3-Dichlorobenzene		BRL	0.010	
1,4-Dichlorobenzene		BRL	0.010	
2,4-Dichlorophenol		BRL	0.010	

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Eddie L. Clemons, II
QA/QC Director

BRL Below Reporting Limit.



Certificate of Analysis Summary 200378

KEI Consultants, Ltd., Carrollton, TX

Project Name: Jal Station

Project ID: 910103

Date Received in Lab: Thu Jan-20-00 10:30 AM

Project Manager: Steve Freundt

Date Report Faxed: Fri Jan-28-00

Project Location: Jal, New Mexico

XENCO Contact: Debbie Simmons

Analysis Requested	Lab ID :	200378-001		
	Field ID :	Effluent Finc		
	Depth :			
	Matrix :	Water		
	Sampled :	Jan-19-2000		
SVOAs by EPA 8270C	Analyzed :	Jan-24-2000		
	Units :	mg/L		
			R.L.	
Diethyl Phthalate		BRL	0.010	
Dioctyl Phthalate		BRL	0.010	
2,4-Dimethylphenol		0.039	0.010	
4,6-dinitro-2-methyl phenol		BRL	0.010	
2,4-Dinitrophenol		BRL	0.020	
2,6-Dinitrotoluene		BRL	0.010	
1,2-Diphenylhydrazine		BRL	0.020	
Fluoranthene		BRL	0.002	
Fluorene		BRL	0.002	
Hexachlorobenzene		BRL	0.010	
Hexachlorobutadiene		BRL	0.010	
Hexachlorocyclopentadiene		BRL	0.010	
Hexachloroethane		BRL	0.010	
Indeno(1,2,3-c,d)Pyrene		BRL	0.002	
Isophorone		BRL	0.010	
2-Methylnaphthalene		0.109	0.002	
2-methylphenol		BRL	0.010	
3&4-Methylphenol		BRL	0.010	
Naphthalene		0.061	0.002	
4-Nitroaniline		BRL	0.020	
3-Nitroaniline		BRL	0.020	
2-Nitroaniline		BRL	0.020	
Nitrobenzene		BRL	0.020	
2-Nitrophenol		BRL	0.010	
4-Nitrophenol		BRL	0.010	
n-Nitrosodl-n-Propylamine		BRL	0.010	
n-Nitrosodiphenylamine		BRL	0.010	
Di-n-Octyl Phthalate		BRL	0.010	

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Certificate of Analysis Summary 200378

KEI Consultants, Ltd., Carrollton, TX

Project Name: Jal Station

Project ID: 910103

Date Received in Lab: Thu Jan-20-00 10:30 AM

Project Manager: Steve Friendt

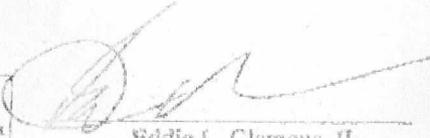
Date Report Faxed: Fri Jan-28-00

Project Location: Jal, New Mexico

XENCO Contact: Debbie Simmons

Analysis Requested	Lab ID:	200378-001			
	Field ID:	Effluent Franc			
	Depth:				
	Matrix:	Water			
	Sampled:	Jan-19-2000			
	Analyzed:	Jan-24-2000			
	Units:	mg/L			
			R L		
Permethrin		BRL	0.010		
Permethrin		0.020	0.002		
Phenol		BRL	0.010		
Pyrene		0.003	0.002		
1,2,4-Trichlorobenzene		BRL	0.010		
2,4,6-Trichlorophenol		BRL	0.010		
2,4,5-Trichlorophenol		BRL	0.010		

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Certificate of Analysis Summary 200378

KEI Consultants, Ltd., Carrollton, TX

Project Name: Jal Station

Project ID: 910103

Date Received in Lab: Thu Jan-20-00 10:30 AM

Project Manager: Steve Freundt

Date Report Faxed: fri Jan-28-00

Project Location: Jal, New Mexico

XENCO Contact: Debbie Simmons

Analysis Requested	Lab ID :	200378-001		
	Field ID :	Effluent Frac		
	Depth :	Water		
	Matrix :	Jan-19-2000		
	Sampled :			
VOAs by SW-846 8260	Analyzed :	Jan-24-2000		
	Units :	mg/L		
			R L	
Benzene		0.021	0.005	
Bromobenzene		BRL	0.005	
Bromo-chloromethane		BRL	0.005	
Bromo-dichloromethane		BRL	0.005	
Bromoform		BRL	0.005	
Bromomethane		BRL	0.005	
MTBE		0.020	0.005	
tert-Butylbenzene		BRL	0.005	
Sec-Butylbenzene		0.026	0.005	
n-Butylbenzene		BRL	0.005	
Carbon Tetrachloride		BRL	0.005	
Chlorobenzene		BRL	0.005	
Chloroethane		BRL	0.010	
Chloroform		BRL	0.005	
Chloromethane		BRL	0.010	
2-Chlorotoluene		BRL	0.005	
4-Chlorotoluene		BRL	0.005	
p-Cymene (p-Isopropyltoluene)		0.010	0.005	
1,2-Dibromo-3-Chloropropane		BRL	0.005	
Dibromochloromethane		BRL	0.005	
Dibromomethane		BRL	0.005	
1,2-Dichlorobenzene		BRL	0.005	
1,3-Dichlorobenzene		BRL	0.005	
1,4-Dichlorobenzene		BRL	0.005	
Dichlorodifluoromethane		BRL	0.005	
1,2-Dichloroethane		BRL	0.005	
1,1-Dichloroethane		BRL	0.005	
trans-1,2-Dichloroethane		BRL	0.005	

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Certificate of Analysis Summary 200378

KEI Consultants, Ltd., Carrollton, TX

Project Name: Jal Station

Project ID: 910103

Date Received in Lab: Thu Jan-20-00 10:30 AM

Project Manager: Steve Freundt

Date Report Faxed: Fri Jan-28-00

Project Location: Jal, New Mexico

XENCO Contact: Debbie Simmons

Analysis Requested	Lab ID: Field ID: Depth: State: Sampled:	200378-001 Effluent Flow	
		Water	
VOAs by SW-846 8260	Analyzed Units:	Jan-24-2000	mg/L
			R L
cis-1,2-Dichloroethene		BRL	0.005
1,1-Dichloroethene		BRL	0.005
2,2-Dichloropropane		BRL	0.005
1,3-Dichloropropane		BRL	0.005
1,2-Dichloropropane		BRL	0.005
trans-1,3-dichloropropane		BRL	0.005
1,1-Dichloropropane		BRL	0.005
cis-1,3-Dichloropropane		BRL	0.005
Ethylbenzene		0.050	0.005
Hexachlorobutadiene		BRL	0.005
Isopropylbenzene		0.024	0.005
Naphthalene		0.098	0.010
n-Propylbenzene		0.027	0.005
Styrene		BRL	0.005
1,1,1-Tetrachloroethane		BRL	0.005
1,1,2-Tetrachloroethane		BRL	0.005
Toluene		0.114	0.005
1,2,4-Trichlorobenzene		BRL	0.005
1,2,3-Trichlorobenzene		BRL	0.005
1,1,2-Trichloroethane		BRL	0.005
1,1,1-Trichloroethane		BRL	0.005
Trichloroethene		BRL	0.005
Trichlorofluoroethane		BRL	0.005
1,2,3-Trichloropropane		BRL	0.005
1,2,4-Trimethylbenzene		0.078	0.005
1,3,5-Trimethylbenzene		0.017	0.005
Vinyl Chloride		BRL	0.005
o-Xylene		0.060	0.005

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Certificate of Analysis Summary 200378

KEI Consultants, Ltd., Carrollton, TX

Project Name: Jal Station

Project ID: 910103

Date Received in Lab: Thu Jan-20-00 10:30 AM

Project Manager: Steve Freundt

Date Report Faxed: Fri Jan-28-00

Project Location: Jal, New Mexico

XENCO Contact: Debbie Simmons

<i>Analysis Requested</i>	<i>Lab ID:</i>	200378-001			
	<i>Field ID:</i>	Effluent Frac			
	<i>Depth:</i>				
	<i>Matrix:</i>	Water			
	<i>Sampled:</i>	Jan-19-2000			
VOAs by SW-346 8260	<i>Analyzed:</i>	Jan-24-2000			
	<i>Units:</i>	mg/L			
			R.L.		
m,p-Xylenes		0.058	0.005		
Methylene Chloride		BRL	0.020		
Tetrachloroethylene		BRL	0.005		

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Eddie L. Clemmons, II
QA/QC Director

BRL: Below Reporting Limit

JAN 16 01 TUE 16:42
 P. O. BOX 1980
 Hobbs, NM 88241-1980
 District II - (505) 748-1283
 811 S. First
 Artesia, NM 88210
 District III - (505) 334-6178
 1000 Rio Brazos Road
 Aztec, NM 87410
 District IV - (505) 827-7131

SUNDANCE SERVICES INC. FAX NO. 5053942590

P. 10
 FORM C-13
 Originated 8/8

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

Submit Original
 Plus 1 Copy
 to appropriate
 District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: <input type="checkbox"/> Non-Exempt: <input checked="" type="checkbox"/>	4. Generator KOCH ASPHALT PLAN
Verbal Approval Received: Yes <input type="checkbox"/> No <input type="checkbox"/>	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 88231g. 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 accompanied by a certification of waste from the Generator; one certificate per job.	
<input checked="" type="radio"/> B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved.	
All transporters must certify the wastes delivered are only those consigned for transport.	

BRIEF DESCRIPTION OF MATERIAL:

The following MSDS is for Sylvablend D40T. This waste is used as an emulsion preparation at this plant. No other chemicals have been added to this material. It has been left in a tank there on location. Sundance would like approval to accept this material into our Sundance Facility.

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

SIGNATURE *Donna L. Roach* TITLE OFFICE MGR DATE 1-3-01
Waste Management Facility Authorized Agent

NAME DONNA L. ROACH TELEPHONE NO. 505-394-2511

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

APPROVED BY _____ TITLE _____ 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

SYLVABLEND[®] D40T

MSDS# 6220

Notes to Physician Provide general supportive measures and treat symptomatically. In case of ingestion, the decision of whether or not to induce vomiting should be made by the attending physician. If burn is present, treat as any thermal burn.

*****If victims of chemical over-exposure are taken for medical attention, give a copy of the label or MSDS to the physician/health professional.*****

Section 5. Fire and Explosion Data

Flammability of the Product	Nonflammable.
Auto-Ignition Temperature	Not available.
Flash Point	>260°C (500°F)
Flammable Limits	Not available.

NEPA 704

Health: 1, Reactivity: 0, Specific Hazard: 1, Flammability: 0

0=Minimal, 1=Slight, 2=Moderate, 3=Severe, 4=Very Severe

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 clay 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 water. Avoid using a direct stream of water.
Fire Fighting Equipment and Instructions	Wear full protective clothing, including self-contained positive pressure/pressure demand breathing apparatus, helmet, and protective clothing. Use water spray to cool fire-exposed containers and to protect personnel.

Section 6. Accidental 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. Handling 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.

SYLVABLEND® D40T

MSDS# 6220

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 Publication 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/m ³ Respirable; STEL 10 mg/m ³ Respirable; OSHA TWA: 5 mg/m ³ Respirable.

Chemical Name or Product Name	CAS #	OSHA PEL	ACGIH TLV
1) Tall Oil Fractions	Proprietary	Not established	Not established

NOTE: The 1989 OSHA PELs 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. Physical and Chemical Properties

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
SM	Not applicable	Auto. Ign. Temp. ASTM D 1651	167-170

Section 10. Stability 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 fumes containing carbon monoxide, carbon dioxide, water, trace sulfur oxides, and/or hydrocarbons of varying molecular weights.

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Hazardous Polymerization Hazardous polymerization will not occur.

Section 11. Toxicological Information

Toxicity to Animals No toxicological information is available for this product. However, tail oil fractions may contain some or all of the following:

Tail Oil Rosin:

ORAL, rat, LD50 = 7600 mg/kg.
 ORAL, mouse, LD50 = 4600 mg/kg.
 ORAL, guinea pig, LD50 = 4000 mg/kg.
 DERMAL, rabbit LD50 = > 2500 mg/kg.

Tail Oil Fatty Acids:

ORAL, rat, LD50 = > 10,000 mg/kg.
 DERMAL, rabbit, LD50 = > 2000 mg/kg.

Tail 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. Tail oil fatty acids were non-mutagenic in the Ames Salmonella Assay. Some tail oil fatty acids were found to cause skin sensitization in 50% of exposed guinea pigs.

Tail Oil Heads:

ORAL, rat, LD50 = > 5000 mg/kg.

Tail Oil Pitch:

A mixture of tail oil pitch and tail oil heads was found to cause skin sensitization in 16% of exposed guinea pigs. Tail 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 beaches.

No toxicological information is available for this product. However, tail 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):

ED50 (48 hr) = 35.7 mg/l.

Respiratory inhibition studies using activated sludge showed 50% inhibition for tail oil fatty acids was not reached after 30 minutes at the highest concentration tested (1000 mg/l).

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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 degraded 50% within seven days.

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. Transport 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. Regulatory Information

Federal and State Regulations OSHA: Not hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

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: **Rozin**

This product does not contain any chemicals currently on the California List of Known Carcinogens and Reproductive Toxins.

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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

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Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product/Trade Name	SYLVABLEND® D40T <i>(formerly ACINTOL® D40T & SYLVATAL® D40T)</i>	Code	D40T
Supplier / Manufacturer	Arizona Chemical P.O. Box 550850 Jacksonville FL 32255-0850 USA (800) 526-5294 / (904) 928-8700	MSDS#	6220
Chemical Name	Tail Oil	Validation Date	05/22/2000
		Print Date	11/27/2000
		EMERGENCY PHONE CHEMTREC: 1-800-424-9300 (transportation and medical)	

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight
1) Tail Oil Fractions	Proprietary	100

See Section 8 for Exposure Controls/ Exposure Limits/ Personal Protection information.

Section 3. Hazards Identification

EMERGENCY OVERVIEW

Product is a dark liquid with a fatty odor. Product is not considered to be combustible. However, after prolonged contact with highly porous materials, this product may spontaneously combust. May cause eye and skin irritation. If heated product contacts the eye and/or skin, thermal burns may result. Inhalation of mists/vapors/fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing or difficulty breathing. Aspiration into lungs may cause chemical pneumonitis and pulmonary edema.

HMIS

HEALTH:	1
FLAMM:	1
REACTIVITY:	0
PPE:	see Section 8 of this MSDS.

0=None, 1=Slight, 2=Moderate, 3=Serious, 4=Severe, * = Chronic health hazard.

Potential Health Effects

Eye Contact	Product may cause eye irritation. If heated product contacts the eye, thermal burns may result.
Skin Contact	Product may cause skin irritation. When it is heated, this product may cause thermal burns.
Inhalation	Exposure to oil mists/vapors/fumes may cause respiratory tract irritation. Heating the product may release harmful vapors. Inhalation of mists/vapors/fumes generated by heating this product may cause respiratory tract irritation with throat discomfort, coughing and difficulty breathing.
Ingestion	Ingestion of large quantities may result in gastrointestinal disturbances including irritation, nausea, and diarrhea. Aspiration into lungs may cause severe damage, including chemical pneumonitis and pulmonary edema.

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 eyes, 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.

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