GW - 74

GENERAL CORRESPONDENCE

YEAR(S):
1996 - 1991

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

July 26, 1996

P 594 835 287

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to HES – Mr. Steve Luscombe	
Street & Number GW-074 – Minor Mod.	
Post Office, State, & ZIP Code	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form **3800**, April 1995

CERTIFIED MAIL
RETURN RECEIPT NO. P-594-835-287

Mr. Steve Luscombe
Facility Coordinator
Halliburton Energy Services
5801 Lovington Hwy.
Hobbs, NM 88240

RE: Minor Modification
"Double Wall Sump"
GW-074

Dear Mr. Luscombe:

The New Mexico Oil Conservation Division (OCD) has received the Halliburton letter dated July 24, 1996 (via Fax with hard copy to follow by mail) requesting the addition of a "Double wall below grade sump with leak detection" at the Halliburton facility located in Section 7, Township 18 South, Range 38 East, NMPM, Lea County, New Mexico. The Halliburton request is considered a minor modification to the above referenced discharge plan and public notice will not be issued. **The requested minor modification is hereby approved**, with the following conditions:

1. Soil Assessment: The submittal from Halliburton included a soil sample from the site which indicated a TPH of 326 mg/Kg, the OCD will require Halliburton to determine the vertical extent of the TPH contamination.

Note: The depth to groundwater in this area is approximately 30 to 40 feet according to OCD records - and a minimum soil clean up-value of 100 mg/Kg would be required, provided the TPH contamination did not impact or extend to the groundwater. There are options that will be available to address this TPH contamination once the vertical extent has been determined.

Halliburton will submit a plan to assess the vertical extent of this TPH contamination for the site within 30 days of receipt of this letter to the OCD Santa Fe Office, with a copy sent to the Hobbs District office. OCD will then either approve or disapprove of the proposed investigation plan within 30 days of receipt of the plan from Halliburton.

2. **Sump Installation**: The double lined fiber glass sump with leak detection will be installed as shown in the letter dated July 24, 1996 from Halliburton, with the condition that Halliburton contact Mr. Wayne Price of the Hobbs OCD District office at (505) - 393-6161 one week in advance so that OCD may witness the installation of the sump.

Note: Sump installation cannot begin until the TPH contamination has been addressed per point No. 1 on the previous page of this letter.

The Application for modification was submitted pursuant to Water Quality Control Commission (WQCC) Regulation 3107.C and is approved pursuant to WQCC Regulation 3109.

Please note that "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan". Pursuant to Section 3107.C Halliburton is required to notify the Director of any facility expansion, production increase or process modification that would result in a significant modification in the discharge of potential ground water contaminants.

Note, that OCD approval does not relieve Halliburton of liability should operation of the facility result in contamination of surface waters, ground waters or the environment.

If you have any questions please feel free to call me at (505)-827-7152 or Pat Sanchez at (505)-827-7156.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

xc: Mr. Wayne Price - Environmental Engineer

NEW MEXICO
STATE ENGINEER OFFICE

DISTRICT TWO
1900 WEST SECOND ST.
ROSWELL, NEW MEXICO 88201

FAX # (505-623-8559)

FAX TRANSMITTAL LEAD SHEET

DATE: 07-26-96 NUMBER OF PAGES ATTACHED 8
ATTENTION: Pat Sanchez
ORGANIZATION Oil Conservation Division
SECTION: Santa Fe, New Mexico

FROM: John R. Hernandez
SECTION: State Engineer Office
PHONE: (505) 622-6521

COMMENTS:
Copies of well Records

TIME SENT: 2:23 FAX # (505) 827-8177
TELECOPIER OPERATOR: Gin Berg

Form WR-23 STATE ENGINEER OFFICE ELLO ENGR. LOG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

	ECP		

(Plat of 640 acres)

(A) Owner of well New Mexico Junior Colledge

Street and Number P.O. Box 2279,

City Hobbs, State New Mexico. 88240.

Well was drilled under Permit No. L-6694 and is located in the

¼ N/2 ¼ SW ¼ of Section 7 Twp. 18-S Rge. 38-E

(B) Drilling Contractor Olaespoole W.W.Serv. License No. 447

Street and Number P.O. Box 68,

City Hobbs, State New Mexico. 88240

Drilling was commenced 7-8- 19 70

Drilling was completed 7-29- 19 70

Elevation at top of casing in feet above sea level ..... Total depth of well 198

State whether well is shallow or artesian Shallow Depth to water upon completion 35 ft.

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation		
1	40	110	70	Water-Sand	Brown	Soft.
2	112	160	48	Water-Sand	Brown	Soft.
3	165	185	20	Water-Sand	Brown	Soft.
4						
5						

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
4½ inch		Welded	0	198	198	None	60	190

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
		16 inches			

Section 5 PLUGGING RECORD

Name of Plugging Contractor ..... License No. .....

Street and Number ..... City ..... State .....

Tons of Clay used ..... Tons of Roughage used ..... Type of roughage .....

Plugging method used ..... Date Plugged ..... 19 .....

Plugging approved by:

..... Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received .....

File No. L-6694 Use AIR COND. Location No. 18.38.7.31722

(1)

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered	
0	3	3	Dark	Top Soil	Soft.
3	10	7	[illegible]	Caliche Rocks	Med.
10	12	2	White	Caliche Rock	Hard.
12	32	20	White	Caliche	Soft.
32	40	8	Brown	Sand	Soft.
40	110	70	Brown	Water-Sand	Soft.
110	112	2	Brown	Sand Rock	Hard.
112	160	48	Brown	Water-Sand	Soft.
160	165	5	Red	Streaks of Red Bed	Soft.
165	185	20	Brown	Water-Sand	Soft.
185	198	13	Blue	Blue Shale	Med.
198			Red	Red Clay	

3679'
1857'
3494'

Lic. No. 18.38.7.31222

X

Hobbs Water

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Thomas G. Chapman
Well Driller

(2)

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Ladshaw Explosives Owner's Well No. _____
Street or Post Office Address P.O. Box 1754
City and State Hobbs, N.M. 88240

Well was drilled under Permit No. Monitor Well and is located in the:

a. _____ ¼ _____ ¼ NW¼ ¼ ~~NW~~ ¼ of Section 7 Township 18S Range 38E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Alan Eades License No. WD-1044

Address 49 Katy Lane, Hobbs, N.M. 88240

Drilling Began 4-20-87 Completed 4-20-87 Type tools Rotary Size of hole 6 1/2 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 65 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 36 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
36	65	29	Water Sand	35

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4 3/4	160psi				65		35	65

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received May 22, 1987

Quad _____ FWL _____ FSL _____

File No. NO FILE NUMBER Use OBS Location No. 18.38.7.13133

Section 6. LOG OF HOLE

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	1	1	Top Soil
1	15	14	Caliche
15	30	15	Sand
30	31	1	Rock
31	35	4	Wet Sand
35	36	1	Rock
36	65	29	Water Sand

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Driller

INSTRUCTIONS: This fo uld be executed in triplicate, preferably typewritten, and submitt e appropriate district office of the State Engineer. Al ons, except Section 5, shall be answered as completely and accu as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Sectio 5 need be completed.

Form WR-23

FIELD ENGR. LOG (3)

STATE ENGINEER OFFICE

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well New Mexico Junior College

Street and Number

City Hobbs, State New Mexico

Well was drilled under Permit No. L-6855 and is located in the

NE ¼ NW ¼ SW ¼ of Section 7 Twp. 18 Rge. 38

(B) Drilling Contractor W. E. Grady License No. WD-169

Street and Number Rt. 2 Box 153

City Maxwell, State New Mexico

Drilling was commenced May 31, 1965

Drilling was completed June 1, 1965

Elevation at top of casing in feet above sea level Total depth of well 330

State whether well is shallow or artesian shallow Depth to water upon completion 33

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	35	49	30	Sand with gravel streaks
2	"	"	"	" " " "
3	93	109	6	" " " "
4				
5				Production Well

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
22	49		0	33				
17-3/4	14	welded	0	107	107	plate	93	107

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
0	33	22		33	Redi Mix

Section 5 PLUGGING RECORD

Name of Plugging Contractor License No.

Street and Number City State

Tons of Clay used Tons of Roughage used Type of roughage

Plugging method used Date Plugged 19

Plugging approved by:

Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received JUN 10 1965

JUN 10 PM 3:02 1965

File No. L-6855 Use (Air Cond.) Ind. Location No. 18.38.7.4413

3

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	24	24	white	Caliche
24	33	9	red & white	crystalized sandstone
33	35	2	red	soft sandstone
35	36	1	red	crystalized sandstone
36	75	39	red	sand with sandstone streaks
75	79	4	red	sandstone
79	97	18	mixed	sand with sandstone streaks
97	99	2	red	clay
99	105	6	mixed	sand with sandstone streaks
105	110	5	red	clay

L S Elev 3611'
Depth to K Tr 705'
Elev of K Tr 3[illegible]

Loc. No. 18.38.7.441.33'
Hydro. Survey _____ Field Check X

SOURCE OF ALTITUDE GIVEN
Interpolated from Topo. Sheet
Determined by Inst. Leveling
Other [illegible]

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

W. H. Bradley
Well Driller

Form WR-23 STATE ENGINEER OFFICE

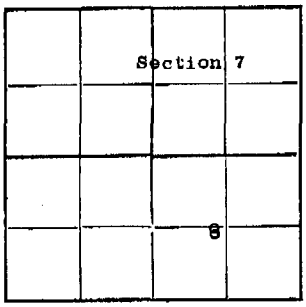
FIELD ENGR. LOG

WELL RECORD

COPY

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1



(Plat of 640 acres)

(A) Owner of well City of Hobbs "Well No. "

Street and Number P.O. Box 1117

City Hobbs State New Mexico

Well was drilled under Permit No. L-3274 and is located in the SE ¼ SW ¼ NE ¼ of Section 7 Twp. 18S Rge. 38E

(B) Drilling Contractor Walco Drilling Co. License No. 349

Street and Number 212 E. New York

City Hereford State Texas

Drilling was commenced June 13 19 66

Drilling was completed June 15 19 66

Elevation at top of casing in feet above sea level ..... Total depth of well 180'

State whether well is shallow or artesian shallow Depth to water upon completion 34'

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	34	45	11	sandrock and sand layers
2	45	50	5	red sand
3	55	174	119	sand and rock stringers
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth Top	Depth Bottom	Feet	Type Shoe	Perforations From	Perforations To
16	42.05	none	+1'3"	180'	181'3"		61 ft.	171 ft.

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
0	30	30"	--	3½ yds	poured in from top

Section 5 PLUGGING RECORD

Name of Plugging Contractor ..... License No. .....

Street and Number ..... City ..... State .....

Tons of Clay used ..... Tons of Roughage used ..... Type of roughage .....

Plugging method used ..... Date Plugged ..... 19 ....

Plugging approved by:

..... Basin Supervisor

Cement Plugs were placed as follows:

No.	Depth of Plug From	Depth of Plug To	No. of Sacks Used

FOR USE OF STATE ENGINEER ONLY

Date Received Sept. 11 1967 8:29AM

File No. L-3274 Use Mini Location No. 18.38.7. 234434

(4)

Section 6

LOG OF WELL

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color	Type of Material Encountered
0	2	2	brown	top soil
2	32	30	white	caliche and caprock
32	45	13	buff	sandrock and sand layers
45	50	5	red	red sand
50	55	5	buff	clay
55	174	124	buff	sand and rock stringers
174	180	6	red	redbed

L S Elev [illegible]
Depth to K [illegible] Trc [illegible]
Elev of K [illegible] Trc [illegible]

Loc. No. 18.38.7.234434

Hydro. Survey [ ] Field Check X

SOURCE OF ALTITUDE GIVEN

Interpolated from Topo. Sheet

Determined by Inst. Leveling

Other [illegible]

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described well.

Walco Drilling Co.

By: (s) Larry Haney

Well Driller

TO: MR. CHRIS EUSTICE

FAX NO: 505-827-8177

NUMBER OF PAGES INCLUDING COVER 6

COMMENTS: INFORMATION ON HALLIBURTON HOBBS, N.MEX ACID DOCK SECONDARY CONTAINMENT

FROM: STEVE LUSCOMBE

HALLIBURTON

5801 Lovington Hwy.
Hobbs, NM 88240
Phone: 505-392-6531
fax: 505-392-7062

Steve Luscombe
Facility Coordinator
Halliburton Energy Services
Hobbs, N.M. 88240

July 24, 1996

Mr. Chris Eustice
New Mexico Oil Conservation Div.
Santa Fe, New Mexico

Dear Chris:

Enclosed are copies of the contractor's drawings for the new sump in Halliburton's acid storage secondary containment. We will reinstall the same acid tanks in the same configuration as before. Also enclosed are the results of the soil samples from the sump area. If there is not enough information here, or if I can answer any questions that you may have, please call. My number is 505-392-6531. We anticipate delivery of the double walled fiberglass sump on approximately August 1. If approval is granted from your office, we would like to install the sump and pour the concrete about Aug. 3 or 4. We will need to wait 10-14 days for the concrete to cure before installing the vinyl ester coating. The coating will need 2-3 days to cure before setting the tanks back into the containment area.

Thank you for your help and consideration.

Sincerely,

Steve Luscombe

Steve Luscombe

PAGES 3

TO: STEVE LUSCOMBE, HALLIBURTON

FROM: CARL FORSYTHE, CONST MGMT

DATE 7/18/96

RE: DOUBLE CONTAIN SUMP IN CONTAINMENT AREA

THE CONTAINMENT SUMP WILL BE INSTALLED AS FOLLOWS.

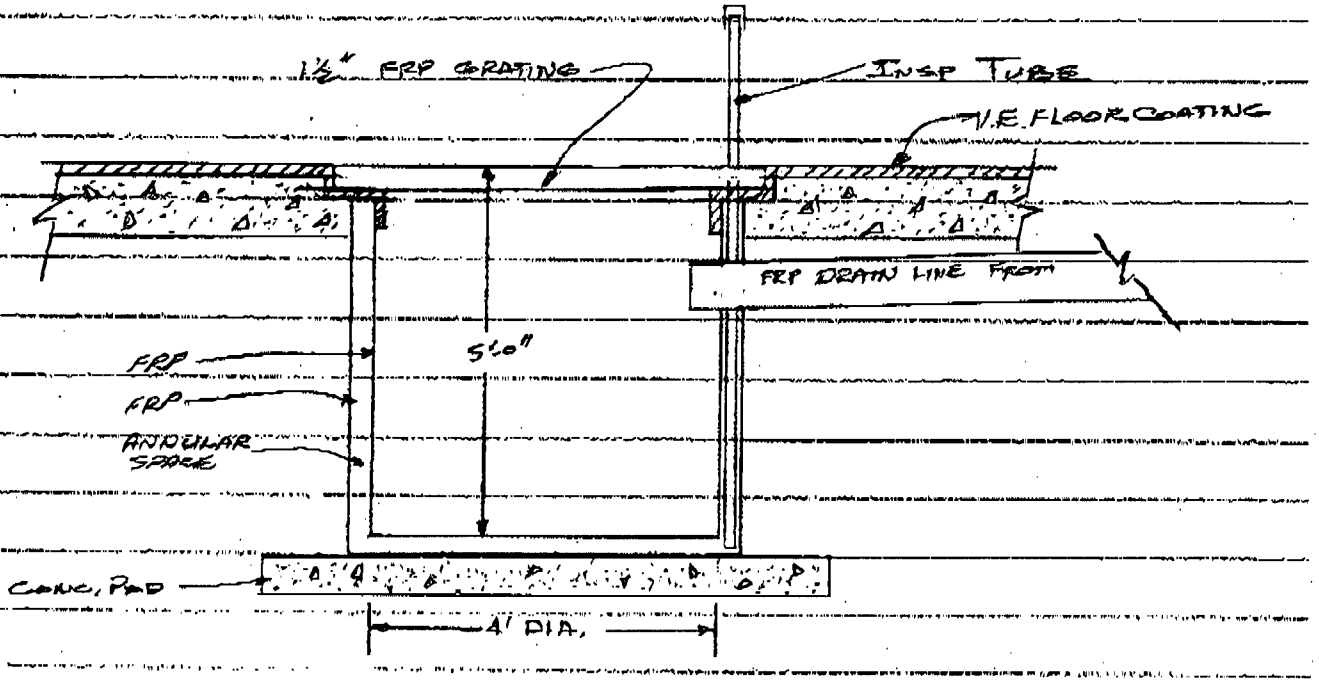
(1) ESTABLISH GRADE OF SUMP

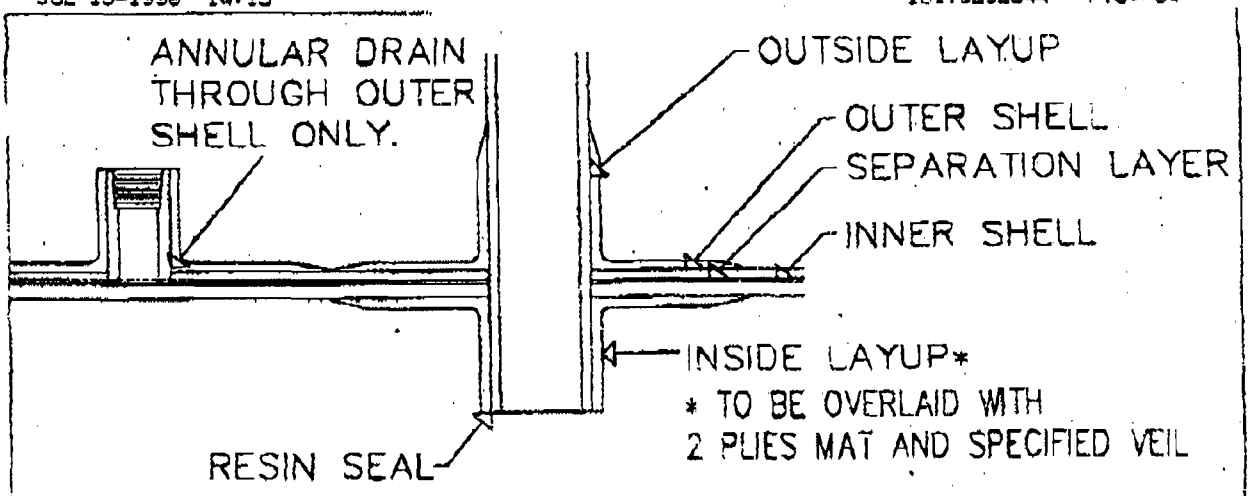
(2) POUR CONC. BASE AND SET SUMP

(3) POUR FLOOR AROUND SUMP

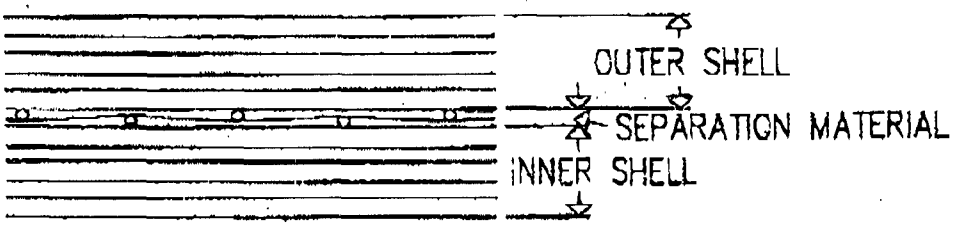
(4) PUT 1/4" CHEM RESISTANT COATING ON FLOOR, EXTEND COATING INTO SUMP.

MONITORING SYSTEM WILL BE MANUAL THROUGH INSPECTION TUBE PER DRAWING.





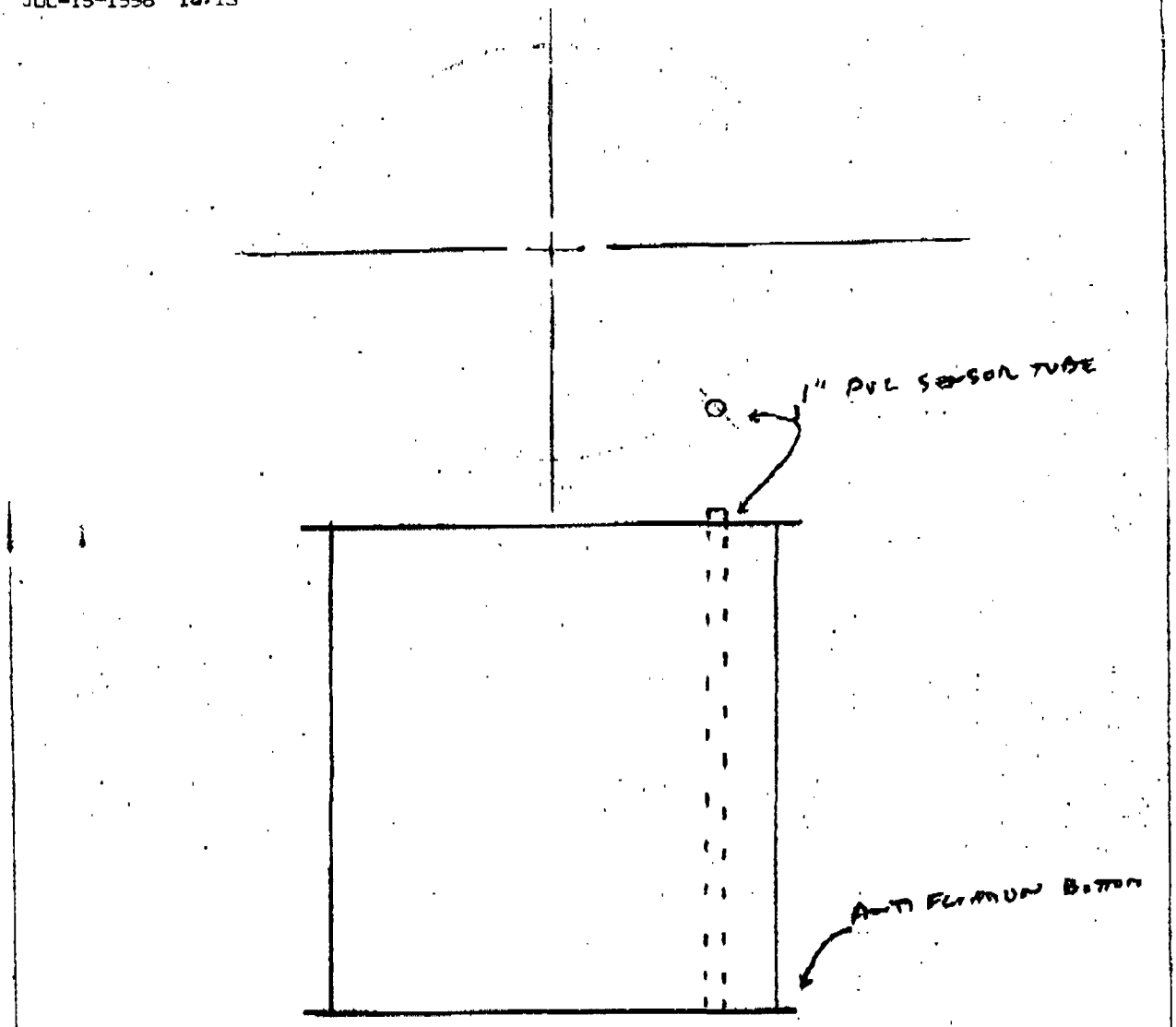
NOZZLE NECK INSTALLATION



SECTION THROUGH DOUBLE SIDEWALL

END HEADS TO BE THE SAME

BELCO Manufacturing Company POST OFFICE BOX 997 BELTON, TEXAS 76513-0997	SCALE NONE	REV.	DATE	BY	DOUBLE CONTAINMENT SHELL DETAIL
	TAC NO.	0	1/28/91	WC	
		1	2/2/94	WC	
	REF:				
					STANDARD CONSTRUCTION
					DWG # 91-STDA01



BELCO Manufacturing Company POST OFFICE BOX 997 BELTON, TEXAS 76513-0997	DATE 7-15-96	PROJECT NO.	TITLE DOUBLE WALL SUMP BASIN
	SCALE _____	REVISIONS	
	DRAWN BY:		
	SERIAL NO.		MODIFIED FROM STANDARD DRAWING:
	TAG NO.		DATE / DWG. #

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401
PHONE (806) 796-2800 • 5262 34th ST. • LUBBOCK, TX 79407

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

Receiving Date: 07/18/96
Reporting Date: 07/20/96
Project Number: NOT GIVEN
Project Name: HOBBS HCl CONTAINMENT AREA
Project Location: HES FACILITY, HOBBS, NM

Sampling Date: 07/18/96
Sample Type: SLUDGE
Sample Condition: INTACT & COOL
Sample Received By: SR
Analyzed By: BC

LAB NUMBER	SAMPLE ID	TPH (ppm)	pH (s.u.)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL BENZENE (ppb)	TOTAL XYLENES (ppb)
ANALYSIS DATE:		7/18/96	7/19/96	7/19/96	7/19/96	7/19/96	7/19/96
H2580-1	5-96, CONTAINMENT AREA	326	8.15	<2	<2	<2	<2
Quality Control		154	7.00	80.5	75.2	71.5	218
True Value QC		160	7.00	88.2	85.6	83.4	254
% Accuracy		96.0	100	91.3	87.6	85.7	85.8
Relative Percent Difference		3.7	0.1	0.5	6.8	7.7	14.2

METHODS: TRPHC - EPA 600/7-79-020, 418.1; BTEX/MTBE-EPA SW-846-8020
pH- Std. Methods 4500-H+

Burgess J. A. Cooke, Ph. D.

7/20/96
Date

cc: JERRY SEXTON
CHRIS EUSTICE
file

CONSERVATION DIVISION
RECEIVED
96 MAY 3 AM 8 52

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

Name WAYNE PRICE Date 5/1/96 Miles _____ District I

Time of Departure 7 AM Time of Return 4 PM Car No. G 0472

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature

INSPECTION	CLASSIFICATION	FACILITY	HOURS	QUARTER HOURS

HALLIBURTON CEMENT TRUCK ROLLOVER

WEST RD & LOVINGTON HWY (HOBBS)

MET STEVE LUSCOMBE (HALLIBURTON) ON SITE

≈ 1/2 DRUM ABSORB MATERIAL DIESEL/OIL

WILL CARRY TO HOBBS YARD.

ALL CLEANED-UP!

Mileage		Per Diem		Hours	
UIC		UIC		UIC	
RFA		RFA		RFA	
Other		Other		Other	

TYPE INSPECTION PERFORMED

H = Housekeeping
P = Plugging
C = Plugging Cleanup
T = Well Test
R = Repair/Workover
F = Waterflow
M = Mishap or Spill
W = Water Contamination
O = Other

INSPECTION CLASSIFICATION

U = Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)
R = Inspections relating to Reclamation Fund Activity
O = Other - Inspections not related to injection or The Reclamation Fund
E = Indicates some form of enforcement action taken in the field (show immediately below the letter U, R or O)

NATURE OF SPECIFIC WELL OR FACILITY INSPECTED

D = Drilling
P = Production
I = Injection
C = Combined prod. inj. operations
S = SWD
U = Underground Storage
G = General Operation
F = Facility or location
M = Meeting
O = Other

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

December 21, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-605

Mr. Charles Turner
Haliburton Energy Services
1015 Bois D'Arc
P.O. Drawer 1431
Duncan, Oklahoma 73536-0108

Re: Discharge Plan (GW-74)
Halliburton Hobbs Facility
Lea County, New Mexico

Dear Mr. Turner:

The Oil Conservation Division (OCD) has received Haliburton Energy Service's (Haliburton) correspondence dated November 25, 1995 requesting approval to modify their existing discharge plan (GW-74). The modification proposed is the installation of a 25,000 gallon hydrochloric acid storage tank with secondary containment.

Based on the information provided, the OCD hereby approves the installation of the 25,000 gallon hydrochloric acid storage tank under the following conditions:

1. Secondary containment will be incorporated.

2. The existing conditions of the approved (January 27, 1993) discharge plan will remain in effect.

Please be advised that OCD approval does not relieve Haliburton of liability should their operation result in pollution of ground water, surface water or the environment. In addition, OCD approval does not relieve Haliburton of responsibility for compliance with other federal, state and/or local regulations.

If there are any questions on this matter, please contact Chris Eustice at (505) 827-7153.

Sincerely,

William J. LeMay
Director

cc: OCD-Hobbs Office

HALLIBURTON

HALLIBURTON ENERGY SERVICES

Post Office Drawer 1431 / Duncan, Oklahoma 73536-0108 / Tel: 405-251-4203 / Fax: 405-251-3969

October 25, 1995

State of New Mexico
Energy, Minerals and Natural Resource Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Attention: Chris Eustice

Reference: Halliburton Energy Services
Hobbs, NM Modifications

Dear Mr. Eustice,

Halliburton wants to make some modifications at the above mentioned facility. We wish to install an additional hydrochloric acid storage tank with 25,000 gallon capacity. We will also build secondary containment around each tank. I am enclosing pictures of the type of containment we will use. As you will see they are very well constructed and provide more that adequate protection to the surrounding area.

The purpose of these installations is to increase our storage capacity and therefore cut back on the number of deliveries required.

I am enclosing the Part VI form of our groundwater permit GW-74 that has "materials stored or used at the facility" listed, I have made the change at line 3 "Acids/Caustics" to show the additional 25,000 gallon storage tank for hydrochloric acid.

If all this meets with your approval, could you provide that in the form of a letter addressed to me. If you need additional information please contact me at the letterhead address.

Sincerely,

Charles Turner

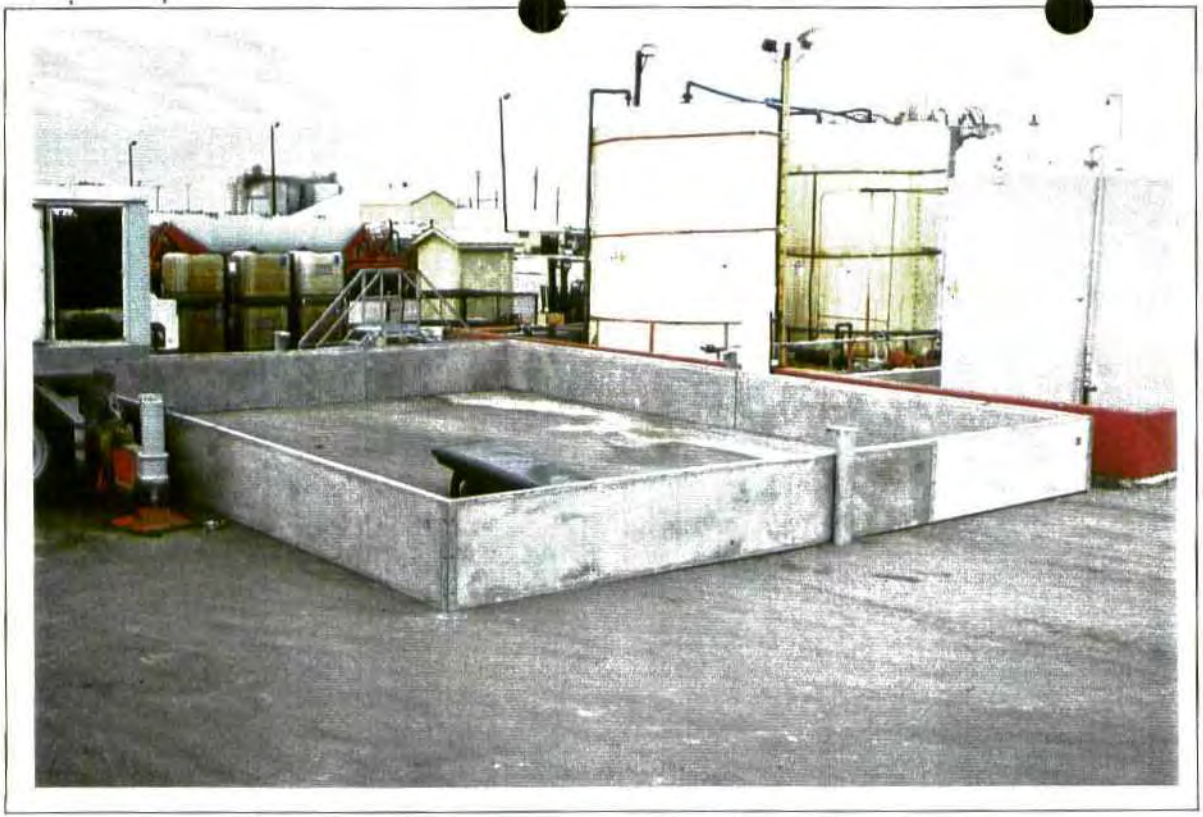
Charles Turner, REM, CHME
Environmental Engineer

Enclosures: Pictures of Containment Construction
Part VI Form
Site Plan with Emission Sources

cc: Ron Bechtel
Sherman Pierce
Dave Daugherty

clt119.95/tcd

LINER SECURED AT TOP OF WALL FOR HCl ACID STORAGE

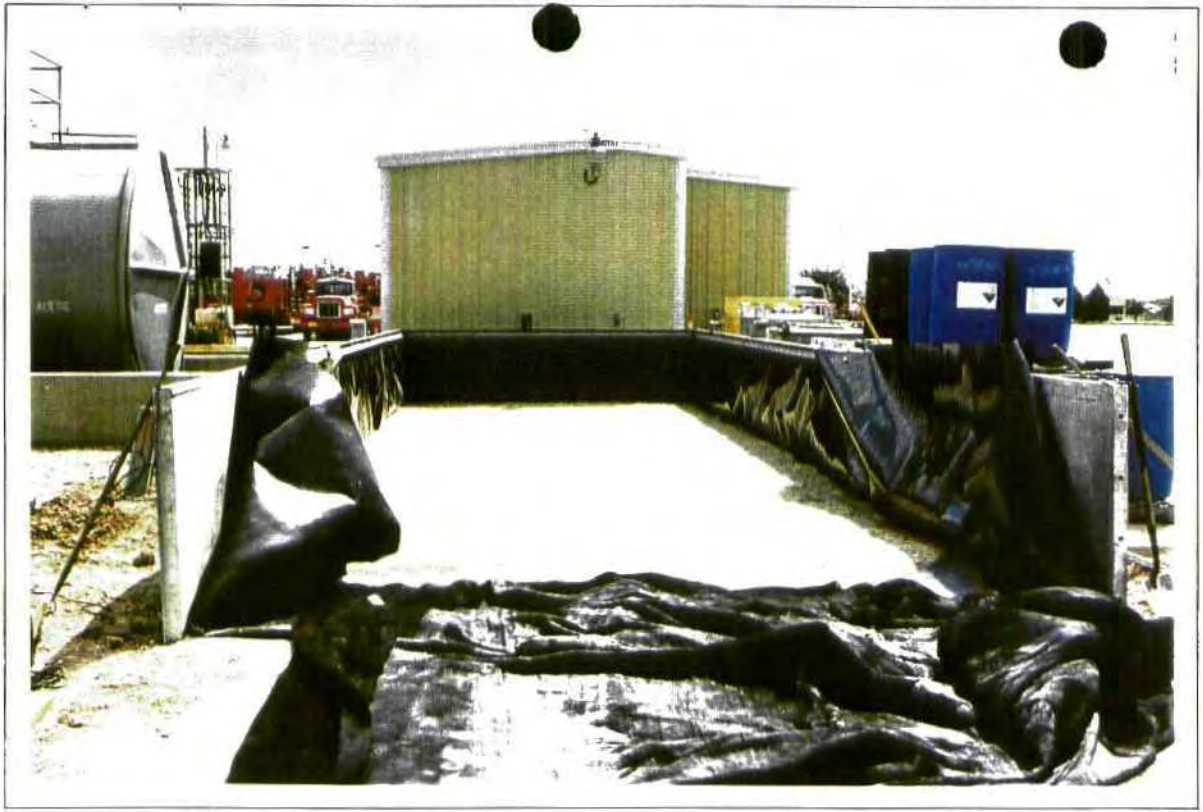


COMPACT PAD AND SET WALL

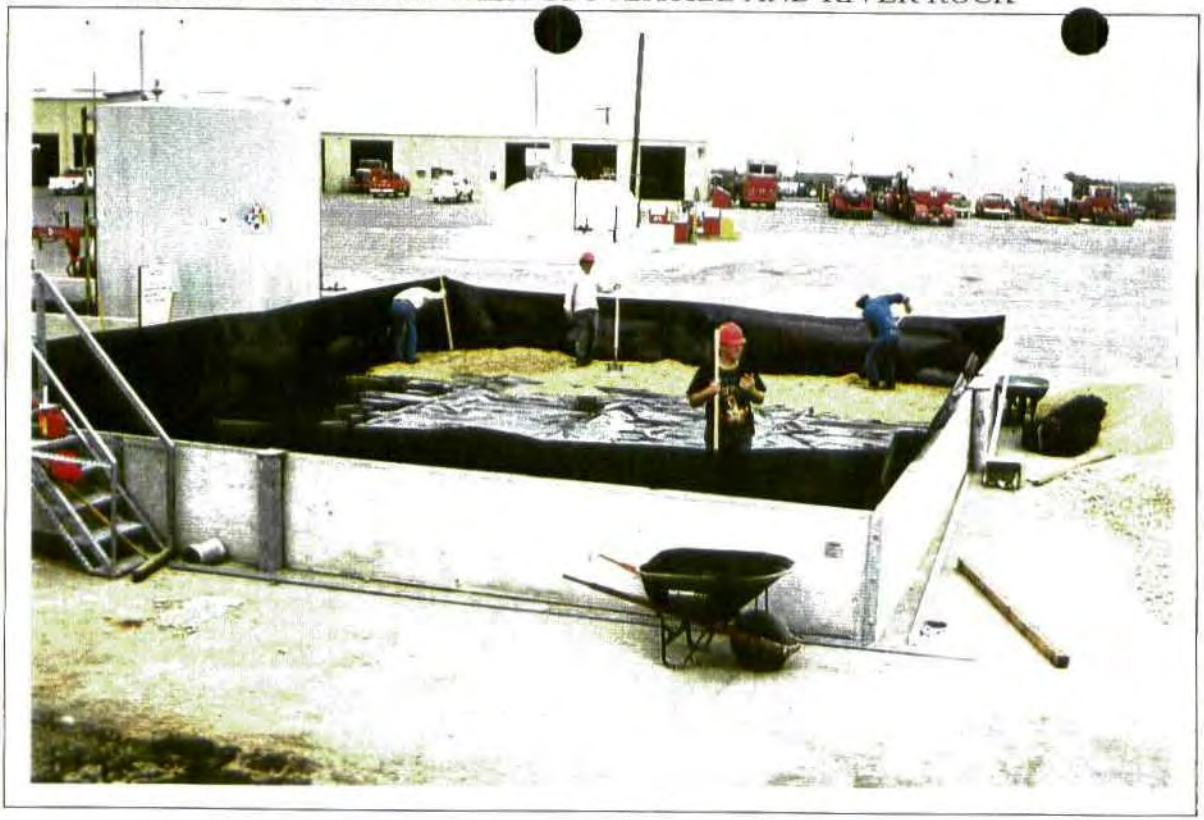
LINER SECURED AT TOP OF WALL FOR HCl ACID STORAGE

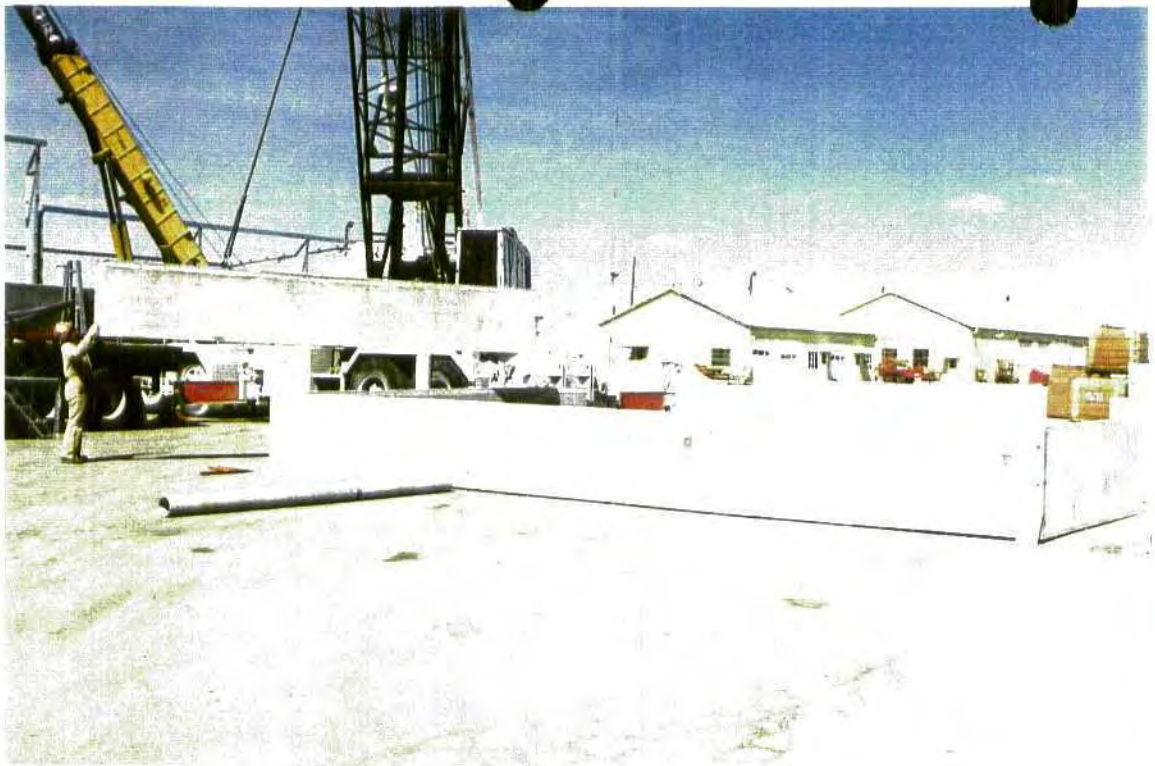
LINER SECURED AT TOP OF WALL FOR HCl ACID STORAGE

PLACE PEA GRAVEL THEN GEOTEXTILE AND RIVER ROCK



PLACE PEA GRAVEL THEN GEOTEXTILE AND RIVER ROCK



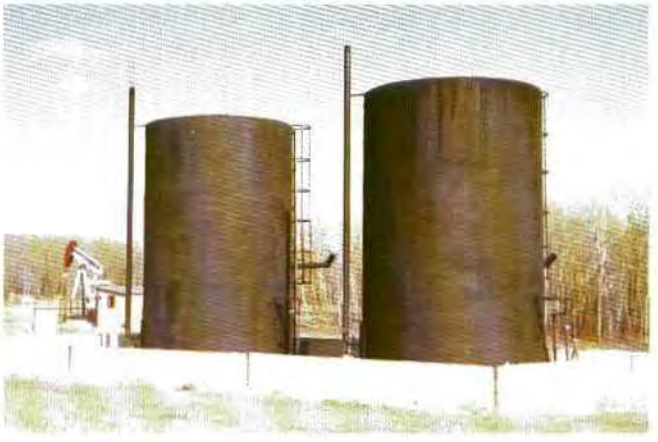


SET WALL AND DRIVE 7" X 12' PILES

ENVIRODIKE™

PORTABLE CONCRETE DIKE SYSTEMS

PROVIDING SECONDARY CONTAINMENT SOLUTIONS FOR YOUR LIQUID STORAGE NEEDS ...SM



ENVIRODIKE™

PROTECTS THE ENVIRONMENT AND MITIGATES YOUR LIABILITY

The ENVIRODIKE™

product is a patented

SECONDARY CONTAINMENT SYSTEM

which is designed to protect the environment
and minimize your liability and product losses in the event of a spill.

WHEN EQUIPPED WITH A LINER, THE SYSTEM PROVIDES COMPLETE CONTAINMENT

With the rising value of stored liquids, and the risk to the environment in the event of a spill, the prudent operator needs to employ a proven

SECONDARY CONTAINMENT SYSTEM

ENVIRODIKE™, with a cost of less than $20,000(1), could save you the expense of a spill cleanup, regulatory fines, legal damages and lost product, which could run into millions of dollars.

SOME POINTS TO CONSIDER:

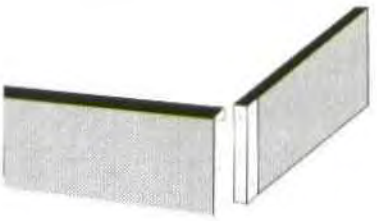
- Environmental regulations and their enforcement are getting tougher daily. Fines levied are rising exponentially. For example, in Texas in the spring of 1994, fines for well plugging and pollution violations were up substantially over the preceding year.
- The cost of a fuel spill clean-up is estimated at $50-60/gal., not to mention the value of the lost product.
- Coastal zone requirements are especially stringent, given the sensitive nature of the wetlands.
- Managing your business in an environmentally sensitive manner, including the use of a proven **Secondary Containment System**, builds a good operating history that may become a factor with regulators in the event of a spill.

ENVIRODIKE™ ***IN AN EXTREMELY SENSITIVE APPLICATION***

(1) Costs will vary with each application.

SIMPLE CONSTRUCTION:

- Prefab construction under controlled conditions;
- Steel channel-iron frame;
- Reinforced with steel bar;
- Identical panels equipped with male and female ends;
- High-strength, fiber reinforced concrete;
- Typical dimensions of 3' high x 20' long x 3" thick;
- Can be fitted with a liner attachment.



Each panel has similar male and female ends so no special corner or wall fittings are required.

INSTALLATION MATERIALS LIST

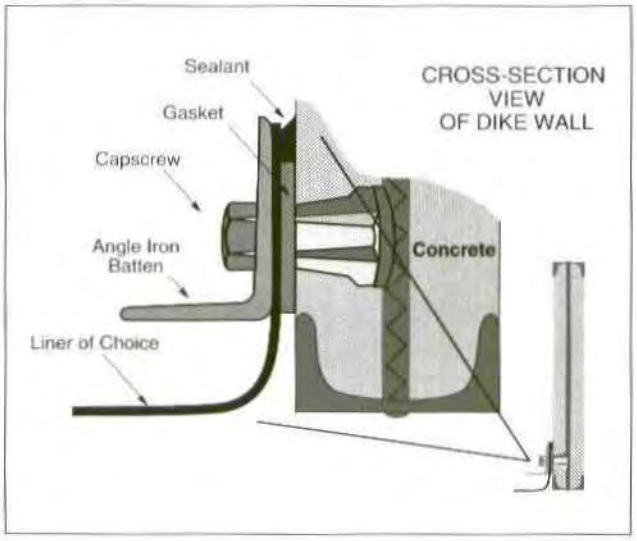
Standard Dike Sections
2', 3' & 4' high by 3" thick
and 20' long

Bolts 3/4" x 1" N.C. Gr. 5 Plated

Petroleum Resistant Sealant

Liner of Choice

Batten, Bolts & Gasket



Frames ready for concrete

ENVIRODIKE™

PATENTED SECONDARY CONTAINMENT SYSTEM*

- Proven, flexible design suitable for any new or existing application;
- Installed in all climates;
- Introduced in 1987, with installations across Canada;
- Protects the environment;
- Mitigates environmental liability due to spills.

Fire Testing

Hydro-Testing with Fresh Water
20' x 40' x 3' x 3" Freestanding Dike

For more information on product supply or manufacturing licenses, please contact:

1-800-346-DIKE

In the United States:

EVERGREEN INDUSTRIAL CONTAINMENT SYSTEMS I, L.P.

13939 Northwest Freeway, Ste. 121, Houston, TX 77040
Tel. (713) 460-4500 • Fax (713) 460-4516

In Canada:

MILEPOST MANUFACTURING INC.

R.R. 2, St. Albert, Alberta T8N 1M9
Tel. (403) 459-1030 • Fax (403) 458-6377

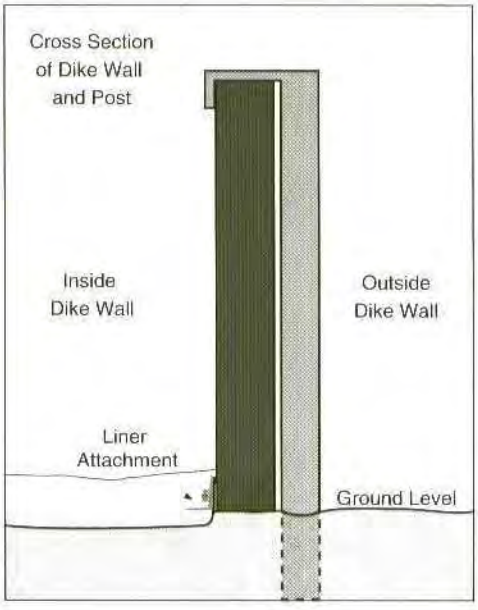
MILEPOST MANUFACTURING INC.

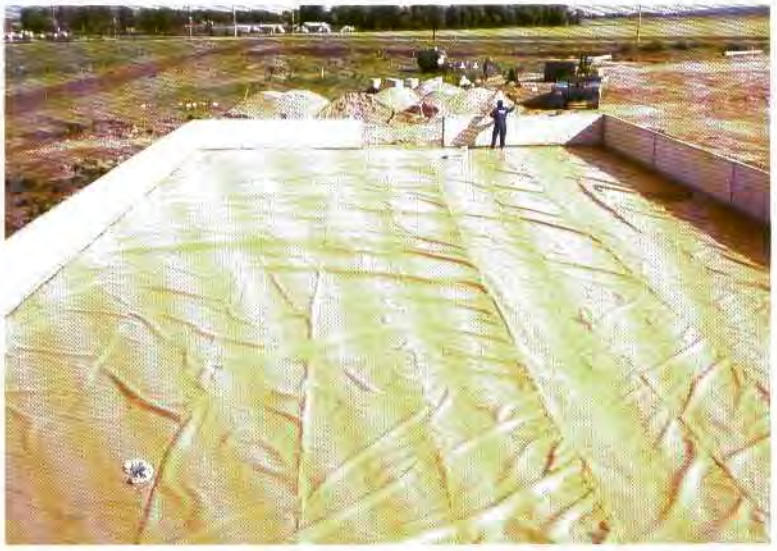
* U.S. Patent #4,802,322
CAN. Patent #1,247,426

INSTALLATION:

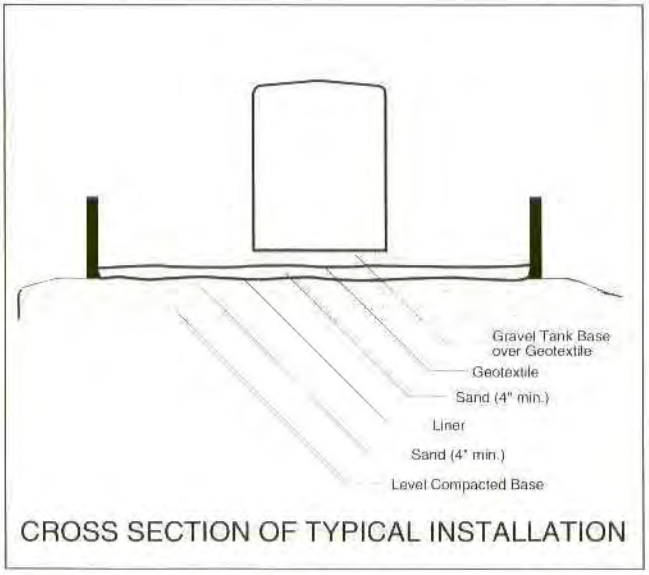
- Equipped with a lifting eye for easy handling and transportation;
- A truck/picker operator and two swampers can install a 40' x 80' system in two hours on a prepared pad;
- Liner installation adds six hours;
- Geo-textile and geo-net can be used to prevent liner damage and enhance drainage;
- Some operators routinely hydrotest the system;
- Exterior supports are installed using piles or sleepers depending on soil conditions.

Trucking to site

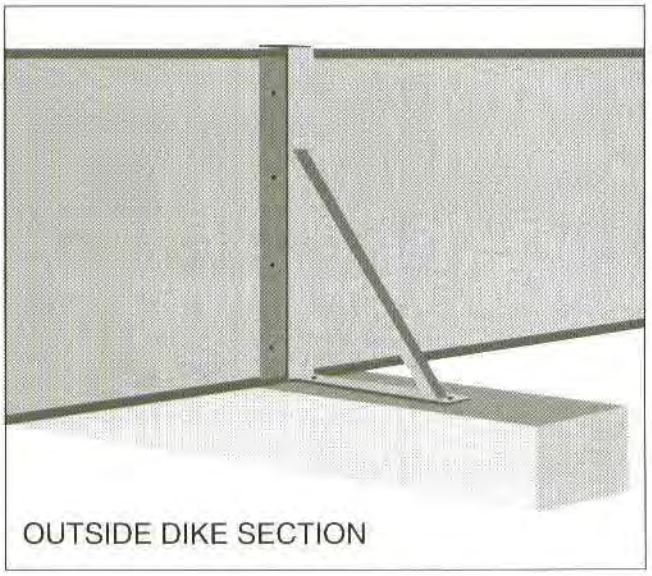




Installing liner system



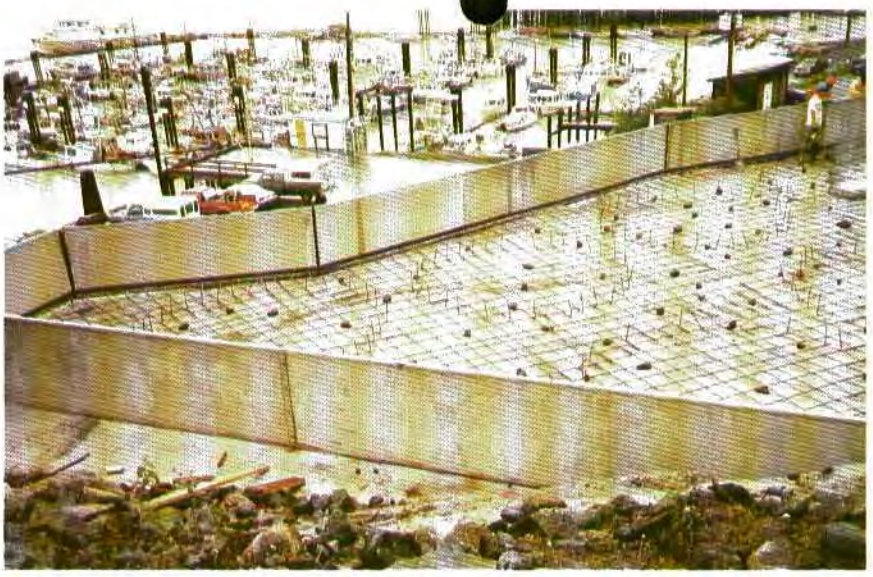
CROSS SECTION OF TYPICAL INSTALLATION



OUTSIDE DIKE SECTION

APPLICATIONS INCLUDE:

- **OIL & GAS FACILITIES**
  - Oil batteries
  - Salt water storage
  - Hazardous materials
  - Drilling mud pits
  - Wetlands drill-sites
  - Islands
- **PONDS**
  - Sludge ponds
  - Catfish farm ponds
  - Fire protection ponds
  - Sewage treatment
- **HAZARDOUS MATERIALS**
  - Chemicals
  - Fertilizers
  - Paints
  - PCBs & transformers
- **SPILL CLEANUP**
  - Emergency response
  - Contaminated soil retention
- **WATER CONTROL**
  - Replaces sand bags
  - Protects homes & other buildings
- **CONSTRUCTION**
  - Temporary bulk fuel sites
  - Runoff & silt control
- **MISCELLANEOUS**
  - Conveyor belt cleaning
  - Anywhere liners are used savings may accrue



APPLICATIONS EXIST ANYWHERE LIQUIDS ARE STORED OR CONTROLLED

DISCHARGE PLAN APPLICATION

Revised 10/27/95

Oilfield Service Facilities

Part VI. Form (Optional)

Materials Stored or Used at the Facility - For each category of material listed below provide information on the general composition of the material or specific information (including brand names if requested), whether a solid or liquid, type of container, estimated volume stored and location. Submit MSD information for chemicals as requested. Use of this form is oprtional, but the information requested must be provided.

Name	General Makeup or Specific Brand Name (if requested)	Solids(S) or Liquids(L)?	Type of Container (tank drum, etc.)	Estimated Volume Stored	Location (yard, shop, drum storage, etc.)
1. Drilling Fluids (include general makeup & types special additives [e.g. oil, chrome, etc.])	NOT APPLICABLE		-	-	-
2. Brines - (KCl, NaCl, etc.)	NOT APPLICABLE		-	-	-
3. Acids/Caustics (Provide names & MSD sheets)	Hydrochloric Acid	(L)	Tank	25,000 gal.	Yard
	Hydrochloric Acid	(L)	Tank	10,000 gal.	Yard
	Acetic Acid	(L)	Tank	15,000 gal.	Yard
	Fe-1a Acid	(L)	Drum	500 gal.	Drum
	Caustic Soda Flake	(S)	Sack	1,000 lbs.	Warehouse Storage
4. Detergents/Soaps	Cougar Soap	(L)	Drum	90 gal.	Shop
5. Solvents & Degreasers (Provide names & MSD sheets)	Safety Kleen Solvent	(L)	Drum	90 gal.	Shop
6. Paraffin Treatment/ Emulsion Breakers (Provide names & MSD sheets)	Numerous Chemicals (SEE ATTACHED LIST)		Sack/Drum	Varies	Drum Storage
7. Biocides (Provide names & MSD sheets)	BE-3, BE-5	(L)	Drum 5 Gallon	55 gal.	Drum Storage
8. Others - (Include other liquids & solids, e.g. cement etc.)	Cement Types	(S)	Tank	Varies	Yard
	Hydraulic & Engine Oils	(L)	Tank	Varies	Shop

ACID SCRUBBER MAINTENANCE PROCEDURE

ALL HYDROCHLORIC ACID STORAGE TANKS MUST BE VENTED TO A FUME SCRUBBER

Recommended Acid Scrubber or Heated Acid Scrubber	SCRUBBER - FUME FRP - 160 GAL. P/N 283.63801 R.O.M. COST ($850) P/N 293-63873 ($1250)
Vent Line - Acid Tank to Scrubber	4 Inch Schedule 80 PVC with Vacuum Breaker a. 13000 R/L b. HDXLPE &FRP
Recommended Scrubber Solution	Sodium Carbonate (Soda Ash, K-35, P/N 70.15187) 100 Pounds of Sodium Carbonate / 125 Gal. Water Total Quantity of 130 Gal. (9.6% Solution) NOTE: Will Require Heat Tracing in Cold Climate
Low Freezing Point Solution	Potassium Carbonate (BA-40, P/N 516.00410 or BA-40L P/N 516.00430) 300 Pounds Potassium Carbonate / 125 Gal. Water (22% Solution) Freezing Point approximately **-20° F**
Fluid Level in Scrubber	7 Inches Below Top of Scrubber 20 Inches of Water creates 0.75 psi Back Pressure
pH Range	Greater than pH 7 9.6% Sodium Carbonate Solution - pH of 11.5 **If pH is below 7, Solution must be changed**
pH Frequency	pH should be checked and documented weekly pH should be checked and documented after every vendor receipt
Scrubber Label	The scrubber should be labelled as follows: **ACID FUME SCRUBBER** **CONTENTS: SODIUM CARBONATE**

scrubber/eab

BTC
Laboratories Incorporated

2978 SEABORG AVENUE, VENTURA, CA 93003 • 805/644-1095

February 21, 1983

JOB NUMBER: C3-1100-C01A
LAB NUMBER: 835044

Halliburton Services
Drawer 1431
Duncan, Oklahoma 73533

ATTENTION: Steve Burford

REGARDING: Testing HCL and HF Storage Tanks

Dear Mr. Burford:

On-Thursday, January 27, 1983, Mr. R.K. Sextro, Senior Chemist with BTC Laboratories, performed 2 EPA Method 5 samplings of your caustic scrubbers attached to a hydrofluoric acid storage tank and 2 hydrochloric acid tanks. These tanks are located at the chemical handling terminal, Pier #1 in Port Hueneme, CA.

The hydrochloric acid tank was filled with 47,250 lbs. (31-32%) or approximately 4900 gallons from 8:05 am to 9:35 am. The sampling from the outlet of the scrubber was done using an EPA Method 5 sampling train with Greenberg-Smith impingers, an unheated stainless probe and a Lace Model 31 Dry Gas Meter. The first impinger contained 100 mls of 0.1M-NaOH, the second impinger was dry, the third contained 200 grams of silica gel. The sampling commenced at 8:10 am and was stopped at 9:00 am. The impinger catches and subsequent rinses were transferred to a sample bottle for the analysis of chloride. The chloride was analyzed in the laboratory using EPA Method 325.3.

The hydrofluoric acid tank was filled with 39,170 lbs. (70%) or approximately 3800 gallons from 10:10 am to 10:52 am. The sampling proceeded during this same time period. The sampling train used was identical to that used for the hydrochloric acid tank. The fluoride was determined from the impinger catches and rinses by EPA Method 13A.

The flow rates were determined using EPA Methods 2, 3, and 4. Method 2 is a velocity and temperature profile on the exhaust stack. This was done using a standard pitot tube connected to a magnehelic gauge and a thermocouple connected to an indicating pyrometer. The oxygen, carbon dioxide and nitrogen for Method 3 were assumed to be atmospheric.

The results are as follows:

Hydrogen Chloride Emissions:	0.40 ppm 0.00002 lbs/hr
Hydrogen Fluoride Emissions:	9.2 ppm 0.00036 lbs/hr

All calculations, field data sheets, calibrations and assumptions are included in the remainder of the report.

If you have any questions concerning this report, don't hesitate to call me at (805) 656-6074.

Respectfully submitted,

BTC LABORATORIES, INC.

R.K. Sextro

R.K. Sextro
Chem Lab Supervisor

RKS:hra

Copies: 3 Halliburton
1 File

Report Calculations for Halibarton

HCl Tank:

Volume $V_m = 17.64\,°R/in\,Hg \times 11.502\,dcf \times 0.982 \times \left(\frac{29.77\,in\,Hg + \frac{0.1\,in\,H_2O}{13.6\,in\,H_2O/in}}{521.6\,°R}\right)$

$= 11.3809\,dscf$

Water $B_w = \frac{(4.4\,ml \times 0.0472\,ft^3/ml)}{11.3809\,dcf + (4.4\,ml \times 0.0472\,cf/ml)}$

$= 0.018$ or 1.8%

Molecular Wt. (dry) $M_d = (0.44\,lb/lb\text{-mole})(0.03\%) + (0.32\,lb/lb\text{-m})(20.9\%) + (0.28\,lb/lb\text{-m})(79.0$

$= 28.835\,lb/lb\text{-mole}$

(wet) $M_s = \ldots (28.835\,lb/lb\text{-mole})(1-0.018) + (18\,lb/lb\text{-mole} \times 0.018)$

$= 28.64\,lb/lb\text{-mole}$

Velocity $V_s = 85.49\,ft/sec \left(\frac{(lb/lbm)\,in\,Hg}{°R)\,in\,H_2O}\right)^{1/2} (0.99)(0.01\,in\,H_2O)^{1/2} \left(\frac{515.5°R}{29.77\,in\,Hg \times 28.64\,lb/lb\text{-m}}\right.$

$= 6.58\,ft/sec$

Flow Rate $Q = 60\,sec/min(1-0.018)(6.58\,ft/sec)(0.022\,ft^2)\left(\frac{528°R}{515.5°R}\right)\left(\frac{29.78\,in\,H}{29.92\,in}\right.$

$= 8.67\,scfm$

Chloride Analysis M.W of HCl is $36.45\,lb/lb\text{-mole}$

$0.2\,mg / 11.3809\,dcf = 0.01757\,mg/dcf$

$(0.01757\,mg/dcf) \times (836/36.45) = 0.40$ ppm by volume

$(0.4\,ppm) \times (1.846 \times 10^{-5}) \times 36.45 = 0.00027\,gr/DSCF$

$[(0.00027\,gr/DSCF) \times (60\,min/hr) \times 8.67\,cfm] / 7000\,gr/lb =$

$= 0.000021\,lbs/hr$

Report Calculations (cont.)

HF Tanks:

Volume $V_m = 17.64\ ^\circ R/in Hg \times 12.60\ dcf \times 0.982 \times \left(\frac{29.78\ in Hg + \frac{0.23\ in H}{13.6\ in H_2}}{530.3^\circ R}\right.$

$= 12.2709\ dscf$

Water $B_W = (5.0\ ml \times 0.0472\ ft^3/ml) / 12.2709\ dscf + (5.0\ ml \times 0.0472\ cf/$

$= 0.019$ or: 1.9%

Molecular Wt. $M_d = (0.44\ lb/lb\text{-}mole)(0.03\%) + (0.32\ lb/lb\text{-}m)(20.9\%) + (0.28\ lb/lb\text{-}m) \times$

$= 28.835\ lb/lb\text{-}mole$

(wet) $M_s = (28.835\ lb/lb\text{-}m)(1 - 0.019) + (18\ lb/lb\text{-}m \times 0.019)$

$= 28.631\ lb/lb\text{-}mole$

Velocity $V_s = 85.49\ ft/sec \left(\frac{(lb/lb\text{-}m)\ in Hg}{^\circ R\ (in H_2O)}\right)^{1/2} (0.99)(0.02\ in H_2O)^{1/2} \left(\frac{517.0^\circ R}{29.78\ in Hg + 2}\right.$

$= 9.32\ fps$

Flow Rate $Q = 60\ sec/min (1 - 0.019)(9.32\ ft/sec)(0.022\ ft^2)\left(\frac{528^\circ R}{517^\circ R}\right)\left(\frac{2}{2}\right.$

$= 12.27\ scfm$

Fluoride Analysis M.W of HF is 20 lb/lb-mole

$2.7\ mg / 12.2709\ dcf = 0.22\ mg/cf \times 836/20 = 9.2\ ppm$

$9.2\ ppm \times 1.846 \times 10^{-5} \times 20 = 0.0034\ gr/DSCF$

$[(0.0034\ gr/DSCF) \times 60\ min/hr \times 12.27\ cfm] / 7000\ gr/lb =$

$0.00036\ lb/hr$

* MOLECULAR WEIGHT OF STACK GASSES:
Equation 3-2 pg 23072

$$M_d = (0.44)CO_2 + (0.32)O_2 + (0.28)N_2$$

RUN #1 $(0.44)(0.03) + (0.21)(20.9) + (0.35)(79.05)$

RUN #2 $0.0132 + 6.688 + 22.154 = 28.835$

same for both

RUN #3

Run #4

* VELOCITY $V_S = 85.48\, C_P (\Delta P_{AVER})^{1/2} \left[\frac{T_S\ (^\circ R)}{P_S * M_S}\right]^{1/2}$
Equation 2-9 pg 23069

WHERE $M_S = M_d(1 - B_{WO}) + 18 B_{WO}$
Equation 2-6 pg 23069

M_S:

RUN #1 $28.835(1 - 0.018) + 18(0.018) = 28.64$

RUN #2 $28.835(1 - 0.019) + 18(0.019) = 28.63$

RUN #3

Run #4

V_S:

RUN #1 $= 85.48 (0.99)(0.01)^{1/2} \left(\frac{515.5}{29.77(28.64)}\right)^{1/2}$

$= 60.58$ FPS

RUN #2 $= 85.48 (0.99)(0.01)^{1/2} \left(\frac{517.0}{29.75(28.63)}\right)^{1/2}$

$= 60.32$ FPS

RUN #3

Run #4

SHEET

* PARTICLE FLOW RATE:

$$PFR = \frac{C'_s * 60 * Q}{7000}$$

RUN #1 $\frac{0.[illegible] \times 60 \times 8.67}{7000}$ = 0.00002 lbs/hr

RUN #2

RUN #3 $\frac{0.0034 \times 60 \times 12.27}{7000}$ = 0.00036 lbs/hr

RUN #4

* FLOW RATE: Equation 2-10 pg 25069 $Q = 60[1 - B_{wo}] V_s A \left[\frac{528}{T_s (^\circ R)}\right] \left(\frac{P_{bar}}{29.9}\right.$

RUN #1 [illegible]

RUN #2 [illegible]

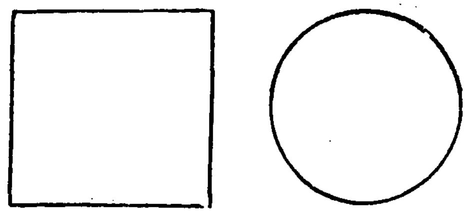
= 12.27 DSCFM

RUN #3

RUN #4

PLANT: Halliburton
LOCATION: PH, Ca
OPERATOR: RCS
DATE: 1-27-88
RUN NO.: 1, HCl Tank
SAMPLE BOX NO.: "
METER BOX NO.: R
PITOT FACTOR: 0.[illegible]
METER FACTOR: 0.98[illegible]
FILTER NO.: —

SCHEMATIC OF
STACK CROSS SECTION



STATIC PRES ______ "H_2O ______ "Hg

AMBIENT TEMP., °F: 55°
BARAMETRIC PRESS., IN. HG: 29.77
ASSUMED MOISTURE, %: --
HEATER BOX SETTING: —
PROBE LENGTH, FT.: 6'
NOZZLE DIAMETER, IN.: —
PROBE HEATER SETTING: —
APPROX. WIND VEL., MPH: —
SAMPLE BOX TEMP., °F: —
DRI-RITE NO.: [illegible]

TRAVERSE POINT NUMBER	DISTANCE INCHES	O_2 (%)	CO_2 (%)	SAMPLE TIME θ MIN	STACK TEMP. (Ts), °F	VELOCITY HEAD IN. H_2O ΔP	VELOCITY HEAD IN. H_2O $\sqrt{\Delta P}$	PRESSURE DIFF. ORIFICE METER (ΔH), IN. H_2O	DRY GAS SAMPLE VOLUME (VM), FT^3	GAS SAMPLE TEMP. @ DRY GAS METER INLET (TM), °F	GAS SAMPLE TEMP. @ DRY GAS METER OUTLET (TM), °F	PUMP VACUUM IN. HG	TEMP. OF GAS FROM LAST IMP. °F
				3:10 0	55.5	0.01		0.1	952.44	57	56	4	
				5	55.5	0.01		0.1	955.0	58	56		
				10	55.5			0.1	956.3	59	57		
				15	55.5			0.1	957.4	60	58		
				20	55.5			0.1	[illegible]	62	60		
				25	55.5			0.1	959.7	63	61		
				30	55.5			0.1	960.7	64	62		
				35	55.5			0.1	962.0	65	63		
				40	55.5			0.1	963.[illegible]	66	64		
				45	[illegible]			0.1	964.3	67	66		
				50				0.1	965.446	67	65		
				55									
AVERAGE										62.4	60.7		
AVERAGE				50 min	55.5	0.01		0.1	11.502	AVG. 61.6			

PITOT LEAK CHECK:
BEFORE (1 MIN.) TOP ΔP = ______ BOTTOM ΔP = ______
ΔP = ______ ΔP = ______
AFTER (1 MIN.) TOP ΔP = ______ BOTTOM ΔP = ______
ΔP = ______ ΔP = ______

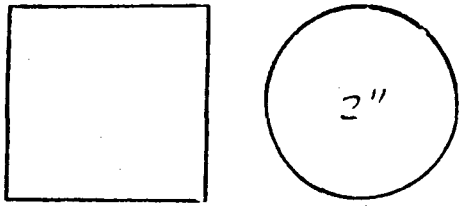
SAMPLE TRAIN LEAK CHECK:
BEFORE = 0.003 CFM @ 15 IN. HG
AFTER = 0.003 CFM @ 15 IN. HG

COMMENTS:

START: IMP #1 100 ML IMP #2 -0- ML IMP#3 [illegible] ML
FINISH: IMP#1 100 ML IMP#2 0 ML IMP#3 178 ML

PLANT: [illegible]
LOCATION: [illegible]
OPERATOR: [illegible]
DATE: [illegible]
RUN NO.: [illegible]
SAMPLE BOX NO.: 1
METER BOX NO.: 6
PITOT FACTOR: 0.99
METER FACTOR: [illegible]
FILTER NO.: —

SCHEMATIC OF STACK CROSS SECTION



STATIC PRES _____ "H_2O _____ "Hg

AMBIENT TEMP., °F: 55
BARAMETRIC PRESS., IN. HG: [illegible]72
ASSUMED MOISTURE, %: —
HEATER BOX SETTING: [illegible]
PROBE LENGTH, FT.: [illegible]
NOZZLE DIAMETER, IN.: —
PROBE HEATER SETTING: —
APPROX. WIND VEL., MPH: [illegible]
SAMPLE BOX TEMP., °F: [illegible]
DRI-RITE NO.: [illegible]

TRAVERSE POINT NUMBER	DISTANCE INCHES	O_2 (%)	CO_2 (%)	SAMPLE TIME θ MIN	STACK TEMP. (Ts), °F	VELOCITY HEAD IN. H_2O ΔP	VELOCITY HEAD IN. H_2O $\sqrt{\Delta P}$	PRESSURE DIFF. ORIFICE METER (ΔH), IN. H_2O	DRY GAS SAMPLE VOLUME (VM), FT^3	GAS SAMPLE TEMP. @ DRY GAS METER INLET (TM), °F	GAS SAMPLE TEMP. @ DRY GAS METER OUTLET (TM), °F	PUMP VACUUM IN. HG	TEMP. OF GAS FROM LAST IMP. °F
				[illegible]	57	0.02		0.25	[illegible]6.351	[illegible]	70	[illegible]	
				[illegible]	57	[illegible]		[illegible]	[illegible]	71	70		
				[illegible]	[illegible]	[illegible]		0.30	[illegible]	71	[illegible]		
				15	[illegible]	0.02		[illegible]	[illegible]	71	70		
				[illegible]	57	[illegible]		[illegible]	[illegible]73.3	71	69		
				[illegible]	57	0.02		0.25	[illegible]	71	[illegible]		
				[illegible]	57	[illegible]		0.25	[illegible]	71	[illegible]		
				[illegible]	57	0.02		0.25	[illegible]	[illegible]	70		
				42:37 [illegible]	57	0.02		0.25	978.2	72	71		
				[illegible]					978.951				
				[illegible]									
				[illegible]									
				[illegible]									
AVERAGE										71	69.7		
AVERAGE					57	0.02		0.25	12,600	AVG. 70.3			

PITOT LEAK CHECK:
BEFORE (1 MIN.) TOP ΔP = _____ BOTTOM ΔP = _____
AFTER (1 MIN.) TOP ΔP = _____ BOTTOM ΔP = _____

SAMPLE TRAIN LEAK CHECK:
BEFORE = 0.005 CFM @ 15 IN. HG
AFTER = 0.005 CFM @ 15 IN. HG

COMMENTS:

Client [redacted]

Date 2/18/82

	Run #1	Run #2	Run #3	Run #4	Run #5	
Barometric Pressure (P_{bar})	29.17	29.18				
Avg Static Pressure (P_s)	29.77	29.79				
Nozzle Diameter (d) inches						
Avg Stack Temp (T_s) °F	[illegible]	1.70				
Avg Stack Temp (T_s) °R	[illegible]	517.0				
Average $\sqrt{\Delta P}$	[illegible]	0.1414				
Average ΔH	[illegible]	1.93				
Metered Gas Volome (V_m) c.f.	[illegible]	12.600				
Avg Gas Temp at Meter (T_m) °F	61.6	71.3				
Avg Gas Temp at Meter (T_m) °R	[illegible]	530.3				
H_2O Impinger #1 (ml)	0	0				
H_2O Impinger #2 (ml)		0				
H_2O Impinger #3 (ml)	—	—				
H_2O Dri-Rite (gm)	4.4	5.0				
Total H_2O (ml+gm)	4.4	5.0				
Stack Gas CO_2 - Dry %	0.03	0.03				
Stack Gas O_2 - Dry %	20.9	20.9				
Stack Gas N_2 - Dry %	79.0	79.0				
Weight on Probe (mg)	—	—				
Weight on Filter (mg)	—	—				
Weight in Impingers (gm)	0.2	2.7				
Total weight (m_n) mg	0.2	2.7				
Area of Stack (A) ft^2	[illegible]	[illegible]				
Sampling Time (Θ) min	50	42.62				
Cp Factor	[illegible]	[illegible]				

SHEET

* VOLUME: $V_{M\,STD} = 17.64 V_M \left[\frac{P_{BAR} + \frac{\Delta H}{13.6}}{T_M\ (°R)} \right] X$

Equation 6.3 pg 23082

RUN #1 $17.64 \times 11.502 \times \left(\frac{29.77 + (0.1/13.6)}{531.6} \right) \times 0.98$

$= 11.280$ DSCF

RUN #2 $17.64 \times 13.000 \times \left(\frac{29.76 + (0.37/13.6)}{530.3} \right) \times 0.98$

$= 12.760$ DSCF

RUN #3

Run #4

* WATER CONTENT: $B_{WO} = \frac{\Sigma H_2O * 0.047}{V_{M\,STD} + (\Sigma H_2O * 0.0$

Equation 2.3.5 pg 23075

RUN #1 $\frac{(4.4 \times 0.0472)}{11.380 + (4.4 \times 0.0472)} = 0.018\ (1.8\%)$

RUN #2 $\frac{(5 \times 0.0472)}{12.760 + (5 \times 0.0472)} = 0.018\ (1.8\%)$

RUN #3

Run #4

MATERIAL SAFETY DATA SHEET
NU-BRITE

THIS PRODUCT'S SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S OBLIGATION TO DETERMINE THE CONDITIONS OF SAFE USE OF THIS PRODUCT. SUCH CONDITIONS SHOULD COMPLY WITH ALL FEDERAL REGULATIONS CONCERNING THE PRODUCT.

HALLIBURTON

Bruce Hancock
Human Resource/Health-Safety-Environment Coord.
HALLIBURTON ENERGY SERVICES

5801 Lovington Highway
Hobbs, New Mexico 88240

Office: (505) 392-6531
Office: (505) 746-2757
Fax: (505) 392-7065
Mobile: (505) 369-7324
Home: (505) 396-5012

My MAIN Concern on this product is:

1) IT is AN EPA listed Waste D002 (Corrosive)

2) Will our seperators contain 100% from entering the city sewer system?

3) IT would Require:

   A. Secondary Containment

   B. Full PPE protection, i.e. Tyvek Coveralls, Rubber gloves, Respirator, Hard-Hat with face-shield

4) Is it worth the hassle and potential Regulatory Waste STREAM problems?

Called Bruce on 2/9/95 @ 8.20 AM's
- It will be used as truck wash water.
- They will neutralize before going to operations.
- They will work with us for compliance.

MATERIAL SAFETY DATA SHEET
NU-BRITE

3	HMIS HEALTH
0	HMIS FLAMMABILITY
0	HMIS REACTIVITY
G	HMIS PERSONAL PROTECTION

SECTION I - IDENTIFICATION

MANUFACTURER'S NAME..... ADAMS CHEMICAL & EQUIPMENT CO., INC.
PHONE NUMBER..... 915 337 8942
EMERGENCY PHONE NUMBER... 1-800-535-5053
EFFECTIVE DATE..... SEPTEMBER, 1990
REVISED DATE..... OCTOBER, 1993
TRADE NAME..... NU-BRITE
CHEMICAL FAMILY..... INDUSTRIAL ALUMINUM CLEANER
CAS NUMBER..... NONE
CHEMICAL FORMULA..... BLEND

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	%	TLV (Units)	PROD. CAS #
PHOSPHORIC ACID	CONF.	OSHA: TWA = 1MG/M3, STEL = 3MG/M3 ACGIH: TWA = 1MG/M3, STEL 3MG/M3	7664-38-2
AMMONIUM BIFLOURIDE	CONF.	NOT LISTED	1341-49-7

TOXIC SUBSTANCES CONTROL ACT 40 CFR 710. Sources of the raw materials used in this product assure that all chemical ingredients included are in compliance with Section 8(b), or are otherwise in compliance with the Toxic Substances Control Act.

SECTION III - PHYSICAL DATA

BOILING Point(F)..... APPROXIMATELY 212 DEGREES F
FREEZING POINT (F)..... NOT DETERMINED
VAPOR PRESSURE (mm Hg)... NOT DETERMINED
VAPOR DENSITY (Air=1).... APPROXIMATELY 1
SOLUBILITY IN WATER..... COMPLETE
APPEARANCE/ODOR..... CLEAR LIQUID
SPECIFIC GRAVITY (H2O=1). APPROXIMATELY 1.12

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT..... NOT FLAMMABLE
LOWER FLAME LIMIT..... NOT APPLICABLE
UPPER FLAME LIMIT..... NOT APPLICABLE
EXTINGUISHING MEDIA..... NOT APPLICABLE

MATERIAL SAFETY DATA SHEET
NU-BRITE

UNUSUAL FIRE HAZARD..... Containers may explode from internal pressure if confined to fire. Cool with water. Keep unnecessary people away.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE.... 1 MG/M3 PHOSPHORIC ACID

ROUTES OF ENTRY	INHALATION?	SKIN?	INGESTION?
	IRRITANT	CORROSIVE	CORROSIVE

HEALTH HAZARDS..... ACUTE: CORROSIVE TO SKIN AND EYES, AND IRRITATING TO RESPIRATORY TRACT.

CARCINOGENICITY:	NTP?	IARC MONOGRAPHS?	OSHA REGULATED
NO	NO	NO	NO

OVER EXPOSURE EFFECTS.... Immediate irritation and burning sensation followed by destruction of skin or eye tissue.

FIRST AID PROCEDURES..... In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get medical attention. If swallowed, do not induce vomiting, get immediate medical attention.

SECTION VI - REACTIVITY DATA

CHEMICAL STABILITY..... STABLE
CONDITIONS TO AVOID..... NONE
INCOMPATIBLE MATERIALS... Alkaline Materials.
DECOMPOSITION PRODUCTS... From Fire; Smoke, Carbon Dioxide, Carbon Monoxide, & Oxides of Phosphorous.
HAZARDOUS POLYMERIZATION. WILL NOT OCCUR
POLYMERIZATION AVOID..... NONE KNOWN

SECTION VII - SPILL OR LEAK PROCEDURE

FOR SPILL..... In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

WASTE DISPOSAL METHOD.... Hazardous Waste: Follow Federal and State Regulations.

SECTION VIII - SPECIAL PROTECTION

RESPIRATORY PROTECTION... NIOSH APPROVED ACID VAPOR MASK
VENTILATION..... RECOMMENDED
MECHANICAL EXHAUST..... NOT NORMALLY NEEDED

MATERIAL SAFETY DATA SHEET
NU-BRITE

LOCAL EXHAUST.....	NOT NORMALLY NEEDED
PROTECTIVE GLOVES.....	WEAR IMPERVIOUS GLOVES
EYE PROTECTION.....	GOGGLES OR FACE SHIELD
OTHER PROTECTIVE EQUIPMENT.....	APRONS, EYE WASH FOUNTAIN AND SAFETY SHOWER

SECTION IX - SPECIAL HANDLING

HANDLING AND STORAGE.....	Wear impervious gloves Use goggles or face shield if spashing is likely
PRECAUTIONARY MEASURES...	Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take firstaid action shown in Section V.
DOT HAZARD CLASS.....	CORROSIVE, 8
DOT SHIPPING NAME.....	CLEANING COMPOUND, CORROSIVE LIQUID, n.o.s., (CONTAINS PHOSPHORIC CID), 8, UN1760, PGII, NU-BRITE
DOT REPORTABLE QUANITY (RQ).....	2550 POUNDS
UN NUMBER.....	UN 1760
NA NUMBER.....	NOT APPLICABLE
PACKAGING SIZE.....	VARIED
DOT LABEL REQUIRED.....	CORROSIVE, 8

SECTION X - REGULATORY

EPA ACUTE.....	YES
EPA CHRONIC.....	NO
EPA IGNITABILITY.....	NO
EPA REACTIVITY.....	NO
EPA SUDDEN RELEASE OF PRESSURE.....	NO
CERCLA RQ VALUE.....	2550 POUNDS BASED ON AMMONIUM BIFLOURIDE
SARA TPQ.....	NONE
SARA RQ.....	NONE
SARA SECTION 313.....	NOT LISTED
EPA HAZARD WASTE #.....	D002 CORROSIVE WASTE
CLEAN AIR ACT.....	NOT LISTED
CLEAN WATER ACT.....	LISTED IN SEC 311

FOOT NOTES NA - NOT APPLICABLE ND - NOT DETERMINED

PREPARED BY:..... S.I.S., FORT WORTH, TEXAS (817) 560-4631

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

BRUCE KING
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

NMOCD Inter-Correspondence

To: Roger Anderson-Environmental Bureau Chief

From: Wayne Price-Environmental Engineer District I

Date: March 25, 1994

Reference: Halliburton hobbs yard (GW-074)

Subject: **Possible Discharge Plan Permit Violation**

Comments: Please find enclosed a site inspection report that I have placed on file in the Hobbs NMOCD District I office. There are other parties involved which have not been contacted.

Please note and advise if any further action is warranted. Also for your information, Halliburton personnel have been extremely cooperative and helpful.

If you have any questions please don't hesitate to call or write.

cc: Jerry Sexton-District I Supervisor
Attachments-1

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

BRUCE KING
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

INTER-OFFICE MEMO

To file: Halliburton- Hobbs Yard GW-074

Date: March 24, 1994
Time: 11:00 am & 2:00 pm

Telephone call:____ Meeting:_X__ Other:_X site inspection

Person called or attending: Bruce Hancock, Bill Brelih, Mike Lowrance-Halliburton
Wayne Price-NMOCD

REFERENCE: Site Inspection on March 24, 1994

Subject: Reviewed sump solid waste stream for approval to go to CRI.

Comments: Reviewed the waste piles for disposal. Found two solid waste piles. Analytical was for one only. Halliburton had previously ran analytical work about a year ago and indicated that it would be representative of the material that came out of the sump.

The solid waste approval form has been sent to Kathy Brown on 3/24/94 with analytical results.

During the inspection halliburton disclosed that the water out of the sump was sent to the Cooper SWD located near Monument, NM. Some semi-solids was sent to CRI for disposal.

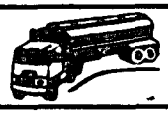
Halliburton has determined that this waste is non-exempt per RCRA. This material was transported by Rowland Trucking Co.

This office (NMOCD) was not notified of this material being sent off-site.

After the site inspection I indicated to Halliburton personnel that in the future they need to notify our office any time they want to ship any non-exempt waste off site. I informed them they could be in violation of their discharge permit.

Wayne Price 

I.C.C. MC-232727
S.C.C. 959-1



TRANSPORT
KILL TRUCKS

ROWLAND TRUCKING CO.

P.O. DRAWER 1659 EUNICE, NEW MEXICO 88231

PHONE (505) 394-2512

BILL TO

1182 HALLIBURTON SERVICES

CONTRACT NUMBER

A.F.E. NUMBER

REQ. OR PURCHASE ORDER NUMBER

FIELD ORDER NUMBER 143386

DATE 03/23/94

ORDERED BY

DELIVERED FROM: HALLIBURTON'S YARD TO: CRI SWD

LOCATION

WELL OR RIG NO.

TRUCK OR UNIT NO.	CAPACITY	AMOUNT HAULED	TIME OUT	TIME IN	HOURS CHGD.	DELIVERED BY
774V	150	75	1:00 AM PM	7:30 AM PM	6.5	VACUUM

DESCRIPTION	○ WT. ○ HRS. ○ DAYS	RATE	AMOUNT
SUCKOUT SUMPS	6.5 HRS.	61.00	396.50
JET OUT FEE-CRI	1	40.00	40.00

HIGHWAY MILES	
LOADED	UNLOADED
0 MILES	0 MILES

TERMS:

TAX 26.19

NET TOTAL 462.69

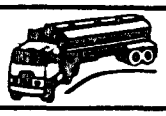
AUTHORIZED BY:

TOMMY LEWIS

X

Thank You

I.C.C. MC-232727
S.CC. 950-1



TRANSPORT
KILL TRUCKS

ROWLAND TRUCKING CO.

P.O. DRAWER 1659 EUNICE, NEW MEXICO 88231

PHONE (505) 394-2512

1180

BILL TO: HALLIBURTON SERVICES

CONTRACT NUMBER:
A.F.E. NUMBER:
REQ. OR PURCHASE ORDER NUMBER:

FIELD ORDER NUMBER 143387
DATE 03/23/94
ORDERED BY:

DELIVERED FROM: HALLIBURTON'S YARD TO: COOPERS SWD

LOCATION: WELL OR REQ. NO.:

TRUCK OR UNIT NO.	CAPACITY	AMOUNT HAULED	TIME OUT	TIME IN	HOURS CHGD.	DELIVERED BY
778T	130	20	7:30 AM PM	9:30 AM PM	2	TRANSPORT

DESCRIPTION	WT. HRS. DAYS	RATE	AMOUNT
PULL WATER FROM SUMP/HAUL TO DISPOSAL	2 HRS.	57.00	114.00
DISPOSAL COST	20 BBLS	0.20	4.00

HIGHWAY MILES	
LOADED	UNLOADED
10 MILES	10 MILES

TERMS:

TAX 7.08

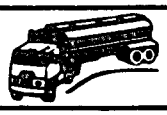
NET TOTAL 125.08

AUTHORIZED BY: LARRY CASTLEMAN

x Bill Rowland

Thank You

I.C.C. MC-232727
S.C.C. 950-1



TRANSPORT
KILL TRUCKS

ROWLAND TRUCKING CO.

P.O. DRAWER 1659 — EUNICE, NEW MEXICO 88231

PHONE (505) 394-2512

BILL TO

HALLIBURTON SERVICES

CONTRACT NUMBER

A.F.E. NUMBER

REQ. OR PURCHASE ORDER NUMBER

FIELD ORDER NUMBER 143358

DATE 03/22/94

ORDERED BY

DELIVERED FROM: HALLIBURTON'S YARD

TO: COOPERS SWD

LOCATION

WELL OR RIG NO.

TRUCK OR UNIT NO.	CAPACITY	AMOUNT HAULED	TIME OUT	TIME IN	HOURS CHGD.	DELIVERED BY
778T	130	130	2:30 AM PM	5:00 AM PM	2.5	TRANSPORT

DESCRIPTION	○ WT. ○ HRS. ○ DAYS	RATE	AMOUNT
PULL WATER FROM SUMP	2.5 HRS.	57.00	142.50
DISPOSAL COST	130 BBLS	0.20	26.00

HIGHWAY MILES	
LOADED	UNLOADED
0 MILES	0 MILES

TERMS:

TAX 10.11

NET TOTAL 178.61

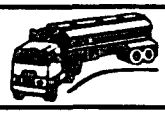
AUTHORIZED BY:

MATT WILKERSON

X Bill Boell

Thank You

I.C.C. MC-232727
S.C.C. 950-1



TRANSPORT
KILL TRUCKS

ROWLAND TRUCKING CO.

P.O. DRAWER 1659 EUNICE, NEW MEXICO 88231

PHONE (505) 394-2512

BILL TO: 1152 HALLIBURTON SERVICES

CONTRACT NUMBER:
A.F.E. NUMBER:
REQ. OR PURCHASE ORDER NUMBER:

FIELD ORDER NUMBER 143353
DATE 03/22/94
ORDERED BY

DELIVERED FROM: HALLIBURTON'S YARD TO: COOPERS SWD

LOCATION:
WELL OR RIG NO.:

TRUCK OR UNIT NO.	CAPACITY	AMOUNT HAULED	TIME OUT	TIME IN	HOURS CHGD.	DELIVERED BY
772V	150	110	3:00 AM/PM	5:30 AM/PM	2.5	VACUUM

DESCRIPTION	○ WT. ○ HRS. ○ DAYS	RATE	AMOUNT
EMPTY PIT	2.5 HRS.	61.00	152.50
DISPOSAL COST	110 BBLS	0.20	22.00

HIGHWAY MILES	
LOADED	UNLOADED
0 MILES	0 MILES

TERMS:

TAX 10.47

NET TOTAL 184.97

AUTHORIZED BY:

SCOTT SHADE

X Bill Ball

Thank You

Halliburton Company
ENERGY SERVICES GROUP

REGULATORY AFFAIRS DEPARTMENT

Writer's Direct Dial Number: (405) 251-4755

Certified Mail--RRR

December 16, 1992

State of New Mexico
Energy, Minerals & Natural
Resources Department
Oil Conservation Division
Attention: Ms. Karen Brown
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

Re: Discharge Plan Application # GW-74

Dear Ms. Brown:

I am responding to your letter dated February 24, 1992 concerning the Discharge Plan Application # GW-74, which was filed for our Halliburton Services facility located in Hobbs, New Mexico. I have addressed the concerns, as stated in your letter, in the same order you listed them.

1. Acid Loading Area:

   (A) The concrete berm around the acid tanks is capable of containing one and one-third (1 1/3) the storage capacity of the tanks. This equates to approximately 33,333 gallons.

   (B) The below-grade sump has been inspected semi-annually. A bermed area is planned under future capital expenditures.

   (C) The only material that collects in the acid loading sump is acid. The material is neutralized with a sodium bicarbonate and used as make-up water for future mixtures. Since the material is reused, no TCLP testing is scheduled. If testing is still necessary, please advise.

2. Sump at Wash/Grease Rack Area:

   The sump at the wash/grease rack area does not receive fluids from any other location. The washrack grit material accumulated in the sump is TCLP tested annually (or after any major change of process) prior to removal by TAD Trucking. The material is scheduled to be hauled to Control Recovery, Inc.

3. Hydraulic & Engine Oil Storage:

   Hydraulic and engine oil storage has been moved to a recently constructed building within the main shop on a concrete pad. A berm is planned under future capital expenditures.

4. Waste Oil and Filters:

   The waste lubrication and motor oils are stored in a tank that has been moved to a concrete pad. A berm is planned for the future. The used oil filters are returned to the Part B Permitted Storage Facility in Duncan, Oklahoma on a Halliburton truck where they are transported to a recycling and reclamation facility in Oklahoma City.

5. There was no number five listed in your letter.

6. Drum Storage:

   A new concrete pad with a 6-inch containment curb has recently been completed for drum storage.

7. Halliburton Logging Service (HLS):

   (A) No major hazardous waste streams are generated at the facility. Most general truck maintenance is handled by an outside company. No used oil is collected at the facility. No antifreeze is used. Washrack grit is generated approximately once every three months and handled by an outside contractor.

   (B) The washrack grit is collected in a sump, which is inspected twice annually to insure its integrity. The wastes are analyzed annually (or after any major change of process) using a TCLP.

(C) Very few chemicals are stored at the facility. A 55-gallon drum of biodegradable oil is used for oiling the wireline. No waste stream is generated from this process. Also, a 55-gallon drum of Anhydrous Ammonia and a 55-gallon drum of Alcohol are stored. Both materials are used in very small quantities. No waste streams are generated from their use.

The drum of Anhydrous Ammonia and the drum of Alcohol are stored inside the building on a concrete slab. The drum of biodegradable oil is stored outside in a fenced area on an asphalt slab. The drums are checked daily during normal operations to prevent any adverse environmental impact in the event of an accidental release.

8. Waste Water Lines:

The Halliburton Services facility was constructed in 1978. No testing of the waste water lines has been conducted to date. The lines are steel.

The Halliburton Logging Services facility was constructed in 1979. No testing of the waste water lines has been conducted to date. The lines are steel.

Please review the additional information I have provided and continue with the processing of the Halliburton Services Discharge Plan Application. If you need additional information or have any questions, please don't hesitate to contact me at the letterhead number.

Sincerely,

Matt D. Ratliff
Environmental Engineer

c: Kent Ostroot/HS Hobbs
Bob Chambliss/HLS Hobbs
Bruce Hancock/HS Hobbs
Sherman Pierce
Steve Burford

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

November 30, 1992

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-241-921

Mr. Matt D. Ratliff
Halliburton Company
1015 Bois D'Arc
P.O. Drawer 1431
Duncan, Oklahoma 73536-0100

RE: Discharge Plan GW-74 Extension
Halliburton Company Hobbs Service Facility
Lea County, New Mexico

Dear Mr. Ratliff:

The Oil Conservation Division (OCD) has received your request dated November 3, 1992, for an extension to discharge without an approved discharge plan until February 1993. The discharge plan for the Halliburton Company Hobbs Service Facility was submitted to the OCD on October 3, 1991. After review of the application the OCD requested additional information in a letter dated February 24, 1992. The extension will allow Halliburton time to obtain and assemble the additional material requested.

Pursuant to Water Quality Control Commission Regulation 3-106.A., and for good cause shown, Halliburton is granted an extension to discharge without an approved discharge plan until February 1, 1993.

If you have any questions please call Kathy Brown at (505) 827-5884.

Sincerely,

William J. LeMay, Director

WJL/kmb

xc: Jerry Sexton, OCD Hobbs Office

Halliburton Company
ENERGY SERVICES GROUP

REGULATORY AFFAIRS DEPARTMENT

Writer's Direct Dial Number: (405) 251-4755

Via Certified Mail--RRR

November 3, 1992

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
Attention: Kathy Brown
P.O. Box 2088
Santa Fe, NM 87504-2088

Dear Kathy:

It has recently come to my attention that the Discharge Plan Application For Oil Field Service Facilities forwarded to your office last year for our Halliburton Services Hobbs facility, has still not been approved by your office. The additional information you have requested in your letter dated February 24, 1992, will need to be forwarded before your office can approve the final version of the application.

In order to remain in compliance with the discharge regulations of the State of New Mexico, until such time as the additional information can be obtained, I am requesting an extension to the regulatory deadline, which will allow us to continue to discharge at the facility. At your request, I am asking for an extension until February, 1993. I will make every attempt to get the additional information to you as soon as possible so final approval of the plan can be obtained.

Thank you for your patience and understanding in this matter. If you have any questions or need additional information, please don't hesitate to contact me at the letterhead number.

Sincerely,

Matt D. Ratliff
Environmental Engineer

c: Kent Ostroot
Tom Bailey
Sherman Pierce
Steve Burford

4/22/92

Spoke with Matt Ratliff of Hall
Relayed what items need addressed
at HLS - ~~Hall~~ address these in response

2 BJ Hughes O.P. Inspect. letter to OCD's

al at 1015 with RCA CE - Hobbs request for additional information.

with Royce Eades Will get info by end of May.

For Item:

Used oil tanks & rock drill oil on NE shop corner
need pad, curb

Drum storage on pad
needs curb

Reseep spills around loading ... out of concrete containment
needs ~~con~~ loading containment

Lint tank sump no leak detection

of 1992 Halliburton Logging Service
WIRELINE SERVICE - HOBBS

Feb 24 1992 arrived at 1500 with RCA CE - Hobbs

met with Kent Ostrout - Halliburton
Ken - HLS
for O.P. Inspection

Needs

Drum storage

1) Sump ^ needs leak detection
Need annual inspection

2) Kerosene tank has spills
needs pad & curb

3) Tank for draining oil filter
has spillage
needs to have containment & remediation

7) Ammonium Hydroxide needs pH (or neutralize)
Chloroethane

Shop

Need Haz waste

Haz → 111 Trichloroethane + keep it separate

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

February 24, 1992

CERTIFIED MAIL
RETURN RECEIPT NO. P-756-903-807

Mr. Matt D. Ratliff
Environmental Engineer
Halliburton Company
P.O. Box Drawer 1421
Duncan, Oklahoma 73536-0100

RE: Discharge Plan GW-74
Halliburton Hobbs Service Facility
Lea County, New Mexico

Dear Mr. Ratliff:

The Oil Conservation Division (OCD) has received and is in the process of reviewing the above referenced discharge plan application. The following comments and requests for additional information are based on the application dated October 2, 1991, and an inspection of the facility on April 19, 1991 by representatives of the OCD and Halliburton. Submission of the following information will allow review of the discharge plan application to continue.

1. Acid Loading Area:

During the facility inspection it was observed that a concrete berm surrounds your acid tanks. The OCD requires all tanks to be bermed with a holding capacity of one and one-third times the volume of the largest tank or all interconnecting tanks. What is the holding capacity of the berm around your acid tanks?

It was observed during the facility inspection that the sump at your acid loading area is not equipped with secondary containment and leak detection. The OCD requires all new below-grade tanks (ie.sumps) to have secondary containment and leak detection and to be approved by the OCD prior to construction. All existing below-grade tanks/sumps

which do not have secondary containment and leak detection are required to be visually inspected on an annual basis to determine the integrity of the structure. Submit a schedule to visually inspect, once a year, the sump at your acid loading area.

How often and to where are the wastes that collect in your acid loading sump currently disposed of? The OCD requires all service company wastes which contain any RCRA Subtitle C non-exempt, wastestreams to be tested for hazardous constituents (TCLP) prior to final disposal. Submit a plan and schedule for testing and disposal of your wastes collected in the acid loading sump.

2. Sump at Wash/Grease Rack Area:

Does your sump at the wash/grease rack area receive fluids from any other locations? How often and to where are the wastes that collect in this sump currently disposed of? The OCD requires all service company wastes which contain any RCRA Subtitle C, non-exempt wastestreams to be tested for hazardous constituents (TCLP) prior to final disposal. Submit a plan and schedule for testing and disposal of your wastes collected in the acid loading sump.

3. Hydraulic & Engine Oil Storage:

During the facility inspection it was observed that the hydraulic and engine oil was stored in a saddle tank in shop yard and there was no pad and curb type of containment beneath it. Halliburtion stated at that time that they would be doing away with this tank and installing a new system for dispensing hydraulic and engine oil. What type of containment do you have beneath this saddle tank? If you have replaced this tank with a new system, how is it engineered so that no oil is discharged onto the ground surface?

4. Waste Oil and Filters:

No mention was made in your discharge plan application as to where your waste lubrication and motor oils are stored. Please describe storage and disposal procedures for handling your waste lubrication and motor oils. What method do you have to ensure that accidental discharges will be contained?

6. Drum Storage:

It was observed during the facility inspection that some of your drums were located directly on the ground surface. The OCD requires all drums to be stored on a pad with a curb-type of containment. Submit a plan to store all of your drums on a pad with a curb-type of containment?

7. Halliburton Logging Service (HLS):

The OCD recommends that Halliburton include their logging service facility, located immediently adjacent to the main facility, in the discharge plan GW-74. Please provide the OCD with the following information on HLS:

a. List all major wastestreams and characterize their composition and volumes.

b. Describe where and how all wastes are collected. How often and where are these wastes disposed of? What analyses are performed on these wastes before they are disposed of? What tests are performed on the waste collection system (drainlines, sumps, ect.) to ensure its integrity?

c. What type and volume of chemicals are stored and/or used at the facility? Where are these chemicals stored and what method is used to ensure any accidental discharges will be contained?

Please be advised that the OCD requires all buried wastewater lines to be tested to ensure their integrity at 25 years of age and every 5 years thereafter. Submit information on the age and material of all buried wastewater lines. Include any past or proposed testing on these lines.

Addressing the above items will allow review of your discharge plan application to continue. If you have any questions, please do not hesitate to contact me at (505) 827-5884.

Sincerely,

Kathy M. Brown

Kathy M. Brown
Geologist

xc: Chris Eustice, OCD Hobbs Office

HALLIBURTON DP APPLICATION REVIEW

1. SUMPS:

   Two sumps? One from acid loading area. Where disposed of? how often? need TCLP testing? any solids in bottom? if so, where disposed of, tested?

   Sump from wash/grease rack area. Does this collect from any other buildings or areas? How often and where is the bottom sludge being taken to? In the past to a landfarm and/ or pit? Any testing on sludge available? How often and where are fluids taken? To a class 2 well? Any tests available on fluids?

   Need commitment for annual inspection of sumps? Need age of any buried wastewater lines and testing if appropriate.

2. WASTE OIL & FILTERS:

   Where are the used oil filters stored at the site? Where and what kind of tank is the waste oil stored in? Is it a saddle tank and did you do away with this and install a new system? If so, what kind of new system?

3. ACID LOADING AREA:

   What capacity do the concrete berms around the acid tanks hold? Are the tanks saddle or upright? Is there a dirt floor or an impermeable floor beneath the tanks?

4. UST SURFACE AREA:

   What type of containment is there around the loading valves for your UST's?

5. DRUM STORAGE:

   Are all of drums on concrete pads with curbs? How many separate drum storage areas do you have?

6. GROUNDWATER:

   You state groundwater is in the Ogallala at a depth of 30-60 feet and is of high quality but with high TDS. What water wells are within 1/2 mile? Do you have an analysis and drillers log from any in the area?

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 2/4/92,

or cash received on 2/10/92 in the amount of $ 1430.00

from HALLIBURTON SERVICES

for HOBBS SERVICE FACILITY (Facility Name) GW-74 (DP No.)

Submitted by: [signature] Date: 2/10/92

Submitted to ASD by: _____ Date: _____

Received in ASD by: [signature] Date: 2/10/92

Filing Fee X New Facility X Renewal ___

Modification ___ Other _____ (specify)

Organization Code 521.07 Applicable FY 80

To be deposited in the Water Quality Management Fund.

Full Payment X or Annual Increment ___

VOID AFTER 60 DAYS

[redacted]

62-20
311

HALLIBURTON SERVICES
Duncan, Oklahoma 73536
A Division of Halliburton Company

Citibank Delaware
A subsidiary of Citicorp
ONE PENN'S WAY
NEW CASTLE, DE
19720

VENDOR NO.	DATE	AMOUNT
N1005801	02-04-92	$1,430.00

PAY TO THE ORDER OF

NMED WATER QUALITY MANAGEMENT
P O BOX 2088
STATE LAND OFFIE BLDG
SANTA FE NM 87504

[signature]
Jimmy L. Cooper

[redacted]

HALLIBURTON SERVICES
DUNCAN, OKLAHOMA 73536

CHECK DATE: 02-04-92

N1005801

INVOICE DATE	REMARKS	GROSS AMOUNT	ADJUSTMENT	DISCOUNT	NET AMOUNT
01-24-92	INV-CKR012492	1,430.00			1,430.00
	DISCHARGE PLAN FOR HOBBS NEW MEXICO 1380				
	FLAT FEE 50.00 FILING FEE				
	TOTAL				1,430.00

THE ATTACHED CHECK IS IN FULL PAYMENT OF ACCOUNT AS SHOWN ABOVE. NO RECEIPT OTHER THAN ENDORSEMENT IS NECESSARY. IF NOT CORRECT RETURN BOTH STATEMENT AND CHECK.

HOWCO 820 R-2

To RCA ☐ URGENT

Date 7-12 Time 1010 A.M. P.M.

WHILE YOU WERE OUT

From Connie Chavez

of _____

Phone _____
Area Code Number Ext.

Fax _____
Area Code Number

Telephoned	✓	Please call	✓
Came to see you		Wants to see you	
Returned your call		Will call again	

Message _____

_____

_____

_____

_____

_____

_____

Signed _____

Quill Corporation • Re-order Number 7-92001

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

November 18, 1991

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-756-903-906

Mr. Matt D. Ratliff
Environmental Engineer
Halliburton Company
P.O. Box Drawer 1421
Duncan, Oklahoma 73536-0100

RE: Fee of Discharge Plan GW-74
Halliburton Hobbs Service Facility
Lea County, New Mexico

Dear Mr. Ratliff:

Pursuant to the New Mexico Water Quality Control Commission (WQCC) Regulation 3-114 "every billable facility submitting a discharge plan for approval, modification or renewal shall pay the fees specified in this section to the Water Quality Management Fund." Enclosed is a copy of WQCC Rule 3-114 effective as of August 18, 1991.

The Oil Conservation Division (OCD) received your discharge plan application for the Halliburton Hobbs Service Facility on October 3, 1991, which is after the effective date of the WQCC Rule 3-114. The discharge application for the Halliburton Service Facility is therefore subject to the WQCC Regulation 3-114 discharge plan fee. Every billable facility submitting a new discharge plan will be assessed a fee equal to the filing fee plus either a flat fee or discharge fee.

The filing fee is fifty (50) dollars for each new discharge plan application. The $50 filing fee is due immediately and is nonrefundable.

The remainder of the "total fee" for oil and gas service companies falls under the "flat fee" category and is equal to one-thousand, three-hundred and eighty dollars ($1380). The flat fee for an approved discharge plan may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the discharge plan, with the first payment due at the time of approval.

Please make all checks out to the **NMED - Water Quality Management** and send to the OCD Santa Fe Office. If you have any questions, please do not hesitate to contact me at (505) 827-5812.

Sincerely,

Roger C. Anderson
Environmental Engineer

Enclosure

xc: OCD Hobbs District Office

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Notice Of Publication

and numbered ..... in the

..... Court of Lea County, New Mexico, was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, once each week on the same day of the week, for one (1) ~~consecutive~~ weeks beginning with the issue of

October 30, 19 91

and ending with the issue of

October 30, 19 91

And that the cost of publishing said notice is the sum of $ 60.67

which sum has been (Paid) ~~(Assessed)~~ as Court Costs

Joyce Clemens

Subscribed and sworn to before me this 12th day of November, ~~19~~ 91

Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28, 19 94

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan application and renewal application have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505)827-5800:

(GW-68) - Williams Field Services Company, Sandy Fishler, Environmental Specialist, P.O. Box 58900, Salt Lake City, Utah 84158-0900, has submitted a discharge plan application for their Simms Mesa Compressor Station located in the NW/4 NE/4, Section 22, Township 30 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. Approximately 75 gallons per day of wastewater will be stored in an above ground steel tank prior to transport to an OCD approved off-site disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 160 feet with a total dissolved solids concentration estimated to range from 600 to 900 mg/1. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-1) - Bloomfield Refining Company, David Roderick, Refinery Manager, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Refinery located in the NW/4 SE/4 and the S/2 NE/4 and the N/2 NE/4 SE/4 of section 27, and the S/2 NW/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of section 26, Township 29 North, Range 11 West, NMPM, San Juan County New Mexico. The renewal application consists of an evaluation proposal of the refinery waste water system with the objective of eliminating all unlined storage facilities. Groundwater most likely to be affected by any accidental spills is at a depth ranging from 10 to 30 feet and is a water zone directly caused by seepage from Hammond Ditch. The ditch water has a total dissolved solids concentration of approximately 200 mg/1. The previously approved discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-74) - Halliburton Company, Matt D. Ratliff, Environmental Engineer, P.O. Drawer 1431, Duncan, Oklahoma 73536-0100, has submitted a discharge plan Township 18 South, Range 39 East, NMPM, Lea County, New [illegible]ico. Approximately 135 [illegible]ns per day of waste water is stored in below grade fiberglass tanks prior to disposal in an OCD approved offsite disposal facility. Groundwater most likely to be affected by any accidental spills is a depth of approximately 30 feet with a total dissolved solids concentration ranging from 300 to 600 mg/1. The application addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-15) - Marathon Road Water Station, C.W. Trainer, 8090 E. Kalil Dr., Scottsdale, Arizona, 85260, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility. The Marathon Road Water Station is located in the SW/4 SE/4, Section 25, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 1930 to 2400 feet and brine is extracted with an average total dissolved solids concentrations of about 321,080 mg/1. Groundwater most likely to be affected by an accidental discharge is at a depth of 20 to 50 feet with a total dissolved solids concentration ranging form 500 to of 3500 mg/1. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-22) - Quality Brine, Inc., Stan Watson, P.O. Box 75, Tatum, New Mexico, 88267, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility. The Quality Brine Water Station is located in the SW/4 SW/4, Section 20, Township 12 South, Range 36 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 2300 to 2900 feet and brine is extracted with an average total dissolved solids concentration of about 350,000 mg/1. Groundwater most likely to be affected by an accidental discharge is at a depth of 30 to 40 feet with a total dissolved solids concentration ranging from 700 to 800 mg/1. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 5:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modifica-

Conservation Division sh allow at least thirty (30) da after the date of publicatio this notice during wh comments may be submit to him and public hearing m be requested by any interes person. Requests for pub hearing shall set forth reasons why a hearing sho be held. A hearing will be h if the Director determines th is significant public interes

If no public hearing is he the Director will approve disapprove the proposed p based on information availat If a public hearing is held, director will approve disapprove the proposed p based on information in the p and information submitted the hearing.

GIVEN under the Sea New Mexico Oil Conservat Commission at Santa Fe, N Mexico, on this 21st day October, 1991.

STATE OF NEW MEXI
OIL CONSERVATI
DIVISI
WILLIAM J. LEM
Direc

SEAL

Published in the Lovington D Leader October 30, 1991

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan application and renewal application have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-88) - Williams Field Services Company, Sandy Fishler, Environmental Specialist, P.O. Box 58900, Salt Lake City, Utah 84158-0900, has submitted a discharge plan application for their Simms Mesa Compressor Station located in the NW/4 NE/4, Section 22, Township 30 North Range 7 West, NMPM, Rio Arriba County, New Mexico. Approximately 75 gallons per day of waste water will be stored in an above ground steel tank prior to transport to an OCD approved off-site disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 150 feet with a total dissolved solids concentration estimated to range from 600 to 900 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-1) - Bloomfield Refining Company, David Roderick, Refinery Manager, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Refinery located in the NW/4 SE/4 and the S/2 NE/4 and the N/2 NE/4 SE/4 of section 27, and the S/2 NW/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of section 26 Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The renewal application consists of an evaluation proposal of the refinery waste water system with the objective of eliminating all unlined storage facilities. Groundwater most likely to be affected by any accidental spills is at a depth ranging from 10 to 30 feet and is a water zone directly caused by seepage from Hammond Ditch. The ditch water has a total dissolved solids concentration of approximately 200 mg/1. The previously approved discharge plan addresses how spills, leaks, and other accidental discharges to be surface will be managed.

(GW-74) - Halliburton Company, Matt D. Ratliff, Environmental Engineer, P.O. Drawer 1431, Duncan, Oklahoma 73536-0100, has submitted a discharge plan application for its Hobbs Service Facility located in Section 7, Township 18 South, Range 39 East, NMPM, Lea County, New Mexico. Approximately 135 gallons per day of waste water is stored in below grade fiberglass tanks prior to disposal in an OCD approved offsite disposal facility. Groundwater most likely to be affected by any accidental spills is at a depth of approximately 30 feet with a total dissolved solids concentration ranging from 300 to 600 mg/1. The application addresses how spills, leaks, and other accidental discharges to the surface will be managed.

STATE OF NEW MEXICO
County of Bernalillo ss

Thomas J. Smithson being duly sworn declares and says that he is National Advertising manager of the **Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chaper 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, a copy of which is hereto attached, was published in said paper in the regular daily edition,

for..........1..........times, the first publication being on the.....9.....day

of..........Dec..........., 1991, and the subsequent consecutive

publications on.................................., 1991.

Thomas J. Smithson

....

Sworn and subscribed to before me, a Notary Public in and for the County of Bernalillo and State of New Mexico, this .....9..... day of.....Dec........., 1991.

PRICE..........$50.82..........

Statement to come at end of month.

ACCOUNT NUMBER..........C81184..........

[OFF]ICIAL SEAL
Bernadette Ortiz
[BERNA]DETTE ORTIZ
[NOTARY P]UBLIC-NEW MEXICO
[Bond filed with] SECRETARY OF STATE
[My commission expire]s 12-18-93

[CLA-22-A (R-12/91)

OIL CONSERV[AT]ION DIVI[SION]
RECEIVED
'91 DEC 10 AM 9

[illegible]

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 21st day of October, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY, Director
Journal, December 9, 1991

AFFIDAVIT OF PUBLICATION

No. 28498

STATE OF NEW MEXICO,
County of San Juan:

CHRISTINE HILL being duly sworn, says: "That she is the NATIONAL AD MANAGER of The Farmington Daily Times, a daily newspaper of general circulation published in English in Farmington, said county and state, and that the hereto attached LEGAL NOTICE

was published in a regular and entire issue of the said Farmington Daily Times, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for ONE consecutive (days) (/////) on the same day as follows:

First Publication WEDNESDAY, OCTOBER 30, 1991

Second Publication

Third Publication

Fourth Publication

and that payment therefore in the amount of $ 76.56 has been made.

Christine Hill

Subscribed and sworn to before me this 4th day of ~~OCTOBER~~ Nov, 1991.

Connie Andrae
Notary Public, San Juan County, New Mexico

My Comm expires: JULY 3, 1993

COPY OF PUBLICATI

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

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(GW-1) - Bloomfield Refining Company, David Roderick, Refinery Manager, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Refinery located in the NW/4 SE/4 and the S/2 NE/4 and the N/2 NE/4 SE/4 of Section 27, and the S/2 NW/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The renewal application consists of an evaluation proposal of the refinery waste water system with the objective of eliminating all unlined storage facilities. Groundwater most likely to be affected by any accidental spills is at a depth ranging from 10 to 30 feet and is a water zone directly caused by seepage from Hammond Ditch. The ditch water has a total dissolved solids concentration of approximately 200 mg/l. The previously approved discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-74) - Halliburton Company, Matt D. Ratliff, Environmental Engineer, P.O. Drawer 1431, Duncan, Oklahoma 73536-0100, has submitted a discharge plan application for its Hobbs Service Facility located in Section 7, Township 18 South, Range 39 East, NMPM, Lea County, New Mexico. Approximately 135 gallons per day of waste water is stored in below grade fiberglass tanks prior to disposal in an OCD approved offsite disposal facility. Groundwater most likely to be affected by any accidental spills is at a depth of approximately 30 feet with a total dissolved solids concentration ranging from 300 to 600 mg/l. The application addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-15) - Marathon Road Water Station, C. W. Trainer, 8090 E. Kalil Dr., Scottsdale, Arizona, 85260, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility. The Marathon Road Water Station is located in the SW/4 SE/4, Section 25, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 1930 to 2400 feet and brine is extracted with an average total dissolved solids concentrations of about 321,080 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 20 to 50 feet with a total dissolved solids concentration ranging from 500 to of 3500 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-22) - Quality Brine, Inc., Stan Watson, P.O. Box 75, Tatum, New Mexico, 88267, has submitted

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan application and renewal application have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-68) - Williams Field Services Company, Sandy Fishler, Environmental Specialist, P.O. Box 58900, Salt Lake City, Utah 84158-0900, has submitted a discharge plan application for their Simms Mesa Compressor Station located in the NW/4 NE/4, Section 22, Township 30 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. Approximately 75 gallons per day of wastewater will be stored in an above ground steel tank prior to transport to an OCD approved off-site disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 160 feet with a total dissolved solids concentration estimated to range from 600 to 900 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-1) - Bloomfield Refining Company, David Roderick, Refinery Manager, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Refinery located in the NW/4 SE/4 and the S/2 NE/4 and the N/2 NE/4 SE/4 of section 27, and the S/2 NW/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of section 26, Township 29 North, Range 11 West, NMPM, San Juan County New Mexico. The renewal application consists of an evaluation proposal of the refinery waste water system with the objective of eliminating all unlined storage facilities. Groundwater most likely to be affected by any accidental spills is at a depth ranging from 10 to 30 feet and is a water zone directly caused by seepage from Hammond Ditch The ditch water has a total dissolved solids concentration of approximately 200 mg/l. The previously approved discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-74) - Halliburton Company, Matt D. Ratliff, Environmental Engineer, P.O. Drawer 1431, Duncan, Oklahoma 73536-0100, has submitted a discharge plan application for its Hobbs Service Facility located in Section 7, Township 18 South, Range 39 East, NMPM, Lea

hearing shall set forth the reasons why a hearing should be held., A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 21st day of October, 1991.

S E A L

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY, Director

Halliburton Company
SERVING THE ENERGY INDUSTRIES WORLDWIDE

REGULATORY AFFAIRS DEPARTMENT
ENERGY SERVICES GROUP

Writer's Direct Dial Number:
(405) 251-4755

October 2, 1991

Federal Express

State of New Mexico
Energy, Minerals and Natural
Resources Department
Oil Conservation Division
310 Old Santa Fe Trail, Room 206
Santa Fe, New Mexico 87501

Mr. Rodger Anderson,

Enclosed please find the discharge plan application #GW-74. The information requested has been forwarded for your review.

If you need additional information or have questions concerning the application, please feel free to contact me at the letterhead number.

Sincerely,

Matt D. Ratliff

Matt D. Ratliff
Environmental Engineer

MDR/mcp
Enclosure: Discharge Plan Application #GW-74
cc + enc.: Kent Ostroot/DM-Hobbs
cc: Sherman Pierce
Steve Burford

dsk2/discharg.pcm

Telephone (405) 251-3565 • FAX (405) 251-3917
1015 Bois D'Arc • P.O. Drawer 1431, Duncan, OK 73536-0100

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87501

DISCHARGE PLAN APPLICATION FOR OILFIELD SERVICE FACILITIES

(Refer to OCD Guidelines for assistance in completing the application.)

I. TYPE: Oil Field Service Facility

II. OPERATOR: Halliburton Services

ADDRESS: 5801 Lovington Highway, Hobbs, New Mexico

CONTACT PERSON: Kent Ostroot PHONE: 505-392-6531

III. LOCATION: _ /4 _ /4 Section 7 Township 18 South Range 38 East NMPM
Submit large scale topographic map showing exact location.

IV. Attach the name and address of the landowner of the facility site.

V. Attach a description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.

VI. Attach a description of all materials stored or used at the facility.

VII. Attach a description of present sources and quantites of effluent and waste solids.

VIII. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.

IX. Attach a description of proposed modifications to existing collection/treatment/disposal systems.

X. Attach a routine inspection, maintenance plan and reporting to ensure permit compliance.

XI. Attach a contingency plan for reporting and clean-up of spills or releases.

XII. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact fresh water.

XIII. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

XIV. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Matt D. Ratliff Title: Environmental Engineer

Signature: Matt D Ratliff Date: 10/2/91

DISTRIBUTION: Original and one copy to Santa Fe with one copy to appropriate Division District Office.

DISCHARGE PLAN APPLICATION

I. See Attached Sheet

II. See Attached Sheet

III. See Attached Sheet

IV. Halliburton Services owns the property.

V. The applicant, Halliburton Services, provides oil well cementing services and all stages of well completion, hydraulic formation fracturing to increase production, down-hole formation testing and well formation stimulation, all at the customer's well site. The applicant currently operates a field camp facility at the Hobbs, New Mexico site, the main purpose of which is for the storage of materials and maintenance of mobile equipment.

Diagram Attached

VI. See Attached Sheet

VII. See Attached Sheet

VIII. See Attached Sheet

IX. Section IX is Not Applicable

X. Section X is Not Applicable

XI. Contingency Plan is Attached

XII. No disposal of oilfield waste takes place at this facility. Ground water depth to the Ogallala Aquifer is approximately 30 - 60 ft. Water quality is high although there is a high total dissolved solids (TDS) content.

Caliche formations vary in depth from 3 - 40 feet.

XIII. Please advise if more information is needed.

DISPOSAL COMPANIES UTILIZED

USED OIL FACILITIES:

Mesa Oil Inc.
4701 Roadway S.E.
Albuquerque, NM 87105

E & E Enterprises
Lubbock Highway
P.O. Box 683
Brownfield, TX 79316

CEMENT DISPOSAL FACILITY:

Controlled Recovery Inc. (CRI)
P.O. Box 369
Hobbs, NM 88240
Telephone (505) 393-1709

SOLVENT DISPOSAL FACILITY:

Safety Kleen
10607 West County Road 127
Midland, TX 79711
Telephone (915) 563-2305

DISCHARGE PLAN APPLICATION

Oilfield Service Facilities

Part VI. Form (Optional)

Materials Stored or Used at the Facility - For each category of material listed below provide information on the general composition of the material or specific information (including brand names if requested), whether a solid or liquid, type of container, estimated volume stored and location. Submit MSD information for chemicals as requested. Use of this form is oprtional, but the information requested must be provided.

Name	*General Makeup or Specific Brand Name (if requested)*	*Solids(S) or Liquids(L)?*	*Type of Container (tank drum, etc.)*	*Estimated Volume Stored*	*Location (yard, shop, drum storage, etc.)*
1. Drilling Fluids (include general makeup & types special additives [e.g. oil, chrome, etc.])	NOT APPLICABLE		-	-	-
2. Brines - (KCl, NaCl, etc.)	NOT APPLICABLE		-	-	-
3. Acids/Caustics (Provide names & MSD sheets)	Hydrochloric Acid Acetic Acid Fe-1a Acid Caustic Soda Flake	(L) (L) (L) (S)	Tank Tank Drum Sack	10,000 gal. 15,000 gal. 500 gal. 1,000 lbs.	Yard Yard Drum Warehouse Storage
4. Detergents/Soaps	Cougar Soap	(L)	Drum	90 gal.	Shop
5. Solvents & Degreasers (Provide names & MSD sheets)	Safety Kleen Solvent	(L)	Drum	90 gal.	Shop
6. Paraffin Treatment/ Emulsion Breakers (Provide names & MSD sheets)	Numerous Chemicals (SEE ATTACHED LIST)		Sack/Drum	Varies	Drum Storage
7. Biocides (Provide names & MSD sheets)	BE-3 BE-5 }	(L)	Drum 5 Gallon	55 gal.	Drum Storage
8. Others - (Include other liquids & solids, e.g. cement etc.)	Cement Types Hydraulic & Engine Oils	(S) (L)	Tank Tank	Varies Varies	Yard Shop

DISCHARGE PLAN APPLICATION

Oilfield Service Facilities

Part VII. Form (Optional)

Sources and Quantities of Effluent and Waste Solids Generated at the Facility - For each source include types of effluents (e.g. salt water, hydrocarbons, sewage, etc.), estimated quantities in barrels or gallons per month, and types and volumes of major additives (e.g. acids, biocides, detergents, degreasers, etc.). Use of this form is optional, but the information requested must be provided.

Waste Type	*General Composition and Source (solvents from small parts cleaning, oil filters from trucks, etc.)*	*Volume Per Month (bbl or gal)*	*Major Additives (e.g. degreaser fluids from truck washing, soap in steam cleaners)*
1. *Truck Wastes (Describe types of original contents trucked [e.g. brine, produced water, drilling fluids, oil wastes, etc])*	NOT APPLICABLE	-	-
2. *Truck, Tank & Drum Washing*	Washrack Water With Oils From Dumps, Engines and Hoses.	4000 gal./month Total Water Effluent	Soap in Washrack Rinsate
3. *Steam Cleaning of Parts, Equipment, Tanks*	NOT APPLICABLE	-	-
4. *Solvent/Degreaser Use*	Solvents from small parts cleaning	60 gal./month	N/A
5. *Spent Acids, Caustics, or Completion Fluids (Describe)*	NOT APPLICABLE	-	-

Waste Type	*General Composition and Source (solvents from small parts cleaning, oil filters from trucks, etc.)*	*Volume Per Month (bbl or gal)*	*Major Additives (e.g. degreaser fluids from truck washing, soap in steam cleaners)*
6. *Waste Slop Oil*	NOT APPLICABLE	-	-
7. *Waste Lubrication and Motor Oils*	Oil From Trucks	200 gal./month	N/A
8. *Oil Filters*	Oil Filters From Trucks & Engines	1-55 gal. drum/month	N/A
9. *Solids and Sludges from Tanks (Describe types of materials [e.g. crude oil tank bottoms, sand, etc.])*	NOT APPLICABLE	-	-
10. *Painting Wastes*	Solvents & Pigments From Painting	30 gal./month	Hardners & Catalysts
11. *Sewage (Indicate if other wastes mixed with sewage; if no commingling, domestic sewage under jurisdiction of the NMEID)*	NOT APPLICABLE, NO COMMINGLING TAKES PLACE		
12. *Other Waste Liquids (Describe in detail)*	NOT APPLICABLE	-	-
13. *Other Waste Solids (Cement, construction materials, used drums)*	Waste Cement Empty Drums	50 sacks/month 20 drums/month	N/A

DISCHARGE PLAN APPLICATION

Oilfield Service Facilities

Part VIII. Form (Optional)

Summary Description of Existing Liquid and Solids Waste Collection and Disposal - For each waste type listed in Part VII, provide summary information about onsite collection and disposal systems. Information on basic construction features, specific descriptions, and wastewater schematics should be provided as required in the Guidelines. The use of this form is optional, but the summary information requested must be provided.

Waste Type	Tank(T)/ Drum(S)	Floor Drain/(F) Sump(S)	Pits- Lined(L) or Unlined(U)	Onsite Injection Well	Leach Field	Offsite Disposal
1. Truck Wastes	NOT APPLICABLE	-	-	-	-	-
2. Truck, Tank and Drum Washing	(T)	(S)	N/A	N/A	N/A	N/A
3. Stream Cleaning of Parts, Equipment, Tanks	NOT APPLICABLE	-	-	-	-	-
4. Solvent/Degreaser Use	(S)	-	-	-	-	Safety Kleen
5. Spent Acids, Caustics, or Completion Fluids	NOT APPLICABLE	-	-	-	-	-
6. Waste Slop Oil	NOT APPLICABLE	-	-	-	-	-

Waste Type	Tank(T)/ Drum(S)	Floor Drain/(F) Sump(S)	Pits- Lined(L) or Unlined(U)	Onsite Injection Well	Leach Field	Offsite Disposal
7. Waste Lubrication and Motor Oils	(T)	-	-	-	-	See Attached Sheet
8. Oil Filters	(S)	-	-	-	-	See Attached Sheet
9. Solids and Sludges from Tanks	NOT APPLICABLE		-	-	-	-
10. Painting Wastes	(S)	-	-	-	-	Safety Kleen
11. Sewage	CITY SEWER SYSTEM - NO COMMINGLING OF WASTE					
12. Other Waste Liquids						
13. Other Waste Solids	WASTE CEMENT	-	-	-	-	OCD Approved Local Landfill
	USED DRUMS	-	-	-	-	Returned to Duncan for Reclamation

SPILL PREVENTION CONTROL & COUNTERMEASURE PLAN

STEVE BURFORD

PART I
GENERAL INFORMATION

1. Name of facility HALLIBURTON SERVICES

2. Type of facility ONSHORE PETROLEUM INDUSTRY SERVICE LOCATION

3. Location of facility 5801 LOVINGTON HIGHWAY, HOBBS, NEW MEXICO

4. Name and address of owner or operator:

   Name HALLIBURTON SERVICES

   Address P.O. BOX 2568

   HOBBS, NEW MEXICO (88240)

5. Designated person accountable for oil spill prevention at facility:

   Name and title KENT OSTROOT-DISTRICT MANAGER

6. Facility experienced a reportable oil spill event during the twelve months prior to Jan. 10, 1974 (effective date of 40 CFR, Part 112). (If YES, complete Attachment #1.) NO

MANAGEMENT APPROVAL

This SPCC Plan will be implemented as herein described.

Signature Kent Ostroot

Name KENT OSTROOT

Title DISTRICT MANAGER

CERTIFICATION

I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR, Part 112, attest that this SPCC Plan has been prepared in accordance with good engineering practices.

J. N. Culbertson
Printed Name of Registered Professional Engineer

(Seal)

J. N. Culbertson
Signature of Registered Professional Engineer

Date DECEMBER 18, 1990

Registration No. 58968 State TX

7. Potential Spills — Prediction & Control:

Source	Major Type of Failure	Total Quantity (bbls)	Rate (bbls/hr)	Direction of Flow*	Secondary Containment
1. DIESEL FUEL	Ruptured Tank	238.09	Depends on type of leak.	N/A (Underground)	Leak Detection in place.
2. GASOLINE (Tetrethyl-Lead)	"	119.04	"	"	"
3. GASOLINE (Unleaded)	"	119.04	"	"	"
4. FE-1A (Acetic Anhydride)	Leaks while loading/unloading.	238.09	"	N/A Flat Diked Area	Concrete Dike
5. HYDROCHLORIC ACID	"	261.90	"	"	"
6. HYDROCHLORIC ACID	"	309.52	"	"	"
7. INJECTROL A SODIUM SILICATE	"	476.19	"	"	Earthen Dike
8. DRUM CHEMICALS (55 gallons)	Rupture/Turnover	1.30 each	"	"	Fenced in earthen dike.

Discussion:

Past experience indicates that large spills from the above mentioned types of tanks are not to be expected. Loading and unloading operations are constantly monitored by supervisory personnel on a 24 hour basis.

*Attach map if appropriate.

Name of facility Halliburton Services Petroleum Service Location

Operator Halliburton Services, Hobbs, N.M.

[Response to statements should be: YES, NO, or (Not Applicable).]

8. Containment or diversionary structures or equipment to prevent oil from reaching navigable waters are practicable. (If NO, complete Attachment #2.) YES

9. Inspections and Records
   A. The required inspections follow written procedures. YES
   B. The written procedures and a record of inspections, signed by the appropriate supervisor or inspector, are attached. YES
   Discussion: We use the API Environmental Guidance Docuement as a guideline to follow on inspection and prevention of a potential spill. All tanks, dikes dike fluids, and hoses are inspected on a weekly basis and logs are kept on file by District Training and Safety. In the event of a spill or leak, imediate action is taken for containment and isolation and Halliburton Services, Midland Division is notified.

10. Personnel Training and Spill Prevention Procedures
   A. Personnel are properly instructed in the following:
   (1) operation and maintenance of equipment to prevent oil discharges, and YES
   (2) applicable pollution control laws, rules, and regulations. YES
   Describe procedures employed for instruction: Halliburton OFSG Safety and Health Training Program/ API Environmental Guidance Document.

   B. Scheduled prevention briefings for the operating personnel are conducted frequently enough to assure adequate understanding of the SPCC Plan. YES
   Describe briefing program: All Site personnel are trained on the plan prior to job and the plan is periodically reviewed at Safety meetings.

Name of facility Halliburton Services Petroleum Industry location.

Operator Halliburton Services, Hobbs, N.M.

PART II, ALTERNATE A

DESIGN AND OPERATING INFORMATION
ONSHORE FACILITY (EXCLUDING PRODUCTION)

A. Facility Drainage

1. Drainage from diked storage areas is controlled as follows (include operating description of valves, pumps, ejectors, etc. *(Note: Flapper-type valves should not be used)*: Accumalative Rain water is to bedrained manually from dike by a small portable pump.

2. Drainage from undiked areas is controlled as follows (include description of ponds, lagoons, or catchment basins and methods of retaining and returning oil to facility): NOT APPLICABLE AS ALL TANKS HAVE DIKES

3. The procedure for supervising the drainage of rain water from secondary containment into a storm drain or an open watercourse is as follows (include description of (a) inspection for pollutants, and (b) method of valving security). (A record of inspection and drainage events is to be maintained on a form similar to Attachment #3): Diked areas areinspected weekly to log (rain) fluid levels are below the safe freeboard level. Because of limited rainfall in our District, should dike water level need to be lowered, Halliburton Services personnel will pump (rain) water out of dike on to adjacent asphalt surface after inspecting fluids for possible contaminants and pollutants and will record the inspection and drainage report on checklist to be filed by District Safety and Training.

Name of facility Halliburton Services Petroleum Services Location.

Operator Halliburton Services, Hobbs, N.M.

[Response to statements should be: YES, NO, or N.A. (Not Applicable).]

II. Bulk Storage Tanks

1. Describe tank design, materials of construction, fail-safe engineering features, and if needed, corrosion protection: With exception of one 11,000 gallon plastic tank which meets all requirements for acid storage, all tanks are steel cylindrical which are painted for corrision protection and leak de tectors are in place for the underground tan.

2. Describe secondary containment design, construction materials, and volume: Earthen dikes with capacity for one and a half times the volume of the liquid to be contained.

3. Describe tank inspection methods, procedures, and record keeping: Plumbing, valves, hoses, tanks, and dikes are inspected weekly and inspection are recorded and kept on file with District Training and Safety.

4. Internal heating coil leakage is controlled by one or more of the following control factors:
   (a) Monitoring the steam return or exhaust lines for oil.
   Describe monitoring procedure: N/A
   (b) Passing the steam return or exhaust lines through a settling tank, skimmer, or other separation system. N/A
   (c) Installing external heating systems.

5. Disposal facilities for plant effluents discharged into navigable waters are observed frequently for indication of possible upsets which may cause an oil spill event. N/A
   Describe method and frequency of observations:

Name of facility Halliburton Services Petroleum Industry Service Location

Operator Halliburton Services, Hobbs, N.M.

[Response to statements should be: YES, NO, or NA (Not Applicable).]

C. Facility Transfer Operations, Pumping, and In-plant Process

1. Corrosion protection for buried pipelines:
   (a) Pipelines are wrapped and coated to reduce corrosion. N/A
   (b) Cathodic protection is provided for pipelines if determined necessary by electrolytic testing. N/A
   (c) When a pipeline section is exposed, it is examined and corrective action taken as necessary. YES

2. Pipeline terminal connections are capped or blank-flanged and marked if the pipeline is not in service or on standby service for extended periods.
   Describe criteria for determining when to cap or blank-flange:
   This is unlikely to happen unless placed out of service for repair; however, this would be determined during on site inspection.

3. Pipe supports are designed to minimize abrasion and corrosion and allow for expansion and contraction. YES
   Describe pipe support design:
   Standard PVC pipe is used and braced at all elbows and critical junctions. Underground tanks are provided with flex connections to reduce stress at 90's.

4. Describe procedures for regularly examining all above-ground valves and pipelines (including flange joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces):
   Each valve receives a hands on inspection by Halliburton Services personnel during weekly inspection and all defects are listed on Safety inspection sheet for imediate repair.

5. Describe procedures for warning vehicles entering the facility to avoid damaging above-ground piping:
   All vehicles must stop and receive instructions for loading and unloading from dispatch before entering facility.

Name of facility Halliburton Services Petroleum Service Location

Operator Halliburton Services, Hobbs, N.M.

[Response to statements should be: YES, NO, or N.A (Not Applicable).]

D. Facility Tank Car & Tank Truck Loading/Unloading Rack

Tank car and tank truck loading/unloading occurs at the facility. (If YES, complete 1 through 5 below.) YES

1. Loading/unloading procedures meet the minimum requirements and regulations of the Department of Transportation. YES

2. The unloading area has a quick drainage system. YES

3. The containment system will hold the maximum capacity of any single compartment of a tank truck loaded/unloaded in the plant. YES
Describe containment system design, construction materials, and volume:
~~Concrete dike with secondary earthen dike.~~

4. An interlocked warning light, a physical barrier system, or warning signs are provided in loading/unloading areas to prevent vehicular departure before disconnect of transfer lines. YES
Describe methods, procedures, and/or equipment used to prevent premature vehicular departure:
~~Warning signs plus on site~~ supervisory personnel during loading or unloading of ~~chemical.~~

5. Drains and outlets on tank trucks and tank cars are checked for leakage before loading/unloading or departure. YES

Name of facility Halliburton Services Petroleum Industry Service Location

Operator Halliburton Services, Hobbs, N.M.

[Response to statements should be: YES, NO, or N/A (Not Applicable).]

E. Security

1. Plants handling, processing, or storing oil are fenced. N/A

2. Entrance gates are locked and/or guarded when the plant is unattended or not in production. YES

3. Any valves which permit direct outward flow of a tank's contents are locked closed when in non-operating or standby status. NO

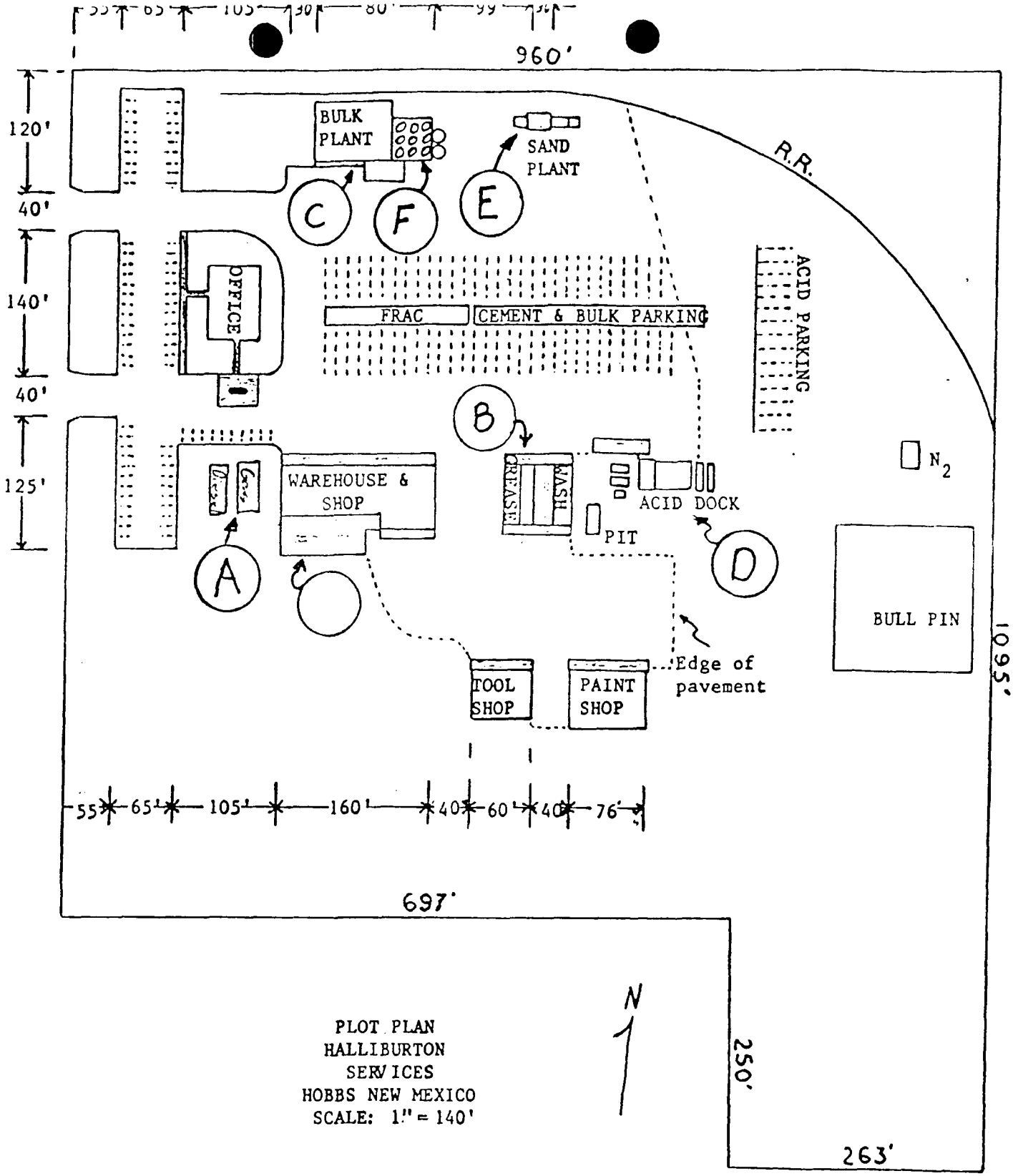
4. Starter controls on all oil pumps in non-operating or standby status are:
   (a) locked in the off position; N/A
   (b) located at site accessible only to authorized personnel. N/A

5. Discussion of items 1 through 4 as appropriate:
Our facility is not fenced at this time;however,we are accepting bids to fence c... entire area.We are manned 24 hours per day and patroled nightly by Hobbs police force.Locked valves have been discussed and are possible in the near futu... We believe that due to the presence of supervisory personnel during loading and unloading procedures,and visual inspection that the likelyhood of releases is remote.

6. Discussion of the lighting around the facility:
Adequate for all operation,safety,security,and inspection needs.

Name of facility Halliburton Services Petroleum Industry ServiceLocation

Operator Halliburton Services,Hobbs,N.M.



PLOT PLAN
HALLIBURTON
SERVICES
HOBBS NEW MEXICO
SCALE: 1" = 140'

MATERIAL SAFETY DATA SHEET DATE: 10-02-91
HALLIBURTON SERVICES REVISED DATE 09-04-91
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: HYDROCHLORIC ACID (NEAT), BULK PART NUMBER: 070155300
PKG QTY: BULK APPLICATION: SOLVENT
SERVICE USED: CHEMICAL SERVICES, I. C.

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

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

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

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR, COLORLESS LIQUID
ODOR	PUNGENT, ACRID
SPECIFIC GRAVITY (H2O=1)	1.160
BULK DENSITY	9.66 LB/GAL
PH	0.8 FOR 1% SOL
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	MISCIBLE
BIODEGRADABILITY	N/D
PERCENT VOLATILES	35
EVAPORATION RATE(BUTYL ACETATE=1)	>1
VAPOR DENSITY	1.27
VAPOR PRESSURE (MMHG)	26.00
BOILING POINT(760 MMHG)	230 F / 110 C
POUR POINT	N/D
FREEZE POINT	- 50 F / - 45 C
SOLUBILITY IN SEAWATER	TOTALLY MISCIBLE
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

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

++

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

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

UNUSUAL FIRE AND EXPLOSION HAZARDS:
MAY FORM EXPLOSIVE MIXTURE WITH STRONG ALKALIS.
REACTION WITH STEEL, AND CERTAIN OTHER METALS GENERATES FLAMMABLE AND POTENTIALY EXPLOSIVE HYDROGEN GAS. CONSIDERABLE HEAT IS EVOLVED WHEN CONTACTED WITH MANY SUBSTANCES.
DO NOT ALLOW RUNOFF TO ENTER WATERWAYS.

CONTACT CAUSES BURNS TO EYES AND SKIN.

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

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

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

PRODUCT TOXICITY DATA: TOX IHL-HMN LCLO:1300 MG/30M
TOX ORL-RBT LD50:900 MG/KG
TOX IHL-RAT LC50:3124 PPM/1H
AQU TLM96: 282 PPM

PRODUCT TLV: 5 PPM HCL

---------- EFFECTS OF EXPOSURE ----------
ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
SKIN:
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
INHALATION:
VAPOR, MIST OR SPRAY CAUSE SEVERE IRRITATION OF UPPER RESPIRATORY SYSTEM.
INGESTION:
CORROSIVE TO MOUTH, ESOPHAGUS, AND STOMACH UPON INGESTION.
CHRONIC EFFECTS:
CONTINUED EXPOSURE CAN ERODE THE TEETH.
OTHER SYMPTOMS AFFECTED:
BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS.
---------- EMERGENCY AND FIRST AID PROCEDURES ----------
EYE:
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION.
SKIN:
IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE.
INHALATION:
REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION.
INGESTION:
DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION.

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

STABILITY: STABLE
CONDITIONS TO AVOID:
NOT APPLICABLE.
INCOMPATIBILITY (MATERIALS TO AVOID):
ALKALIES (EG. AMMONIA AND ITS SOLUTIONS, CARBONATES, SODIUM HYDROXIDE (CAUSTIC), POTASSIUM HYDROXIDE, CALCIUM HYDROXIDE, CYANIDES, SULFIDES, HYPOCHLORITES, CHLORITES) WHICH CAN GENERATE HEAT WITH SPLATTERING OR BOILING AND THE RELEASE OF TOXIC FUMES.

HYDROCHLORIC ACID MAY GENERATE AND RELEASE FLAMMABLE HYDROGEN AND TOXIC CHLORINE GAS IN THE PRESENCE OF IRON. IN THE PRESENCE OF IRON SULFIDE, HYDROCHLORIC ACID MAY PRODUCE HIGHLY TOXIC HYDROGEN SULFIDE.

HAZARDOUS DECOMPOSITION PRODUCTS:
MAY RELEASE HYDROGEN AND CHLORINE GAS IN THE PRESENCE OF IRON, AND HYDROGEN SULFIDE IN THE PRESENCE OF IRON SULFIDE.

HAZARD POLYMERIZATION: WON"T OCCUR

CONDITIONS TO AVOID:
NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN AND NEUTRALIZE TO A PH OF 6-8. SCOOP UP AND REMOVE.
PREVENT RUNOFF FROM ENTERING SEWERS, LAKES, RIVERS, STREAMS OR PUBLIC WATER SUPPLIES,

WASTE DISPOSAL METHOD:
IF MATERIAL HAS BEEN COMPLETELY NEUTRALIZED, GET APPROVAL FROM A SANITARY LANDFILL OPERATOR AND TRANSPORT TO A SANITARY LANDFILL. IF NOT GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL FACILITY, AUTHORIZED UNDER EPA/RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP ABSORBED MATERIAL TO SITE.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
ACID GAS CHEMICAL CARTRIDGE RESPIRATOR.

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

PROTECTIVE GLOVES:
BUTYL GLOVES.

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

OTHER PROTECTIVE EQUIPMENT:
RUBBER BOOTS.
WEAR FULL PROTECTIVE SUIT WHEN SKIN CONTACT IS POSSIBLE.

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

PRECAUTIONARY LABELING HYDROCHLORIC ACID (NEAT), BULK 070.155300

DANGER!
MAY CAUSE SEVERE IRRITATION TO EYES AND UPPER RESPIRATORY SYSTEM.
MAY CAUSE SEVERE EYE AND SKIN BURNS.
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.

OTHER HANDLING AND STORAGE CONDITIONS:
STORE AWAY FROM ALKALIES.
STORE IN A COOL WELL VENTILATED LOCATION.
KEEP CONTAINER CLOSED WHEN NOT IN USE.
AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
AVOID BREATHING VAPORS.

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

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

DOT SHIPPING DESCRIPTION:
RQ-HYDROCHLORIC ACID-CORROSIVE MATERIAL-UN1789 (RQ USED ONLY FOR PACKAGES CONTAINING 5000 # OR MORE HCL). PACKAGED:DOT MC-312 OR DOT-E 5403 (DELETE NON APPLICABLE TANK NUMBER)

IATA SHIPPING DESCRIPTION:
HYDROCHLORIC ACID SOLUTION-8-UN1789-II-CORROSIVE MATERIAL

IMO SHIPPING DESCRIPTION:
RQ-HYDROCHLORIC ACID, SOLUTION-8-CORROSIVE MATERIAL-UN1789-IMO PAGE 8183 (RQ USED ONLY FOR PACKAGES CONTAINING 5000 POUNDS OR MORE)

CAN SHIPPING DESCRIPTION:
HYDROCHLORIC ACID SOLUTIONS-8 (9.2)-PIN1789-II

ADR SHIPPING DESCRIPTION:
HYDROCHLORIC ACID SOLUTIONS-8, 5, (B)-ADR

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

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

B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)
1,640 GALS. - HYDROCHLORIC ACID,

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

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

COMPONENT NAME	CAS-REG-NO	PCT
HYDROCHLORIC ACID	7647-01-0	31-60 %

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

F. EXTRACTION METAL AND TRACE CONTENTS

ARSENIC:	IN LIQUID > 5 MG/L,		SOLID > 500 MG/KG	NO
BARIUM :	IN LIQUID > 100 MG/L,		SOLID > 10000 MG/KG	NO
CADIUM:	IN LIQUID > 1 MG/L,		SOLID > 100 MG/KG	NO
CHROMIUM(VI):	IN LIQUID > 5 MG/L,		SOLID > 500 MG/KG	NO
CHROMIUM(III):	IN LIQUID > 560 MG/L,		SOLID > 2500 MG/KG	NO
LEAD:	IN LIQUID > 5 MG/L,		SOLID > 1000 MG/KG	NO
MERCURY:	IN LIQUID > 0.2 MG/L,		SOLID > 2000 MG/KG	NO
SELENIUM:	IN LIQUID > 1 MG/L,		SOLID > 100 MG/KG	NO
SILVER:	IN LIQUID > 5 MG/L,		SOLID > 500 MG/KG	NO
ANTIMONY:	IN LIQUID > 15 MG/L,		SOLID > 500 MG/KG	NO
BERYLLIUM:	IN LIQUID > 0.75 MG/L,		SOLID > 75 MG/KG	NO
COBALT:	IN LIQUID > 80 MG/L,		SOLID > 8000 MG/KG	NO
COPPER:	IN LIQUID > 25 MG/L,		SOLID > 2500 MG/KG	NO
FLUORIDE:	IN LIQUID > 180 MG/L,		SOLID > 18000 MG/KG	NO
MOLYBDENUM:	IN LIQUID > 350 MG/L,		SOLID > 3500 MG/KG	NO
NICKEL:	IN LIQUID > 20 MG/L,		SOLID > 2000 MG/KG	NO
THALLIUM:	IN LIQUID > 7 MG/L,		SOLID > 700 MG/KG	NO
VANADIUM:	IN LIQUID > 24 MG/L,		SOLID > 2400 MG/KG	NO
ZINC:	IN LIQUID > 250 MG/L,		SOLID > 5000 MG/KG	NO
CYANIDE:	IN LIQUID > 250 MG/L,		SOLID > 250 MG/KG	NO
H2S:	IN LIQUID > 500 MG/L,		SOLID > 500 MG/KG	NO
ORGANO-TIN:	IN LIQUID	OR	SOLID > 100 MG/L	NO
ORGANO-PHOS:	IN LIQUID	OR	SOLID > 100 MG/L	NO
TIN:	IN LIQUID	OR	SOLID > 100 MG/L	NO
PERSISTENT ORGANO-HALOGENS:	IN LIQUID	OR	SOLID > 100 MG/L	NO

G. OTHER COMPONENTS

CONTAINS BENZENE	NO
CONTAINS TOLUENE	NO

CONTAINS XYLENE NO
REPORTABLE SPILL QUANTITY FOR BENZENE, TOLUENE, XYLENE NOT APPLICABLE

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

IF PRODUCT BECOMES A WASTE, IT DOES MEET THE CRITERIA OF A HAZARDOUS WASTE BECAUSE OF:

CORROSIVITY

I. UNITED KINGDOM - DOE (CHEMICAL NOTIFICATION SCHEME)
TOXICITY CATEGORY 1

* *

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. REGULATORY AFFAIRS DEPARTMENT, HALLIBURTON ENERGY SERVICES GROUP

MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 06-08-90
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: ACETIC ACID, BULK PART NUMBER: NIS102 0
PKG QTY: BULK APPLICATION: SOLVENT
SERVICE USED: HISD

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

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

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

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR LIQUID
ODOR	ACRID
SPECIFIC GRAVITY (H2O=1)	1.051
BULK DENSITY	8.75 LB/GAL
PH	2.9 FOR 6% SOL
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	COMPLETE
BIODEGRADABILITY	READILY
PERCENT VOLATILES	100
EVAPORATION RATE(BUTYL ACETATE=1)	0.97
VAPOR DENSITY	2.1
VAPOR PRESSURE (MMHG)	11.70
BOILING POINT(760 MMHG)	244 F / 117 C
POUR POINT	- 1 F / - 18 C
FREEZE POINT	62 F / 16 C
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
HEALTH FLAMMABILITY REACTIVITY SPECIAL NONE
FLASH POINT 104 F / 40 C FLASH MTHD TCC
AUTOIGNITION TEMPERATURE 800 F / 426 C
FLAMMABLE LIMITS (% BY VOLUME) LOWER 5.4 UPPER 16.0

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EXTINGUISHING MEDIA:
USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.
SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES.
FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
RUNOFF TO SEWER MAY CAUSE FIRE OR EXPLOSION HAZARD.
DO NOT ALLOW RUNOFF TO ENTER WATERWAYS.
VAPOR EXTREMELY IRRITATING.
CONTACT CAUSES BURNS TO EYES AND SKIN.

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

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

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

PRODUCT TOXICITY DATA:
IRR SKN-HMN 50 MG/24H MLD
IRR EYE-RBT .050 MG SEV
TOX ORL-HMN TDLO: 1.47 MG/KG
TOX IHL-HMN TCLO: 816 PPM/3M
TOX ORL-RAT LD50: 3310 MG/KG
TOX ORL-MUS LD50: 4960 MG/KG
TOX ORL-RBT LDL0: 1200 MG/KG

PRODUCT TLV: 10 PPM

---------- EFFECTS OF EXPOSURE ----------
ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
SKIN:
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
INHALATION:
VAPOR, MIST OR SPRAY CAUSE SEVERE IRRITATION OF UPPER RESPIRATORY SYSTEM.
INGESTION:
CORROSIVE TO MOUTH, ESOPHAGUS, AND STOMACH UPON INGESTION.
CHRONIC EFFECTS:
CONTINUED EXPOSURE CAN ERODE THE TEETH.
OTHER SYMPTOMS AFFECTED:
BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS.
---------- 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:
CONTACT WITH SKIN OR CLOTHING, SMOKING, EATING, OR DRINKING.
HEAT, SPARKS AND OPEN FLAME.
INCOMPATIBILITY (MATERIALS TO AVOID):
ALKALIES (EG. AMMONIA AND ITS SOLUTIONS, CARBONATES, SODIUM HYDROXIDE

(CAUSTIC), POTASSIUM HYDROXIDE, CALCIUM HYDROXIDE, CYANIDES, SULFIDES, HYPOCHLORITES, CHLORITES) WHICH CAN GENERATE HEAT WITH SPLATTERING OR BOILING AND THE RELEASE OF TOXIC FUMES.

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE AND/OR CARBON DIOXIDE.

HAZARD POLYMERIZATION: WON"T OCCUR

CONDITIONS TO AVOID:
NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN AND NEUTRALIZE TO A PH OF 6-8. SCOOP UP AND REMOVE.

WASTE DISPOSAL METHOD:
IF MATERIAL HAS BEEN COMPLETELY NEUTRALIZED, GET APPROVAL FROM A SANITARY LANDFILL OPERATOR AND TRANSPORT TO A SANITARY LANDFILL. IF NOT GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL FACILITY, AUTHORIZED UNDER EPA/RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP ABSORBED MATERIAL TO SITE.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
ACID GAS CHEMICAL CARTRIDGE RESPIRATOR.

PROTECTIVE GLOVES:
IMPERVIOUS RUBBER GLOVES.

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

OTHER PROTECTIVE EQUIPMENT:
WEAR FULL PROTECTIVE SUIT WHEN SKIN CONTACT IS POSSIBLE.

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

PRECAUTIONARY LABELING ACETIC ACID, BULK NIS.102 0

MAY CAUSE SEVERE EYE AND SKIN BURNS.
COMBUSTIBLE!
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.

OTHER HANDLING AND STORAGE CONDITIONS:
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:
CONTAINER SHOULD BE TRANSPORTED WITH ALL CLOSURES IN PLACE AND RETURNED FOR REUSE.

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

DOT SHIPPING DESCRIPTION:
ACETIC ACID-CORROSIVE MATERIAL-UN2790-RQ

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

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

B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)
1,580 GAL. - ACETIC ACID

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

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

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
TSCA YES CEPA NE EEC YES ACOIN YES 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. REGULATORY AFFAIRS DEPARTMENT, HALLIBURTON ENERGY SERVICES GROUP

MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 07-03-91
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: FE-1A ACIDIZING COMPOSITION, 55 GAL STEEL PART NUMBER: 070154600
PKG QTY: 54 GAL.DRUM APPLICATION: ACIDIZE FORMATION CONTAINING FE
SERVICE USED: CHEMICAL SERVICES

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

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

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

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR, COLORLESS LIQUID
ODOR	PUNGENT ACRID
SPECIFIC GRAVITY (H2O=1)	1.065
BULK DENSITY	8.87 LB/GAL
PH	1
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	COMPLETE
BIODEGRADABILITY	READILY
PERCENT VOLATILES	100
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	3.5
VAPOR PRESSURE (MMHG)	11.40
BOILING POINT(760 MMHG)	245 F / 118 C
POUR POINT	15 F / - 9 C
FREEZE POINT	N/D
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
HEALTH 3 FLAMMABILITY 2 REACTIVITY 1 SPECIAL WATER REACTIVE

FLASH POINT	103 F / 39 C	FLASH MTHD	TCC
AUTOIGNITION TEMPERATURE	630 F / 332 C		
FLAMMABLE LIMITS (% BY VOLUME)	LOWER 3.0	UPPER	19.0

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

SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES.
FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
AVOID SPRAYING WATER DIRECTLY INTO STORAGE CONTAINERS SINCE THE REACTION MAY RESULT IN VIOLENT RUPTURE OF THE CONTAINER.
MAY BE IGNITED BY HEAT, SPARKS, OR FLAMES. FIGHT FIRE FROM A SAFE DISTANCE

AND FROM A PROTECTED LOCATION. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND INJURIES.
CONTACT CAUSES BURNS TO EYES AND SKIN.

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

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

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

PRODUCT TOXICITY DATA: AQU TLM96: 100-10 PPM

PRODUCT TLV: 5 PPM

---------- EFFECTS OF EXPOSURE ----------
ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
SKIN:
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
INHALATION:
VAPOR, MIST OR SPRAY CAUSE SEVERE IRRITATION OF UPPER RESPIRATORY SYSTEM.
INGESTION:
ABSORPTION OF LARGE AMOUNTS CAN CAUSE VOMITING, ABDOMINAL PAIN AND INCREASED RESPIRATION.
CHRONIC EFFECTS:
CONTINUED EXPOSURE CAN ERODE THE TEETH.
OTHER SYMPTOMS AFFECTED:
BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS.
---------- EMERGENCY AND FIRST AID PROCEDURES ----------
EYE:
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION.
SKIN:
IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE. DISCARD CONTAMINATED SHOES.
INHALATION:
REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION.
INGESTION:
DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION.

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

STABILITY: STABLE
CONDITIONS TO AVOID:
HEAT, SPARKS AND OPEN FLAME.
INCOMPATIBILITY (MATERIALS TO AVOID):
REACTS VIOLENTLY WITH WATER LIBERATING LARGE VOLUMES OF GAS, WHICH IF CONFINED CAN RUPTURE CONTAINER.
STRONG OXIDIZERS AND STRONG ALKALIES.

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE AND/OR CARBON DIOXIDE.
HAZARD POLYMERIZATION: WON"T OCCUR
CONDITIONS TO AVOID:
NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN AND NEUTRALIZE TO A PH OF 6-8. SCOOP UP AND REMOVE.
WASTE DISPOSAL METHOD:
IF MATERIAL HAS BEEN COMPLETELY NEUTRALIZED, GET APPROVAL FROM A SANITARY LANDFILL OPERATOR AND TRANSPORT TO A SANITARY LANDFILL. IF NOT GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL FACILITY, AUTHORIZED UNDER EPA/RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP ABSORBED MATERIAL TO SITE.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
ORGANIC VAPOR/ACID GAS CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE AND A DUST-MIST FILTER.
VENTILATION:
USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION.
PROTECTIVE GLOVES:
BUTYL GLOVES.
EYE PROTECTION:
WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM.
OTHER PROTECTIVE EQUIPMENT:
RUBBER BOOTS.
WEAR FULL PROTECTIVE SUIT WHEN SKIN CONTACT IS POSSIBLE.

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

PRECAUTIONARY LABELING FE-1A ACIDIZING COMPOSITION, 55 GAL STEEL070.154600

DANGER!
MAY CAUSE SEVERE IRRITATION TO EYES AND UPPER RESPIRATORY SYSTEM.
MAY CAUSE SEVERE EYE AND SKIN BURNS.
COMBUSTIBLE!
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
OTHER HANDLING AND STORAGE CONDITIONS:
STORE AWAY FROM ALKALIES.
STORE AWAY FROM OXIDIZERS.
KEEP FROM HEAT, SPARKS, AND OPEN FLAME.
KEEP CONTAINER CLOSED WHEN NOT IN USE.
AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
AVOID BREATHING VAPORS.
CONTAINER DISPOSITION:
IF CONTAINER RETAINS PRODUCT RESIDUES, LABEL PRECAUTIONS MUST BE OBSERVED. STORE CONTAINER WITH CLOSURES IN PLACE. OFFER EMPTY CONTAINER TO RECONDITIONOR OR RECYCLER FOR RECONDITIONING OR DISPOSAL. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS.

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

DOT SHIPPING DESCRIPTION:
CORROSIVE LIQUID, N.O.S.(CONTAINS ACETIC ANHYDRIDE)-CORROSIVE MATERIAL-UN1760

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

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

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

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

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

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

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
TSCA YES CEPA NE EEC YES ACOIN YES 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 BECAUSE OF:

CORROSIVITY
IGNITABILITY

* *

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

MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 02-22-90
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: SAFETY KLEEN PART NUMBER: NIS798 0
PKG QTY: 55 GAL APPLICATION: CLEANING PARTS
SERVICE USED: SHOPS

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
MINERAL SPIRITS	> 60 %	200 PPM	NOT EST

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

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR GREEN LIQUID
ODOR	PETROLEUM HYDROCARBON
SPECIFIC GRAVITY (H2O=1)	.775
BULK DENSITY	6.45 LB/GAL
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	NEGLIGIBLE
BIODEGRADABILITY	N/D
PERCENT VOLATILES	100
EVAPORATION RATE(BUTYL ACETATE=1)	0.02
VAPOR DENSITY	4.9
VAPOR PRESSURE (MMHG)	2.00
BOILING POINT(760 MMHG)	310 F / 154 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 FLAMMABILITY REACTIVITY SPECIAL NONE

FLASH POINT	105 F /	40 C	FLASH MTHD	TCC	
AUTOIGNITION TEMPERATURE	ND F /	ND C			
FLAMMABLE LIMITS (% BY VOLUME)	LOWER	0.7	UPPER	6.0	

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

SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES.
FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
MAY BE IGNITED BY HEAT, SPARKS, OR FLAMES. FIGHT FIRE FROM A SAFE DISTANCE AND FROM A PROTECTED LOCATION. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND INJURIES.

INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON OXIDE AND CARBON MONOXIDE.

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

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

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

PRODUCT TOXICITY DATA: NOT DETERMINED

PRODUCT TLV: NOT ESTABLISHED

---------- EFFECTS OF EXPOSURE ----------
ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
MAY CAUSE SEVERE IRRITATION WHICH MAY INJURY TISSUE IF NOT REMOVED PROMPTLY.
SKIN:
CONTACT MAY CAUSE SKIN IRRITATION.
INHALATION:
HIGH CONCENTRATIONS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. THIS MAY BE EVIDENCED BY GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS.
INGESTION:
MAY BE FATAL IF SWALLOWED.
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.
OTHER SYMPTOMS AFFECTED:
A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENED BY EXPOSURE TO THIS PRODUCT.
---------- EMERGENCY AND FIRST AID PROCEDURES ----------
EYE:
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION.
SKIN:
PROMPTLY WASH SKIN WITH SOAP AND WATER.
INHALATION:
REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION.
INGESTION:
DO NOT INDUCE VOMITING! ASPIRATION INTO LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO LUNGS.

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

STABILITY: STABLE
CONDITIONS TO AVOID:
HEAT, SPARKS AND OPEN FLAME.
INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG OXIDIZERS.
HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE AND/OR CARBON DIOXIDE.
HAZARD POLYMERIZATION: WON"T OCCUR
CONDITIONS TO AVOID:
NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AREA AND STOP LEAK WHERE SAFE. REMOVE IGNITION SOURCES. CONTAIN AND ABSORB SPILL WITH SAND OR OTHER INERT MATERIAL. SCOOP OR SWEEP UP USING NON-SPARKING TOOLS. IN ENCLOSED AREAS, WEAR SELF-CONTAINED BREATHING APPARATUS.
WASTE DISPOSAL METHOD:
GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
ORGANIC VAPOR CARTRIDGE RESPIRATOR.
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 SAFETY KLEEN NIS.798 0

WARNING!
MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS.
MAY CAUSE EYE AND SKIN IRRITATION.
COMBUSTIBLE!
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
OTHER HANDLING AND STORAGE CONDITIONS:
STORE AWAY FROM OXIDIZERS.
KEEP FROM HEAT, SPARKS, AND OPEN FLAME.
KEEP CONTAINER CLOSED WHEN NOT IN USE.
AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
AVOID BREATHING VAPORS.
CONTAINER DISPOSITION:
IF EMPTY CONTAINER RETAINS PRODUCT RESIDUES, ALL LABEL PRECAUTIONS MUST BE OBSERVED. STORE AWAY FROM IGNITION SOURCES WITH ALL DRUM CLOSURES IN PLACE. OFFER CONTAINER TO RECONDITIONER OR RECYCLER. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS.

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

DOT SHIPPING DESCRIPTION:
NOT RESTRICTED

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

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

B. EPA - CERCLA/SUPERFUND, 40 CFR 302 (REPORTABLE SPILL QUANTITY)
NOT EVALUATED

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

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

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
TSCA YES CEPA NE EEC YES ACOIN YES 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 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. REGULATORY AFFAIRS DEPARTMENT, HALLIBURTON ENERGY SERVICES GROUP

MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 09-04-91
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: CAUSTIC FLAKE PART NUMBER: 070154810
PKG QTY: 50 0R 100 LB.BAG APPLICATION: BASE, SOLVENT
SERVICE USED: FRACTURING, IND. CLEAN

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
SODIUM HYDROXIDE	> 60 %	C 2 MG/M3	C 2 MG/M3

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

PROPERTY	MEASUREMENT
APPEARANCE	WHITE OR GRAY SOLID, FLAKES
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	2.130
BULK DENSITY	71.50 LB/CU.FT.
PH	14 FOR 5% SOL
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	50
BIODEGRADABILITY	N/A
PERCENT VOLATILES	NONE
EVAPORATION RATE(BUTYL ACETATE=1)	N/A
VAPOR DENSITY	N/A
VAPOR PRESSURE (MMHG)	1.00
BOILING POINT(760 MMHG)	2534 F / 1390 C
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 3 FLAMMABILITY 0 REACTIVITY 0 SPECIAL NONE
FLASH POINT N/A
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:
FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
CONTACT WITH REACTIVE METALS (E.G. ALUMINUM AND BRASS) MAY RESULT IN THE GENERATION OF FLAMMABLE HYDROGEN GAS.
DO NOT ALLOW RUNOFF TO ENTER WATERWAYS.
CONTACT CAUSES BURNS TO EYES AND SKIN.

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

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

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

PRODUCT TOXICITY DATA: IRR SKN-RBT 50 MG/24H SEV
IRR EYE-RBT 1% SEV
AQU TLM96: 9.9 PPM

PRODUCT TLV: 2 MG/M3

---------- EFFECTS OF EXPOSURE ----------
ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
SKIN:
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
INHALATION:
CORROSIVE TO THE NASAL AND RESPIRATORY PASSAGES AND CAN DESTROY THE MUCOUS MEMBRANES AND MAY CAUSE SEVERE PNEUMONITIS.
INGESTION:
CORROSIVE TO MOUTH, ESOPHAGUS, AND STOMACH UPON INGESTION.
CHRONIC EFFECTS:
CONTINUED EXPOSURE CAN ERODE THE TEETH.
OTHER SYMPTOMS AFFECTED:
BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS.
---------- EMERGENCY AND FIRST AID PROCEDURES ----------
EYE:
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION.
SKIN:
IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE. DISCARD CONTAMINATED SHOES.
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 ACIDS.
HEAVY METALS.
PEROXIDES TOGETHER WITH TRICHLOROETHYLENE.
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 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):
HIGH-EFFICIENCY PARTICULATE RESPIRATOR WITH A FULL FACEPIECE.
VENTILATION:
USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN DUSTY ENVIRONMENTS.
PROTECTIVE GLOVES:
BUTYL GAUNTLET GLOVES.
EYE PROTECTION:
WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM.
OTHER PROTECTIVE EQUIPMENT:
WEAR FULL PROTECTIVE SUIT WHEN SKIN CONTACT IS POSSIBLE.

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

PRECAUTIONARY LABELING CAUSTIC FLAKE 070.154810

DANGER!
MAY CAUSE SEVERE EYE AND SKIN BURNS.
MAY CAUSE SEVERE IRRITATION TO THE UPPER RESPIRATORY SYSTEM.
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
OTHER HANDLING AND STORAGE CONDITIONS:
STORE AWAY FROM STRONG ACIDS.
STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY.
AVOID CREATING OR INHALING DUST.
AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
CONTAINER DISPOSITION:
THIS BAG MAY CONTAIN RESIDUE OF A HAZARDOUS MATERIAL. SOME STATES REGULATE SUCH CONTAINERS AS HAZARDOUS WASTE. WHERE SUCH CONTAINERS ARE REGULATED, PRIOR AUTHORIZATION SHOULD BE OBTAINED FROM A HAZARDOUS WASTE DISPOSAL SITE OPERATED UNDER RCRA SUBTITLE C REGULATIONS OR STATE EQUIVALENT.

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

DOT SHIPPING DESCRIPTION:
SODIUM HYDROXIDE, DRY SOLID, FLAKE, BEAD-CORROSIVE MATERIAL-UN1823

* * * * * * * * * * 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)
1,000 LBS - SODIUM HYDROXIDE

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
SODIUM HYDROXIDE	1310-73-2	> 60 %

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
TSCA YES CEPA NE EEC YES ACOIN YES 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 BECAUSE OF:

CORROSIVITY

* *

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MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 08-13-91
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: GBW-3 BREAKER PART NUMBER: 070152090
PKG QTY: 10-1# BAGS/CARTON APPLICATION: BREAKER
SERVICE USED: FRACTURING

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

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

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

PROPERTY	MEASUREMENT
APPEARANCE	WHITE SOLID POWDER
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	1.580
BULK DENSITY	27.20 LB/CU.FT.
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	200
BIODEGRADABILITY	READILY
PERCENT VOLATILES	N/A
EVAPORATION RATE(BUTYL ACETATE=1)	N/A
VAPOR DENSITY	N/A
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	320 F / 160 C
POUR POINT	N/A
FREEZE POINT	N/A
SOLUBILITY IN SEAWATER	26 GM/100 ML
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

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

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EXTINGUISHING MEDIA:
USE MEDIA APPROPRIATE FOR SURROUNDING MATERIALS.
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:
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 ORL-RAT LD50:29700 MG/KG
AQU TLM96: >3300 PPM (BROWN SHRIMP)

PRODUCT TLV: 10 MG/KG(N)

---------- EFFECTS OF EXPOSURE ----------
ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
MAY BE IRRITATING.
SKIN:
FREQUENT OR PROLONGED CONTACT WILL DRY AND DEFAT THE SKIN, POSSIBLY LEADING TO IRRITATION AND DERMATITIS. REPEATED CONTACT MAY SENSITIZE THE SKIN.
INHALATION:
MAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS.
MAY BE IRRITATING.
TREAT AS NUISANCE DUST.
INGESTION:
NO DATA AVAILABLE
CHRONIC EFFECTS:
NO DATA AVAILABLE
OTHER SYMPTOMS AFFECTED:
A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENED BY EXPOSURE TO THIS PRODUCT.
---------- EMERGENCY AND FIRST AID PROCEDURES ----------
EYE:
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION.
SKIN:
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.
HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE AND/OR CARBON DIOXIDE.
HAZARD POLYMERIZATION: WON"T OCCUR
CONDITIONS TO AVOID:
NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST.

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

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
NOT NORMALLY NECESSARY.
TOXIC DUST/MIST RESPIRATOR.
VENTILATION:
USE ONLY WITH ADEQUATE VENTILATION.
PROTECTIVE GLOVES:
NORMAL WORK GLOVES.
EYE PROTECTION:
SAFETY GLASSES.
OTHER PROTECTIVE EQUIPMENT:
NORMAL WORK COVERALLS.

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

PRECAUTIONARY LABELING GBW-3 BREAKER 070.152090

CAUTION!
TREAT AS NUISANCE DUST.
AIRBORNE DUST MAY BE EXPLOSIVE!
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
OTHER HANDLING AND STORAGE CONDITIONS:
STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY.
AVOID CREATING OR INHALING DUST.
CONTAINER DISPOSITION:
EMPTY CONTAINER COMPLETELY. DISPOSE OF EMPTY CONTAINER IN 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): N
CHRONIC (DELAYED): N MIXTURE OR PURE MATERIAL: MIX

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

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

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

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

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

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

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MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 08-12-91
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: GBW-30 BREAKER PART NUMBER: 516001460
PKG QTY: 10 # FIBERBOARD DR APPLICATION: BREAKER
SERVICE USED: FRACTURING

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
CELLULASE ENZYME	11-30 %	10 MG/M3	15 MG/M3
CARBOHYDRATE	> 60 %	10 MG/M3	15 MG/M3

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

PROPERTY	MEASUREMENT
APPEARANCE	WHITE SOLID, POWDER
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	.800
BULK DENSITY	50.00 LB/CU.FT.
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	COMPLETE
BIODEGRADABILITY	READILY
PERCENT VOLATILES	N/A
EVAPORATION RATE(BUTYL ACETATE=1)	N/A
VAPOR DENSITY	N/A
VAPOR PRESSURE (MMHG)	N/A
BOILING POINT(760 MMHG)	N/A
POUR POINT	N/A
FREEZE POINT	N/A
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

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

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EXTINGUISHING MEDIA:
USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.
SPECIAL FIRE FIGHTING PROCEDURES:
AVOID CREATING DUST CLOUDS WITH EXTINGUISHERS.
FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON DIOXIDE AND CARBON MONOXIDE.
ORGANIC DUST IN THE PRESENCE OF A SOURCE OF IGNITION CARRIES A POTENTIAL

EXPLOSION HAZARD IF THE CONCENTRATION IN THE AIR IS TOO HIGH. GOOD HOUSEKEEPING PROCEDURES ARE REQUIRED TO MINIMIZE THIS POTENTIAL HAZARD. DO NOT SPREAD WITH WATER. MATERIAL IS VERY SLIPPERY.

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

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

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

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

PRODUCT TLV: 10 MG/M3 (T); 5 MG/M3 (R)

---------- EFFECTS OF EXPOSURE ----------
ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
MAY CAUSE MILD IRRITATION.
SKIN:
ESSENTIALLY NON-IRRITATING.
INHALATION:
MAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS.
MAY BE IRRITATING.
INGESTION:
NO DATA AVAILABLE
CHRONIC EFFECTS:
NO CHRONIC EFFECTS EXPECTED.
OTHER SYMPTOMS AFFECTED:
A REVIEW OF AVAILABLE DATA DOES NOT IDENTIFY ANY CONDITIONS WORSENED BY EXPOSURE TO THIS PRODUCT.
---------- EMERGENCY AND FIRST AID PROCEDURES ----------
EYE:
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION.
SKIN:
PROMPTLY WASH SKIN WITH SOAP AND WATER. WASH CLOTHING BEFORE REUSE.
INHALATION:
REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION,
INGESTION:
DO NOT INDUCE VOMITING! IN GENERAL, NO TREATMENT IS NECESSARY UNLESS LARGE QUANTITIES ARE INGESTED. HOWEVER, MEDICAL ADVICE SHOULD BE OBTAINED.

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

STABILITY: STABLE
CONDITIONS TO AVOID:
NOT APPLICABLE.
INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG OXIDIZERS.
HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE AND/OR CARBON DIOXIDE.
HAZARD POLYMERIZATION: WON"T OCCUR
CONDITIONS TO AVOID:
NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING

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

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

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

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

PRECAUTIONARY LABELING GBW-30 BREAKER 516.001460

WARNING!
MAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS.
IRRITATING TO THE EYES, SKIN AND RESPIRATORY SYSTEM.
AIRBORNE DUST MAY BE EXPLOSIVE!
PRODUCT IS VERY SLIPPERY WHEN WET! DO NOT SPREAD WITH WATER.
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
OTHER HANDLING AND STORAGE CONDITIONS:
STORE AWAY FROM OXIDIZERS.
STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY.
KEEP FROM HEAT, SPARKS, AND OPEN FLAME.
AVOID CREATING OR INHALING DUST.
CONTAINER DISPOSITION:
EMPTY CONTAINER COMPLETELY. DISPOSE OF EMPTY CONTAINER IN SANITARY LANDFILL BY FIRST OBTAINING LANDFILL OPERATOR'S AUTHORIZATION.

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

DOT SHIPPING DESCRIPTION:
NOT RESTRICTED

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

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

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

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

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

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

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

IF PRODUCT BECOMES A WAS[redacted], IT DOES NOT MEET THE CRI[redacted]RIA OF A HAZARDOUS WASTE

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MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 09-09-91
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: SP BREAKER, SAMPLE PART NUMBER: 516811050
PKG QTY: 1 POUND APPLICATION: BREAKER
SERVICE USED: FRACTURING

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

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

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

PROPERTY	MEASUREMENT
APPEARANCE	WHITE SOLID, CRYSTALS
ODOR	ODORLESS
SPECIFIC GRAVITY (H2O=1)	2.470
BULK DENSITY	81.90 LB/CU.FT.
PH	6.0 FOR 1% SOL
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	35
BIODEGRADABILITY	READILY
PERCENT VOLATILES	N/A
EVAPORATION RATE(BUTYL ACETATE=1)	N/A
VAPOR DENSITY	N/A
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	N/A
POUR POINT	N/A
FREEZE POINT	N/A
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
HEALTH 1 FLAMMABILITY 0 REACTIVITY 1 SPECIAL OXIDIZER
FLASH POINT N/A FLASH MTHD N/A
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (OZ. PER CU. FT.) LOWER ND UPPER ND

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EXTINGUISHING MEDIA:
USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.
SPECIAL FIRE FIGHTING PROCEDURES:
AVOID CREATING DUST CLOUDS WITH EXTINGUISHERS.
FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
MAY IGNITE COMBUSTIBLES. REACTION WITH FUELS MAY BE VIOLENT. A POWERFUL OXIDIZER. REACTS VIGOROUSLY WITH REDUCING MATERIALS.
DECOMPOSES WHEN HEATED LIBERATING OXYGEN WHICH MAY INTENSIFY A FIRE.

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

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

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

PRODUCT TOXICITY DATA:
TOX IPR-MUS LD50:226 MG/KG
TOX IVN-RBT LDLO:178 MG/KG
TOX ORL-RAT LD50: 895 MG/KG
TOX SKN-RBT LD50: >10000 MG/KG
TOX IHL-RAT LD50: >21 MG/L

PRODUCT TLV: NOT EST.

---------- EFFECTS OF EXPOSURE ----------
ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
ESSENTIALLY NON-IRRITATING.
SKIN:
ESSENTIALLY NON-IRRITATING.
MAY CAUSE SKIN SENSITIZATION, AN ALLERGIC REACTION WHICH BECOMES EVIDENT ON REPEATED EXPOSURES TO THIS PRODUCT.
INHALATION:
MAY CAUSE ALLERGIC RESPIRATORY REACTION IN SUSCEPTIBLE INDIVIDUALS.
DUST AT HIGH LEVELS MAY PRODUCE SHORTNESS OF BREATH IN ALLERGIC PERSONS.
INGESTION:
NO DATA AVAILABLE
CHRONIC EFFECTS:
MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION IN SUSCEPTIBLE INDIVIDUALS.
CONTAINS TRACE AMOUNTS OF ARSENIC, CHROMIUM AND LEAD WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR REPRODUCTIVE EFFECTS. EXPSOURES TO THESE TRACE ELEMENTS SHOULD NOT EXCEED THE FEDERAL OSHA PELS UNLESS USED IN A MANNER THAT PRODUCES EXTREMELY HEAVY AIRBORNE CONCENTRATIONS.
OTHER SYMPTOMS AFFECTED:
MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE.
---------- EMERGENCY AND FIRST AID PROCEDURES ----------
EYE:
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK PROMPT MEDICAL ATTENTION.
SKIN:
PROMPTLY WASH SKIN WITH SOAP AND WATER.
INHALATION:
REMOVE TO FRESH AIR. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION,
INGESTION:
DO NOT INDUCE VOMITING! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION.

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

STABILITY: STABLE
CONDITIONS TO AVOID:
AVOID CONTACT WITH COMBUSTIBLE MATERIALS SUCH AS SOLVENTS, OR WITH MONOMERS SUCH AS ACRYLAMIDE.
INCOMPATIBILITY (MATERIALS TO AVOID):
ACIDS, ALKALIS, HALIDES (FLUORIDES, CHLORIDES, BROMIDES), COMBUSTIBLE MATERIALS, HEAVY METALS, OXIDIZABLE MATERIALS.
HAZARDOUS DECOMPOSITION PRODUCTS:
FUMES OF SULFURIC ACID MIST, OXYGEN WHICH SUPPORTS COMBUSTION AND OXIDES OF

SULFUR AND NITROGEN.
HAZARD POLYMERIZATION: WON"T OCCUR
CONDITIONS TO AVOID:
CONTAMINATION WITH READILY OXIDIZABLE MATERIALS AND POLYMERIZATION ACCELERATORS.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
USE PROTECTIVE EQUIPMENT. SWEEP UP AND REMOVE. AVOID CREATING OR INHALING DUST.
WASTE DISPOSAL METHOD:
IF NOT CONTAMINATED, REUSE PRODUCT.
GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
TOXIC DUST/MIST RESPIRATOR.
VENTILATION:
USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN DUSTY ENVIRONMENTS.
PROTECTIVE GLOVES:
BUTYL GLOVES.
EYE PROTECTION:
GOGGLES AND/OR FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT:
RUBBER APRON TO PREVENT DIRECT SKIN CONTACT.

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

PRECAUTIONARY LABELING SP BREAKER, SAMPLE 516.811050

DANGER!
CAUSES ALLERGIC RESPIRATORY AND SKIN REACTION IN SENSITIVE INDIVIDUALS.
IRRITATING TO THE EYES, SKIN AND RESPIRATORY SYSTEM.
STRONG OXIDIZER! CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
OTHER HANDLING AND STORAGE CONDITIONS:
STORE IN DRY LOCATION TO PROTECT PRODUCT QUALITY.
AVOID CREATING OR INHALING DUST.
AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
CONTAINER DISPOSITION:
THIS BAG MAY CONTAIN RESIDUE OF A HAZARDOUS MATERIAL. SOME STATES REGULATE SUCH CONTAINERS AS HAZARDOUS WASTE. WHERE SUCH CONTAINERS ARE REGULATED, PRIOR AUTHORIZATION SHOULD BE OBTAINED FROM A HAZARDOUS WASTE DISPOSAL SITE OPERATED UNDER RCRA SUBTITLE C REGULATIONS OR STATE EQUIVALENT.

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

DOT SHIPPING DESCRIPTION:
SODIUM PERSULFATE-OXIDIZER-UN1505

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

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

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

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

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

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
TSCA YES CEPA NE EEC YES ACOIN YES 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. REGULATORY AFFAIRS DEPARTMENT, HALLIBURTON ENERGY SERVICES GROUP

MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 06-14-91
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: 14N PART NUMBER: 070152830
PKG QTY: 55 GALLON DRUM APPLICATION: NON-EMULSIFIER
SERVICE USED: CHEMICAL SERVICES

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
ISOPROPANOL	11-30 %	400 PPM	400 PPM

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

PROPERTY	MEASUREMENT
APPEARANCE	PALE YELLOW LIQUID
ODOR	ALCOHOLIC
SPECIFIC GRAVITY (H2O=1)	.953
BULK DENSITY	7.94 LB/GAL
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	SOLUBLE
BIODEGRADABILITY	SLOWLY
PERCENT VOLATILES	N/D
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	N/D
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	N/D
POUR POINT	19 F / - 7 C
FREEZE POINT	N/D
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
HEALTH 2 FLAMMABILITY 3 REACTIVITY 0 SPECIAL NONE
FLASH POINT 90 F / 32 C FLASH MTHD PMCC
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (% BY VOLUME) LOWER ND UPPER ND

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EXTINGUISHING MEDIA:
USE WATER, DRY CHEMICAL, CARBON DIOXIDE, OR ALCOHOL FOAM.
SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES.
FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
MAY BE IGNITED BY HEAT, SPARKS, OR FLAMES. FIGHT FIRE FROM A SAFE DISTANCE AND FROM A PROTECTED LOCATION. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND INJURIES.

INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE CARBON OXIDE, CARBON MONOXIDE AND OXIDES OF NITROGEN AND SULFUR.

* * * * * * * * * * * * 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:
CONCENTRATED SOLUTIONS MAY CAUSE SEVERE BURNS.
SKIN:
PROLONGED OR REPEATED CONTACT MAY CAUSE DERMATITIS.
CONTACT MAY CAUSE SKIN IRRITATION.
INHALATION:
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.
CHRONIC EFFECTS:
NO DATA AVAILABLE
OTHER SYMPTOMS AFFECTED:
BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. BREATHING OF VAPOR AND/OR MISTS MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE.
---------- EMERGENCY AND FIRST AID PROCEDURES ----------
EYE:
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. 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:
HEAT, SPARKS AND OPEN FLAME.
INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG OXIDIZERS (EG. CHLORINE, PEROXIDES, CHROMATES, NITRIC ACID, PERCHLORATES, CONCENTRATED OXYGEN, PERMANGANATES) WHICH CAN GENERATE HEAT, FIRES, EXPLOSIONS AND THE RELEASE OF TOXIC FUMES.
HAZARDOUS DECOMPOSITION PRODUCTS:
HYDROGEN CHLORIDE.

CARBON DIOXIDE, CARBON MONOXIDE AND OXIDES OF NITROGEN AND SULFUR.
HAZARD POLYMERIZATION: WON"T OCCUR
CONDITIONS TO AVOID:
NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AREA AND STOP LEAK WHERE SAFE. REMOVE IGNITION SOURCES. CONTAIN AND ABSORB SPILL WITH SAND OR OTHER INERT MATERIAL. SCOOP OR SWEEP UP USING NON-SPARKING TOOLS. IN ENCLOSED AREAS, WEAR SELF-CONTAINED BREATHING APPARATUS.
WASTE DISPOSAL METHOD:
GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
ORGANIC VAPOR CARTRIDGE RESPIRATOR.
VENTILATION:
USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION.
LOCAL EXHAUST VENTILATION MUST BE DESIGNED FOR EXPLOSIVE ATMOSPHERES (NEC CLASS I EQUIPMENT).
PROTECTIVE GLOVES:
NITRILE GLOVES.
EYE PROTECTION:
GOGGLES AND/OR FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT:
NITRILE COATED CLOTHING FOR REPEATED OR PROLONGED SKIN CONTACT.
RUBBER APRON TO PREVENT DIRECT SKIN CONTACT.

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

PRECAUTIONARY LABELING 14N 070.152830

WARNING!
MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS.
CHRONIC OVEREXPOSURE MAY LEAD TO LIVER DISORDER.
IRRITATING TO EYES AND UPPER RESPIRATORY PASSAGES.
MAY BE ABSORBED THROUGH THE SKIN.
MAY CAUSE SEVERE EYE IRRITATION.
LARGE INGESTED DOSES MAY CAUSE KIDNEY DAMAGE LEADING TO HIGH POTASSIUM CONCENTRATIONS IN THE BLOOD. THIS MAY LEAD TO WEAKNESS, HEADACHES, NAUSEA, VOMITING, ABDOMINAL PAIN AND ACUTE KIDNEY SHUTDOWN.
FLAMMABLE!
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
OTHER HANDLING AND STORAGE CONDITIONS:
STORE AWAY FROM OXIDIZERS.
KEEP FROM HEAT, SPARKS, AND OPEN FLAME.
KEEP CONTAINER CLOSED WHEN NOT IN USE.
AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
AVOID BREATHING VAPORS.
CONTAINER DISPOSITION:
IF EMPTY CONTAINER RETAINS PRODUCT RESIDUES, ALL LABEL PRECAUTIONS MUST BE OBSERVED. STORE AWAY FROM IGNITION SOURCES WITH ALL DRUM CLOSURES IN PLACE. OFFER CONTAINER TO RECONDITIONER OR RECYCLER. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS.

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

DOT SHIPPING DESCRIPTION:

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

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

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

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

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

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

ISOPROPANOL	67-63-0	11-30 %

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
TSCA YES CEPA NE EEC YES ACOIN YES 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 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. REGULATORY AFFAIRS DEPARTMENT, HALLIBURTON ENERGY SERVICES GROUP

MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 06-14-91
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: 15N PART NUMBER: 070152890
PKG QTY: 55 GALLON DRUM APPLICATION: NON-EMULSIFIER
SERVICE USED: CHEMICAL SERVICES

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
ISOPROPANOL	11-30 %	400 PPM	400 PPM
QUATERNARY AMMONIUM COMPOUNDS	> 60 %	NOT EST.	NOT EST

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

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR AMBER LIQUID
ODOR	ALCOHOLIC
SPECIFIC GRAVITY (H2O=1)	.970
BULK DENSITY	8.08 LB/GAL
PH	4.5
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	COMPLETE
BIODEGRADABILITY	SLOWLY
PERCENT VOLATILES	N/D
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	N/D
VAPOR PRESSURE (MMHG)	N/D
BOILING POINT(760 MMHG)	183 F / 83 C
POUR POINT	0 F / - 17 C
FREEZE POINT	N/D
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
HEALTH 3 FLAMMABILITY 3 REACTIVITY 0 SPECIAL NONE
FLASH POINT 81 F / 27 C FLASH MTHD TCC
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (% BY VOLUME) LOWER ND UPPER ND

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EXTINGUISHING MEDIA:
USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.
SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES.
FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
MAY BE IGNITED BY HEAT, SPARKS, OR FLAMES. FIGHT FIRE FROM A SAFE DISTANCE AND FROM A PROTECTED LOCATION. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND

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

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

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

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

PRODUCT TOXICITY DATA: IRR SKN-RBT DRAIZE IRRITATION SCORE:
6.6/8.0

PRODUCT TLV: NOT ESTABLISHED

---------- EFFECTS OF EXPOSURE ----------
ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
SKIN:
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
INHALATION:
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:
CORROSIVE TO MOUTH, ESOPHAGUS, AND STOMACH UPON INGESTION.
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! GIVE UP TO TWO (2) QUARTS OF WATER TO DILUTE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK MEDICAL ATTENTION.

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

STABILITY: STABLE
CONDITIONS TO AVOID:
HEAT, SPARKS AND OPEN FLAME.
INCOMPATIBILITY (MATERIALS TO AVOID):

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.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
ORGANIC VAPOR/ACID GAS CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE AND A DUST-MIST FILTER.
VENTILATION:
USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION.
PROTECTIVE GLOVES:
BUTYL 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 15N 070.152890

WARNING!
MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS.
CHRONIC OVEREXPOSURE MAY LEAD TO LIVER AND KIDNEY DISORDER.
MAY CAUSE SEVERE EYE AND SKIN BURNS.
FLAMMABLE!
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
OTHER HANDLING AND STORAGE CONDITIONS:
STORE AWAY FROM OXIDIZERS.
KEEP FROM HEAT, SPARKS, AND OPEN FLAME.
KEEP CONTAINER CLOSED WHEN NOT IN USE.
AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
AVOID BREATHING VAPORS.
CONTAINER DISPOSITION:
IF EMPTY CONTAINER RETAINS PRODUCT RESIDUES, ALL LABEL PRECAUTIONS MUST BE OBSERVED. STORE AWAY FROM IGNITION SOURCES WITH ALL DRUM CLOSURES IN PLACE. OFFER CONTAINER TO RECONDITIONER OR RECYCLER. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS.

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

DOT SHIPPING DESCRIPTION:
FLAMMABLE LIQUID, N.O.S.(CONTAINS ISOPROPANOL)-FLAMMABLE LIQUID-UN1993

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

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

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

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

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

ISOPROPANOL	67-63-0	11-30 %

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
TSCA YES CEPA NE EEC YES ACOIN YES 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 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. REGULATORY AFFAIRS DEPARTMENT, HALLIBURTON ENERGY SERVICES GROUP

MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 07-15-91
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: LOSURF-300 NONIONIC SURFACTANT PART NUMBER: 516001570
PKG QTY: 53 GALLON APPLICATION: NONEMULSIFIER
SERVICE USED: STIMULATION

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
HEAVY AROMATIC NAPHTHA	11-30 %	300 PPM	400 PPM
ISOPROPANOL	31-60 %	400 PPM	400 PPM

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

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR AMBER LIQUID
ODOR	SOLVENT
SPECIFIC GRAVITY (H2O=1)	.910
BULK DENSITY	7.58 LB/GAL
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	DISPERSES
BIODEGRADABILITY	N/D
PERCENT VOLATILES	46-50
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	N/D
VAPOR PRESSURE (MMHG)	33.00
BOILING POINT(760 MMHG)	N/D
POUR POINT	< - 40 F / < - 40 C
FREEZE POINT	N/D
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
HEALTH 1 FLAMMABILITY 3 REACTIVITY 0 SPECIAL NONE
FLASH POINT 63 F / 17 C FLASH MTHD PMCC
AUTOIGNITION TEMPERATURE ND F / ND C
FLAMMABLE LIMITS (% BY VOLUME) LOWER N/D UPPER N/D

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EXTINGUISHING MEDIA:
USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.
SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES.
FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
MAY BE IGNITED BY HEAT, SPARKS, OR FLAMES. FIGHT FIRE FROM A SAFE DISTANCE AND FROM A PROTECTED LOCATION. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING THE FIRE AND INCREASING THE RISK OF BURNS AND

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

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

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

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

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

PRODUCT TLV: NOT ESTABLISHED

---------- EFFECTS OF EXPOSURE ----------
ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
MAY CAUSE EYE IRRITATION.
SKIN:
FREQUENT OR PROLONGED CONTACT WILL DRY AND DEFAT THE SKIN, POSSIBLY LEADING TO IRRITATION AND DERMATITIS. REPEATED CONTACT MAY SENSITIZE THE SKIN.
INHALATION:
HIGH CONCENTRATIONS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. THIS MAY BE EVIDENCED BY GIDDINESS, HEADACHES, DIZZINESS, NAUSEA, VOMITING OR POSSIBLY UNCONSCIOUSNESS.
VAPORS, MIST OR SPRAY MAY CAUSE IRRITATION.
INGESTION:
ASPIRATION INTO LUNGS BY INGESTION OR VOMITING, MAY CAUSE CHEMICAL PNEUMONITIS RESULTING IN EDEMA AND HEMORRAGE AND MAY BE FATAL. SYMPTOMS INCLUDE INCREASED RESPIRATORY RATE AND BLUISH DISCOLORATION OF SKIN. COUGHING AND GAGGING ARE OFTEN NOTED AT THE TIME OF ASPIRATION.
CHRONIC EFFECTS:
CHRONIC OVEREXPOSURE MAY CAUSE LIVER AND KIDNEY DISORDERS.
OTHER SYMPTOMS AFFECTED:
BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS. BREATHING OF VAPOR AND/OR MISTS MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE.
---------- EMERGENCY AND FIRST AID PROCEDURES ----------
EYE:
IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK PROMPT MEDICAL ATTENTION.
SKIN:
IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION. WASH CLOTHING BEFORE REUSE.
INHALATION:
REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK PROMPT MEDICAL ATTENTION.
INGESTION:
DO NOT INDUCE VOMITING! ASPIRATION INTO LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO LUNGS.

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

STABILITY: STABLE
CONDITIONS TO AVOID:
HEAT, SPARKS AND OPEN FLAME.

INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG OXIDIZERS.
HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE AND/OR CARBON DIOXIDE.
HAZARD POLYMERIZATION: WON"T OCCUR
CONDITIONS TO AVOID:
NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AREA AND STOP LEAK WHERE SAFE. REMOVE IGNITION SOURCES. CONTAIN AND ABSORB SPILL WITH SAND OR OTHER INERT MATERIAL. SCOOP OR SWEEP UP USING NON-SPARKING TOOLS. IN ENCLOSED AREAS, WEAR SELF-CONTAINED BREATHING APPARATUS.
WASTE DISPOSAL METHOD:
GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
ORGANIC VAPOR CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE.
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 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 516.001570

WARNING!
MAY CAUSE HEADACHE, DIZZINESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS.
MAY CAUSE IRRITATION TO THE EYES, SKIN OR RESPIRATORY SYSTEM.
FLAMMABLE!
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
OTHER HANDLING AND STORAGE CONDITIONS:
STORE AWAY FROM OXIDIZERS.
KEEP FROM HEAT, SPARKS, AND OPEN FLAME.
KEEP CONTAINER CLOSED WHEN NOT IN USE.
AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
AVOID BREATHING VAPORS.
CONTAINER DISPOSITION:
IF EMPTY CONTAINER RETAINS PRODUCT RESIDUES, ALL LABEL PRECAUTIONS MUST BE OBSERVED. STORE AWAY FROM IGNITION SOURCES WITH ALL DRUM CLOSURES IN PLACE. OFFER CONTAINER TO RECONDITIONER OR RECYCLER. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS.

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

DOT SHIPPING DESCRIPTION:
FLAMMABLE LIQUID, N.O.S.(CONTAINS ISOPROPANOL)-FLAMMABLE LIQUID-UN1993

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

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

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

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

D. EPA - SARA TITLE III, 40 CFR 372 (LIST OF TOXIC CHEMICALS)
ISOPROPANOL 67-63-0 31-60 %

E. COMPONENTS LISTED ON FOLLOWING CHEMICAL INVENTORIES
TSCA YES CEPA NE EEC YES ACOIN YES 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 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. REGULATORY AFFAIRS DEPARTMENT, HALLIBURTON ENERGY SERVICES GROUP

MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 12-03-90
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: BE-3 BACTERICIDE, 5 GAL PART NUMBER: 516000060
PKG QTY: 5 GALLON PAIL APPLICATION: MICROORGANISM CONTROL
SERVICE USED: FRACTURING

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
2,2 DIBROMO-3-NITRILOPROPIONAMIDE	11-30 %	2 MG/M3	NOT EST
POLYPROPYLENE GLYCOL	> 60 %	NOT EST	NOT EST

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

PROPERTY	MEASUREMENT
APPEARANCE	CLEAR TO YELLOW LIQUID
ODOR	PUNGENT ORGANIC
SPECIFIC GRAVITY (H2O=1)	1.260
BULK DENSITY	10.50 LB/GAL
PH	4.3 FOR 1% SOLUTION
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	COMPLETELY
BIODEGRADABILITY	RESISTANT
PERCENT VOLATILES	N/D
EVAPORATION RATE(BUTYL ACETATE=1)	N/D
VAPOR DENSITY	N/D
VAPOR PRESSURE (MMHG)	10.00
BOILING POINT(760 MMHG)	182 F / 83 C
POUR POINT	- 49 F / - 45 C
FREEZE POINT	- 58 F / - 50 C
SOLUBILITY IN SEAWATER	NOT EVALUATED
PARTITION COEF (OCTANOL IN WATER)	NOT EVALUATED

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

NFPA(704) RATING:
HEALTH 3 FLAMMABILITY 1 REACTIVITY 0 SPECIAL NONE

FLASH POINT	> 360	F /	> 182	C	FLASH MTHD COC
AUTOIGNITION TEMPERATURE	ND	F /	ND	C	
FLAMMABLE LIMITS (% BY VOLUME)	LOWER	N/D	UPPER	N/D	

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EXTINGUISHING MEDIA:
USE WATER SPRAY, FOAM, DRY CHEMICAL, OR CARBON DIOXIDE.
SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES.
FULL PROTECTIVE CLOTHING AND NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS REQUIRED FOR FIRE FIGHTING PERSONNEL.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
FORMS METHYL BROMIDE, ETHYL BROMIDE, HYDROGEN CYANIDE, AND OXIDES OF NITROGEN AT TEMPERATURES ABOVE 218 DEGREES F.

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

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

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

PRODUCT TOXICITY DATA: TOX ORL-RAT LD50: 126 MG/KG
AQU TLM96:BLUEGILL SUNFISH: 1.3 MG/L
AQU TLM96:RAINBOW TROUT: 1.0 MG/L
AQU TLM96:FATHEAD MINNOWS: 1.86 MG/L
AQU TLM96:LARGEMOUTH BASS FINGERLINGS:
1.63 MG/L
AQU TLM48:DAPHNIDS: 1.24 MG/L

PRODUCT TLV: NOT ESTABLISHED

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

ROUTES OF EXPOSURE:
EYE OR SKIN CONTACT, INHALATION.
EYE:
VAPORS, MIST OR SPRAY MAY CAUSE SEVERE IRRITATION.
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
SKIN:
MAY CAUSE SKIN SENSITIZATION, AN ALLERGIC REACTION WHICH BECOMES EVIDENT ON REPEATED EXPOSURES TO THIS PRODUCT.
MAY CAUSE SEVERE BURNS WITH POSSIBLE PERMANENT TISSUE DAMAGE DEPENDING ON THE LENGTH OF EXPOSURE AND THE FIRST AID ACTION GIVEN.
INHALATION:
VAPOR, MIST OR SPRAY CAUSE SEVERE IRRITATION OF UPPER RESPIRATORY SYSTEM.
VAPORS OF CYANOGEN BROMIDE AND DIBROMO-ACETYLNITRILE MAY FORM IN DRUM HEADSPACE.
INGESTION:
CORROSIVE TO MOUTH, ESOPHAGUS, AND STOMACH UPON INGESTION.
CHRONIC EFFECTS:
NO DATA AVAILABLE
OTHER SYMPTOMS AFFECTED:
BECAUSE OF ITS IRRITATING PROPERTIES, THIS MATERIAL MAY AGGRAVATE AN EXISTING DERMATITIS.

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

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

TEMPERATURES ABOVE 122' [redacted]FOR DECOMPOSITION, 167' F[redacted]R SEVERE REACTIVITY.
INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG ALKALIES.
HAZARDOUS DECOMPOSITION PRODUCTS:
NITROGEN OXIDES, CARBON DIOXIDE AND/OR CARBON MONOXIDE.
AT TEMERATURES ABOVE 120' C METHYL AND ETHYL BROMIDE, HYDROGEN CYANIDE, NITRIC OIXDES AND CYANOGEN BROMIDE.
HAZARD POLYMERIZATION: WON"T OCCUR
CONDITIONS TO AVOID:
NOT APPLICABLE.

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

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
USE PROTECTIVE EQUIPMENT. ISOLATE SPILL AND STOP LEAK WHERE SAFE. CONTAIN AND ABSORB SPILL WITH AN INERT MATERIAL. SCOOP UP AND REMOVE.
WASTE DISPOSAL METHOD:
GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
ORGANIC VAPOR CARTRIDGE RESPIRATOR WITH FULL FACEPIECE AND DUST-MIST FILTER.
VENTILATION:
USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION SHOULD BE USED IN AREAS WITHOUT GOOD CROSS VENTILATION.
PROTECTIVE GLOVES:
IMPERVIOUS RUBBER GLOVES.
EYE PROTECTION:
WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM.
OTHER PROTECTIVE EQUIPMENT:
RUBBER APRON TO PREVENT DIRECT SKIN CONTACT.

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

PRECAUTIONARY LABELING BE-3 BACTERICIDE, 5 GAL 516.000060

DANGER!
MAY CAUSE SEVERE IRRITATION TO EYES AND UPPER RESPIRATORY SYSTEM.
MAY CAUSE SEVERE EYE AND SKIN BURNS.
FOR PRECAUTIONARY STATEMENTS, REFER TO SECTIONS IV-VIII.
LABEL IN ACCORDANCE WITH FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT REQUIREMENTS.
EPA REGISTRATION NUMBER: 10349-16-40153
EPA EST. NUMBER: 1706-TX-1
OTHER HANDLING AND STORAGE CONDITIONS:
STORE AWAY FROM ALKALIES.
STORE IN A COOL WELL VENTILATED LOCATION.
KEEP CONTAINER CLOSED WHEN NOT IN USE.
AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
AVOID BREATHING VAPORS.
CONTAINER DISPOSITION:
IF CONTAINER RETAINS PRODUCT RESIDUES, LABEL PRECAUTIONS MUST BE OBSERVED. STORE CONTAINER WITH CLOSURES IN PLACE. OFFER EMPTY CONTAINER TO RECONDITIONOR OR RECYCLER FOR RECONDITIONING OR DISPOSAL. ENSURE RECONDITIONER OR RECYCLER IS AWARE OF THE PROPERTIES OF THE CONTENTS.

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

DOT SHIPPING DESCRIPTION:
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 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. REGULATORY AFFAIRS DEPARTMENT, HALLIBURTON ENERGY SERVICES GROUP

MATERIAL SAFETY DATA SHEET DATE: 09-30-91
HALLIBURTON SERVICES REVISED DATE 04-24-90
DUNCAN, OKLAHOMA 73536

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

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

CHEMICAL CODE: BE-5 MICROBIOCIDE PART NUMBER: 516004930
PKG QTY: 6-6# POLY JARS/BOX APPLICATION: MICROBIOCIDE
SERVICE USED: FRACTURING

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

COMPONENT+ + + + + + + + + +	PERCENT	TLV	PEL
5-CHLORO-2-METHYL-4-ISOTHIOAZILIN-3-ONE	1-10 %	0.1 MG/M3	NOT EST
2-METHYL-4-ISOTHIAZOLIN-3-ONE	1-10 %	NOT EST	NOT EST

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

PROPERTY	MEASUREMENT
APPEARANCE	LIGHT GREEN TO YELLOW SOLID
ODOR	MILD
SPECIFIC GRAVITY (H2O=1)	.670
BULK DENSITY	5.59 LB/CU.FT.
PH	NOT DETERMINED
SOLUBILITY IN WATER AT 20 DEG C. GMS/100ML H20	DISPERSES
BIODEGRADABILITY	N/D
PERCENT VOLATILES	N/A
EVAPORATION RATE(BUTYL ACETATE=1)	N/A
VAPOR DENSITY	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 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.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
INCOMPLETE THERMAL DECOMPOSITION MAY PRODUCE TOXIC GASES.

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

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

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

PRODUCT TOXICITY DATA: NOT DETERMINED

PRODUCT TLV: NOT 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:
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 HYPOCLORITE SOLUTION* IN AN INERT MATERIAL AND TRANSFER TO A SUITABLE CONTAINER. *FORMULATION: 8 LBS. CALCIUM HYPOCHLORITE 5 LBS. SODIUM HYDROXIDE AND 77 LBS. WATER. SODIUM HYDROXIDEMUST BE ADDED TO MAINTAIN ALKALINITY AND PREVENT THE EVOLUTION OF CHLORINE GAS.
WASTE DISPOSAL METHOD:
GET APPROVAL FROM HAZARDOUS WASTE DISPOSAL SITE AUTHORIZED UNDER EPA-RCRA SUBTITLE C OR STATE EQUIVALENT. SHIP TO SITE.

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

RESPIRATORY PROTECTION (USE NIOSH/MSHA APPROVED EQUIPMENT):
ORGANIC VAPOR CHEMICAL CARTRIDGE RESPIRATOR WITH A DUST-MIST FILTER.
VENTILATION:
USE ONLY WITH ADEQUATE VENTILATION.
PROTECTIVE GLOVES:
IMPERVIOUS RUBBER GLOVES.
EYE PROTECTION:
WEAR GOGGLES AND/OR FACE SHIELD. PROVIDE EYEWASH AND QUICK DRENCH SYSTEM.
OTHER PROTECTIVE EQUIPMENT:
RUBBER APRON TO PREVENT DIRECT SKIN CONTACT.

* * * * * * * * * * * * 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: 5009-39-40153
EPA EST. NUMBER: 35982-TX-1
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, N.O.S.(5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE)-CORROSIVE MATERIAL-UN1759

* * * * * * * * * * 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 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. REGULATORY AFFAIRS DEPARTMENT, HALLIBURTON ENERGY SERVICES GROUP

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

August 5, 1991

CERTIFIED MAIL
RETURN RECEIPT NO. P-756-666-891

Mr. Matt D. Ratliff
Environmental Engineer
Halliburton Company
P. O. Drawer 1421
Duncan, Oklahoma 73536-0100

Dear Mr. Ratliff:

The Oil Conservation Division (OCD) has received you request for an extension to October 1, 1991 to submit the required discharge plan application for the above referenced facility. The extension will allow your Environmental Affairs section to complete their reorganization and submit a comprehensive discharge plan application.

Pursuant to Water Quality Control Commission (WQCC) Regulations 3-106.A and for good cause shown, an extension to October 1, 1991 for the submission of a discharge plan application for the Hobbs Service Facility is hereby approved.

If you have any questions, please call Roger Anderson at (505) 827-5884.

Sincerely,

William J. LeMay
Director

WJL/RCA/sl

cc: OCD Hobbs Office

Halliburton Company
SERVING THE ENERGY INDUSTRIES WORLDWIDE

REGULATORY AFFAIRS DEPARTMENT
ENERGY SERVICES GROUP

Writer's Direct Dial Number:

(405) 251-4755

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
Attention: Director
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Dear Sir,

It has recently come to my attention that the Discharge Plan Application For Oilfield Service Facilities sent to our Hobbs, New Mexico site is past due. Presently, Halliburton Company, including the Halliburton Services Division, is undergoing some restructuring. The Environmental Affairs Section of the Regulatory Affairs Department within Halliburton Company is being reorganized and expanding to meet the current demand for qualified environmental personnel to support our many field facilities. Due to the restructuring, the application was not processed by the deadline.

Due to the large quantity of material requested in the application and the restructuring taking place within our organization, I am requesting an extension of the deadline until October 1st. This extension would give us time to reorganize our department and add the necessary personnel to help eliminate these kinds of delays.

Thank you for your patience in this matter. The original letter will be mailed to your office. If you have any questions or need additional information, please contact me at the letterhead number.

Sincerely,

Matt D. Ratliff
Environmental Engineer
Regulatory Affairs Department

MDR/mcp
cc: W.K. Ostroot
Sherman Pierce

HALLIBURTON ENERGY SERVICES GROUP

REGULATORY AFFAIRS DEPARTMENT
ENVIRONMENTAL AFFAIRS SECTION

TELECOPIER TRANSMITTAL SHEET

DATE: 8/2/91 **PAGES:** 2 **(Including cover)**

TO: **NAME:** Rodger Anderson

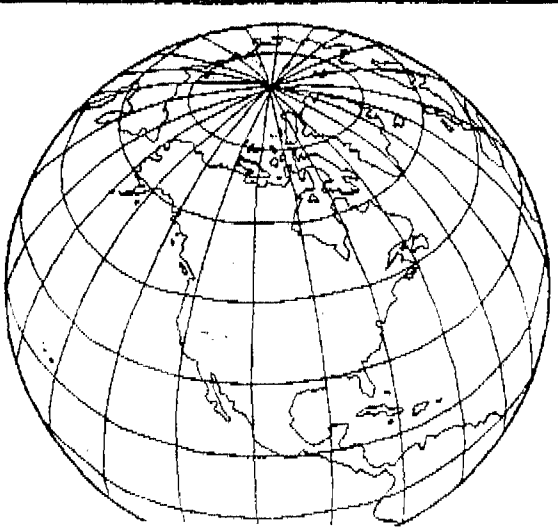
ORGANIZATION: NM Oil Conservation Div.

TELEPHONE: (505) 827-5884

TELECOPY: (505) 827-5741

FROM: **Matt D. Ratliff**
Environmental Engineer
P.O. Box 1431
Duncan, Oklahoma 73536-0100
Telephone: 405/251-4755
Fax Number: 405/251-3917

SUBJECT: Extension letter for the Discharge Plan application.



Halliburton Company
SERVING THE ENERGY INDUSTRIES WORLDWIDE

REGULATORY AFFAIRS DEPARTMENT
ENERGY SERVICES GROUP

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Sincerely,

Matt D. Ratliff
Environmental Engineer
Regulatory Affairs Department

MDR/mcp
cc: W.K. Ostroot

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

February 26, 1991

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-327-278-086

Mr. Kent Ostroot, Manager
Halliburton Services
P. O. Box 2568
Hobbs, New Mexico 88240

RE: Discharge Plan GW-74
Hobbs Service Facility
Lea County, New Mexico

Dear Mr. Ostroot:

Under the provisions of the Water Quality Control Commission (WQCC) Regulations, you are hereby notified that the filing of a discharge plan is required for your existing Hobbs Service Facility located in Section 21, Township 18 South, Range 38 East (NMPM), Lea County, New Mexico.

This notification of discharge plan requirement is pursuant to Sections 3-104 and 3-106 of the WQCC Regulations. The discharge plan, defined in Section 1.101.P. of the WQCC Regulations, should cover all discharges of effluent or leachate at the plant site or adjacent to the plant site. Included in the application should be plans for controlling spills and accidental discharges at the facility (including detection of leaks in buried underground tanks and/or piping), and closure plans for any ponds whose use will be discontinued.

A copy of the regulations and application form is enclosed for your convenience. Also enclosed is a copy of an OCD guide to the preparation of discharge plans for oilfield service facilities.

Section 3-106.A of the regulations requires a submittal of the discharge plan within 120 days of receipt of this notice unless an extension of this time period is sought and approved for good cause. Section 3-106.A also allows the discharge to continue without an approved discharge plan until 240 days after written notification by the Director of the OCD that a discharge plan is required. An extension of this time may be sought and approved for good cause.

If there are any questions on this matter, please feel free to call David Boyer at 827-5812, or Roger Anderson at 827-5884 as they have the assigned responsibility for review of all discharge plans.

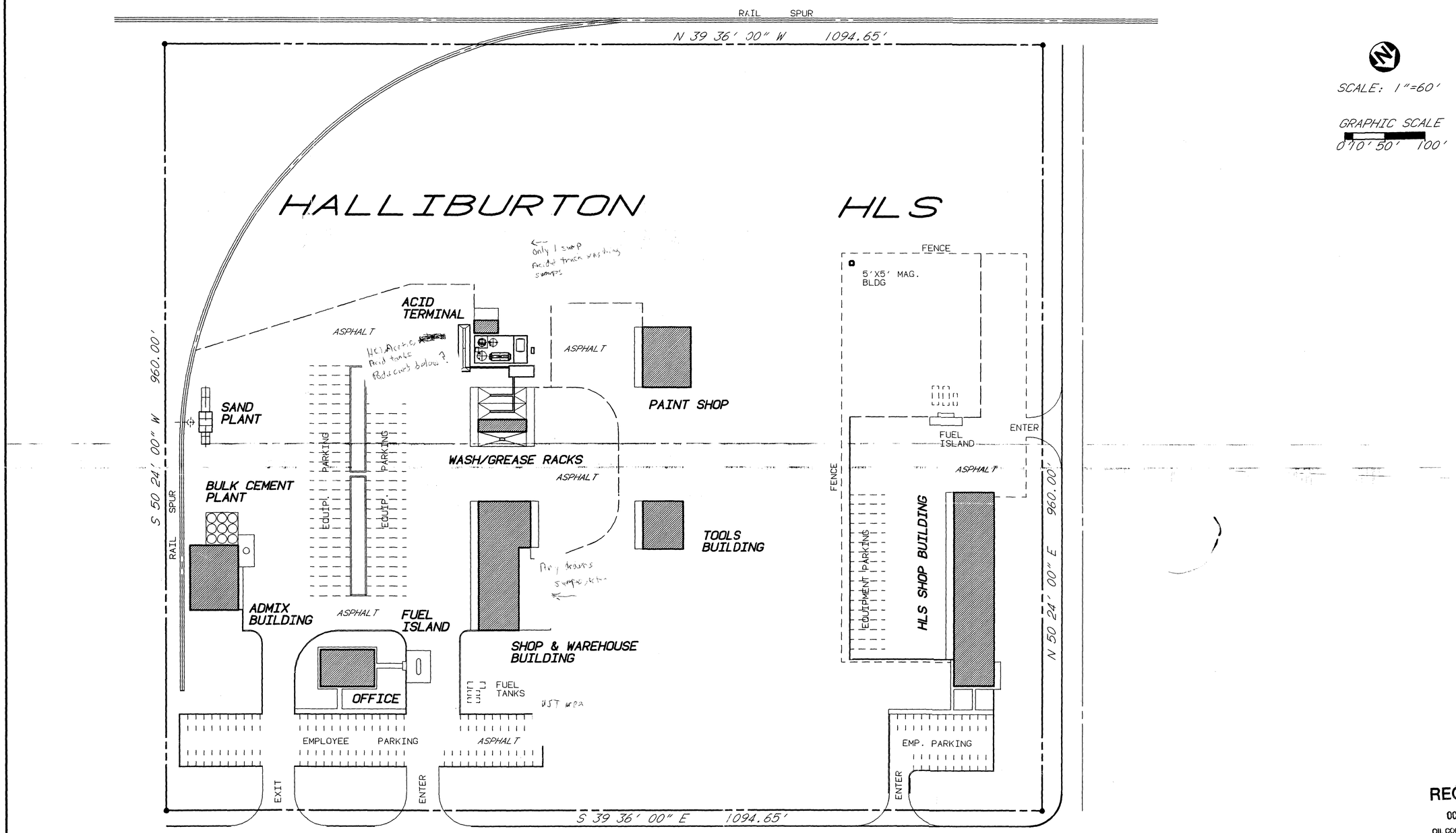
Sincerely,

William J. LeMay
Director

Enclosure

WJL/RCA/sl

cc: Hobbs OCD Office



SCALE: 1"=60'

GRAPHIC SCALE
0' 10' 50' 100'

RECEIVED
OCT 3 1991
OIL CONSERVATION DIV.
SANTA FE

CHG	DESCRIPTION	DATE	CH BY

HALLIBURTON SERVICES
FACILITIES DEPARTMENT
P.O. DRAWER 1431
DUNCAN, OK 73536-0314
(405) 251-3206

APPROVED		
ENGR CK		
DESIGNED		
DRAWN	JLB	08-31-89
SCALE	1"=60'	

C1

SITE PLAN

hobbs, new mexico

DRWG	CHG	SHEET
HOBBS 89.SI.C01		01 OF 01

SOFTWARE RELEASE 21.0.1