

Update on Onshore Disposal of Offshore Drilling Wastes

Prepared for:

**U.S. Environmental Protection Agency
Engineering and Analysis Division**

and

**U.S. Department of Energy
Office of Fossil Energy
under Contract W-31-109-Eng-38**

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November 1999

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Introduction

The U.S. Environmental Protection Agency (EPA) is developing effluent limitations guidelines to govern discharges of cuttings from wells drilled using synthetic-based muds. To support this rulemaking, Argonne National Laboratory was asked by EPA and the U.S. Department of Energy (DOE) to collect current information about those onshore commercial disposal facilities that are permitted to receive offshore drilling wastes. Argonne contacted state officials in Louisiana, Texas, California, and Alaska to obtain this information. The findings, collected during October and November 1999, are presented below by state.

Louisiana

Pierre Catrou of the Louisiana Department of Natural Resources, Office of Conservation (225-342-5567; pierrec@dnr.state.la.us), has oversight responsibility for exploration and production (E&P) waste management in Louisiana. He stated that, in his opinion, there is no shortage of disposal capacity for offshore wastes but did not provide details on the permitted commercial disposal facilities in Louisiana.

The majority of offshore E&P wastes that come to shore in Louisiana for disposal are taken by work boat to one of the marine transfer facilities operated by Newpark Environmental Services. Newpark has transfer facilities in Venice, Bourg, Port Fourchon, Bateman Island, Morgan City, Intracoastal City, Mermentau, and Cameron. Wastes are loaded into barges and are hauled to Port Arthur, Texas where they are processed and loaded into tank trucks. The tank trucks haul the waste to an underground injection disposal site located in Fannett, Texas. Additional disposal capacity is available at the nearby Big Hill facility. EPA representatives and the author toured Newpark's Fannett and Port Arthur facilities on October 26, 1999. During that tour, Newpark officials reported that they have huge reserve disposal capacity, up to 1 billion barrels of waste at the Fannett site alone.

U.S. Liquids also operates a series of E&P waste disposal facilities in Louisiana at Mermentau, Elm Grove, Bourg, and Bateman Island (Veil 1997, 1998). Treatment consists of land spreading and land treatment. U.S. Liquids used to own the marine transfer stations now operated by Newpark. Because it no longer operates marine transfer stations, U.S. Liquids receives almost none of the offshore wastes brought to shore. It only gets batches of waste that Newpark elects not to take, which does not happen often (Rick Sullivan - U.S. Liquids; 281-497-4606; November 3, 1999). Nevertheless, this capacity remains available in the event that Newpark would be unable or unwilling to take offshore wastes. No information is available on the permitted disposal capacity of the U.S. Liquid facilities.

Texas

Oversight of commercial E&P waste disposal facilities is handled by Richard Ginn (injection facilities; 512-463-6796; richard.ginn@rrc.state.tx.us) and Jill Hybner (surface facilities; 512-

463-6797; jill.hybner@rrc.state.tx.us) of the Railroad Commission of Texas. Both individuals provided information on those facilities that could potentially receive offshore drilling wastes. As noted above, the vast majority of offshore wastes are hauled by barge to Newpark's Port Arthur facility, where they are processed and trucked to the Fannett site for disposal by injection. Mr. Ginn reports that the Fannett site (6 injection wells) is permitted to dispose of 85,000 barrels of waste per day, and a similar site nearby, the Big Hill site (6 injection wells), is permitted to dispose of 57,000 barrels per day. Brandt Energy Environmental has a single injection well in the High Island field with a permitted capacity of 1,000 barrels per day, but the well is shut in due to operational problems, and permit cancellation is a possibility. The Railroad Commission is currently considering an application from Trinity Storage Services, L.P. for a salt cavern disposal facility in the Moss Bluff field. The proposed maximum disposal rate for the Trinity site would be 20,000 barrels per day.

Ms. Hybner provided a lengthy list of all commercial disposal facilities permitted by the Railroad Commission, a copy of which is attached as Appendix A. She marked those facilities that had some potential for receiving offshore wastes in *italics type*, although all but three of the facilities she marked are authorized to receive only water-based drilling fluids. The three facilities that are located reasonably close to the coast and are permitted to receive E&P wastes other than water-based drilling fluids are as follows:

1. Newpark Environmental Services - Port Arthur Treatment Facility (no capacity limit)
2. ECO Mud Disposal - Alice Facility (total capacity 2,049,882 barrels)
3. Waste Facilities, Inc. - Premont Facility (total capacity - 504,706 barrels)

California

Michael Stettner of the California Department of Conservation, Oil and Gas Division (916-323-1781; stettner@consrv.ca.gov), provided partial information on facilities that can accept offshore waste for disposal. In an October 28 e-mail, Mr. Stettner provided information on three commercial disposal companies, as shown below:

- | | |
|------------------------------|--|
| 1. company name: | Anadime Energy Services |
| address: | 947½ East Main St. |
| contact person: | Thomas Marquez |
| phone number: | (805) 933-5925 |
| e-mail: | AnadimeCA@aol.com |
| disposal method: | injection |
| annual disposal capacity: | 24 truck loads/day |
| remaining disposal capacity: | facility built in 1998/1999 |
| 2. company name: | GEO Petroleum, Inc. |
| address: | 18281 Lemon Drive, Yorba Linda, CA 92886 |
| contact person: | Dennis Timpe, President-Elect |

phone number: (714) 779-9897 Ext. 222
disposal method: injection
annual disposal capacity: unknown
remaining disposal capacity: unknown

Note: This facility has accepted offshore wastes in the past, but is currently shut-in. The company is planning on returning the facility to operation.

3. company name: Santa Clara Waste Water
address: 815 Mission Rock Road, Santa Paula, CA
contact person: Bill Mundy
phone number: (805) 525-8315
disposal method: sewer system
annual disposal capacity: unknown
remaining disposal capacity: unknown

Mr. Stettner noted that he planned to forward information on additional disposal companies as soon as he hears back from other sources.

Veil (1997) identifies 13 California facilities that accept E&P wastes. Many of these are located far from the ports where offshore vessels unload and, therefore, are not likely to receive offshore wastes. These are generally industrial waste treatment facilities or hazardous or nonhazardous landfills. Veil (1998) notes that one offshore California operator hauls oil-based muds and cuttings to shore in 6-cubic-yard boxes where the wastes are transferred to 15-cubic-yard boxes for transportation to a landfill.

Alaska

Wendy Mahan of the Alaska Oil and Gas Conservation Commission (907-279-1433; wendy_mahan@admin.state.ak.us) provided information on drilling waste disposal practices in Cook Inlet and the North Slope. There are no commercial disposal facilities in Alaska for E&P wastes, so operators have developed their own disposal systems. In the Cook Inlet area, several operators have historically used their own private landfills for E&P waste disposal, but no such landfills are presently being used. All drilling wastes are now being disposed of through injection, either in dedicated injection wells or through annular injection in the well being drilled. Alaska allows up to 35,000 barrels of waste per well to be disposed of through annular injection. All facilities currently operating on the North Slope inject their drilling wastes. Ms. Mahan indicated that there should be no shortage of disposal capacity as long as operators are prepared to create new injection wells.

References

Veil, J.A., 1997, "Costs for Off-site Disposal of Nonhazardous Oil Field Wastes: Salt Caverns versus Other Disposal Methods," DOE/BC/W-31-109-Eng-38-2, prepared for U.S. Department of Energy, National Petroleum Technology Office, by Argonne National Laboratory, September.

Veil, J.A., 1998, "Data Summary of Offshore Drilling Waste Disposal Practices," prepared for U.S. Environmental Protection Agency, Engineering and Analysis Division, and U.S. Department of Energy, Office of Fossil Energy, by Argonne National Laboratory, November.

Appendix A

RAILROAD COMMISSION OF TEXAS *COMMERCIAL SURFACE DISPOSAL FACILITIES*

(Permitted facilities are listed by group in the following order:
Pits, Stationary Treatment and Landfarm Facilities. Within each group, the permits are listed by district. This list does not include disposal/injection well facilities.)

PITS

RRC DISTRICT 01

**FRAC TANK RENTALS INC.
(830) 769-2960**

R & R MUD DISPOSAL SITE - JOURDANTON FACILITY

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P004501	ATASCOSA	06/05/99

AUTHORIZED WASTES: water-base drilling fluid (max. chloride = 1,000 mg/l)

RRC DISTRICT 04

**MO-VAC SERVICE CO., INC.
(210) 631-9121**

WEST STINCHCOMB FACILITY

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P000215	CAMERON	PENDING RENEWAL

PERMITTED CAPACITY: 1,524,000 BBLs

VOLUME OF WASTE RECEIVED: 55,093 BBLs

AUTHORIZED WASTES: water-base drilling fluid (max. chloride = 3,000 mg/l)

CADENA RANCH FACILITY

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P007761C	JIM WELLS	07/28/99

PERMITTED CAPACITY: 895,000 BBLs

VOLUME OF WASTE RECEIVED: 526,685 BBLs

AUTHORIZED WASTES: water-base drilling fluid (max. chloride = 3,000 mg/l)

MO-VAC SERVICE CO., INC.
-CONTINUED-

GANAWAY FACILITY

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P009769	HIDALGO	04/19/00
<u>PERMITTED CAPACITY:</u>	165,000 BBLs	
<u>VOLUME OF WASTE RECEIVED:</u>	64,815 BBLs	
P009770	HIDALGO	04/19/00
<u>PERMITTED CAPACITY:</u>	695,000 BBLs	
<u>VOLUME OF WASTE RECEIVED:</u>	417,114 BBLs	

AUTHORIZED WASTE: oil-free water base drilling fluid & waste from washout of vacuum trucks (max. chlorides = 3,000 mg/l)

SMITH, KARON
(956) 381-0230

SMITH DISPOSAL FACILITY

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P009559	HIDALGO	PENDING RENEWAL
<u>AUTHORIZED WASTE:</u>	oil free, water-base drilling fluid (max. chlorides = 3,200 mg/l)	

WASTE FACILITIES, INC.
(512) 348-3966

NANO RANCH FACILITY

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P010655	ZAPATA	PENDING RENEWAL
<u>AUTHORIZED WASTE:</u>	water base drilling fluid and associated cuttings and waste fluids from washout pits (max. chlorides = 6,000 mg/l)	

RANCHO NUEVO DISPOSAL FACILITY

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P010887	DUVAL	06/03/02
<u>AUTHORIZED WASTE:</u>	water base drilling fluid and associated cuttings (max. chlorides = 3,000 mg/l)	

 RRC DISTRICT 08

WESTEX NOTREES, L.C.
 (915) 570-4229

NOTREES FACILITY

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P010501	ECTOR	PENDING RENEWAL
P010619	ECTOR	PENDING RENEWAL
P010646	ECTOR	PENDING RENEWAL
P010647	ECTOR	PENDING RENEWAL
P010669	ECTOR	PENDING RENEWAL
P010670	ECTOR	PENDING RENEWAL
P010672	ECTOR	PENDING RENEWAL
P010673	ECTOR	PENDING RENEWAL

AUTHORIZED WASTE: non-injectable wastes which fall within the oil & gas exemption of RCRA and do not exceed 7% in oil content as determined by a Standard API Shakeout; non-reclaimable, RCRA exempt oil base drilling mud; contaminated soils from lube oil spills; contaminated soils from RCRA non-exempt crude oil spills and absorbent pads from these spills; compressor filters (no wastes such as metal or oil may be disposed of in pits if that material is recyclable or reclaimable); and wastewater from the washout of tanks used to haul exempt waste to this site.

 RRC DISTRICT 8A

WESTEX SYSTEMS SACROC, L.C.
 (915) 570-4229

SACROC FACILITY

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P010354	BORDEN	PENDING RENEWAL
P010355	BORDEN	PENDING RENEWAL
P010356	BORDEN	PENDING RENEWAL

AUTHORIZED WASTE: water-base drilling fluid & cuttings, oil-base cuttings; iron sulfide; reserve pit liners; contaminated soils from crude oil & saltwater spills; formation sands & solids from saltwater storage tanks/vessels & pits; solids waste from gas dehydration & sweetening; production tank bottoms not to exceed 7% oil content as

determined by Standard API Shakeout; crude oil
reclamation waste

**WILLIAMS OIL FIELD DISPOSAL SYSTEM
(915) 573-4051**

WILLIAMS PROPERTY FACILITY

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P002485	BORDEN	PENDING TRANSFER
P002487	BORDEN	PENDING TRANSFER
P002488	BORDEN	PENDING TRANSFER
P002490	BORDEN	PENDING TRANSFER
P002491	BORDEN	PEND. RENEWAL/TRANSFER

AUTHORIZED WASTE: non-hazardous oil & gas waste

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P006192	BORDEN	PEND. RENEWAL/TRANSFER

AUTHORIZED WASTE: drilling fluid (max. chlorides = 50,000 mg/l)

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P010469	BORDEN	PEND. RENEWAL/TRANSFER

AUTHORIZED WASTE: non-hazardous RRC regulated waste which pass the Paint
Filter Test (EPA Method 9095) and have a TPH of < 2%

RRC DISTRICT 09

**NUNNELEY, EARL
(817) 825-3222**

NUNNELEY RANCH FACILITY

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P007726	MONTAGUE	02/09/00

AUTHORIZED WASTE: water base drilling fluid and associated cuttings (max.
chlorides = 3,000 mg/l)

STATIONARY TREATMENT FACILITIES

 RRC DISTRICT 03

*NEWPARK ENVIRONMENTAL SERVICES TEXAS, L.P.
 (318) 984-4445*

PORT ARTHUR TREATMENT FACILITY

<u>STF PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
STF-001	JEFFERSON	05/09/00
<u>PERMITTED CAPACITY:</u>	NOT APPLICABLE	
<u>VOLUME OF WASTE RECEIVED:</u>	WASTE IS TREATED FOR INJECTION IN UIC WELLS OR FOR USE AS DAILY COVER AT LANDFILLS	
<u>AUTHORIZED WASTE:</u>	authorized to receive and treat non-hazardous oil and gas wastes, including oil and gas waste from Mexico	

- PITS -

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P009890	JEFFERSON	05/09/00
P009891	JEFFERSON	05/09/00
<u>AUTHORIZED WASTE:</u>	temporary storage of processed solids generated onsite from the treatment of non-hazardous oilfield waste	

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P010789	JEFFERSON	05/09/00
P010792	JEFFERSON	05/09/00
<u>AUTHORIZED WASTE:</u>	collection of waste authorized by STF-001 and washwater from washout of containers used to transport waste material to facility	

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P010108	SAN PATRICIO	02/23/00
<u>AUTHORIZED WASTE:</u>	non-pumpable waste authorized by STF-001 (located at Ingleside Transfer Station)	

TRANSCON ENERGY CORPORATION
(956) 765-5981
GOLDEN TRIANGLE INDUSTRIES PROP.

<u>STF PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
STF-010	COLORADO	03/10/00

AUTHORIZED WASTE: water base drilling fluid and the associated cuttings; oil base drilling fluids and the associated cuttings; tank bottoms from gas plants, crude oil reclamation plants, and crude oil production/separation facilities; waste material from produced water collecting pits; produced formation sand; and soil contaminated with produced water, crude oil, or condensate; non-liquid wastes from gas dehydration and sweetening; spent activated carbon and other filtering and separation media.

Not yet authorized to except waste

RRC DISTRICT 04

US LIQUIDS OF LA, LP
(713) 512-6262

SOUTH TEXAS DISPOSAL FACILITY

<u>STF PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
STF-006 (*)	ZAPATA	08/30/00

AUTHORIZED WASTE: non-injectable, water base drilling fluid and the associated cuttings; non-reclaimable, non-haz. tank bottoms from gas plants, crude oil reclamation plants and crude production/separation facilities, non-injectable, non-haz. waste material from produced water collecting pits; produced formation sand; soil contaminated with produced water or crude oil; solid wastes from gas dehydration and sweetening, such as spent glycol and amine filters, solid filter media, molecular sieves, and precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber; iron sulfide; spent activated carbon and other filtering and separation media; liners from pits that contained exempt oil & gas wastes; inert wastes as defined by Statewide Rule 8 such as uncontaminated concrete or wood; and

other non-haz. oil & gas wastes generated in connection with the exploration, development and production of oil & gas resources

US LIQUIDS OF LA, LP
-continued-

(*) includes treatment basins (Pit Permit Nos. P010236, P010237, P010238, P010239, P010240, and P010241), landtreatment cells and landfill

ECO MUD DISPOSAL
(512) 887-2183

ALICE FACILITY

<u>STF PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
STF-003	JIM WELLS	01/16/03
<u>PERMITTED CAPACITY:</u>	2,049,882 BBLs	
<u>VOLUME OF WASTE RECEIVED:</u>	961,883 BBLs	
<u>AUTHORIZED WASTE:</u>	non-reclaimable oil base drilling fluid, cuttings generated while using oil base drilling fluid, and non-haz., oily waste containing no reclaimable oil	

-PITS-

GARCIA LEASE (TANK NOS. 1,2,3)

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P001212	JIM WELLS	01/16/03
P001213	JIM WELLS	01/16/03
P010913	JIM WELLS	01/16/03
<u>AUTHORIZED WASTE:</u>	non-reclaimable oil base drilling fluid, cuttings generated while using oil base drilling fluid, and non-haz., oily waste containing no reclaimable oil	

GARCIA LEASE (CALICHE PIT)

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P001215	JIM WELLS	01/16/03
<u>AUTHORIZED WASTE:</u>	waste specified in STF-003 consisting of non-reclaimable oil base drilling fluid, cuttings generated while using oil base drilling fluid, and non-haz., oily waste containing no reclaimable oil	

TEXAS OILFIELD ENVIRONMENTAL SERVICES, INC.
(512) 884-2400

DON CAMERON RANCH

<u>STF PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
STF-009	STARR	04/09/02

AUTHORIZED WASTE: water base drilling fluid and the associated cuttings; oil base drilling fluids and the associated cuttings; tank bottoms from gas plants, crude oil reclamation plants, and crude oil production/separation facilities; waste material from produced water collecting pits; produced formation sand; and soil contaminated with produced water, crude oil, or condensate; includes pit 010964, this is a washout pit.

LANDFARMING FACILITIES

RRC DISTRICT 02

GOETZ SERVICES INC.
(512) 798-4383

T. W. ILEY, JR. PROPERTY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LF-0213	LIVE OAK	09/03/02
<u>PERMITTED CAPACITY:</u>	258,824 BBLs	
<u>VOLUME OF WASTE RECEIVED:</u>	16,610 BBLs	
<u>AUTHORIZED WASTE:</u>	water base drilling fluid (max. chlorides = 3,000 mg/l)	

R & R REMEDIATION SERVICES, INC.
(210) 697-0686

BEXAR COUNTY FACILITY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LT-0150	BEXAR	PENDING RENEWAL
<u>AUTHORIZED WASTE:</u>	water base drilling muds and associated cuttings; non-reclaimable oil base drilling muds and the associated cuttings; waste material from produced water collecting pits; produced formation sand; and soil contaminated with produced water or crude oil	

OVERBY, KEITH R.
(512) 362-0707

PAWNEE FACILITY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LF-0050	BEE	09/21/01
<u>PERMITTED CAPACITY:</u>	775,400 BBLs	
<u>VOLUME OF WASTE RECEIVED:</u>	209,715 BBLs	
<u>AUTHORIZED WASTE:</u>	water base drilling fluid (max. chlorides = 3,000 mg/l)	

 RRC DISTRICT 03

GOETZ SERVICES, INC.
 (512) 798-4383

MATTHEW HAGENDORF PROPERTY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LF-0030	COLORADO	04/08/03

AUTHORIZED WASTE: water base drilling fluid and water base drilling solids
 (max. chlorides = 3,000 mg/l)

LUNDY VACUUM SERVICE, INC.
 (409) 543-3311

BEASLEY AREA FACILITY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LF-0012	FORT BEND	PENDING TRANSFER

PERMITTED CAPACITY: 232,941 BBLs

VOLUME OF WASTE RECEIVED: VOLUME RECEIVED UNKNOWN

AUTHORIZED WASTE: water base drilling fluid (max. chlorides = 3,000 mg/l)
 (Pending Transfer to Brooks Well Servicing, Inc.)

BROOKS WELL SERVICING INC
 (903) 984-5585

WHARTON COUNTY FACILITY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LF-0058	WHARTON	09/19/99

PERMITTED CAPACITY: 32,353 BBLs

VOLUME OF WASTE RECEIVED: 8,310 BBLs

AUTHORIZED WASTE: water base drilling fluid (max. chlorides = 3,000 mg/l)

PEMCO SERVICES, INC.
 (409) 842-6262

CHARLES PEMBERTON PROPERTY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LF-0186	JEFFERSON	03/25/01

PERMITTED CAPACITY: 3 inches of solids and/or EC <= 4 mmhos/cm
VOLUME OF WASTE RECEIVED: 183,604 BBLs
AUTHORIZED WASTE: water base drilling fluid (max. chlorides = 3,000 mg/l)

 VERGO PATIO GARDENS, INC.
 (800) 446-2160

A. E. LONGRON, JR. FACILITY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LF-0032	NEWTON	08/12/02
<u>PERMITTED CAPACITY:</u>	2,453,647 BBLs	
<u>VOLUME OF WASTE RECEIVED:</u>	1,284,059 BBLs	
<u>AUTHORIZED WASTE:</u>	only fresh water base drilling fluid generated in RRC District 03 (max. chlorides = 3,000 mg/l)	

-PIT-

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P007371	NEWTON	08/12/02
<u>PERMITTED CAPACITY:</u>	10,660 BBLs	
<u>VOLUME OF WASTE RECEIVED:</u>	0 BBLs	
<u>AUTHORIZED WASTE:</u>	fresh water base drilling fluid (max. chlorides= 3,000 mg/l)	

RRC DISTRICT 04

J. MOSS INVESTMENTS, INC
 (210) 651-6317

BUSTAMANTE FACILITY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LT-0168	ZAPATA	12/20/99
<u>AUTHORIZED WASTE:</u>	non-reclaimable oil base drilling fluids and associated cuttings; non-reclaimable, non-haz. tank bottoms from crude oil production/separation facilities; soil contaminated with crude oil; non-haz., non-injectable waste material from produced water collecting pits.	

-PIT-

<u>PIT PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
P010932	ZAPATA	03/12/00
<u>AUTHORIZED WASTE:</u>	water base drilling fluid & associated cuttings (max. chlorides = 6,000 mg/l)	

**TOM GILL SERVICES LLC
(512) 882-3153**

TOM GILL FACILITY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LF-0182	HIDALGO	10/20/00
<u>PERMITTED CAPACITY:</u>	126,176 BBLs	
<u>VOLUME OF WASTE RECEIVED:</u>	117,163 BBLs	
<u>AUTHORIZED WASTE:</u>	water base drilling fluid & cuttings (max. chlorides = 2,500 mg/l)	

**WASTE FACILITIES, INC.
(512) 348-2890**

PREMONT FACILITY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LT-0078	JIM WELLS	10/03/00
<u>PERMITTED CAPACITY:</u>	504,706 BBLs	
<u>VOLUME OF WASTE RECEIVED:</u>	362,294 BBLs	
<u>AUTHORIZED WASTE:</u>	only <u>non-haz.</u> materials allowed; non-injectable water base drilling fluid and cuttings; non-reclaimable oil base drilling fluids and cuttings; non-reclaimable tank bottoms from crude oil reclamation plants and crude oil production/separation facilities; non-injectable waste material from produced water collecting pits; produced formation sand; soil contaminated with produced water or crude oil. Treated waste is authorized for disposal in the pit covered under Pit Permit No. P010957.	

WFI BUSTAMANTE FACILITY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LT-0218	ZAPATA	04/23/04
<u>AUTHORIZED WASTE:</u>	only <u>non-haz.</u> materials allowed; non-injectable water base drilling fluids and associated cuttings; non-reclaimable tank bottoms from crude oil reclamation plants and crude oil production/separation facilities; non-injectable waste material from produced water	

collecting pits; produced formation sand, soil contaminated with produced water, crude oil or hydrocarbon condensate.

RRC DISTRICT 05

FOX TRUCKING & FLUID, INC.
(409) 298-3040

LEON COUNTY FACILITY - 76 ACRES

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LF-0227	LEON	02/15/03

AUTHORIZED WASTE: water base drilling fluid and associated solids (max. chlorides = 3,000 mg/l); facility not yet constructed; facility not able to accept waste

RRC DISTRICT 08

BASIC REMEDIATION, INC.
(915) 683-0913

BOOT HILL FACILITY (NOT YET CONSTRUCTED)

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LT-0152	ECTOR	09/10/01

AUTHORIZED WASTE: only non-haz. crude oil contaminated soil from spills subject to the jurisdiction of the jurisdiction of the Railroad Commission of Texas may be received, stored, handled, treated or disposed of at the facility.

RCM OIL, INC.
(800) 654-7150

RICKY SMITH RANCH FACILITY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LT-0136	WINKLER	PENDING RENEWAL

AUTHORIZED WASTE: only non-haz. crude oil contaminated soil from spills subject to the jurisdiction of the RRC; no waste may be

disposed of at the facility if that material is reclaimable.

SOUTHWEST DISPOSAL SERVICE, INC.
(602) 996-2449

PENWELL FACILITY (NOT YET CONSTRUCTED)

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LF-0045	ECTOR	PENDING RENEWAL

AUTHORIZED WASTE: only non-haz. materials allowed; water base drilling fluid & cuttings; non-reclaimable oil base drilling fluid and cuttings; waste water from dikes, sumps, pits & crude oil reclamation plants; non-reclaimable tank bottoms from gas plants, crude oil reclamation plants and production facilities; waste material from collecting pits; produced formation sand; oily washwater; top soil contaminated with produced water & other oily waste generated in connection with activities associated with exploration, development & production of oil & gas resources.

RRC DISTRICT 09

BRIDGEPORT TANK TRUCKS, INC.
(940) 683-5487

HOLLEY MUD DISPOSAL FACILITY

<u>PERMIT NO.</u>	<u>COUNTY</u>	<u>EXPIRATION</u>
LF-0229	WISE	11/17/03

AUTHORIZED WASTE: water base drilling fluid and associated solids (max. chlorides = 3,000 mg/l); associated pit permits are P010994 and P010995, these are drilling fluid storage pits; facility not yet able to accept waste

QUALITY OILFIELD SERVICE, INC.
(940) 644-2216

QOS FACILITY

PERMIT NO.

COUNTY

EXPIRATION

LF-0238

MONTAGUE

09/30/03

AUTHORIZED WASTE:

water base drilling fluid and associated solids (max. chlorides = 3,000 mg/l); associated pit permit is P011020, this is a drilling fluid storage pit; facility not yet constructed