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

Prepared by:

John A. Veil
Argonne National Laboratory
Washington, D.C.

November 1999
DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, make any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.
DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.
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-
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


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

PIT PERMIT NO.  COUNTY  EXPIRATION
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

PIT PERMIT NO.  COUNTY  EXPIRATION
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

PIT PERMIT NO.  COUNTY  EXPIRATION
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)

A-1
**MO-VAC SERVICE CO., INC.**

---CONTINUED---

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

### GANAWAY FACILITY

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P009769</td>
<td>HIDALGO</td>
<td>04/19/00</td>
</tr>
<tr>
<td>P009770</td>
<td>HIDALGO</td>
<td>04/19/00</td>
</tr>
</tbody>
</table>

**PERMITTED CAPACITY:**
- 165,000 BBLs
- 695,000 BBLs

**VOLUME OF WASTE RECEIVED:**
- 64,815 BBLs
- 417,114 BBLs

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

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

### SMITH DISPOSAL FACILITY

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P009559</td>
<td>HIDALGO</td>
<td>PENDING RENEWAL</td>
</tr>
</tbody>
</table>

**AUTHORIZED WASTE:**
- oil free, water-base drilling fluid (max. chlorides = 3,200 mg/l)

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

### WASTE FACILITIES, INC.

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P010655</td>
<td>ZAPATA</td>
<td>PENDING RENEWAL</td>
</tr>
</tbody>
</table>

**AUTHORIZED WASTE:**
- water base drilling fluid and associated cuttings and waste fluids from washout pits (max. chlorides = 6,000 mg/l)

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

### RANCHO NUEVO DISPOSAL FACILITY

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P010887</td>
<td>DUVAL</td>
<td>06/03/02</td>
</tr>
</tbody>
</table>

**AUTHORIZED WASTE:**
- water base drilling fluid and associated cuttings (max. chlorides = 3,000 mg/l)
### RRC District 08

**WESTEX NORTREES, L.C.**  
(915) 570-4229  
**NORTREES FACILITY**

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P010501</td>
<td>ECTOR</td>
<td>PENDING RENEWAL</td>
</tr>
<tr>
<td>P010619</td>
<td>ECTOR</td>
<td>PENDING RENEWAL</td>
</tr>
<tr>
<td>P010646</td>
<td>ECTOR</td>
<td>PENDING RENEWAL</td>
</tr>
<tr>
<td>P010647</td>
<td>ECTOR</td>
<td>PENDING RENEWAL</td>
</tr>
<tr>
<td>P010669</td>
<td>ECTOR</td>
<td>PENDING RENEWAL</td>
</tr>
<tr>
<td>P010670</td>
<td>ECTOR</td>
<td>PENDING RENEWAL</td>
</tr>
<tr>
<td>P010672</td>
<td>ECTOR</td>
<td>PENDING RENEWAL</td>
</tr>
<tr>
<td>P010673</td>
<td>ECTOR</td>
<td>PENDING RENEWAL</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P010354</td>
<td>BORDEN</td>
<td>PENDING RENEWAL</td>
</tr>
<tr>
<td>P010355</td>
<td>BORDEN</td>
<td>PENDING RENEWAL</td>
</tr>
<tr>
<td>P010356</td>
<td>BORDEN</td>
<td>PENDING RENEWAL</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P002485</td>
<td>BORDEN</td>
<td>PENDING TRANSFER</td>
</tr>
<tr>
<td>P002487</td>
<td>BORDEN</td>
<td>PENDING TRANSFER</td>
</tr>
<tr>
<td>P002488</td>
<td>BORDEN</td>
<td>PENDING TRANSFER</td>
</tr>
<tr>
<td>P002490</td>
<td>BORDEN</td>
<td>PENDING TRANSFER</td>
</tr>
<tr>
<td>P002491</td>
<td>BORDEN</td>
<td>PEND. RENEWAL/TRANSFER</td>
</tr>
</tbody>
</table>

AUTHORIZED WASTE: non-hazardous oil & gas waste

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P006192</td>
<td>BORDEN</td>
<td>PEND. RENEWAL/TRANSFER</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P010469</td>
<td>BORDEN</td>
<td>PEND. RENEWAL/TRANSFER</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P007726</td>
<td>MONTAGUE</td>
<td>02/09/00</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>STF PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>STF-001</td>
<td>JEFFERSON</td>
<td>05/09/00</td>
</tr>
</tbody>
</table>

PERMITTED CAPACITY: Waste is treated for injection in UIC wells or for use as daily cover at landfills

VOLUME OF WASTE RECEIVED: authorized to receive and treat non-hazardous oil and gas wastes, including oil and gas waste from Mexico

AUTHORIZED WASTE:

- PITS -

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P009890</td>
<td>JEFFERSON</td>
<td>05/09/00</td>
</tr>
<tr>
<td>P009891</td>
<td>JEFFERSON</td>
<td>05/09/00</td>
</tr>
</tbody>
</table>

AUTHORIZED WASTE: temporary storage of processed solids generated onsite from the treatment of non-hazardous oilfield waste

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P010789</td>
<td>JEFFERSON</td>
<td>05/09/00</td>
</tr>
<tr>
<td>P010792</td>
<td>JEFFERSON</td>
<td>05/09/00</td>
</tr>
</tbody>
</table>

AUTHORIZED WASTE: collection of waste authorized by STF-001 and washwater from washout of containers used to transport waste material to facility

<table>
<thead>
<tr>
<th>PIT PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>P010108</td>
<td>SAN PATRICIO</td>
<td>02/23/00</td>
</tr>
</tbody>
</table>

AUTHORIZED WASTE: non-pumpable waste authorized by STF-001 (located at Ingleside Transfer Station)
**TRANSCON ENERGY CORPORATION**  
(956) 765-5981  
GOLDEN TRIANGLE INDUSTRIES PROP.

<table>
<thead>
<tr>
<th>STF PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>STF-010</td>
<td>COLORADO</td>
<td>03/10/00</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>STF PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>STF-006 (*)</td>
<td>ZAPATA</td>
<td>08/30/00</td>
</tr>
</tbody>
</table>

**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;  
- linings 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), land treatment cells and landfill

************************************************************************
ECO MUD DISPOSAL
(512) 887-2183

ALICE FACILITY

** STF PERMIT NO. **
** COUNTY **
** EXPIRATION **

STF-003
JIM WELLS
01/16/03

** PERMITTED CAPACITY:**
2,049,882 BBLS

** VOLUME OF WASTE RECEIVED:**
961,883 BBLS

** AUTHORIZED WASTE:**
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)

** PIT PERMIT NO. **
** COUNTY **
** EXPIRATION **

P001212
JIM WELLS
01/16/03

P001213
JIM WELLS
01/16/03

P010913
JIM WELLS
01/16/03

** AUTHORIZED WASTE:**
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)

** PIT PERMIT NO. **
** COUNTY **
** EXPIRATION **

P001215
JIM WELLS
01/16/03

** AUTHORIZED WASTE:**
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
<table>
<thead>
<tr>
<th>STF PERMIT NO.</th>
<th>COUNTY</th>
<th>EXPIRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>STF-009</td>
<td>STARR</td>
<td>04/09/02</td>
</tr>
</tbody>
</table>

**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

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

************************************************************************
R & R REMEDIATION SERVICES, INC.
(210) 697-0686
BEXAR COUNTY FACILITY

PERMIT NO. COUNTY EXPIRATION
LT-0150 BEXAR PENDING RENEWAL
AUTHORIZED WASTE: 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

PERMIT NO. COUNTY EXPIRATION
LF-0050 BEE 09/21/01
PERMITTED CAPACITY: 775,400 BBLs
VOLUME OF WASTE RECEIVED: 209,715 BBLs
AUTHORIZED WASTE: water base drilling fluid (max. chlorides = 3,000 mg/l)
RRC DISTRICT 03

GOETZ SERVICES, INC.
(512) 798-4383

MATTHEW HAGENDORF PROPERTY

PERMIT NO.  COUNTY      EXPIRATION
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

PERMIT NO.  COUNTY      EXPIRATION
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

PERMIT NO.  COUNTY      EXPIRATION
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

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

A-10
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

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

- PIT -

PERMIT NO. COUNTY EXPIRATION
PO07371 NEWTON 08/12/02
PERMITTED CAPACITY: 10,660 BBLs
VOLUME OF WASTE RECEIVED: 0 BBLs
AUTHORIZED WASTE: fresh water base drilling fluid (max. chlorides = 3,000 mg/l)

- PRD DISTRICT 04 -

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

PERMIT NO. COUNTY EXPIRATION
LT-0168 ZAPATA 12/20/99
AUTHORIZED WASTE: 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 -

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

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

TOM GILL FACILITY

PERMIT NO.  COUNTY  EXPIRATION

LF-0182  HIDALGO  10/20/00

PERMITTED CAPACITY:  VOLUME OF WASTE RECEIVED:  
126,176 BBLs  117,163 BBLs  

AUTHORIZED WASTE:  
water base drilling fluid & cuttings (max. chlorides = 2,500 mg/l)

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

WASTE FACILITIES, INC.  
(512) 348-2890

PREMONT FACILITY

PERMIT NO.  COUNTY  EXPIRATION

LT-0078  JIM WELLS  10/03/00

PERMITTED CAPACITY:  VOLUME OF WASTE RECEIVED:  
504,706 BBLs  362,294 BBLs  

AUTHORIZED WASTE:  
only non-haz. 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

PERMIT NO.  COUNTY  EXPIRATION

LT-0218  ZAPATA  04/23/04

AUTHORIZED WASTE:  
only non-haz. 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

PERMIT NO.: LF-0227
COUNTY: LEON
EXPIRATION: 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)

PERMIT NO.: LT-0152
COUNTY: ECTOR
EXPIRATION: 09/10/01

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

RRC DISTRICT 05

RICKY SMITH RANCH FACILITY

PERMIT NO.: LT-0136
COUNTY: WINKLER
EXPIRATION: 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 reclamable.

SOUTHWEST DISPOSAL SERVICE, INC.
(602) 996-2449
PENWELL FACILITY (NOT YET CONSTRUCTED)

PERMIT NO. LF-0045
COUNTY ECTOR
EXPIRATION PENDING RENEWAL

AUTHORIZED WASTE: only non-haz. materials allowed; water base drilling fluid & cuttings; non-reclamable oil base drilling fluid and cuttings; waste water from dikes, sumps, pits & crude oil reclamation plants; non-reclamable 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.

BRIDGEPORT TANK TRUCKS, INC.
(940) 683-5487
HOLLEY MUD DISPOSAL FACILITY

PERMIT NO. LF-0229
COUNTY WISE
EXPIRATION 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

A-14
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