

**NM1 - 4**

**PERMITS,  
RENEWALS, &  
MODS**

**ATTACHMENT TO OCD 711 PERMIT APPROVAL**  
**PERMIT NM-01-0004**  
**LOCO HILLS WATER DISPOSAL, INC.**  
**SURFACE WASTE MANAGEMENT FACILITY**  
**SW/4 SW/4 Section 16, Township 17 South, Range 30 East, NMPM**  
**Eddy County, New Mexico**  
**(May 26, 2000)**

**FACILITY AND EVAPORATION POND OPERATION**

1. The facility must be fenced and have a sign at the entrance. The sign must be legible from at least fifty (50) feet and contain the following information: a) name of the facility; b) location by section, township and range; and c) emergency phone number.
2. Disposal may occur only when an attendant is on duty. Alternately, the facility may choose to use a computerized disposal system with PIN numbers to secure the facility from unauthorized dumping. The processing, evaporation and landfarm portion of the facility must be secured when no attendant is present.
3. All produced water must be unloaded into tanks. The produced water must reside in the tank and skimmer pit system long enough to allow for oil separation. Oil recovered must be stored in above-ground storage tanks. Per Division Rule 310, oil may not be stored or retained in earthen reservoirs or in open receptacles. Free oil must be removed regularly from the skim pits and sump.
4. All existing above-ground tanks located at the facility and containing materials other than fresh water must be bermed to contain one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater. All above-ground tanks must be labeled as to contents and hazards.
5. All new or replacement above-ground tanks containing materials other than fresh water must be placed on an impermeable pad and be bermed to contain one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater.
6. Below-grade sumps and below-grade tanks must be cleaned and visually inspected annually. Results must be recorded and maintained for OCD review. If sump/tank integrity has failed the OCD must be notified within 48 hours of discovery and the sump/tank contents and contaminated soils must be removed and land farmed at the facility landfarm or disposed of at an OCD-approved facility. Soil remediation must follow OCD surface impoundment closure guidelines. The permittee must submit a report to the OCD Santa Fe and Artesia offices that describes the investigation and remedial actions taken.
7. Overflow collection ditches must be cleaned and visually inspected annually. Results must be recorded and maintained for OCD review.
8. All new or replacement below-grade sumps and below-grade tanks at the facility must have impermeable secondary containment with a leak detection monitoring system. The secondary

containment system must be inspected for fluids weekly. Results must be recorded and maintained for OCD review. If fluids are present they must be checked and the analyses must be furnished to the OCD Santa Fe and Artesia offices.

9. The produced water receiving and treatment area must be inspected daily for tank, piping and berm integrity.
10. Any design changes to the surface waste management facility must be submitted to the OCD Santa Fe office for approval.
11. The evaporation ponds must have a minimum freeboard of three (3) feet. A device must be installed in the ponds to accurately measure freeboard.
12. Adequate freeboard will be maintained on all skim pits to prevent overflow.
13. The evaporation ponds may not contain any free oil.
14. The evaporation ponds and skim pits must be inspected on at least a daily basis and immediately following each consequential rainstorm or windstorm. The OCD Santa Fe and Artesia offices must be notified within 48 hours if any defect is noted. Repairs must be made as soon as possible. If the defect will jeopardize the integrity of the pond or pit, additional wastes may not be placed into the pond or pit until repairs have been completed.
15. Monitoring of the Santa Rosa Formation 60-foot monitoring wells (MH-2, MH-4, MH-5, MH-6, MH-7, MH-8, MH-9, and MH-10) must be performed quarterly and records of the date, inspector and status of the monitor well must be maintained. If fluid is present in the Santa Rosa Formation monitor wells the fluids in the pond and monitor wells must be measured for conductivity. If the pond and monitor well fluid conductivity measurements are similar the OCD Santa Fe and Artesia offices must be notified within 48 hours. Within 72 hours of discovery of water similarities, Loco Hills Water Disposal will submit a plan to the OCD Santa Fe and Artesia offices for review and approval that describes what procedures will be taken, to investigate the lateral extent of the waste water plume.
16. Annual reports regarding quarterly monitor well sampling must be furnished to the OCD Santa Fe office in database form and must include a graphical plot showing water level and conductivity in each well for all preceding quarters.
17. Monitoring of the Rustler Formation monitor wells (MH-1, MH-3, MH-11, MH-12, and MH-13) is not required. Loco Hills Water Disposal should secure these wells from potential vandalism, dumping or injection.
18. To protect migratory birds, all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted, covered or otherwise rendered nonhazardous to migratory birds.

### H<sub>2</sub>S PREVENTION & CONTINGENCY PLAN

1. Tests of ambient H<sub>2</sub>S levels must be conducted on a weekly basis. Test results must be recorded and retained. The tests must be conducted at four (4) locations at the top of the berm around each of the evaporation ponds and the skim pits. The wind speed and direction must be recorded in conjunction with each test.
  - a. If an H<sub>2</sub>S reading of 1.0 ppm or greater is obtained:
    - i. a second reading must be taken on the downwind berm within one hour;
    - ii. the dissolved oxygen and dissolved sulfide levels of the pond must be tested immediately and the need for immediate treatment determined; and
    - iii. tests for H<sub>2</sub>S levels must be made at the fence line down wind from the problem pond.
  - b. If two (2) consecutive H<sub>2</sub>S readings of 1.0 ppm or greater are obtained:
    - i. the operator must notify the Artesia office of the OCD immediately;
    - ii. the operator must commence hourly monitoring on a 24-hour basis; and
    - iii. the operator must obtain daily analyses of dissolved sulfides in the pond.
  - c. If an H<sub>2</sub>S reading of 10.0 ppm or greater at the facility fence line is obtained:
    - i. the operator must immediately notify the Artesia office of the OCD and the following public safety agencies:

New Mexico State Police  
Eddie County Sheriff  
Eddie County Fire Marshall  
Loco Hills Fire Department; and
    - ii. the operator must notify of all persons residing within one-half (½) mile of the fence line and assist public safety officials with evacuation as requested.
  - d. At least 1000 gallons of an H<sub>2</sub>S treatment chemical or an equivalent amount of chemical in concentrate form to produce 1000 gallons of H<sub>2</sub>S treatment chemical must be stored on-site at all times. H<sub>2</sub>S treatment chemicals must not be retained for a period in excess of the manufacturer's stated shelf life. Expired H<sub>2</sub>S treatment chemicals may be disposed of in the evaporation ponds.

### **LANDFARM OPERATION**

1. Disposal in the landfarm will occur only when an attendant is on duty. The landfarm portion of the facility must be secured when no attendant is present.
2. All contaminated soils received at the landfarm must be spread and disked within 72 hours of receipt.
3. Soils must be spread on the surface in lifts of six (6) inches or less.
4. Soils must be disked a minimum of one time every two weeks (biweekly) to enhance biodegradation of contaminants.
5. Exempt contaminated soils must be placed in the landfarm so that they are physically separate (*i.e.*, bermed) from non-exempt contaminated soils. There may be no mixing of exempt and non-exempt soils.
6. Successive lifts of contaminated soils may not be spread until a laboratory measurement of total petroleum hydrocarbons (TPH) in the previous lift is less than 100 parts per million (ppm), the sum of all aromatic hydrocarbons (BTEX) is less than 50 ppm, and benzene is less than 10 ppm. Comprehensive records of the laboratory analyses and the sampling locations must be maintained at the facility. Authorization from the OCD must be obtained prior to application of successive lifts and/or removal of the remediated soils.
7. Moisture must be added as necessary to enhance bioremediation and to control blowing dust. There may be no ponding, pooling or run-off of water allowed. Any ponding of precipitation must be removed within twenty-four (24) hours of discovery.
8. Enhanced bioremediation through the application of microbes (bugs) and/or fertilizers is permitted only after prior approval from the OCD Santa Fe office. Requests for application of microbes or fertilizers must include the location of the area designated for the program, the composition of additives, and the method, amount and frequency of application.
9. Contaminated soils may not be placed within twenty (20) feet of any pipelines crossing the landfarm. In addition, no equipment may be operated within ten (10) feet of a pipeline. All pipelines crossing the facility must have surface markers identifying the location of the pipelines.
10. The portion of the facility containing contaminated soils must be bermed to prevent runoff and runoff.

### **TREATMENT ZONE MONITORING**

1. One (1) background soil sample must be taken from a clean location outside the landfarm and

water disposal facility area. The background sample must be taken two (2) feet below the native ground surface. One (1) soil sample must be taken from the center portion of the landfarm two (2) feet below the native ground surface prior to operation. The soil samples must be analyzed for total petroleum hydrocarbons (TPH), major cations/anions, volatile aromatic organics (BTEX), and eight (8) RCRA heavy metals using EPA-approved methods.

2. A treatment zone not to exceed three (3) feet beneath the landfarm native ground surface must be monitored. A minimum of one random soil sample must be taken from each individual cell, with no cell being larger than five (5) acres, six (6) months after the first contaminated soils are received in the cell and then quarterly thereafter. The sample must be taken at two (2) to three (3) feet below the native ground surface.
3. The soil samples must be analyzed using EPA-approved methods for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) quarterly and for major cations/anions and eight (8) RCRA heavy metals annually.
4. After obtaining the soil samples the boreholes must be filled with an impermeable material such as cement or bentonite.

#### **WASTE ACCEPTANCE CRITERIA**

1. The facility is authorized to accept only oilfield wastes that are exempt from RCRA Subtitle C regulations and that do not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403. All loads of these wastes received at the facility must be accompanied by a "Generator Certificate of Waste Status" signed by the generator.
2. The landfarm portion of the facility may accept only wastes that are generated at Loco Hills Water Disposal. Material accepted into the landfarm portion of the facility must pass the Paint Filter Liquids Test EPA SW-846 Method 9095A or equivalent.
3. At no time may any OCD-permitted surface waste management facility accept wastes that are determined to be RCRA Subtitle C hazardous wastes by either listing or characteristic testing.
4. The transporter of any wastes to the facility must supply a certification that wastes delivered are those wastes received from the generator and that no additional materials have been added.
5. No produced water may be received at the facility from motor vehicles unless the transporter has a valid Form C-133, "Authorization to Move Produced Water," on file with the Division.
6. Comprehensive records of all material disposed of at the surface waste management facility must be maintained by Loco Hills Water Disposal.

### **REPORTING AND RECORD KEEPING**

1. Results of the quarterly testing of the monitor wells will be recorded and an annual report will be submitted to the OCD Santa Fe office for review **by September 7 of each year.**
2. Analytical results from background sampling and the quarterly treatment zone monitoring must be submitted to the OCD Santa Fe office **within thirty (30) days** of receipt from the laboratory. The analysis report must include a sample location map.
3. Results of the weekly testing of the evaporation pond for H<sub>2</sub>S must be recorded and maintained for OCD review.
4. Results of annual inspection and maintenance on below-grade sumps and below-grade tanks must be recorded and maintained for OCD review.
5. Results of maintenance on the collection ditches, below-grade sump for the collection ditches and skim pits must be recorded and maintained for OCD review.
6. Results of weekly inspections of secondary containment at below-grade sumps and below-grade tanks must be recorded and maintained for OCD review.
7. The applicant must notify the **OCD Artesia District office within 24 hours** of any fire, break, leak, spill, blowout or any other circumstance that could constitute a hazard or contamination in accordance with OCD Rule 116.
8. All records of testing and monitoring must be retained for a period of five (5) years.
9. The OCD must be notified prior to the installation of any pipelines or wells or other structures within the boundaries of the facility.
10. Comprehensive records of all material disposed of at the facility will be maintained at the facility. The records for each load will include: 1) generator; 2) origin; 3) date received; 4) quantity; and 5) transporter.

### **FINANCIAL ASSURANCE**

1. Financial assurance in the amount of **\$188,436** in the form of a surety or cash bond or a letter of credit, which is approved by the Division, is required from Loco Hills Water Disposal, Inc. for the commercial surface waste management facility.

**By June 26, 2000** the Loco Hills Water Disposal, Inc. must submit 25% of the financial assurance in the amount of **\$47,109.**

**By October 7, 2000** the Loco Hills Water Disposal, Inc. must submit 50% of the financial assurance in the amount of **\$94,218.**

**By October 7, 2001** the Loco Hills Water Disposal, Inc. must submit 75% of the financial assurance in the amount of **\$141,327**.

**By October 7, 2002** the Loco Hills Water Disposal, Inc. must submit 100% of the financial assurance in the amount of **\$188,436**.

2. The facility is subject to periodic inspections by the OCD. The conditions of this permit and the facility will be reviewed by the OCD no later than five (5) years from the date of this approval. In addition the closure cost estimate will be reviewed according to prices and remedial work estimates at the time of review. The financial assurance may be adjusted to incorporate any closure cost changes.

### **CLOSURE**

1. The OCD Santa Fe and Artesia offices must be notified when operation of the facility is discontinued for a period in excess of six (6) months or when the facility is to be dismantled. Upon cessation of operations for six (6) consecutive months, the operator must complete cleanup of constructed facilities and restoration of the facility site within the following six (6) months, unless an extension of time is granted by the Director.
2. A closure plan to include the following closure procedures must be submitted to the OCD for approval:
  - a. When the facility is to be closed no new material will be accepted.
  - b. All evaporation ponds will be allowed to evaporate. Any water not evaporated will be hauled to an OCD-approved facility.
  - c. The evaporation ponds and skim pits will be surveyed for NORM.
  - d. Sludge will be removed from the evaporation ponds and skim pits for remediation at the facility landfarm or disposal at an OCD-approved facility.
  - e. The soils beneath the liquids receiving and treatment area and landfarm will be characterized for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) content to determine potential migration of contamination.
  - f. All above and below grade tanks will be emptied and any waste will be hauled to an OCD-approved facility. The empty tanks, piping and equipment will be removed.
  - g. Contaminated soils or existing landfarm soils will be remediated until they meet the OCD standards in effect at the time of closure or removed to an OCD-approved facility.
  - h. The area will be contoured, seeded with a native seed mix and allowed to return to its natural state. If the landowner desires to keep existing structures, berms, or fences for



future alternative uses the structures, berms, or fences may be left in place.

- i. Closure will be completed pursuant to all OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.

### **CERTIFICATION**

Loco Hills Water Disposal, Inc., by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Loco Hills Water Disposal, Inc. further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect ground water, surface water, human health and the environment.

Accepted:

LOCO HILLS WATER DISPOSAL, INC.

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

**OCD CLOSURE COST ESTIMATE FOR**

**LOCO HILLS WATER DISPOSAL, INC.**  
**Surface Waste Management Facility NM-01-0004**  
**April 7, 2000**

**KNOWN**

7.81 acres = Total surface area  
17 ft. = Maximum water depth for all evaporation ponds  
132.77 acre ft. = Total volume at LHWD  
11.47 inches/year = Annual mean rainfall (Artesia)

**CONVERSIONS**

1 acre ft = 325,851 gal.  
1 acre ft = 43,560 cubic ft.  
42 gal = 1 bbl

$$132.77 \text{ acre ft.} \times \frac{325,851 \text{ gal}}{1 \text{ acre ft.}} = 43,263,237 \text{ gal.} \times \frac{1 \text{ bbl}}{42 \text{ gal.}} = 1,030,077 \text{ bbl Total Volume At LHWD}$$

1,030,077 bbl = 43,263,237 gal Total volume at LHWD to be evaporated.

---

**Evaporation**

2000 bbl/month/acre = Estimated evaporation  
from Examiner Hearing Case 7329, August 26, 1981, Page 33-34

$$2000 \text{ bbl/month/acre} \times \frac{12 \text{ months}}{1 \text{ year}} \times \frac{1 \text{ year}}{365 \text{ days}} \times \frac{42 \text{ gal}}{1 \text{ bb}} = 2762 \text{ gal/day/acre}$$

$$2762 \text{ gal/day/acre} \times 7.81 \text{ acre} = 21,571 \text{ gal/day Total Evaporation at LHWD}$$

$$\frac{43,263,237 \text{ gal}}{21,571 \text{ gal/day}} = 2006 \text{ days} \times \frac{1 \text{ year}}{365 \text{ days}} = 5.5 \text{ years Evaporation only}$$

---

**Infiltration**

321.3 bbl/day  
to = Estimated Infiltration from Examiner Hearing Case 7329, August 26, 1981,  
3.7 bbl/day

$$321.3 \text{ bbl/day} \times \frac{42 \text{ gal}}{1 \text{ bbl}} = 13,494 \text{ gal/day Total Infiltration at LHWD}$$

$$\frac{43,263,237 \text{ gal}}{13,494 \text{ gal/day}} = 3206 \text{ days} \times \frac{1 \text{ year}}{365 \text{ days}} = 8.8 \text{ Years to Infiltrate only}$$

13,494 gal/day

365 days

---

### RainFall

$$11.47 \text{ inch/year} * \frac{1 \text{ ft}}{12 \text{ inches}} * \frac{1 \text{ year}}{365 \text{ days}} = 0.002618 \text{ ft/day}$$

$$7.81 \text{ acres} * 0.002618 \text{ ft/day} * \frac{325851 \text{ gal}}{\text{acre ft}} = 6663 \text{ gal/day Total Rain at LHWD}$$

---

$$\begin{array}{r} 21,571 \text{ gal/day Total Evaporation at LHWD} \\ 13,494 \text{ gal/day Total Infiltration at LHWD} \\ + \quad -6,663 \text{ gal/day Total Rain at LHWD} \\ \hline 28,402 \text{ gal/day Total Loss at LHWD} \end{array}$$

$$\frac{43,263,237 \text{ gal}}{28,402 \text{ gal/day}} = 1523 \text{ days} = 4.2 \text{ years to remove the water}$$

Evaporate pond for 4 years and landfarm sludge once evaporation pond is emptied.  
Contractor will check on facility daily and monitor H2S .

Contract personnel \$25.00 a day 7 days a week for 4 years

**\$36,500.00 Evaporation Facility Monitoring and Inspection**

---

### Remove Fluids From All Tanks.

1x300 bbl, 3x500 bbl, 2x1000 bbl oil tanks = 3800 bbl total oil to sell not disposed

2x500 bbl, 1x 740, 1x300, skim tanks = 2040 bbls total

½ treatable oil ½ disposable water or 1020 bbl

2x500 sale tanks, = 1000 bbl total oil to sell not for disposal

2x1000 oil treatment tanks = 2000 bbl total

2x 250 oil holding tanks = 500 bbl total oil to sell not for disposal

= 3020 bbl total tank fluids

$$\frac{3020 \text{ bbl}}{125 \text{ bbl}} * 2 \text{ hours} * \$55.00/\text{hour} = \$2,658.00 \text{ transport cost}$$

$$\$ .35 \text{ bbl} * 3020 \text{ bbl} = \$ 1,057.00 \text{ disposal cost}$$

**\$3,715.00 Tank Fluid Disposal**

---

**Remove Tanks, Piping and Equipment**

Estimate from other 711 facility closure cost

**\$5,000.00 Tank and Equipment Disposal**

---

**Analytical Analysis for site characterization**

40 confirmatory samples taken beneath tank, sump, and skim pit locations.

State Contract Laboratory Prices per analysis:

BTEX	\$ 40.00	*	40 samples	=	\$1,600.00
TPH	\$ 50.00	*	40 samples	=	\$2,000.00
Metals	\$200.00	*	40 samples	=	<u>\$8,000.00</u>
					<b>\$11,600.00 Analytical</b>

---

**Confirmatory Sampling Time and Labor for 40 samples**

Labor 2 personnel \$55.00/hour

Sample 30 min per sample

Travel 2 hour

Delivery &amp; Paperwork 2 hours

$$\text{Total Time} = (30 \text{ min/sample} * 40 \text{ samples}) + 2 \text{ hour} + 2 \text{ hours} = 24 \text{ hours}$$
$$24 \text{ hours} * \$55.00/\text{hour} * 2 \text{ persons} = \text{\$2,640.00 Sampling Event}$$

---

**Empty Two 15' x 125' x 5' Skim Pits**

18,750 cubic feet = 140,259gal = 3339 bbl

100 bbl water truck &amp; driver \$65.00/hour

3 hours per trip

$$\frac{3339 \text{ bbl}}{100 \text{ bbl}} * 3 \text{ hours} * \$55.00/\text{hour} = \$6,630 \text{ transport cost}$$
$$\$0.35 \text{ bbl} * 3,339 \text{ bbl} = \$1,168.00 \text{ disposal cost}$$
**\$5,623.00 Skim Pit Fluid Disposal**

---

### Empty 3'x10'x30' Facility Overflow Sump

3'x10'x30' = 900 cubic feet = 6732 gal = 160 bbl

100 bbl water truck & driver \$65.00/hour

3 hours per trip

$\frac{100 \text{ bbl}}{160 \text{ bbl}} * 3 \text{ hours} * \$55.00/\text{hour} = \$390.00 \text{ transport cost}$

$\$ .35 \text{ bbl} * 160 \text{ bbl} = \$ 56.00 \text{ disposal cost}$

**\$386.00 Total sump fluid disposal**

---

### Treatment Zone Monitoring for 2 years For 5 acre Landfarm

#### State Contract Laboratory Prices per Analysis:

BTEX	\$ 40.00	x 8 samples	= \$320.00
TPH	\$ 50.00	x 8 samples	= \$400.00
Metals	\$200.00	x 2 samples	= <u>\$400.00</u>
			\$ 1,120.00 Analytical

### Quarterly Sampling Time and Labor for One Landfarm Cell for 2 Years

Labor 2 personnel \$55.00/hour

Sample 30 min per sample

Travel 2 hour

Delivery & Paperwork 2 hours

Total Time = (30 min/sample x 1 sample) + 2 hour + 2 hours = 4.5 hours

4.5 hours x \$55.00/hour x 2 persons x 8 quarters = \$3,960.00 Sampling

**\$5080.00 Treatment Zone Monitoring**

---

### Disking/Tilling for 2 Years Every Two Weeks for 5 Acres.

Price and Time Quotes from Equipment and Landfarm Operators:

Small tractor and operator \$30.00/hour

30 min per acre

5 acres \* 30 min \* 52 weeks = 1300 hours

130 hours \* \$30.00/hour = \$3,900.00 Disking and Tilling

---

**Additional Landfarming and Analytical for Evaporation Pond Sludge**

**\$16,010.00 Landfarming and Analytical**

---

**NORM Survey of 12.81 acres**

\$50 per hour for certified NORM Survey

12 hours

\$100/day for Ludlanm 28

(12 hours \* \$55.00/hour ) + \$100.00 = **\$ 700.00 NORM Survey**

---

**Level the Berms and Contour the Site**

**\$85,947.00 level and contour**

---

**Revegetation for 20 acres**

Equipment and labor cost

tractor and seed drill \$30.00/hour @ 30 min/acre for 20 acres = \$300.00

Materials cost

Seed \$ 10.00 /lb @ 5 lb/acre for 20 acres = \$1,000.00

\$300.00 + \$1,000.00 = **\$1,300.00 Revegetation**

---

TOTAL with onsite management of waste to include evaporation of water and landfarming of sludge and contaminated soils, equipment removal, regrade and seed.

	<b>\$ 178,401.00</b>	<b>Total</b>
+	<b>\$ 10,035.00</b>	<b>Tax .05625</b>
	<b>\$ 188,436.00</b>	<b>Total Cost</b>



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

September 7, 1999

**CERTIFIED MAIL**

**RETURN RECEIPT NO. P-326-936-534**

Mr. James R. Maloney  
Loco Hills Water Disposal, Inc.  
P.O. Box 68  
Loco Hills, NM 87255

**RE: OCD Rule 711 Permit Approval (NM-01-0004)**  
**Loco Hills Water Disposal, Inc.**  
**Commercial Surface Waste Management Facility**  
**SW/4 SW/4 Section 16, Township 17 South, Range 30 East, NMPM**  
**Eddy County, New Mexico**

Dear Mr. Maloney:

The permit application for the Loco Hills Water Disposal, Inc. (LHWD) commercial surface waste management facility located in the SW/4 SW/4 Section 16, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico **is hereby approved** in accordance with New Mexico Oil Conservation Division (OCD) Rule 711 under the conditions contained in the enclosed attachment. **This permit approval is conditional upon the receipt and approval by the Director of financial assurance in the amount of \$250,000.** According to the schedule outlined in the financial assurance section of the enclosed attachment, 25% of the \$250,000 bond (\$62,500) is required within thirty (30) days of the date of this letter. The application consists of the permit application Form C-137 dated April 13, 1999, inspection report response letter dated April 13, 1999, and materials from the hearing files related to Order No. R-7329, dated October 30, 1981; Order No. R-7329-De Novo, dated July 29, 1982; Order No. R-7720, dated December 30, 1982; and Order R-8855, dated May 12, 1986.

The construction, operation, monitoring and reporting shall be as specified in the enclosed attachment. All modifications and alternatives to the approved treatment, evaporation and landfarm methods must receive prior OCD approval. LHWD is required to notify the Director of any facility expansion or process modification and to file the appropriate materials with the Division.

Please be advised approval of this facility permit does not relieve LHWD of liability should your operation result in actual pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve LHWD of responsibility for compliance with other federal, state or local laws and/or regulations.

Mr. James R. Maloney  
September 7, 1999  
Page 2

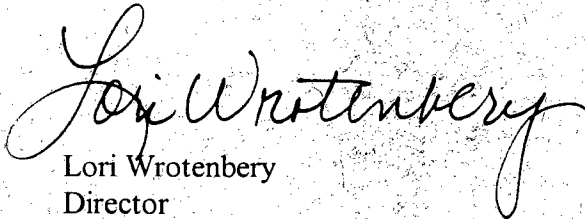
Please be advised that all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted or otherwise rendered non-hazardous to migratory birds. In addition OCD Rule 310 prohibits oil from being stored or retained in earthen reservoirs or open receptacles.

The LHWD Commercial Surface Waste Management Facility Permit NM-01-0004 will be reviewed at least once every five (5) years from the date of this approval letter. The facility is subject to periodic inspections by the OCD.

Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the OCD Santa Fe Office within five working days of receipt of this letter.**

If you have any questions please do not hesitate to contact Martyne J. Kieling at (505) 827-7153.

Sincerely,



Lori Wrotenbery  
Director

LW/mjk

xc with attachments:

Artesia OCD Office  
Hobbs OCD Office



**ATTACHMENT TO OCD 711 PERMIT APPROVAL**  
**PERMIT NM-01-0004**  
**LOCO HILLS WATER DISPOSAL, INC.**  
**SURFACE WASTE MANAGEMENT FACILITY**  
**SW/4 SW/4 Section 16, Township 17 South, Range 30 East, NMPM**  
**Eddy County, New Mexico**  
**(September 7, 1999)**

**FACILITY AND EVAPORATION POND OPERATION**

1. The facility must be fenced and have a sign at the entrance. The sign must be legible from at least fifty (50) feet and contain the following information: a) name of the facility; b) location by section, township and range; and c) emergency phone number.
2. Disposal must occur through a computerized disposal system. The processing, evaporation and landfarm portion of the facility must be secured when no attendant is present.
3. All produced water must be unloaded into tanks. The produced water must reside in the tank and skimmer pit system long enough to allow for oil separation. Oil recovered must be stored in above-ground storage tanks. Per Division Rule 310, oil may not be stored or retained in earthen reservoirs or in open receptacles. Free oil must be removed regularly from the skim pits and sump.
4. All existing above-ground tanks located at the facility and containing materials other than fresh water must be bermed to contain one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater. All above-ground tanks must be labeled as to contents and hazards.
5. All new or replacement above-ground tanks containing materials other than fresh water must be placed on an impermeable pad and be bermed to contain one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater.
6. Below-grade sumps and below-grade tanks must be cleaned and visually inspected annually. Results must be recorded and maintained for OCD review. If sump/tank integrity has failed the OCD must be notified within 48 hours of discovery and the sump/tank contents and contaminated soils must be removed and land farmed at the facility landfarm or disposed of at an OCD-approved facility. Soil remediation must follow OCD surface impoundment closure guidelines. The permittee must submit a report to the OCD Santa Fe and Artesia offices that describes the investigation and remedial actions taken.
7. Overflow collection ditches must be cleaned and visually inspected annually. Results must be recorded and maintained for OCD review.
8. All new or replacement below-grade sumps and below-grade tanks at the facility must have impermeable secondary containment with a leak detection monitoring system. The secondary containment system must be inspected for fluids weekly. Results must be recorded and maintained for OCD review. If fluids are present they must be checked and the analyses must be furnished to the OCD

Santa Fe and Artesia offices.

9. The produced water receiving and treatment area must be inspected daily for tank, piping and berm integrity.
10. Any design changes to the surface waste management facility must be submitted to the OCD Santa Fe office for approval.
11. The evaporation ponds must have a minimum freeboard of three (3) feet. A device must be installed in the ponds to accurately measure freeboard.
12. Adequate freeboard will be maintained on all skim pits to prevent overflow.
13. The evaporation ponds may not contain any free oil.
14. The evaporation ponds and skim pits must be inspected on at least a daily basis and immediately following each consequential rainstorm or windstorm. The OCD Santa Fe and Artesia offices must be notified within 48 hours if any defect is noted. Repairs must be made as soon as possible. If the defect will jeopardize the integrity of the pond or pit, additional wastes may not be placed into the pond or pit until repairs have been completed.
15. Monitoring of the Santa Rosa Formation 60-foot monitoring wells (MH-2, MH-4, MH-5, MH-6, MH-7, MH-8, MH-9, and MH-10) must be performed quarterly and records of the date, inspector and status of the monitor well must be maintained. If fluid is present in the Santa Rosa Formation monitor wells the fluids in the pond and monitor wells must be measured for conductivity. If the pond and monitor well fluid conductivity measurements are similar the OCD Santa Fe and Artesia offices must be notified within 48 hours. Within 72 hours of discovery of water similarities, Loco Hills Water Disposal will submit a plan to the OCD Santa Fe and Artesia offices for review and approval that describes what procedures will be taken, to investigate the lateral extent of the waste water plume.
16. Annual reports regarding quarterly monitor well sampling must be furnished to the OCD Santa Fe office in database form and must include a graphical plot showing water level and conductivity in each well for all preceding quarters.
17. Monitoring of the Rustler Formation monitor wells (MH-1, MH-3, MH-11, MH-12, and MH-13) is not required. Loco Hills Water Disposal should secure these wells from potential vandalism, dumping or injection.
18. To protect migratory birds, all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted, covered or otherwise rendered nonhazardous to migratory birds.

## H<sub>2</sub>S PREVENTION & CONTINGENCY PLAN

1. Tests of ambient H<sub>2</sub>S levels must be conducted on a weekly basis. Test results must be recorded and retained. The tests must be conducted at four (4) locations at the top of the berm around each of the evaporation ponds and the skim pits. The wind speed and direction must be recorded in conjunction with each test.
  - a. If an H<sub>2</sub>S reading of 1.0 ppm or greater is obtained:
    - i. a second reading must be taken on the downwind berm within one hour;
    - ii. the dissolved oxygen and dissolved sulfide levels of the pond must be tested immediately and the need for immediate treatment determined; and
    - iii. tests for H<sub>2</sub>S levels must be made at the fence line down wind from the problem pond.
  - b. If two (2) consecutive H<sub>2</sub>S readings of 1.0 ppm or greater are obtained:
    - i. the operator must notify the Artesia office of the OCD immediately;
    - ii. the operator must commence hourly monitoring on a 24-hour basis; and
    - iii. the operator must obtain daily analyses of dissolved sulfides in the pond.
  - c. If an H<sub>2</sub>S reading of 10.0 ppm or greater at the facility fence line is obtained:
    - i. the operator must immediately notify the Artesia office of the OCD and the following public safety agencies:  
  
New Mexico State Police  
Eddie County Sheriff  
Eddie County Fire Marshall  
Loco Hills Fire Department; and
    - ii. the operator must notify of all persons residing within one-half (½) mile of the fence line and assist public safety officials with evacuation as requested.
  - d. At least 1000 gallons of an H<sub>2</sub>S treatment chemical or an equivalent amount of chemical in concentrate form to produce 1000 gallons of H<sub>2</sub>S treatment chemical must be stored on-site at all times. H<sub>2</sub>S treatment chemicals must not be retained for a period in excess of the manufacturer's stated shelf life. Expired H<sub>2</sub>S treatment chemicals may be disposed of in the evaporation ponds.

### LANDFARM OPERATION

1. Disposal in the landfarm will occur only when an attendant is on duty. The landfarm portion of the facility must be secured when no attendant is present.
2. All contaminated soils received at the landfarm must be spread and disked within 72 hours of receipt.
3. Soils must be spread on the surface in lifts of six (6) inches or less.
4. Soils must be disked a minimum of one time every two weeks (biweekly) to enhance biodegradation of contaminants.
5. Exempt contaminated soils must be placed in the landfarm so that they are physically separate (*i.e.*, bermed) from non-exempt contaminated soils. There may be no mixing of exempt and non-exempt soils.
6. Successive lifts of contaminated soils may not be spread until a laboratory measurement of total petroleum hydrocarbons (TPH) in the previous lift is less than 100 parts per million (ppm), the sum of all aromatic hydrocarbons (BTEX) is less than 50 ppm, and benzene is less than 10 ppm. Comprehensive records of the laboratory analyses and the sampling locations must be maintained at the facility. Authorization from the OCD must be obtained prior to application of successive lifts and/or removal of the remediated soils.
7. Moisture must be added as necessary to enhance bioremediation and to control blowing dust. There may be no ponding, pooling or run-off of water allowed. Any ponding of precipitation must be removed within twenty-four (24) hours of discovery.
8. Enhanced bioremediation through the application of microbes (bugs) and/or fertilizers is permitted only after prior approval from the OCD Santa Fe office. Requests for application of microbes or fertilizers must include the location of the area designated for the program, the composition of additives, and the method, amount and frequency of application.
9. Contaminated soils may not be placed within twenty (20) feet of any pipelines crossing the landfarm. In addition, no equipment may be operated within ten (10) feet of a pipeline. All pipelines crossing the facility must have surface markers identifying the location of the pipelines.
10. The portion of the facility containing contaminated soils must be bermed to prevent runoff and runoff.

### TREATMENT ZONE MONITORING

1. One (1) background soil sample must be taken from a clean location outside the landfarm and water disposal facility area. The background sample must be taken two (2) feet below the native

ground surface. One (1) soil sample must be taken from the center portion of the landfarm two (2) feet below the native ground surface prior to operation. The soil samples must be analyzed for total petroleum hydrocarbons (TPH), major cations/anions, volatile aromatic organics (BTEX), and eight (8) RCRA heavy metals using EPA-approved methods.

2. A treatment zone not to exceed three (3) feet beneath the landfarm native ground surface must be monitored. A minimum of one random soil sample must be taken from each individual cell, with no cell being larger than five (5) acres, six (6) months after the first contaminated soils are received in the cell and then quarterly thereafter. The sample must be taken at two (2) to three (3) feet below the native ground surface.
3. The soil samples must be analyzed using EPA-approved methods for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) quarterly and for major cations/anions and eight (8) RCRA heavy metals annually.
4. After obtaining the soil samples the boreholes must be filled with an impermeable material such as cement or bentonite.

#### **WASTE ACCEPTANCE CRITERIA**

1. The facility is authorized to accept only oilfield wastes that are exempt from RCRA Subtitle C regulations and that do not contain Naturally Occurring Radioactive Material (NORM) regulated pursuant to 20 NMAC 3.1 Subpart 1403. All loads of these wastes received at the facility must be accompanied by a "Generator Certificate of Waste Status" signed by the generator.
2. The landfarm portion of the facility may accept only wastes that are generated at Loco Hills Water Disposal. Material accepted into the landfarm portion of the facility must pass the Paint Filter Liquids Test EPA SW-846 Method 9095A or equivalent.
3. At no time may any OCD-permitted surface waste management facility accept wastes that are determined to be RCRA Subtitle C hazardous wastes by either listing or characteristic testing.
4. The transporter of any wastes to the facility must supply a certification that wastes delivered are those wastes received from the generator and that no additional materials have been added.
5. No produced water may be received at the facility from motor vehicles unless the transporter has a valid Form C-133, "Authorization to Move Produced Water," on file with the Division.
6. Comprehensive records of all material disposed of at the surface waste management facility must be maintained by Loco Hills Water Disposal.

### **REPORTING AND RECORD KEEPING**

1. Results of the quarterly testing of the monitor wells will be recorded and an annual report will be submitted to the OCD Santa Fe office for review by **September 7 of each year.**
2. Analytical results from background sampling and the quarterly treatment zone monitoring must be submitted to the OCD Santa Fe office **within thirty (30) days** of receipt from the laboratory. The analysis report must include a sample location map.
3. Results of the weekly testing of the evaporation pond for H<sub>2</sub>S must be recorded and maintained for OCD review.
4. Results of annual inspection and maintenance on below-grade sumps and below-grade tanks must be recorded and maintained for OCD review.
5. Results of maintenance on the collection ditches, below-grade sump for the collection ditches and skim pits must be recorded and maintained for OCD review.
6. Results of weekly inspections of secondary containment at below-grade sumps and below-grade tanks must be recorded and maintained for OCD review.
7. The applicant must notify the **OCD Artesia District office within 24 hours** of any fire, break, leak, spill, blowout or any other circumstance that could constitute a hazard or contamination in accordance with OCD Rule 116.
8. All records of testing and monitoring must be retained for a period of five (5) years.
9. The OCD must be notified prior to the installation of any pipelines or wells or other structures within the boundaries of the facility.
10. Comprehensive records of all material disposed of at the facility will be maintained at the facility. The records for each load will include: 1) generator; 2) origin; 3) date received; 4) quantity; and 5) transporter.

### **FINANCIAL ASSURANCE**

1. Financial assurance in the amount of **\$250,000** in the form of a surety or cash bond or a letter of credit, which is approved by the Division, is required from Loco Hills Water Disposal, Inc. for the commercial surface waste management facility.

By **October 7, 1999** the Loco Hills Water Disposal, Inc. must submit 25% of the financial assurance in the amount of **\$62,500.**

By **October 7, 2000** the Loco Hills Water Disposal, Inc. must submit 50% of the financial

assurance in the amount of **\$125,000.**

**By October 7, 2001** the Loco Hills Water Disposal, Inc. must submit 75% of the financial assurance in the amount of **\$187,500.**

**By October 7, 2002** the Loco Hills Water Disposal, Inc. must submit 100% of the financial assurance in the amount of **\$250,000.**

2. The facility is subject to periodic inspections by the OCD. The conditions of this permit and the facility will be reviewed by the OCD no later than five (5) years from the date of this approval. In addition the closure cost estimate will be reviewed according to prices and remedial work estimates at the time of review. The financial assurance may be adjusted to incorporate any closure cost changes.

### **CLOSURE**

1. The OCD Santa Fe and Artesia offices must be notified when operation of the facility is discontinued for a period in excess of six (6) months or when the facility is to be dismantled. Upon cessation of operations for six (6) consecutive months, the operator must complete cleanup of constructed facilities and restoration of the facility site within the following six (6) months, unless an extension of time is granted by the Director.
2. A closure plan to include the following closure procedures must be submitted to the OCD for approval:
  - a. When the facility is to be closed no new material will be accepted.
  - b. All evaporation ponds will be allowed to evaporate. Any water not evaporated will be hauled to an OCD-approved facility.
  - c. The evaporation ponds and skim pits will be surveyed for NORM.
  - d. Sludge will be removed from the evaporation ponds and skim pits for remediation at the facility landfarm or disposal at an OCD-approved facility.
  - e. The soils beneath the liquids receiving and treatment area and landfarm will be characterized for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) content to determine potential migration of contamination.
  - f. All above and below grade tanks will be emptied and any waste will be hauled to an OCD-approved facility. The empty tanks, piping and equipment will be removed.
  - g. Contaminated soils or existing landfarm soils will be remediated until they meet the OCD standards in effect at the time of closure or removed to an OCD-approved facility.
  - h. The area will be contoured, seeded with a native seed mix and allowed to return to its

natural state. If the landowner desires to keep existing structures, berms, or fences for future alternative uses the structures, berms, or fences may be left in place.

- i. Closure will be completed pursuant to all OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.

**CERTIFICATION**

Loco Hills Water Disposal, Inc., by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Loco Hills Water Disposal, Inc. further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect ground water, surface water, human health and the environment.

Accepted:

LOCO HILLS WATER DISPOSAL, INC.

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_





# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON

Governor

Betty Rivera

Cabinet Secretary

Lori Wrotenberg

Director

Oil Conservation Division

March 27, 2002

**CERTIFIED MAIL**

**RETURN RECEIPT NO. 7001-1940-0004-7923-3934**

Mr. James R. Maloney  
Loco Hills Water Disposal Company  
P.O. Box 68  
Loco Hills, NM 87255

**RE: Name Correction from Loco Hills Water Disposal, Inc. to Loco Hills Water Disposal Company  
Commercial Surface Waste Management Facility Permit NM-01-0004  
SW/4 SW/4 Section 16, Township 17 South, Range 30 East, NMPM  
Eddy County, New Mexico**

Dear Mr. Maloney:

The New Mexico Oil Conservation Division (OCD) has received a request from Loco Hills Water Disposal Company dated January 25, 2002 requesting a name correction for the surface waste management facility referenced above from Loco Hills Water Disposal, Inc. to Loco Hills Water Disposal Company. The request is **hereby approved** in accordance with OCD Rule 711.

Please note that the OCD has received and approved the replacement financial assurance from Loco Hills Water Disposal Company. Please refer to the OCD letter to Loco Hills Water Disposal Company dated February 13, 2002 regarding financial assurance.

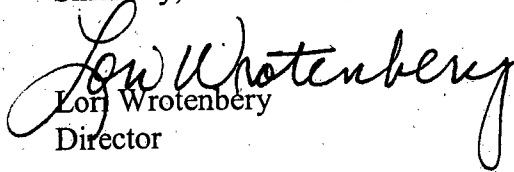
All modifications and alternatives to the approved disposal methods must receive prior OCD approval. Loco Hills Water Disposal Company is required to notify the Director of any facility expansion or process modification and to file the appropriate materials with the Division.

Please be advised approval of this name correction does not relieve Loco Hills Water Disposal Company of liability should their operation result in pollution of surface waters, ground water or the environment. In addition, OCD approval does not relieve Loco Hills Water Disposal Company of responsibility for compliance with other federal, state or local laws and/or regulations.

Mr. James Maloney  
Loco Hills Water Disposal Company  
March 27, 2002  
Page 2

If there are any questions, please contact Martyne Kieling at (505) 476-3488.

Sincerely,

  
Lori Wrotenberg  
Director

LW/mjk

xc: Aztec OCD Office



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON

Governor

Jennifer A. Salisbury

Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

May 26, 2000

**CERTIFIED MAIL**

**RETURN RECEIPT NO. Z-559-573-294**

Mr. James R. Maloney  
Loco Hills Water Disposal, Inc.  
P.O. Box 68  
Loco Hills, NM 87255

**RE: Loco Hills Water Disposal, Inc. Permit NM-01-0004  
Commercial Surface Waste Management Facility  
SW/4 SW/4 Section 16, Township 17 South, Range 30 East, NMPM  
Eddy County, New Mexico**

Dear Mr. Maloney:

The New Mexico Oil Conservation Division (OCD) has considered Loco Hills Water Disposal, Inc.'s (LHWD) letter dated February 28, 2000 regarding a third-party estimate of closure costs at the LHWD surface waste management facility.

Enclosed please find a new OCD closure cost estimate. The estimate includes the LHWD third party estimates. The estimate for contract personnel to monitor the evaporation and perform daily H<sub>2</sub>S monitoring has been adjusted to reflect the estimated four (4) years it will take to evaporate all of the liquid.

The permit application for the Loco Hills Water Disposal, Inc. (LHWD) commercial surface waste management facility located in the SW/4 SW/4 Section 16, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico **was approved on September 7, 1999** in accordance with New Mexico Oil Conservation Division (OCD) Rule 711 under the conditions contained in the attachment to that approval.

The permit is **hearby modified** to reflect the new closure cost estimate. **The permit approval is conditional upon the receipt and approval by the Director of financial assurance in the amount of \$188,436.** According to the schedule outlined in the modified conditions of approval attached to this letter, 25% of the \$188,436 bond (\$47,109) is required within thirty (30) days of the date of this letter.

Mr James R. Maloney  
May 26, 2000  
Page 2

The construction, operation, monitoring and reporting shall be as specified in the attachment. All modifications and alternatives to the approved treatment, evaporation and landfarm methods must receive prior OCD approval. LHWD is required to notify the Director of any facility expansion or process modification and to file the appropriate materials with the Division.

Please be advised approval of this facility permit does not relieve LHWD of liability should your operation result in actual pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve LHWD of responsibility for compliance with other federal, state or local laws and/or regulations.

Please be advised that all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted or otherwise rendered non-hazardous to migratory birds. In addition OCD Rule 310 prohibits oil from being stored or retained in earthen reservoirs or open receptacles.

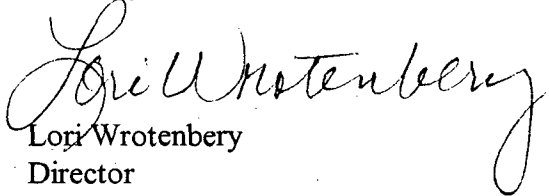
The LHWD Commercial Surface Waste Management Facility Permit NM-01-0004 will be reviewed at least once every five (5) years from the date of the September 7, 1999 approval letter. The facility is subject to periodic inspections by the OCD.

Enclosed are two copies of the modified conditions of approval. **Please sign and return one copy to the OCD Santa Fe Office by June 2, 2000.**

Failure to respond to this letter by June 2, 2000, may result in compliance action pursuant to the Oil and Gas Act, NMSA 1978, 70-2-1 *et seq.* and the Oil Conservation Division Rules.

If you have any questions please do not hesitate to contact Martyne J. Kieling at (505) 827-7153.

Sincerely,

  
Lori Wrotenberg  
Director

LW/mjk

Attachments

xc:

Artesia OCD Office