

NM1 - 36

**GENERAL  
CORRESPONDENCE**

**YEAR(S):**

2002 - 2000

Analytical Laboratory Report for:

OK Hot Oil



BJ Unichem  
Chemical Services

UNICHEM Representative: Bill Polk

## Production Water Analysis

RECEIVED

MAR 25 2002

Environmental Bureau  
Oil Conservation Division

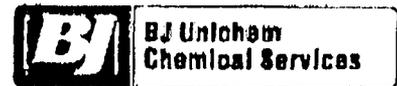
Listed below please find water analysis report from: Reclaim Plant

Lab Test No: 2002108502      Sample Date: 02/18/2002  
Specific Gravity: 1.033  
TDS: 48871  
pH: 5.43

Cations:	mg/L	as:
Calcium	1082	(Ca <sup>++</sup> )
Magnesium	172	(Mg <sup>++</sup> )
Sodium	17146	(Na <sup>+</sup> )
Iron	47.89	(Fe <sup>++</sup> )
Barium	2.77	(Ba <sup>++</sup> )
Strontium	228.55	(Sr <sup>++</sup> )
Manganese	0.96	(Mn <sup>++</sup> )
Anions:	mg/L	as:
Bicarbonate	590	(HCO <sub>3</sub> <sup>-</sup> )
Sulfate	300	(SO <sub>4</sub> <sup>-2</sup> )
Chloride	29300	(Cl <sup>-</sup> )
Gases:		
Carbon Dioxide		(CO <sub>2</sub> )
Hydrogen Sulfide		(H <sub>2</sub> S)

OK Hot Oil

Lab Test No: 2002108502



**Downhole SAT™ Scale Prediction  
@ 100 deg. F**

Mineral Scale	Saturation Index	Momentary Excess (lbs/1000 bbls)
Calcite (CaCO <sub>3</sub> )	1.27	.0276
Aragonite (CaCO <sub>3</sub> )	1.08	.0092
Witherite (BaCO <sub>3</sub> )	< 0.001	-18.94
Strontianite (SrCO <sub>3</sub> )	.485	-.203
Magnesite (MgCO <sub>3</sub> )	.222	-.387
Anhydrite (CaSO <sub>4</sub> )	.112	-603.98
Gypsum (CaSO <sub>4</sub> *2H <sub>2</sub> O)	.13	-473.36
Barite (BaSO <sub>4</sub> )	4.4	1.26
Celestite (SrSO <sub>4</sub> )	.355	-99.35
Silica (SiO <sub>2</sub> )	0	-52.98
Bruclite (Mg(OH) <sub>2</sub> )	< 0.001	-.999
Magnesium silicate	0	-119.88
Iron hydroxide (Fe(OH) <sub>3</sub> )	78.1	< 0.001
Strongite (FePO <sub>4</sub> *2H <sub>2</sub> O)	0	> -0.001
Siderite (FeCO <sub>3</sub> )	99.52	.149
Halite (NaCl)	.00652	-180247
Thenardite (Na <sub>2</sub> SO <sub>4</sub> )	< 0.001	-68325
Iron sulfide (FeS)	0	-.013

**Interpretation of DH-Sat Results:**

The Saturation Index is calculated for each mineral species independently and is a measure of the degree of supersaturation (driving force for precipitation) under the conditions modeled. This value ranges from 0 to infinity with 1.0 representing a condition of equilibrium where scale will neither dissolve nor precipitate. Values less than 1.0 are undersaturated and values greater than 1.0 are supersaturated. The scale is logarithmic, i.e. a Saturation Index of 3 is 10 times more saturated than a value of 2.

The Momentary excess is a measure of how much scale would have to precipitate to bring the system back to a non-scaling condition. This value ranges from negative (dissolving) infinity to positive (precipitating) infinity. The Momentary Excess represents the amount of scale possible while the Saturation Level represents the probability that scale will form.



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**GARY E. JOHNSON**  
Governor  
**Carol Leach**  
Acting Cabinet Secretary

**Lori Wrotenbery**  
Director  
Oil Conservation Division

February 6, 2002

Mr. Randy Kinnibrugh  
OK Hot Oil Service, Inc.  
P.O. Box 146,  
Loco Hills, NM 88255

**RE: OK Hot Oil Service, Inc.  
Commercial Surface Waste Management Facility Application Review  
SW/4 of SE/4 of Section 14, Township 17 South, Range 28 East, NMPM,  
Eddy County, New Mexico**

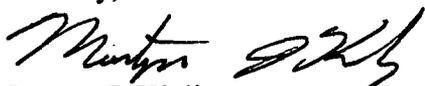
Dear Mr. Kinnibrugh:

This letter is a follow up to the phone conversation that the Oil Conservation Division (OCD) had with OK Hot Oil Service, Inc. on February, 6 2002 regarding the type of water that the Mack Energy Class II commercial disposal well will be taking from your proposed treating plant facility. I have spoken with David Catanach of the OCD who has spoken with Matt Brewer of Mack Energy regarding this matter.

The Environmental Protection Agency (EPA) requires that analytical results for the produced water be on file for the class II well. For disposal purposes, please take a representative sample of your produced water from the currently operating Old Loco treating plant and have it analyzed for general chemistry, cations and anions according to 40 CFR Method 136.3. Please supply a copy of the analysis to the OCD Santa Fe and Artesia District offices and a copy to Matt Brewer with Mack Energy.

If you have any questions please do not hesitate to contact me at (505) 476-3488.

Sincerely,

  
Martyne J. Kieling  
Environmental Geologist

xc:

Artesia OCD Office  
David Catanach, OCD Santa Fe  
Matt Brewer, Mack Energy

JAN 30 2002

Environmental Bureau  
Oil Conservation Division

# Affidavit of Publication

NO. 17595

STATE OF NEW MEXICO

County of Eddy:

Gary D. Scott being duly

sworn, says: That he is the Publisher of The  
Artesia Daily Press, a daily newspaper of general  
circulation, published in English at Artesia, said county  
and county and state, and that the here to attached

### Legal Notice

was published in a regular and entire issue of the said  
Artesia Daily Press, a daily newspaper duly qualified  
for that purpose within the meaning of Chapter 167 of  
the 1937 Session Laws of the state of New Mexico for  
1 consecutive weeks/days on the same

day as follows:

First Publication January 16 2002

Second Publication \_\_\_\_\_

Third Publication \_\_\_\_\_

Fourth Publication \_\_\_\_\_

Subscribed and sworn to before me this

16th day of January 2002

Barbara Ann Boans  
Notary Public, Eddy County, New Mexico

My Commission expires September 23, 2003

# Copy of Publication:

### LEGAL NOTICE

NOTICE OF PUBLICATION  
Notice is hereby given that pursuant to the New Mexico Oil Conservation Division Regulations, the following application has been submitted to the Director of the Oil Conservation Division, 1220 South Saint Frances Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440: OK Hot Oil Service, Inc., Operator, Randy Kinnibrugh, P.O. Box 146, Loco Hills, New Mexico 88255, has submitted for approval an application to construct and operate a Rule 711 commercial treating plant reclamation facility located in the SW/4 SE/4 Section 14, Township 17 South, Range 28 East, N.M.P.M., Eddy County, New Mexico. Tank bottom sediment and water (BS&W) associated with oil and gas production operations will be treated to recover marketable crude oil. Ground water most likely

to be affected by any accidental discharges at the surface is estimated to be at a depth of 90 to 95 feet with total dissolved solids concentration of 5370 to 3374 parts per million. The facility is underlain by Quaternary alluvium. The Quaternary deposits rest unconformably upon Permian and Triassic rocks. The permit application addresses the construction, operations, spill/leak prevention and monitoring procedures to be incorporated at the proposed site. Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The application may be viewed at the above address or at the Artesia district office at 1301 W. Grand Avenue, Artesia, New Mexico between 8:00 a.m. and 4:00 p.m., Monday thru Friday.

Prior to ruling on any proposed application, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and public hearing may be requested by any interested person. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the director determines that there is significant public interest.  
Published in the Artesia Daily Press, Artesia, N.M. January 16, 2002.

Legal 17595



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**GARY E. JOHNSON**  
Governor  
**Jennifer A. Salisbury**  
Cabinet Secretary

January 9, 2002

**Lori Wrotenberg**  
Director  
Oil Conservation Division

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. 7099-3220-0000-5051-2832**

Mr. Randy Kinnibrugh  
OK Hot Oil Services, Inc.  
P.O. Box 146  
Loco Hills, NM 88255

**RE: Public Notice for OK Hot Oil Services, Inc  
Commercial Surface Waste Management Facility Permit Application  
SW/4 SE/4 of Section 14, Township 17 South, Range 28 East, NMPM,  
Eddy County, New Mexico**

Dear Mr. Kinnibrugh:

The New Mexico Oil Conservation Division (OCD) has received OK Hot Oil Services, Inc (OK Hot Oil) application for Rule 711 commercial surface waste management facility dated August 16, 2000. The application proposes to construct a treating plant recalculation facility. The facility is to be located in the SW/4 SE/4 of Section 14, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico

Based on the information provided with the application Form C-137 the OCD has prepared a public notice statement that OK Hot Oil must published in the Artesia Daily Press newspaper. In addition, a notice shall be sent certified mail to all landowners within one mile of the proposed expansion area and the county commission where the facility is proposed to be located.

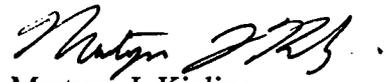
OK Hot Oil must send the original certified affidavit of publication from the Artesia Daily Press to the OCD Santa Fe office and a copy to the Artesia District office. In addition, OK Hot Oil must send copies of the postal receipt and signed certified return receipt from each of the landowners and county commission to both the OCD Santa Fe office and Hobbs District office.

The Santa Fe office has received the original application Form C-137 and attachments including the return receipt from all the surface landowners of record and County commission.

Mr. Randy Kinnibrugy  
January 9, 2002  
Page 2

If you have any questions please do not hesitate to contact me at (505) 476-3488.

Sincerely,



Martyne J. Kieling  
Environmental Geologist

attachments

xc with attachments: Artesia OCD Office

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Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The application may be viewed at the above address or at or at the Artesia district office at 1301 W. Grand Avenue, Artesia, New Mexico between 8:00 a.m. and 4:00 p.m., Monday thru Friday. Prior to ruling on any proposed application, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and public hearing may be requested by any interested person. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the director determines that there is significant public interest.

## Kieling, Martyne

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**From:** Kieling, Martyne  
**Sent:** Tuesday, January 08, 2002 8:12 AM  
**To:** Davidson, Florene; Valdes, Kathy  
**Subject:** Notices for the next Docket

Kathy,  
Here are two Rule 711 notices for the next Docket.



DOCKET.doc



DOCKET.doc

Sid Richardson      OK Hot Oil Service

Let me know if you have any questions.  
Thanks  
Martyne

## NOTICE

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# NMPRC Corporation Information Inquiry

- [Follow this link to start a new search.](#)
- 

## O.K. HOT OIL SERVICE, INC.

SCC Number: 1177419  
Tax & Revenue Number: 01134439003  
Incorporation Date: APRIL 07, 1983, in NEW MEXICO  
Corporation Type: DOMESTIC PROFIT  
Corporation Status: ACTIVE  
Good Standing: Not in Good Standing  
Purpose: OILFIELD SERVICES

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### CORPORATION DATES

Taxable Year End Date: 05/31/01  
Filing Date: //  
Expiration Date:

### SUPPLEMENTAL POST MARK DATES

Supplemental:  
Name Change:  
Purpose Change:

---

### MAILING ADDRESS

*P.O. BOX 146 LOCO HILLS, NEW MEXICO 88255*

### PRINCIPAL ADDRESS

*P.O. BOX 146 LOCO HILLS NEW MEXICO 88255*

### PRINCIPAL ADDRESS (Outside New Mexico)

---

## REGISTERED AGENT

***ORTHELL R. KINNIBRUGH***

12563 LOVINGTON HWY. LOCO HILLS NEW MEXICO 88255

Designation date: 07/20/99

Agent Post Mark Date:

Resignation date:

---

## COOP LICENSE INFORMATION

Number:

Type:

Expiration Year:

---

## OFFICERS

President *NONE LISTED*

Vice President *KINNIBRUGH, ARVIN*

Secretary *KINNIBRUGH, RANDY*

Treasurer *NONE LISTED*

---

## DIRECTORS

Date Election of Directors:

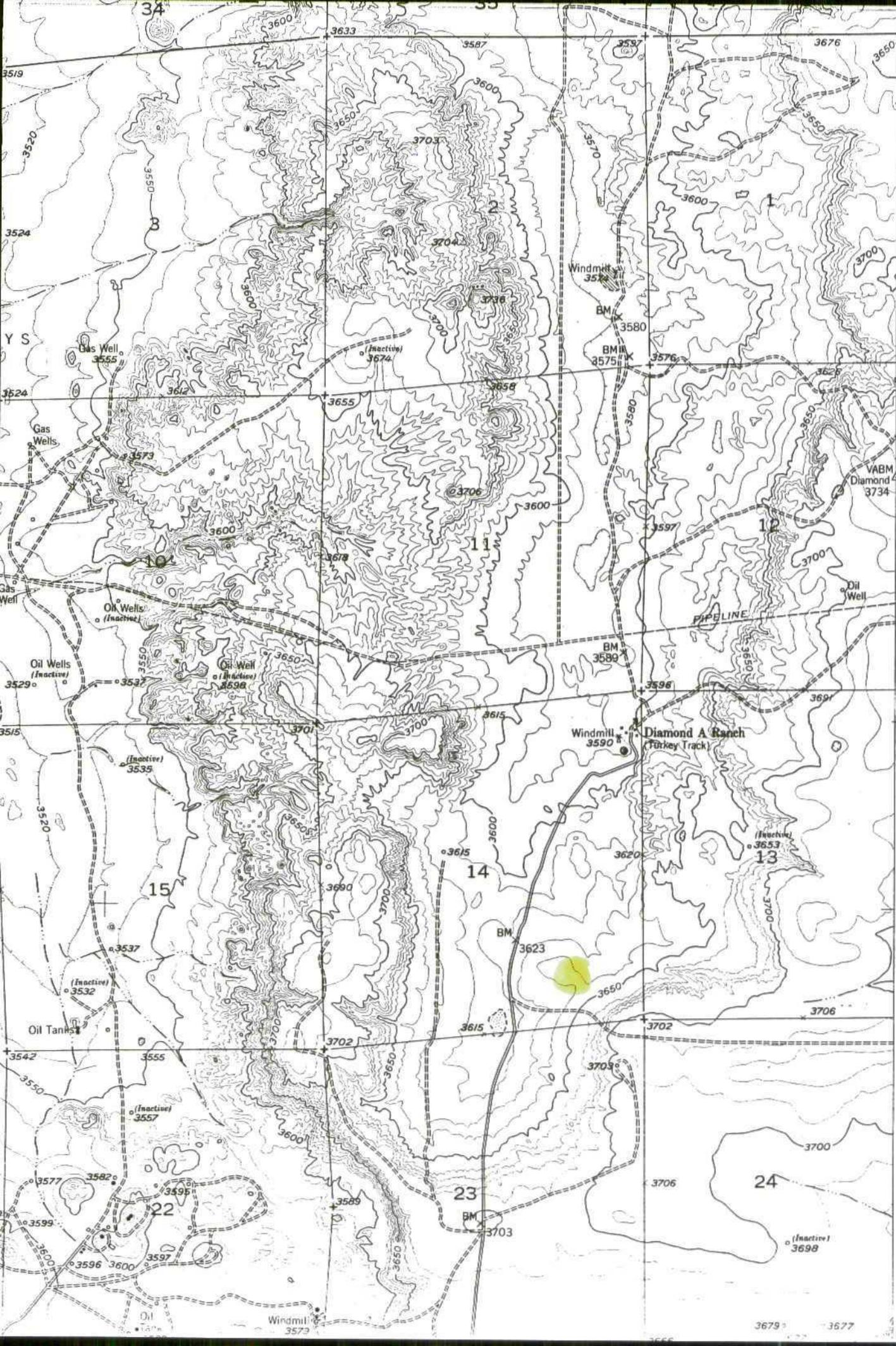
***KINNIBURGH, TRACY*** P.O. BOX 146 LOCO HILLS , NM 88255

T. 16 S.

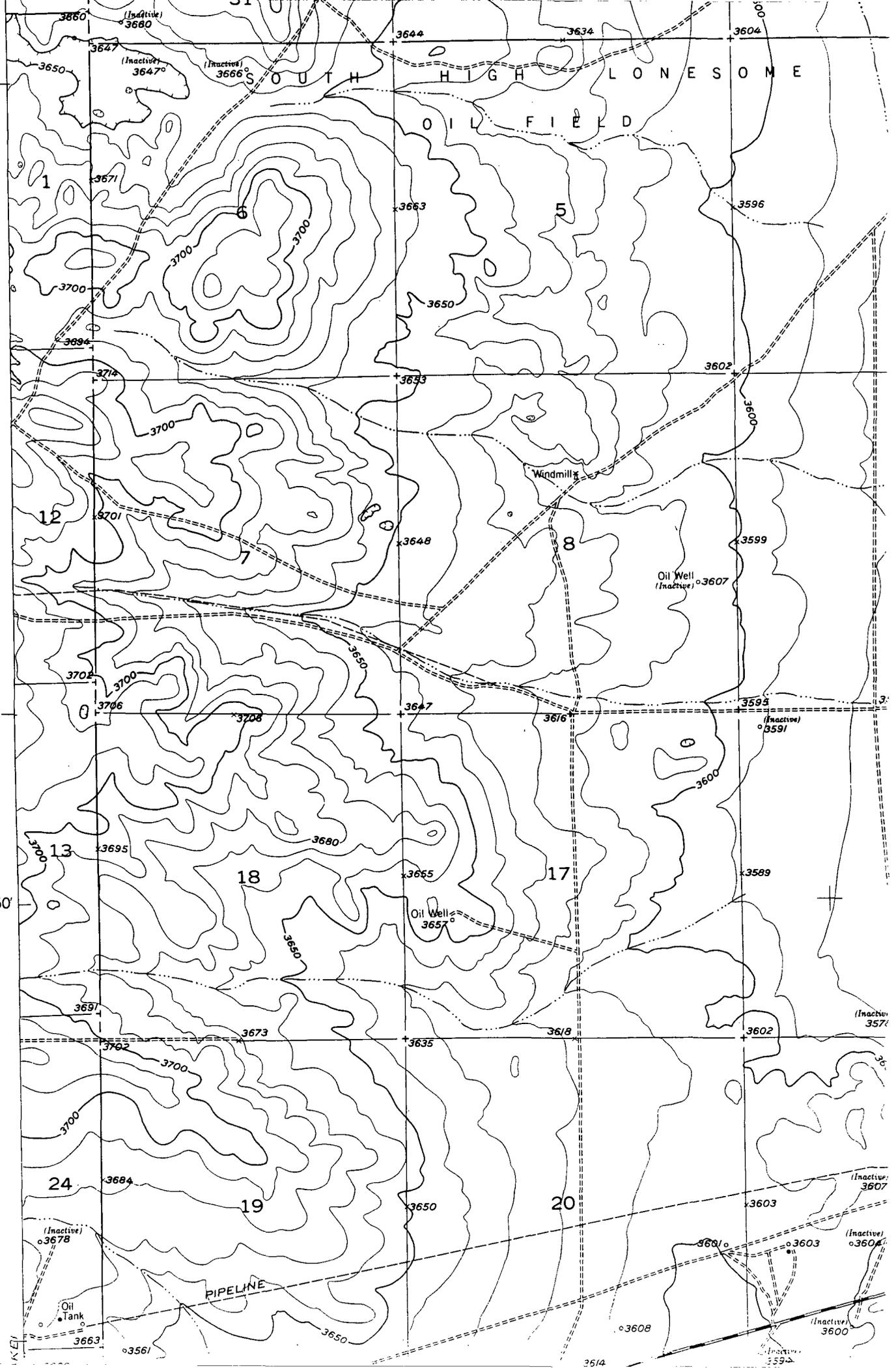
T. 17 S.

680 000

FEET



T. 17 S.



STATE LAND STATUS MAP  
ARTESIA QUADRANGLE - 106

EDDY & CHAVES COUNTIES

R.27 E.

R.28 E.

R.29 E.

Hagerman - 94

10'

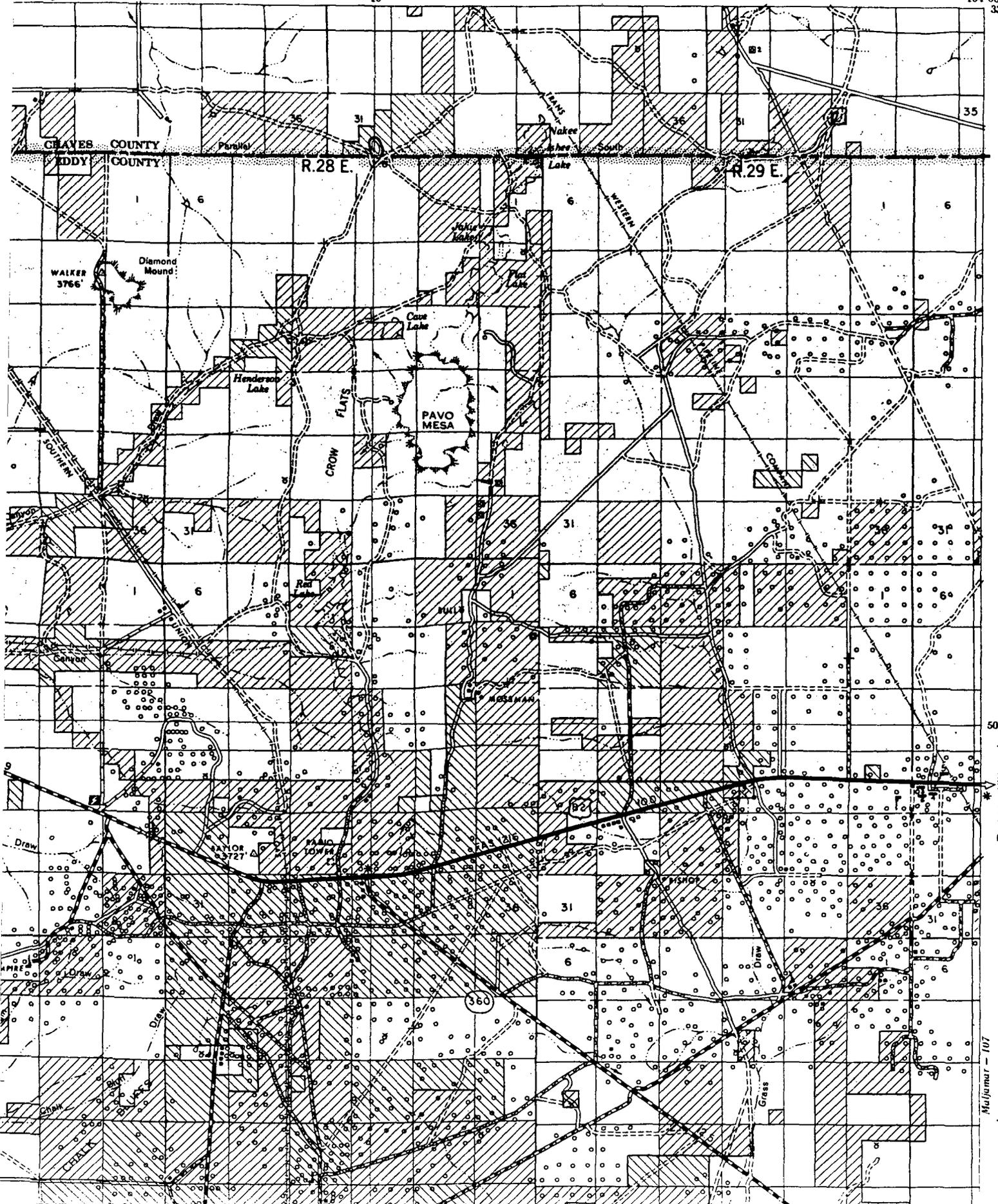
104°00'  
33°00'

T.15

T.16

T.17

T.18



To Loco Hills

Mujamar - 107

STATE LAND STATUS MAP  
ARTESIA QUADRANGLE - 106

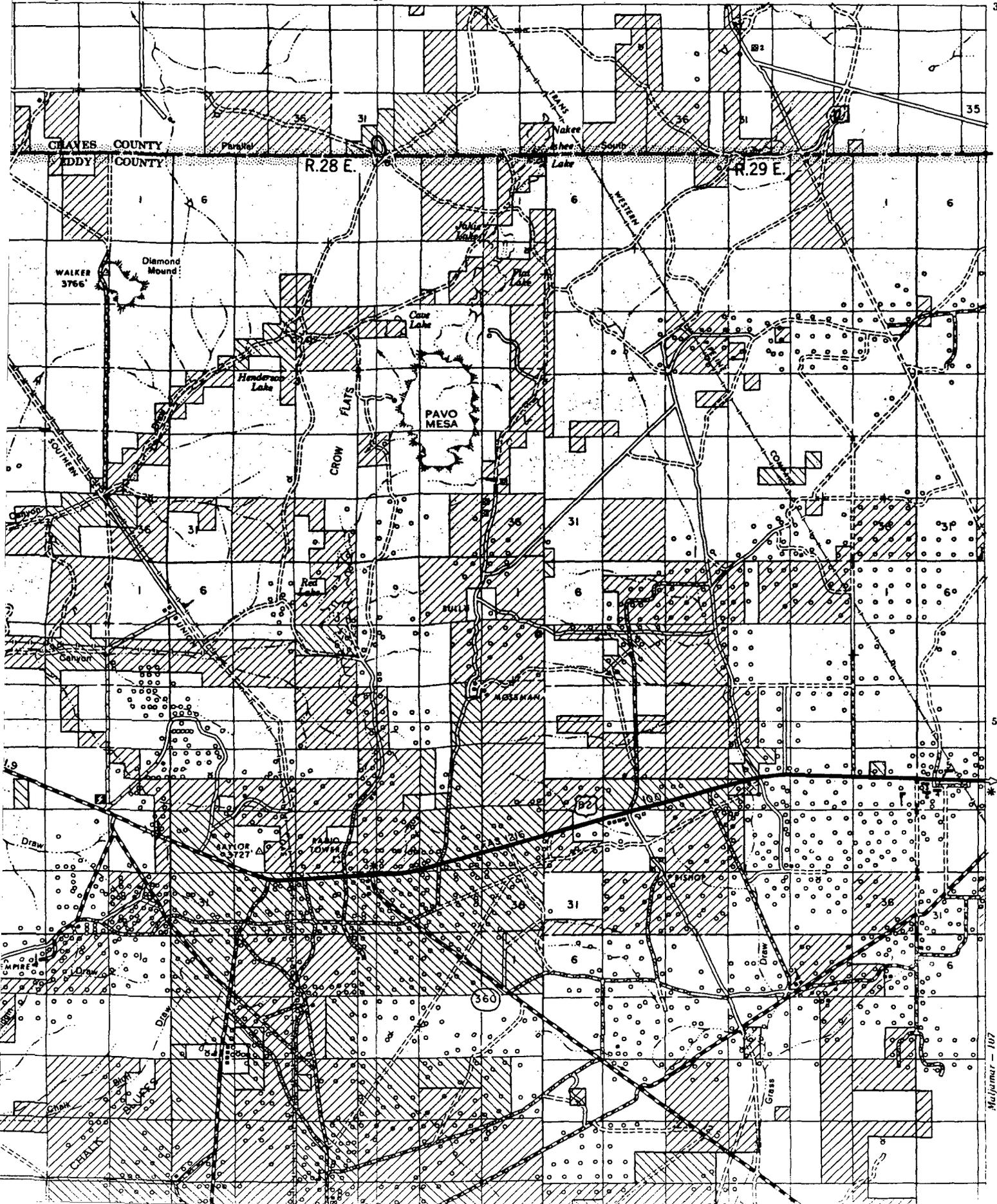
EDDY & CHAVES COUNTIES  
R.29 E.

R.27 E.

R.28 E.

Hagarman - 94

104°00' 33"00" Caprock -



T.15

T.16

T.17

To Loco Hills

Mojave - 107

T.18

STATE LAND STATUS MAP  
ARTESIA QUADRANGLE - 106

EDDY & CHAVES COUNTIES

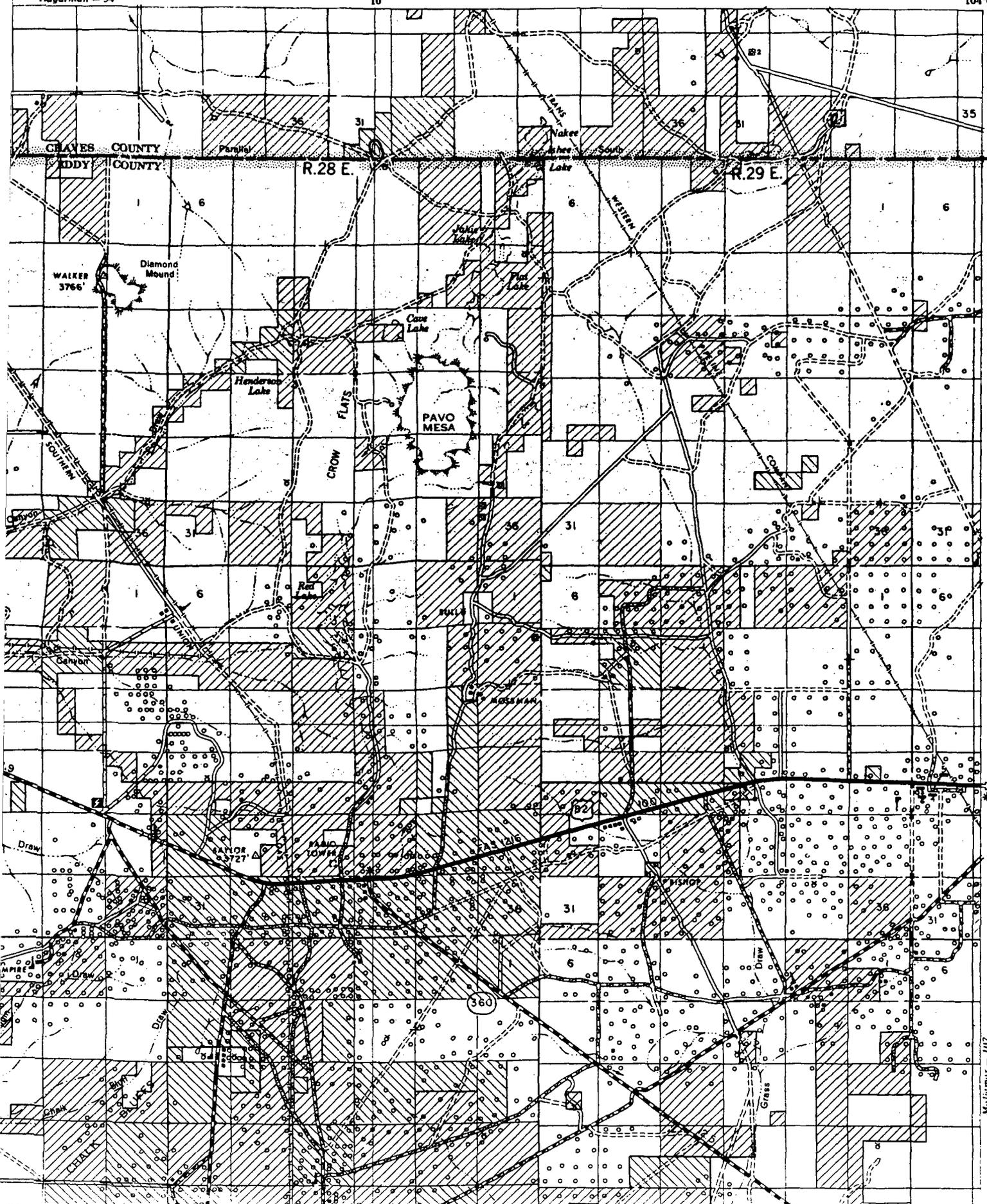
R.27 E.

R.28 E.

R.29 E.

Hagerman - 94

104°00' 33"00" *Copyright*



T.15

T.16

T.17

T.18

50'

To Loco Hills

Majamar - 107

OK HOT OIL SERVICES, INC.  
RANDY KINNIBRUGH  
P.O. Box 146  
LOCO HILLS, NM 88255  
1-505-746-6233

CHECKLIST FOR RULE 711 PERMIT APPLICATION COMPLETENESS

1. ✓ FACILITY TYPE *Treating Plant*
2. ✓ OPERATOR NAME, ADDRESS, CONTACT PERSON AND PHONE#
3. ✓ LEGAL LOCATION *SW/4 SE/4, Sec 14, T 17 S, R 28 E, NMPM, EDDY CO, NM*
4. ✓ MODIFICATION OR NEW FACILITY
5. ✓ NAME AND ADDRESS OF THE FACILITY SITE LANDOWNER
6. ✓ NAME AND ADDRESS OF ALL LANDOWNERS OF RECORD WITHIN ONE MILE OF FACILITY SITE.
7. ✓ NOTIFICATION OF ALL LANDOWNERS OF RECORD WITHIN ONE MILE OF FACILITY SITE  
RETURN RECEIPT SUBMITTED *Received*
8. ✓ PUBLIC NOTICE IN TWO NEWSPAPERS ORIGINAL AFFIDAVIT OF PUBLICATION  
*Sent 1-9-02*  
*1-30-02 Received Back*  
SUBMITTED.
9. ✓ FACILITY DESCRIPTION WITH DIAGRAMS INDICATING ALL PERTINENT FEATURES ( FENCES, BERM, ROADS, PITS, DIKES, TANKS, MONITORING WELLS ....)
10. ✓✓ CONSTRUCTION INSTILLATION DESIGNS FOR PITS, PONDS, LEAK-DETECTION SYSTEMS, AERATION SYSTEMS, ENHANCED EVAPORATION SYSTEMS, WASTE TREATING SYSTEMS, SOLIDIFICATION SYSTEMS, SECURITY SYSTEMS, AND LANDFARM FACILITIES.  
*Diagrams*
11. ✓ GEOLOGICAL/HYDROLOGICAL EVIDENCE THAT FACILITY WILL NOT IMPACT GROUNDWATER. DEPTH TO AND QUALITY OF GROUNDWATER INCLUDED. *GW 90 to 95 ft*  
*TDS 5370 to 5374 ppm*
12. ✓ CONTINGENCY PLAN FOR REPORTING AND CLEAN-UP OF SPILLS OR RELEASES.
13. ✓ H2S CONTINGENCY PLAN *Yes*
14. ✓ ROUTINE INSPECTION AND MAINTENANCE PLAN TO ENSURE PERMIT COMPLIANCE
15. ✓ CLOSURE PLAN
16. ✓ CLOSURE COST ESTIMATE *28,675*
17. BONDING AMOUNT # TYPE DATE APPROVED
18. ✓ ANY OTHER INFORMATION AS NECESSARY TO DEMONSTRATE COMPLIANCE WITH ANY OTHER OCD RULES REGULATIONS AND ORDERS. *Regarding well & waste water Analysis*
19. ✓ CERTIFICATION SIGNATURE AND DATE ON PERMIT

*MJK*



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON  
Governor  
Jennifer A. Salisbury  
Cabinet Secretary

Lori Wrotenbery  
Director  
Oil Conservation Division

April 16, 2001

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. 7099-3220-0000-5051-2160**

Mr. Randy Kinnibrugh  
OK Hot Oil Service, Inc.  
P.O. Box 146,  
Loco Hills, NM 88255

**RE: OK Hot Oil Service, Inc.**  
**Commercial Surface Waste Management Facility Application Review**  
**SW/4 of SE/4 of Section 14, Township 17 South, Range 28 East, NMPM,**  
**Eddy County, New Mexico**

Dear Mr. Kinnibrugh:

The Oil Conservation Division (OCD) has received and is in the process of reviewing the above referenced application for an oil field related commercial treating plant located in SW/4 of SE/4 of Section 14, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico. The following comments and requests for additional information are based on review OK Hot Oil Service, Inc. application, dated August 16, 2000.

In order for the review process to continue the OCD requires OK Hot Oil Service, Inc. to submit the additional information requested in Attachment 1. Submission of one original and one copy to the OCD Santa Fe Office and one copy to the Artesia District Offices will allow the review process to continue.

If you have any questions please do not hesitate to contact me at (505) 476-3488.

Sincerely,

A handwritten signature in cursive script, appearing to read "Martyne J. Kieling".

Martyne J. Kieling  
Environmental Geologist

xc with attachments:  
Artesia OCD Office

ATTACHMENT 1  
REQUEST FOR ADDITIONAL INFORMATION

April 16, 2001

OK HOT OIL SERVICE, INC

SW/4 of SE/4 of Section 14, Township 17 South, Range 28 East, NMPM,  
Eddy County, New Mexico

1. Sections one, two, three, four and five (1,2, 3 and 4 ) Application Form C-137
  - A. OK Hot Oil Service, Inc. (OK Hot Oil) has completed sections one, two, three and four (1,2, 3 and 4).

2. Section five (5) Application Form C-137;

- A. Attach the Name and Address of the Landowner of the facility site.

OK Hot Oil shall provide the name and address of the surface landowner of record at the treating plant proposed location.

3. Section six (6) Application Form C-137;

- A. Facility Map: The permit application states the location of the proposed treating plant and submits Exhibit #3 a site diagram. However, the diagram does not identify the perimeter fence, type of fence to be installed, the location of the entrance and if there will be a locking gate.

OK Hot Oil shall provide additional information on a diagram regarding the type of fence, location of the entrance and what type of security will be installed at the gate. The dimensions of the fence should be included as to height and the area enclosed.

- B. Exhibit #3 depicts three valves located outside the berm.

OK Hot Oil shall provide a diagram of the valve containment system that will be used. How will leaks and spills from these valves be contained and how or where will trucks drain their hoses? No fluids may be drained onto the ground surface.

Above-grade sumps/catchments must be inspected on a regular basis and any fluid must be removed to prevent overflow. The catchments should be inspected for defects on an annual basis and replaced as need.

All below-grade sumps/catchments and below-grade tanks at the facility must have secondary impermeable containment with a leak detection system. The leak detection system must be inspected for fluids weekly. Results must be recorded

and maintained at the facility for OCD review. If fluids are present they must be removed and properly disposed of or recycled and the primary containment checked for leaks and repaired or replaced. Records of inspections and repairs must be made available to the OCD upon request.

4. Section seven (7) Application Form C-137;

- A. Facility Design: Attach designs for the construction/installation of the containment systems and below grade pipes.

OK Hot Oil shall provide a construction diagram of the valve containment system that will be used. No fluids may be drained onto the ground surface.

OK Hot Oil shall provide addition information regarding Below-grade pipelines. Is the pipeline for produced water disposal at the Mack Energy Corporation SWD plant below-grade? Will any other pipelines on site be below grade? Below-grade pipelines associated with the treating plant must be pressure tested annually. Results must be recorded and maintained at the facility for OCD review. If pipeline integrity has failed the OCD must be notified within 48 hours of discovery and the line must be repaired or replaced. Contaminated soil associated with a below grade leak must be removed and 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 appropriate District offices that describes the investigation and remedial actions taken.

5. Section eight (8) Application Form C-137;

- A. Contingency Plan: Attach a contingency plan for reporting and cleanup of spills or releases.

OK Hot Oil must notify the OCD Santa Fe and Artesia offices within 24 hours of any fire, break, leak, spill, blow out or any other circumstance that could constitute a hazard or contamination in accordance with OCD Rule 116.

Contaminated soil must be removed and 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 appropriate District offices that describes the investigation and remedial actions taken.

6. Section nine (9) Application Form C-137;

- A. Inspection Maintenance Plan: OK Hot Oil shall submit a routine inspection and maintenance plan with additional detailed information on the following:

Facility inspection and maintenance must be conducted on at least a weekly basis and immediately following each consequential rainstorm or windstorm. The OCD

Santa Fe and Artesia offices must be notified within 24 hours if any defect is noted. Repairs must be made as soon as possible. If the defect will jeopardize the integrity of the tank(s), additional wastes may not be placed into the affected tank(s) until repairs have been completed. The berm around the tanks must be maintained at the 36 inch (3foot) height.

7. Section ten (10) Application Form C-137;

- A. The closure plan to be submitted must include the following procedures:
- a. When the facility is to be closed no new material may be accepted.
  - b. All tanks must be emptied and any waste and recyclable material must be hauled to an OCD-approved facility. The empty tanks and equipment must be removed.
  - c. Contaminated soils exceeding OCD closure standards for the site must be removed or remediated.
  - d. The area must be contoured, seeded with native grasses 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.
  - e. Closure must be pursuant to all OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.
- B. Closure Cost Estimate: The application did not include a closure plan cost estimate. The OCD closure cost estimate was based upon a 2 acre facility with 6 tanks and a boiler. The OCD cost breakdown is in Attachment 2.

OK Hot Oil Services shall submit a detailed cost estimate breakdown that can be compared with the estimate calculated by the OCD.

8. Section eleven (11) Application Form C-137;

- A. Hydrogeologic Information: The hydrogeologic information supplied by OK Hot Oil does not give depth to ground water. Additional Hydrogeologic information regarding depth to ground water at windmill # 1 and windmill #2 well is required.

OK Hot Oil shall supply geological information regarding the underlying strata at the proposed facility location and the formation(s) in which the groundwater is found. Well location and depth to groundwater information shall be plotted on a USGS Quadrangle map - 7.5 min series Topographic map.

9. Section twelve (12) Application Form C-137

- A. Public Notice: OK Hot Oil is required to notify landowners within the one mile of the perimeter of the proposed facility. And to publish public notice in the required newspaper and to notify the county commission where the facility is proposed to be located.

The OCD will write a public notice for OK Hot Oil to be published upon receipt of the requested materials and upon review of a complete permit application.

- B. OK Hot Oil may draft a notice to send to the landowners within 1 mile and the county commission. A copy and proof of such notice (certified return receipt) shall be furnished to the OCD. The notice must include the following:

Notice is hereby given that pursuant to the New Mexico Oil Conservation Division Regulations, the following application has been submitted to the Director of the Oil Conservation Division, 1220 South Saint Frances Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

**OK Hot Oil Services, Inc., Operator, Randy Kinnibrugh, P.O. Box 146, Loco Hills, New Mexico, 88255, has submitted for approval an application to construct and operate a Rule 711 treating plant reclamation facility located in the SW/4 SE/4 Section 14, Township 17 South, Range 28 East, N.M.P.M., Lea County, New Mexico. Bottom sediment and water (BS&W) associated with oil and gas production operations will be reclaimed by heat and chemical treatment. The permit application addresses the construction, operations, spill/leak prevention and monitoring procedures to be incorporated at the proposed site.**

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The application may be viewed at the above address or at or at the Artesia district office at 811 S. First, Artesia, New Mexico between 8:00 a.m. and 4:00 p.m., Monday thru Friday. Prior to ruling on any proposed application, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and public hearing may be requested by any interested person. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the director determines that there is significant public interest.

10. Section Thirteen (13) Application Form C-137

A. **H<sub>2</sub>S PREVENTION & CONTINGENCY PLAN**

1. OK Hot Oil must develop a prevention and contingency plan for ambient H<sub>2</sub>S levels to protect public health. **The H<sub>2</sub>S prevention and contingency plan must be submitted to the OCD Santa Fe and Artesia offices for approval.** The plan must address how OK Hot Oil will monitor for H<sub>2</sub>S to ensure the following:
  - a. If H<sub>2</sub>S of 1.0 ppm or greater leaves the property;

- i. the operator must notify the Artesia office of the OCD immediately; and
  - ii. the operator must begin operations or treatment that will mitigate the source.
- b. If H<sub>2</sub>S of 10.0 ppm or greater leaves the property:
- i. the operator must immediately notify the Artesia office of the OCD and the following public safety agencies:  
  
New Mexico State Police;  
Eddy County Sheriff; and  
Eddy County Fire Marshall;
  - ii. the operator must notify all persons residing within one-half (½) mile of the fence line and assist public safety officials with evacuation as requested; and
  - iii. the operator must begin operations or treatment that will mitigate the source.

11. Section fourteen (14) Application Form C-137

- A. OK Hot Oil shall submit a copy of the Public Regulation Commission (formerly Corporation Commission) certificate of organization and articles of organization.
- B. OK Hot Oil shall submit a copy of the lease agreement with surface landowner of the proposed facility site.
- C. To fulfill the requirements on Form C-137, OK Hot Oil shall submit a copy of the original application dated August 16, 2000 to the OCD Santa Fe office and one to the OCD Artesia District office.

12. Section fifteen (15) Application Form C-137

- A. OK Hot Oil has completed section fifteen (15).

**ATTACHMENT 2**  
**OCD Environmental Bureau Closure Cost Estimate**  
**For**  
**OK Hot Oil Services, Inc**  
**2 acre surface waste management facility**  
**April 16, 2001**

**Items and rates taken from closure cost estimates submitted August 8, 1997 and March 2001.**

**Known: 6 tanks, one boiler and one propane tank located at the facility.**

2 - 1000 bbl oil sales tanks                      2 - 300 bbl waste water tanks                      1 - 750 bbl gun barrel tank  
1 - 1000 bbl BS tank

---

**Job Foreman/Coordinator:**  
**5 days @ \$250 per day** **\$1250.00 Total**

---

**NORM Survey**  
Certified NORM tech. \$ 55.00 hr    16 hours **\$880.00 Total**

---

**Remove Fluids From All Tanks.**

130 bbl transport truck & driver \$70.00/hour  
2 hours per trip  
\$0.35 bbl produced water disposal cost (quotes from other 711 facilities)  
\$3.75 bbl non-exempt waste disposal cost (quotes from other 711 facilities)  
\$3.25 bbl tank bottom BS&W (quotes from other 711 facilities)

Oil sale tanks removed any oil for sale = Total 2000 bbl  
Waste water tanks dispose of fluid as produced water = Total 600 bbl  
Waste fluid tanks dispose of waste as exempt tank bottom /BS&W = 1750 bbl

Waste water 600 bbl \* \$0.35 bbl    = \$ 210.00  
Waste fluid 1750 bbl \* \$3.25 bbl    = \$ 5688.00

Transport of 600 bbls to injection well  
5 trips, 1 hour round trip = 5 hours \* \$70.00/hour \$ 350.00

Transport of 1750 bbls to treating plant  
14 trips, 2.5 hours round trip = 35 hours \* \$70.00/hour \$ 2,450.00

**= \$ 8,698 total tank fluid transport and disposal**

---

## Tank Cleaning

Tank Cleaning: Jet truck, vacuum truck	\$ 1,980.00
Jet water: 250 bbl fresh water	\$ 50.00
Jet water disposal: 225 bbl \$3.25 /bbl	\$ 732.00
Hauling 130 bbl per load * 2.5 hours round trip mi. * \$65.00 hr	\$ 325.00
	<b>\$ 3,087.00 Tank Cleaning</b>

---

## Remove Tanks, Piping and Equipment:

Removal of tanks and residual equipment:

Roustabout crew/truck \$60 hr * 35 hr	\$ 2,100.00
Operator tandem winch/trailer \$85 hr * 35 hr	\$ 3,000.00
Dirt work/reclamation: \$65 hr x 2-8 hour days	\$ 1,040.00
	<b>\$ 6,140.00 Tank and Equipment Disposal</b>

To include trucking, disposal, heavy equipment and operators  
Estimate from other 711 facility closure costs

---

## Analytical Analysis for site characterization

7 confirmatory samples taken beneath tanks.

State Contract Laboratory Prices per analysis:

BTEX	\$ 40.00 * 7 samples	=	\$ 280.00
TPH	\$ 50.00 * 7 samples	=	\$ 350.00
Metals	\$200.00 * 7 samples	=	\$ 1,400.00
Radium 226	\$110.00 * 7 samples	=	\$ 770.00
			<b>\$ 2,800.00 Analytical</b>

---

## Confirmatory Soil Sampling Time and Labor for 7 samples

Labor 2 personnel \$55.00/hour  
Sample 30 min per sample  
Travel 2 hours  
Delivery & Paperwork 2 hours

Total Time = (30 min/sample \* 37 samples) + 2 hour + 2 hours = 7.5 hours

7.5 hours \* \$55.00/hour \* 825 persons = **\$825.00 Sampling Event**

---

**Revegetation for 2 acre site**

Reseed location **\$1,000.00 Revegetation**

---

%10 Contingency = **\$ 2,468.00**

---

**Total Closure and Vegetation Cost for Treating Plant and Landfarm facility**

**\$ 27,148.00 Subtotal**  
**\$ 1,527.00 NMGRT .05625**  
**\$ 28,675.00 Total Financial Assurance**

(ORIGINAL)

District I - (505) 393-6161  
P.O. Box 1980  
Albuquerque, NM 87101-1980  
District II - (505) 740-1283  
P.O. Box 1100  
Albuquerque, NM 87110  
District III - (505) 334-6178  
10000 Rio Brazos Road  
Albuquerque, NM 87110  
District IV - (505) 827-7131

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

RECEIVED

DEC 03 2001

Environmental Bureau  
Oil Conservation Division

Form C-13  
Originated 8/82  
Revised 6/97

Submit Original  
Plus 1 Copy  
to Santa Fe  
1 Copy to appropriate  
District Office

APPLICATION FOR WASTE MANAGEMENT FACILITY  
(Refer to the OCD Guidelines for assistance in completing the application)

Commercial

Centralized

1. Type:  Evaporation  Injection  Other \_\_\_\_\_  
 Solids/Landfarm  Treating Plant

2. Operator: O K Hot Oil Service, Inc.

Address: P. O. Box 146, Loco Hills, New Mexico, 88255

Contact Person: Randy Kinnibrugh Phone: (505) 746-6233

3. Location: SW 1/4 SE 1/4 Section 14 Township 17S Range 28E  
Submit large scale topographic map showing exact location

4. Is this a modification of an existing facility?  Yes  No

5. Attach the name and address of the landowner of the facility site and landowners of record within one mile of the site.

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

7. Attach designs prepared in accordance with Division guidelines for the construction/installation of the following: pits or ponds, leak-detection systems, aerations systems, enhanced evaporation (spray) systems, waste treating systems, security systems, and landfarm facilities.

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

9. Attach a routine inspection and maintenance plan to ensure permit compliance.

10. Attach a closure plan.

11. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact groundwater. Depth to and quality of ground water must be included.

12. Attach proof that the notice requirements of OCD Rule 711 have been met.

13. Attach a contingency plan in the event of a release of H<sub>2</sub>S.

14. Attach such other information as necessary to demonstrate compliance with any other OCD rules, regulations and orders.

15. CERTIFICATION

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

Name: Randy Kinnibrugh Title: Secretary

Signature: Randy Kinnibrugh Date: 8-16-00

# APPLICATION FOR WASTE MANAGEMENT FACILITY

## Commercial Facility

1. **Type:** Treating Plant
2. **Operator:** O K Hot Oil Service, Inc.  
**Address:** P. O. Box 146, Loco Hills, New Mexico, 88255  
**Contact Person:** Randy Kinnibrugh **Phone:** (505) 677-2262
3. **Location:** SW/4 SE/4 Section 14 Township 17S Range 28E  
See Exhibit 1 and Exhibit 2 for Maps.
4. This is not a modification of an existing facility.
5. The only land owner within one mile of facility is Bogle Farms Inc., 7331 Cherokee Rd., Dexter, New Mexico.
6. **Description of facility:** Facility will accept only BS&W from tank bottoms to be reclaimed and disposed as marketable crude oil. See Exhibit #3 for site diagram.
7. **Design for Construction/Installation of Waste Treatment System:**
  - a. All tanks will be located within a 36 inch berm. There will be a 40 mil. plastic liner beneath the entire bermed area with a 6 inch layer of sand and a 6 inch layer of gravel covering the plastic. This will include the berm itself. (See Exhibit # 4)
  - b. All BS&W will be pumped into a 750 bbl. gun barrel. Free water will then be separated and collected into a 500 bl. closed top fiberglass tank. From there the water will be pumped into a 500 bbl. tank to be disposed of into the Aid St. 14 Disposal well.

Crude oil waste will be pumped into a steam heated 1000 bbl. tank in order for marketable crude oil to be reclaimed and recovered. The salvaged crude oil will then be collected into another 1000 bbl. heated tank to be purchased by Genex Petroleum or some other reclaimed oil purchaser.

Crude waste not salvaged at that time will be recycled through the system until no more crude oil can be reclaimed. The sludge or solids that remain will be removed and taken to Controlled Recovery Inc. located at Hobbs, New Mexico.  
( 1 Lea County Airport Hobbs ) 505-393-1079

## 8. Spill/Leak Prevention & Reporting Procedure

- a. There are no surface impoundment's or other disposal units leak detection on this facility.
- b. No ground water monitoring is done at this facility.

### Reporting Procedure:

All spills of hazardous substances must be reported to the facility manager. The facility manager must report any spill whose quantity may injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, as soon as possible after learning of such a discharge, but in no event more than 24 hours thereafter.

The spill or leak must be reported to:

O K Hot Oil Service, Inc.  
Randy Kinnibrugh  
(505) 746-6233

New Mexico Health & Environment Improvement Division  
24 hour call (505) 827-9329

New Mexico Energy, Minerals, and Natural Resources Dept.  
Oil Conservation Division  
(505) 748-1283

- c. Spill containment and clean up:

Spills most likely will occur around the tank facility. As the tank battery will be enclosed by a 36 inch berm with a plastic liner under tanks and in the berm, all spills will be contained inside the enclosed area. All spilled materials will be picked up and disposed of in the appropriate location as approved by the NMOCD.

- d. Leak Detection and Inspection:

Above ground tanks and piping will be inspected monthly for leaks. If leaks or possible problem areas are identified facility manager must be notified and action taken to stop any leaks. Maintenance will be scheduled for problems noted.

**10. Closure Plan:**

- A. Should this facility be shut down or discontinued for a period in excess of six months NMOCD will be notified.
  - 1. All waste products or hazardous materials will be removed and taken to the appropriate site for disposal.
  - 2. Soil samples will be taken 3 feet below tanks and submitted to the NMOCD for analysis.
  - 3. Area will be reseeded with native grasses and allowed to return to its natural state.
  - 4. Closure will be pursuant to all NMOCD requirements in effect at the time of closure, and any other applicable local, state, and/or federal regulations.

**11. Site Characteristics:**

- 1. Hydrologic Features ( See Exhibits # 5, # 6, # 7 and # 8 )
- 2. Geological Description: Caliche
- 3. Flood Protection
  - a. Flooding at the facility is highly unlikely. Location is built in an area not susceptible to flooding.
  - b. In the highly unlikely event flooding does occur berms will be built around the perimeter of the location to contain any rainwater which may collect at the facility.
  - c. NMOCD will be notified within 24 hours of any flooding occurrence.

**12. Proof of notice:**

- 1. Proof of notice as required by OCD Rule 711 will be met.
- 2. Written notice of application to surface owners and occupants within a one (1) mile radius will be given.

**13. Hydrogen Sulfide Contingency Plan:**

- a. All personnel located in the immediate vicinity will be required to be equipped with a hydrogen sulfide monitor with an audible and visual alarm in the event of dangerous levels of hydrogen sulfide.
- b. Wind socks will be installed along with warning signs of the appropriate action to be taken in the event of a hydrogen sulfide release.

# ATTACHMENT 1

## ADDITIONAL INFORMATION

Permit Application  
OK Hot Oil Service Inc.  
Reclamation Plant  
SW/4 SE/4 of Section 14, Township 17 South, Range 28 East, NMPM  
Eddy County, New Mexico

### Section 5: Application Form C-137

- A. Name and address of landowner of the facility site.  
Bogle Farms Ltd.  
Box 460  
Dexter, New Mexico, 88230

### Section 6: Application Form C-137

- A. Site Diagram  
See Exhibit 1-A, type of fence, location of entrance, type of security, height, and the area enclosed.
- B. Valve Containment outside of berm.  
Containments will be constructed so as to contain any fluid leaked when drivers disconnect hoses from trucks. Any fluid accumulated will be removed and re-cycled into treatment facility. No fluid will be allowed to drain on ground surface

Containments will be inspected on an annual basis for defects and replaced as needed.

There will be no below ground sumps/catchments located at facility

See Exhibit 2-A for diagram of of valve containments located outside of berm.

### Section 7: Application Form C-137

- A. Facility Design  
There will be no below ground pipes located at facility.  
Records of inspections and repairs will be made available to the OCD upon request.

### Section 8: Application Form C-137

- A. Contingency Plan  
Facility will be inspected daily for any leaks or spills that may occur.  
Any spill or release will be immediately picked up and disposed of according to OCD regulations

Section 8: Application Form C-137

A. Contingency Plan (contd.)

OCD in Santa Fe and Artesia offices will be notified within 24 hours of any fire, break, leak, spill, blow-out, or any other circumstance that could constitute a hazard or contamination in accordance with OCD Rule 116.

Contaminated soil will be removed and disposed of at an approved OCD facility. Soil remediation will follow OCD surface impoundment closure guidelines. A report will be submitted to OCD Santa Fe and appropriate District Offices that describes the investigation and remedial actions taken.

Records will be kept of investigations and repairs and made available to the OCD upon request.

Section 9: Application Form C-137

A. Inspection Maintenance Plan

Facility inspection and maintenance will be conducted on a daily basis, and immediately following each consequential rainstorm or windstorm. The OCD Santa Fe and Artesia Offices will be notified within 24 hours if any defect is noted. Repairs will be made as soon as possible. If the defect will jeopardize the integrity of the tank(s), additional wastes will not be placed into the affected tank(s) until repairs have been completed. The berm around the tanks will be maintained at the 36 inch height.

Section 10: Application Form C-137

A. The following procedures will be included to the Closure Plan.

- a. When the facility is to be closed no new material will be accepted.
- b. All tanks will be emptied and any waste and recyclable material will be hauled to an OCD-approved facility. The empty tanks and equipment will be removed.
- c. Contaminated soils exceeding OCD closure standards for the site will be removed or remediated.
- d. The area will be contoured, seeded with native grasses 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.
- e. Closure will be pursuant to all OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.

Section 10: Application Form C-137

- B. Closure cost estimate: See Exhibit 3-A

Section 11: Application Form C-137

A. Hydrogeologic Information

1. Windmill # 1 - Depth to groundwater is 95 feet.
2. Windmill # 2 - Depth to groundwater is 90 feet.
3. Strata from surface to groundwater is the Quaternary Alluvium Formation.
4. See Exhibit 4-A for USGS Quadrangle map for location of Windmill # 1 and Windmill # 2.

Section 12: Application Form C-137

A. Public Notice

1. The only landowner within one mile of the proposed facility is Bogle Ltd. Co.

Notices were sent to:

- A. Bogle Ltd. Co.
  - B. Eddy County Commission
  - C. Bureau of Land Management
  - D. NMOCD
2. See Exhibit 5-A for a copy of notifications that were sent, and return receipts from each interested party that was notified.

Section 13: Application Form C-137

A. H<sub>2</sub>S Prevention & Contingency Plan

All persons in the immediate vicinity of the facility will be required to wear a personal H<sub>2</sub>S monitor that has an audible alarm as well as a visual alarm.

A permanently situated H<sub>2</sub>S alarm will be installed outside the berm area on the Northwest corner of the facility. It will have an audible as well as a visual alarm.

In the event the alarm sounds and the level of H<sub>2</sub>S is 1.0 ppm or greater the following will occur:

- a. The operator will notify the Artesia office of the OCD immediately.
- b. Appropriate safety equipment will be worn and the source of the H<sub>2</sub>S release will be determined. Steps will then be taken to rectify the problem in a safe and responsible manner.

In the event the level of H<sub>2</sub>S is 10.0 ppm or greater the following steps will be taken.

- a. The operator will immediately notify the Artesia office of the OCD and the following public agencies:

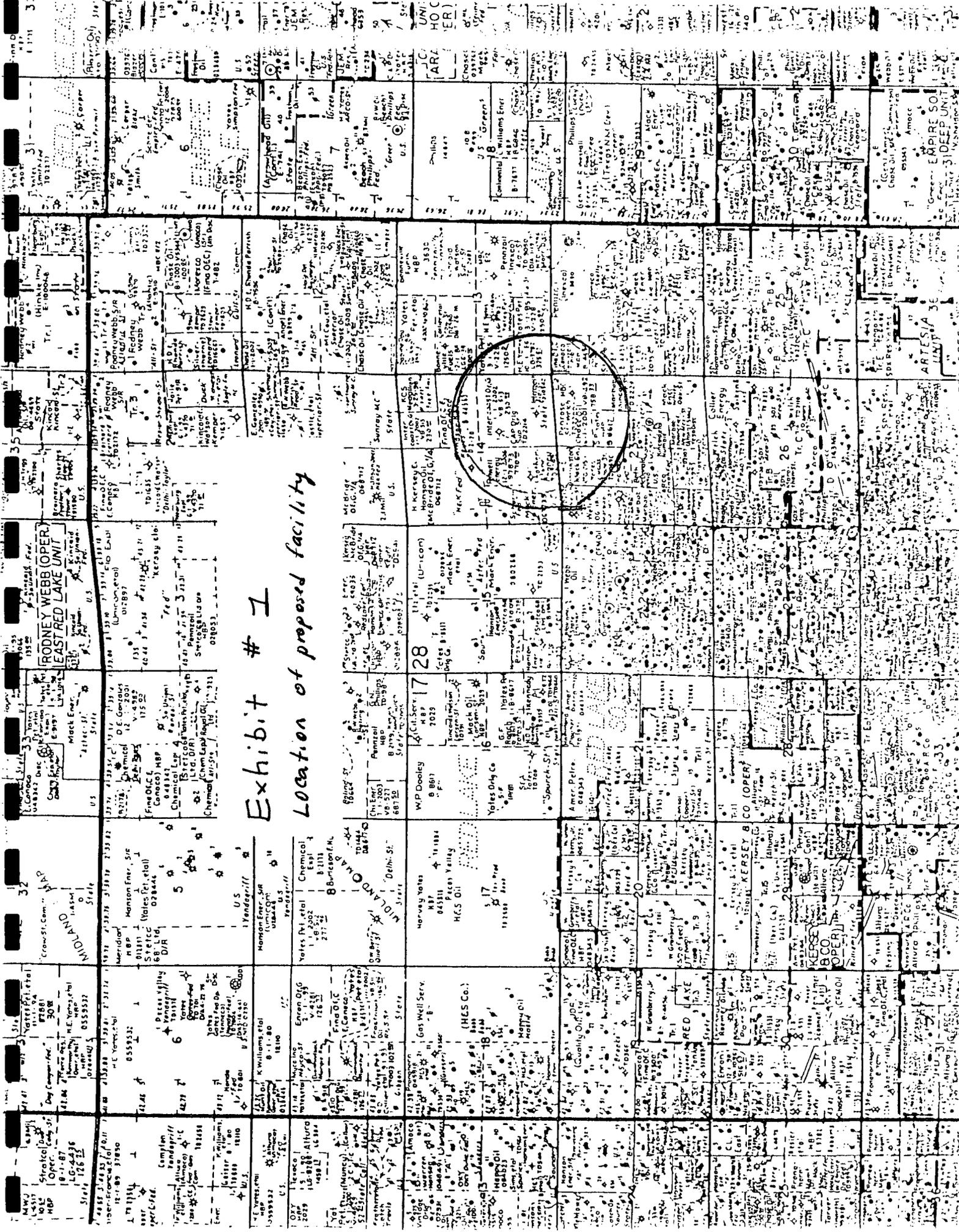
New Mexico State Police  
Eddy County Sheriff  
Eddy County Fire Marshall

All persons residing within one-half (1/2) mile radius of the fence line will be notified and the operator will assist public service officials with evacuation as requested.

Appropriate safety equipment will be used to locate the problem and operations or treatments will begin to mitigate the source.

Section 14: Application Form C-137

- A. See Exhibit 6-A for copy of Certificate of Organization for O K Hot Oil Service, Inc.
- B. See Exhibit 7-A for a copy of lease agreement with surface landowners of the proposed facility site.



**Exhibit # 1**  
**Location of proposed facility**

**RODNEY WEBB (OPER)**  
**EAST RED LAKE UNIT**

**MILANO**

**MIDLAND**



**ARTESIA**  
**LUNDA**

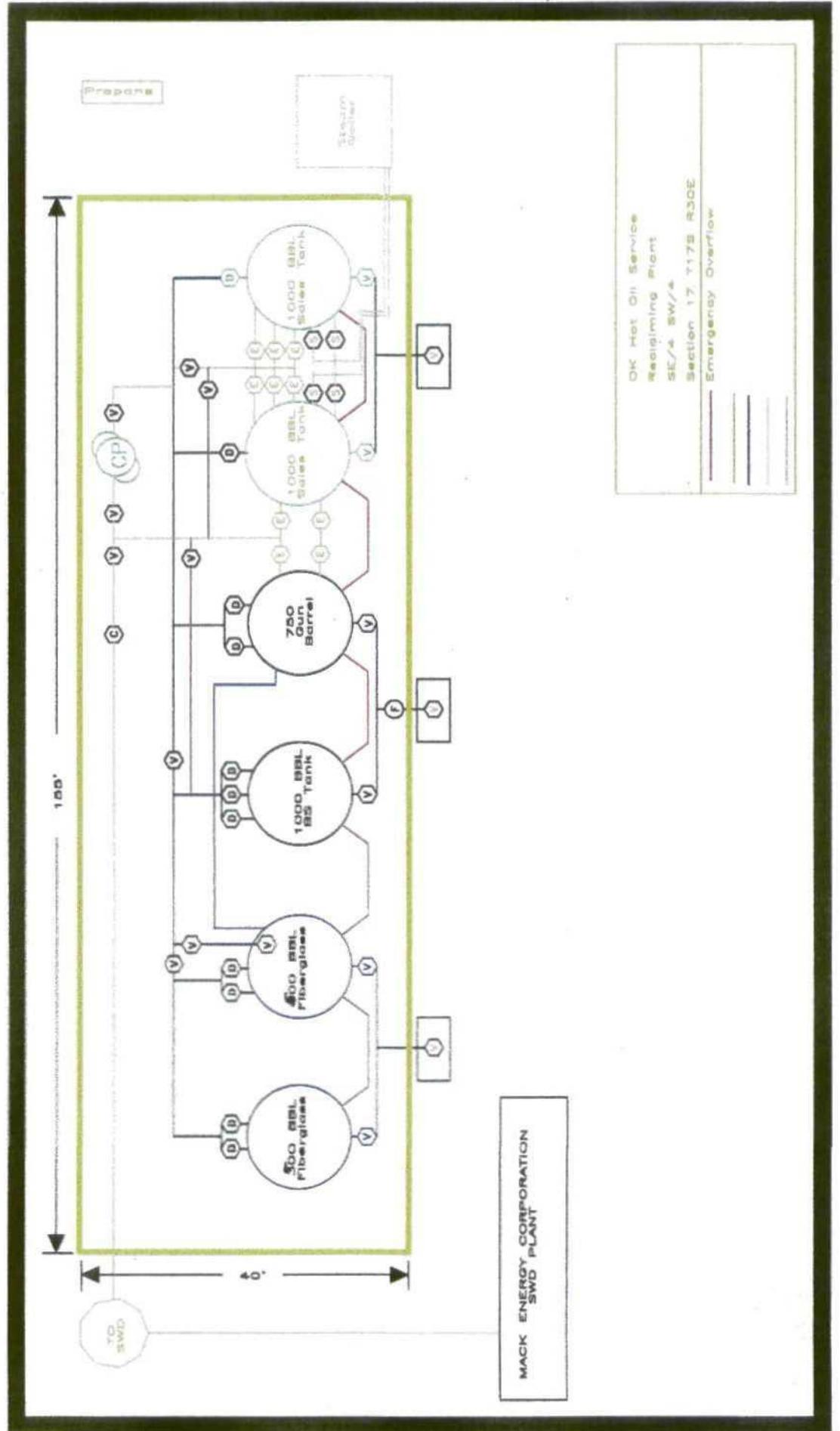
The map contains a dense grid of data points, including names of companies and individuals, numerical values, and various symbols. Some of the visible text includes:

- Company Names:** W.P. Doolley, Yates Oil Co., Amer. Petr., Kersey B Co (OPER), W.P. Doolley, Yates Oil Co., Amer. Petr., Kersey B Co (OPER), W.P. Doolley, Yates Oil Co., Amer. Petr., Kersey B Co (OPER).
- Individuals:** W.P. Doolley, Yates Oil Co., Amer. Petr., Kersey B Co (OPER).
- Locations:** MILANO, MIDLAND, ARTESIA, LUNDA.
- Other Text:** "Location of proposed facility", "Exhibit # 1", "RODNEY WEBB (OPER) EAST RED LAKE UNIT".

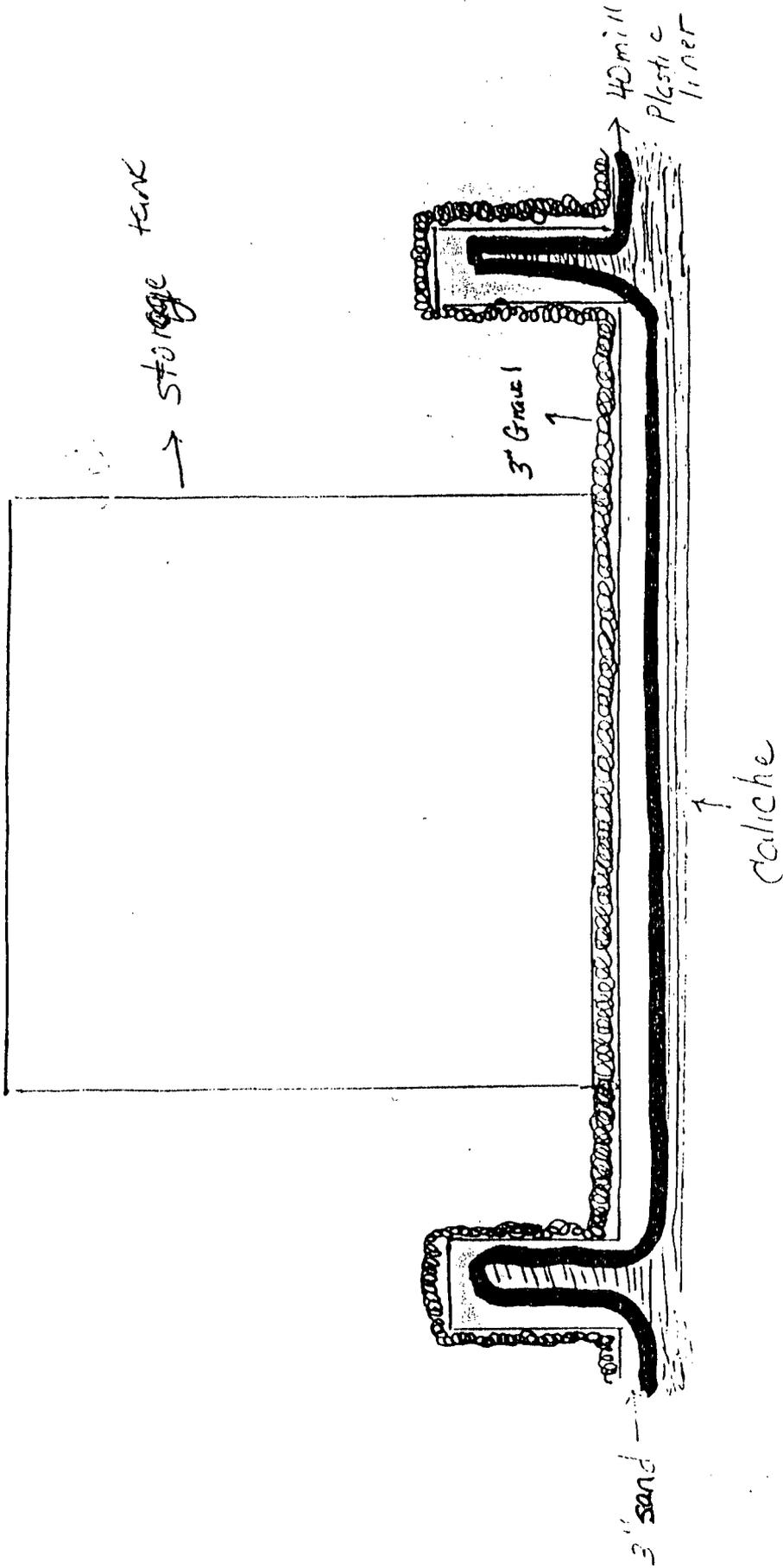


# Exhibit # 3

## Site Diagram



CROSS SECTION OF BERRA



Gravel - red  
Sand - yellow

Exhibit #4

Exhibit # 5



**MILLER CHEMICALS, INC.**

Post Office Box 298  
 Artesia, N.M. 88211-0298  
 (505) 746-1919 Artesia Office  
 (505) 393-2893 Hobbs Office  
 (505) 746-1918 Fax

WATER ANALYSIS REPORT

Company : MACK ENERGY  
 Address :  
 Lease : WINDMILL  
 Well : #1  
 Sample Pt. :

Date : 9-3-99  
 Date Sampled : 9-3-99  
 Analysis No. : 8082

ANALYSIS		mg/l.		* meq/l.	
1.	pH	7.0			
2.	H2S	0			
3.	Specific Gravity	1.002			
4.	Total Dissolved Solids	5370.8			
5.	Suspended Solids	NR			
6.	Dissolved Oxygen	NR			
7.	Dissolved CO2	NR			
8.	Oil In Water	NR			
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)				
11.	Bicarbonate	HCO3	231.0	HCO3	3.8
12.	Chloride	Cl	1491.0	Cl	42.1
13.	Sulfate	SO4	1875.0	SO4	39.0
14.	Calcium	Ca	952.0	Ca	47.5
15.	Magnesium	Mg	44.4	Mg	3.6
16.	Sodium (calculated)	Na	775.6	Na	33.7
17.	Iron	Fe	1.8		
18.	Barium	Ba	0.0		
19.	Strontium	Sr	0.0		
20.	Total Hardness (CaCO3)		2560.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
48   *Ca <----- *HCO3   4	Ca (HCO3) 2	81.0	307
/----->	CaSO4	68.1	2657
4   *Mg -----> *SO4   39	CaCl2	55.5	259
<-----/	Mg (HCO3) 2	73.2	
34   *Na -----> *Cl   42	MgSO4	60.2	
	MgCl2	47.6	174
Saturation Values Dist. Water 20 C	NaHCO3	84.0	
CaCO3	Na2SO4	71.0	
CaSO4 + 2H2O	NaCl	58.4	1972
BaSO4			

REMARKS:

Exhibit # 6

SCALE TENDENCY REPORT

Company : MACK ENERGY Date : 9-3-99  
Address : Date Sampled : 9-3-99  
Lease : WINDMILL Analysis No. : 8082  
Well : #1 Analyst : STEVE TIGERT  
Sample Pt. :

STABILITY INDEX CALCULATIONS  
(Stiff-Davis Method)  
CaCO3 Scaling Tendency

S.I. = 0.4 at 70 deg. F or 21 deg. C  
S.I. = 0.5 at 90 deg. F or 32 deg. C  
S.I. = 0.5 at 110 deg. F or 43 deg. C  
S.I. = 0.5 at 130 deg. F or 54 deg. C  
S.I. = 0.6 at 150 deg. F or 66 deg. C

.....  
CALCIUM SULFATE SCALING TENDENCY CALCULATIONS  
(Skillman-McDonald-Stiff Method)  
Calcium Sulfate

S = 2048 at 70 deg. F or 21 deg C  
S = 2091 at 90 deg. F or 32 deg C  
S = 2106 at 110 deg. F or 43 deg C  
S = 2092 at 130 deg. F or 54 deg C  
S = 2067 at 150 deg. F or 66 deg C

Respectfully submitted,  
STEVE TIGERT

Exhibit # 7



**MILLER CHEMICALS, INC.**

Post Office Box 298  
 Artesia, N.M. 88211-0298  
 (505) 746-1919 Artesia Office  
 (505) 393-2893 Hobbs Office  
 (505) 746-1918 Fax

WATER ANALYSIS REPORT

Company : MACK ENERGY  
 Address :  
 Lease : WINDMILL  
 Well : #2  
 Sample Pt. :

Date : 9-3-99  
 Date Sampled : 9-3-99  
 Analysis No. : 8083

ANALYSIS	mg/L	* meq/L
1. pH	7.0	
2. H2S	0	
3. Specific Gravity	1.001	
4. Total Dissolved Solids	3374.9	
5. Suspended Solids	NR	
6. Dissolved Oxygen	NR	
7. Dissolved CO2	NR	
8. Oil In Water	NR	
9. Phenolphthalein Alkalinity (CaCO3)		
10. Methyl Orange Alkalinity (CaCO3)		
11. Bicarbonate	HCO3 183.0	HCO3 3.0
12. Chloride	Cl 170.0	Cl 4.8
13. Sulfate	SO4 2000.0	SO4 41.6
14. Calcium	Ca 648.0	Ca 32.3
15. Magnesium	Mg 22.3	Mg 1.8
16. Sodium (calculated)	Na 351.2	Na 15.3
17. Iron	Fe 0.4	
18. Barium	Ba 0.0	
19. Strontium	Sr 0.0	
20. Total Hardness (CaCO3)	1710.0	

PROBABLE MINERAL COMPOSITION

*milli equivalents per liter	Compound	Equiv wt X meq/L	= mg/L
32  *Ca <----- *HCO3   3	Ca(HCO3)2	81.0	243
-----  /----->  -----	CaSO4	68.1	1997
2  *Mg -----> *SO4   42	CaCl2	55.5	
-----  <-----/  -----	Mg(HCO3)2	73.2	
15  *Na -----> *Cl   5	MgSO4	60.2	110
-----+	MgCl2	47.6	
Saturation Values Dist. Water 20 C	NaHCO3	84.0	
CaCO3 13 mg/L	Na2SO4	71.0	744
CaSO4 * 2H2O 2090 mg/L	NaCl	58.4	280
BaSO4 2.4 mg/L			

REMARKS:

Exhibit # 8

SCALE TENDENCY REPORT

Company : MACK ENERGY Date : 9-3-99  
Address : Date Sampled : 9-3-99  
Lease : WINDMILL Analysis No. : 8083  
Well : #2 Analyst : STEVE TIGERT  
Sample Pt. :

STABILITY INDEX CALCULATIONS  
(Stiff-Davis Method)  
CaCO3 Scaling Tendency

S.I. = 0.3 at 70 deg. F or 21 deg. C  
S.I. = 0.3 at 90 deg. F or 32 deg. C  
S.I. = 0.3 at 110 deg. F or 43 deg. C  
S.I. = 0.4 at 130 deg. F or 54 deg. C  
S.I. = 0.4 at 150 deg. F or 66 deg. C

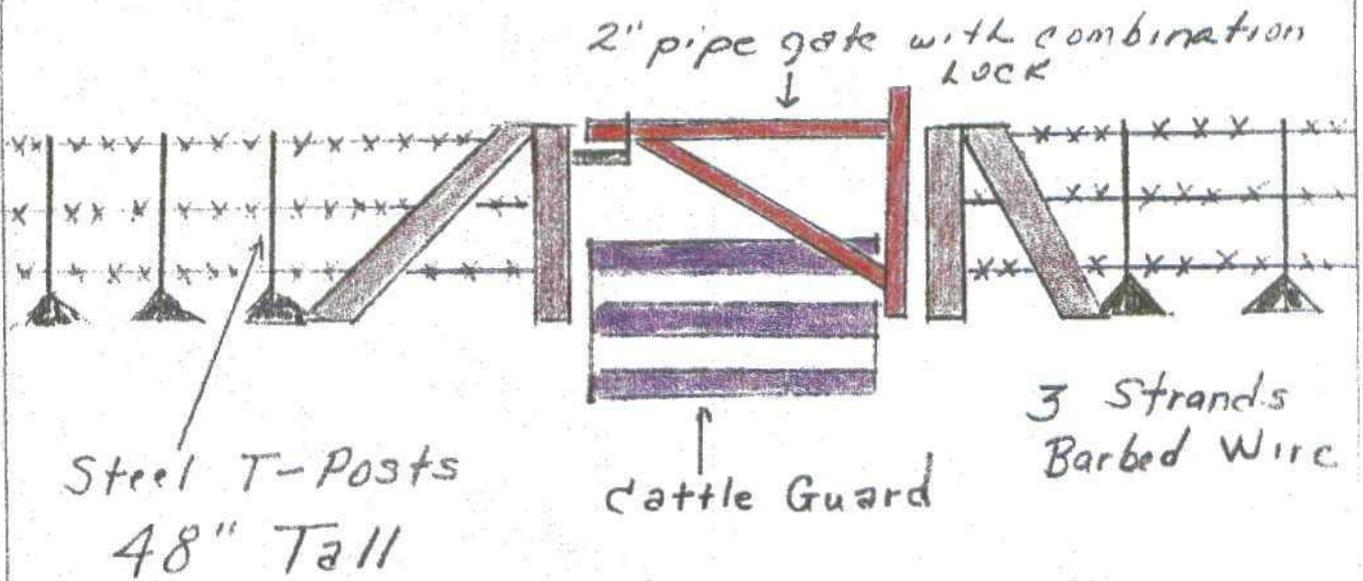
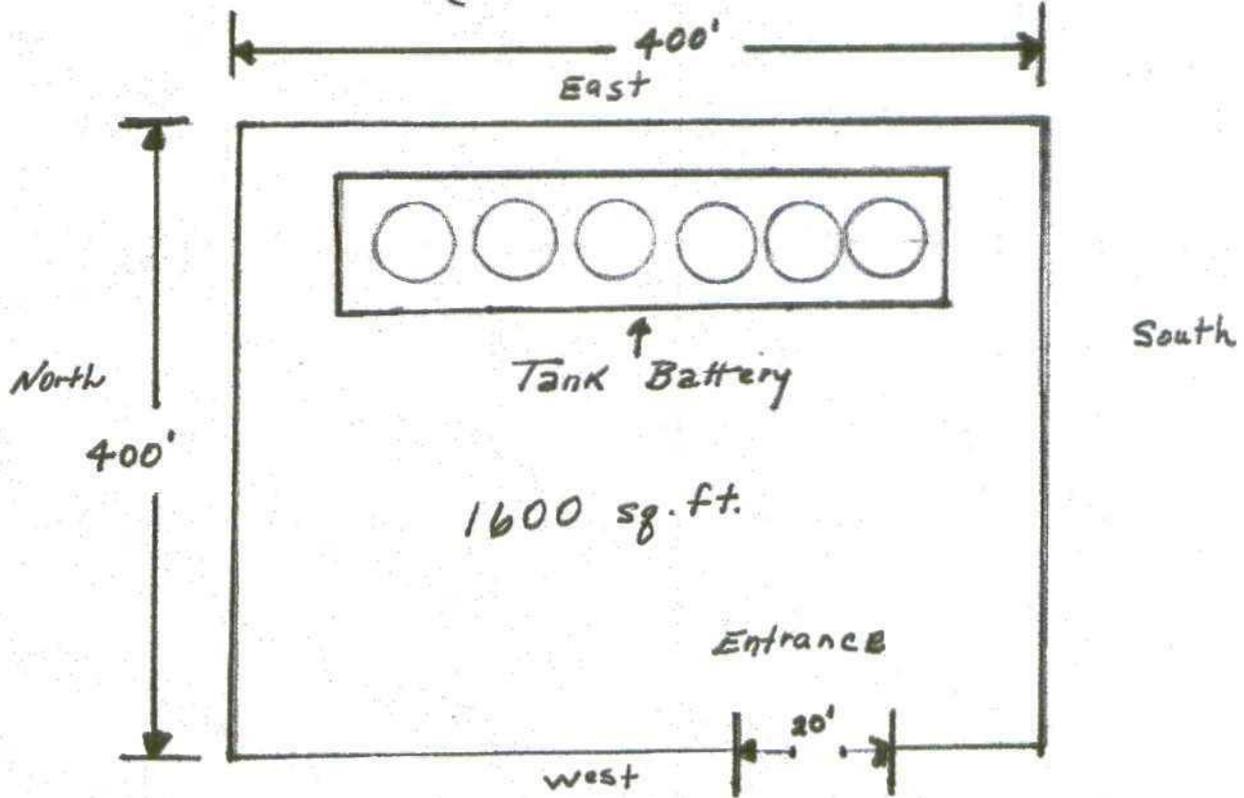
.....  
CALCIUM SULFATE SCALING TENDENCY CALCULATIONS  
(Skillman-McDonald-Stiff Method)  
Calcium Sulfate

S = 1661 at 70 deg. F or 21 deg C  
S = 1691 at 90 deg. F or 32 deg C  
S = 1697 at 110 deg. F or 43 deg C  
S = 1683 at 130 deg. F or 54 deg C  
S = 1657 at 150 deg. F or 66 deg C

Respectfully submitted,  
STEVE TIGERT

# Exhibit 1-a Perimeter Fence

(not to scale)



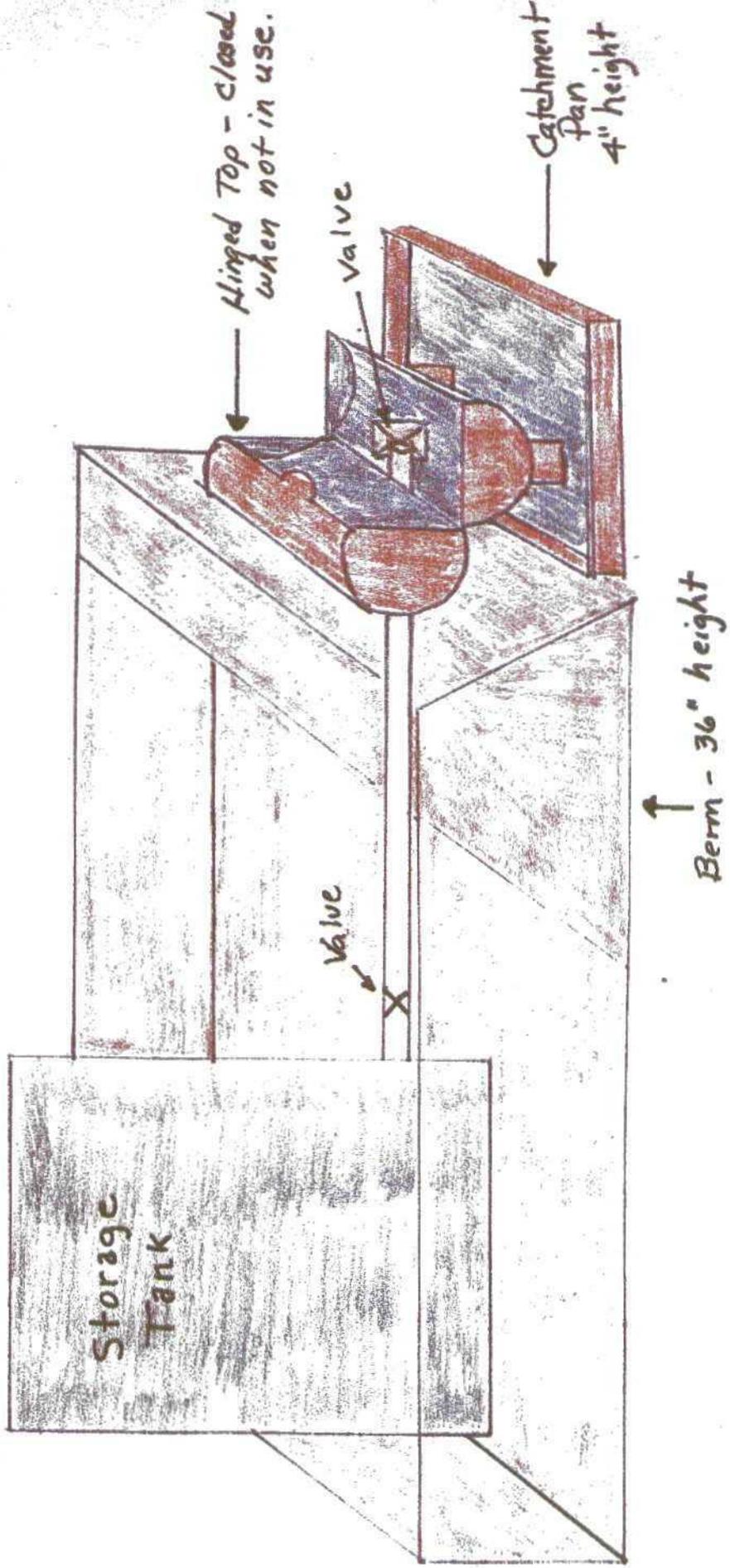


Exhibit 2-A  
Diagram of Valve Containment



**Tank Cleaning**

Tank Cleaning: Jet truck, vacuum truck	\$ 1,980.00
Jet water: 250 bbl fresh water	\$ 50.00
Jet water disposal: 225 bbl \$3.25 /bbl	\$ 732.00
Hauling 130 bbl per load * 2.5 hours round trip mi. * \$65.00 hr	\$ 325.00
	<b>\$ 3,087.00 Tank Cleaning</b>

---

**Remove Tanks, Piping and Equipment:**

Removal of tanks and residual equipment:

Roustabout crew/truck \$60 hr * 35 hr	\$ 2,100.00
Operator tandem winch/trailer \$85 hr * 35 hr	\$ 3,000.00
Dirt work/reclamation: \$65 hr x 2-8 hour days	\$ 1,040.00
	<b>\$ 6,140.00 Tank and Equipment Disposal</b>

To include trucking, disposal, heavy equipment and operators  
 Estimate from other 711 facility closure costs

---

**Analytical Analysis for site characterization**

7 confirmatory samples taken beneath tanks.

State Contract Laboratory Prices per analysis:

BTEX	\$ 40.00 * 7 samples	=	\$ 280.00
TPH	\$ 50.00 * 7 samples	=	\$ 350.00
Metals	\$200.00 * 7 samples	=	\$ 1,400.00
Radium 226	\$110.00 * 7 samples	=	\$ 770.00
			<b>\$ 2,800.00 Analytical</b>

---

**Confirmatory Soil Sampling Time and Labor for 7 samples**

Labor 2 personnel \$55.00/hour  
 Sample 30 min per sample  
 Travel 2 hours  
 Delivery & Paperwork 2 hours

Total Time = (30 min/sample \* 7 samples) + 2 hour + 2 hours = 7.5 hours

7.5 hours \* \$55.00/hour \* 825 persons = **\$825.00 Sampling Event**

Ex. 3-A

---

**Revegetation for 2 acre site**

Reseed location **\$1,000.00 Revegetation**

---

%10 Contingency = **\$ 2,468.00**

---

**Total Closure and Vegetation Cost for Treating Plant and Landfarm facility**

**\$ 27,148.00 Subtotal**  
**\$ 1,527.00 NMGRT .05625**  
**\$ 28,675.00 Total Financial Assurance**



# Exhibit 5-A

Copy of notice sent  
to landowners and  
Certified Return  
receipts

Notice is hereby given that pursuant to the New Mexico Oil Conservation Division Regulations, the following application has been submitted to the Director of the Oil Conservation Division, 1220 South Saint Frances Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

OK Hot Oil Services, Inc., Operator, Randy Kinnibrugh, P.O. Box 146, Loco Hills, New Mexico, 88255, has submitted for approval an application to construct and operate a Rule 711 treating plant reclamation facility located in the SW/4 SE/4 Section 14, Township 17 South, Range 28 East, N.M.P.M., Lea County, New Mexico. Bottom sediment and water (BS&W) associated with oil and gas production operations will be reclaimed by heat and chemical treatment. The permit application addresses the construction, operations, spill/leak prevention and monitoring procedures to be incorporated at the proposed site.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The application may be viewed at the above address or at or at the Artesia district office at 811 S. First, Artesia, New Mexico between 8:00 a.m. and 4:00 p.m., Monday thru Friday. Prior to ruling on any proposed application, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and public hearing may be requested by any interested person. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the director determines that there is significant public interest.



First Class Mail  
Postage & Fees Paid  
USPS  
Permit No. 4510  
Carlsbad, NM 88202

Sender: Please print your name, address, and ZIP+4 in this box.

OK Hot Oil Services  
P.O. Box 146  
Loco Hills, NM  
88255

**BENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:  
Eddy County Comm.  
101 W. Green  
Carlsbad, NM  
88220

Article Number (Copy from service label)  
700006000002423242879

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery  
D. M. Carr 8-17  
C. Signature  
X. D. M. Carr (Agent) [ ] Agent  
[ ] Addressee  
D. Is delivery address different from item 1? [ ] Yes  
If YES, enter delivery address below: [ ] No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 4. Restricted Delivery? (if via Fee) [ ] Yes

**BENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:  
Bureau of Land Man  
Carlsbad Field Office  
620 R. Green St.  
Carlsbad, NM  
88220

Article Number (Copy from service label)  
700006000002423242848

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery  
D. M. Carr 8-17  
C. Signature  
X. D. M. Carr (Agent) [ ] Agent  
[ ] Addressee  
D. Is delivery address different from item 1? [ ] Yes  
If YES, enter delivery address below: [ ] No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 4. Restricted Delivery? (if via Fee) [ ] Yes

**BENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:  
Boyle Ltd. Co.  
P.O. Drawer 460  
Dexter, NM  
88230

Article Number (Copy from service label)  
700006000002423242855

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery  
D. M. Carr AUG 17 2001  
C. Signature  
X. D. M. Carr (Agent) [ ] Agent  
[ ] Addressee  
D. Is delivery address different from item 1? [ ] Yes  
If YES, enter delivery address below: [ ] No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 4. Restricted Delivery? (if via Fee) [ ] Yes

**BENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:  
Mr. Jim Carr  
NMOC  
1002 N Canal  
Carlsbad NM 88202

Article Number (Copy from service label)  
700006000002423242862

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery  
D. M. Carr AUG 17 2001  
C. Signature  
X. D. M. Carr (Agent) [ ] Agent  
[ ] Addressee  
D. Is delivery address different from item 1? [ ] Yes  
If YES, enter delivery address below: [ ] No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.  
 4. Restricted Delivery? (if via Fee) [ ] Yes

STATE OF NEW MEXICO



Exhibit 6-A

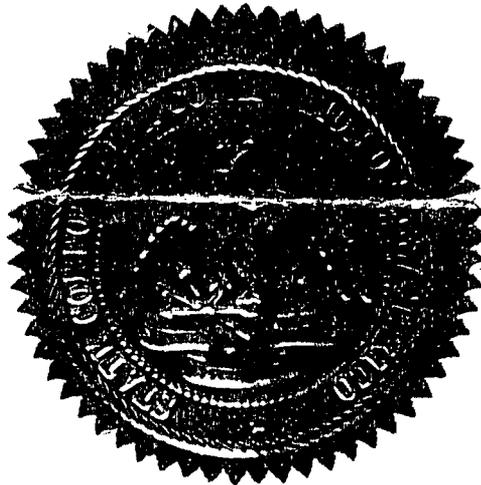
CERTIFICATE OF INCORPORATION  
OF

O.K. HOT OIL SERVICE, INC.

117,741-9

The State Corporation Commission certifies that duplicate originals of the Articles of Incorporation attached hereto, duly signed pursuant to the provisions of the BUSINESS Corporation Act, have been received by it and are found to conform to law.

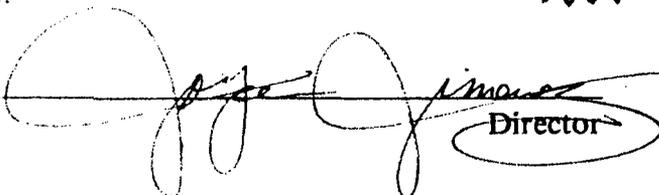
Accordingly, by virtue of the authority vested in it by law, the State Corporation Commission issues this Certificate of Incorporation, and attaches hereto a duplicate original of Articles of Incorporation.

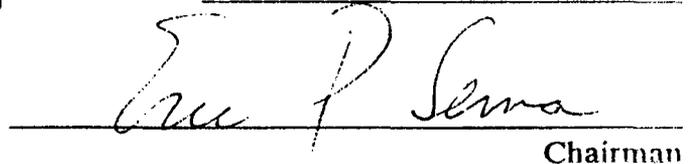


*In Testimony Whereof, the State Corporation Commission of the State of New Mexico has caused this certificate to be signed by its Chairman and the seal of said Commission to be affixed at the City of Santa Fe on*

April 7, 1983

Attest:

  
Director

  
Chairman

RECEIVED

APR 07 1983

N.M. ST. CORP. COMM.  
Corp./Franchise Tax Depts.

ARTICLES OF INCORPORATION  
OF  
O.K. HOT OIL SERVICE, INC.

FILED IN OFFICE OF  
STATE CORPORATION COMMISSION  
OF NEW MEXICO

APR 07 1983

CORPORATION AND  
FRANCHISE TAX DEPTS.

The undersigned, acting as incorporator of O.K. HOT OIL SERVICE, INC. under the New Mexico Business Corporation Act, adopts the following Articles of Incorporation for such corporation:

ARTICLE I

The name of the corporation is:

O.K. HOT OIL SERVICE, INC.

ARTICLE II

The duration of the corporation is perpetual.

ARTICLE III

The purpose for which this corporation is formed is to carry on and conduct a liquid heating, treating and well servicing business which includes all transportation, processing, mixing and heating of all liquids used in or in connection with the exploration for, drilling, discovery and production of oil and gas and their products and by-products, and to engage in any lawful business permitted under the New Mexico Business Corporation Act.

ARTICLE IV

The corporation shall have the following powers:

1. To sue and be sued, complain and defend, in its corporate name;
2. To have a corporate seal which may be altered at pleasure and to use the seal by causing it, or a facsimile thereof, to be impressed or affixed or in any other manner reproduced, but failure to have or to affix a corporate seal does not affect the validity of any instrument, or any action taken in pursuance thereof or in reliance thereon;
3. To purchase, take, receive, lease or otherwise acquire, own, hold, improve, use and otherwise deal in and with real or personal property, or any interest therein, wherever situated;
4. To sell, convey, mortgage, pledge, lease, exchange, transfer and otherwise dispose of all or any part of its property and assets;
5. To lend money to, and otherwise assist, its employees, officers and directors;
6. To purchase, take, receive, subscribe for or otherwise acquire, own, hold, vote, use, employ, sell, mortgage, lend, pledge, or otherwise dispose of, and otherwise use and deal in and with shares or other interest in or obligations of, other domestic or foreign corporations, associations, partnerships, limited partnerships or individuals, or direct or indirect obligations of the United States or of any other government, state, territory, governmental district or municipality or of any instrumentality thereof;

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APR 07 1983

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7. To make contracts and guarantees and incur liabilities, borrow money at such rates of interest as the corporation may determine, issue its notes, bonds and other obligations and secure any of its obligations by mortgage or pledge of all of its property, franchises and income;

8. To lend money for its corporate purposes, invest and reinvest its funds, and take and hold real and personal property as security for the payment of funds so loaned or invested;

9. To conduct its business, carry on its operations, have offices and exercise the powers granted by the New Mexico Business Corporation Act within or without this state;

10. To elect or appoint directors, officers and agents of the corporation, and define their duties and fix their compensation;

11. To make and alter bylaws, not inconsistent with these Articles of Incorporation or with the laws of this state, for the administration and regulations of the affairs of the corporation;

12. To make donations for the public welfare or for charitable, scientific, educational or governmental purposes;

13. To transact any lawful business in aid of governmental policy;

14. To indemnify any director or officer or former director or officer of the corporation, or any person who may have served at its request as a director or officer of another corporation

APR 07 1983

N.M. ST. CORP. COMM.  
Corp./Franchise Tax Depts.

in which it owns shares of capital stock or of which it is a creditor, against expenses actually and reasonably incurred by him in connection with the settlement or defense of any action, suit or proceeding, civil or criminal, in which he is involved or made a party by reason of being or having been such director or officer, except in relation to matters as to which he shall be adjudged in such action, suit or proceeding to be liable for negligence or misconduct in the performance of duty to the corporation, and to make any other indemnification that may be authorized by the Articles of Incorporation or by any bylaw or resolution adopted by the shareholders after notice;

15. To pay pensions and establish pension plans, pension trusts, profit sharing plans, stock bonus plans, stock option plans or other incentive plans for any or all of its directors, officers and employees;

16. To be a promoter, partner, member, associate, trustee, or manager of any partnership, joint venture, trust or other enterprises;

17. To have and exercise all powers necessary or convenient to effect any or all of the purposes for which this corporation is organized;

18. To cease its corporation activities and surrender its corporation franchises;

19. To purchase, own and acquire its own capital stock as provided by the Business Corporation Act; and

EX 6-A

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N.M. ST. CORP. COMM.  
Corp./Franchise Tax Depts.

20. To have and exercise all powers allowed by the New Mexico Business Corporation Act.

ARTICLE V

The aggregate number of shares of the corporation which the corporation shall have the authority to issue is 50,000 shares with a par value of \$1.00 per share. The corporation shall have only one class of stock which shall be common stock.

ARTICLE VI

After the initial issuance of shares of this corporation's authorized stock, each holder of shares in this corporation shall have the first right to purchase shares of this corporation that may from time to time be issued whether or not presently authorized, including shares from the treasury of this corporation, in the ratio that the number of shares he holds at the time of issue bears to the number of shares outstanding, exclusive of treasury shares. This right shall be deemed waived by any shareholder who does not exercise it and pay for the shares pre-empted within thirty (30) days of receipt of notice in writing, certified mail, return receipt requested, from the corporation stating the prices, terms and conditions of the issue of shares and inviting him to exercise his pre-emptive rights.

The directors may make any other provisions or restrictions respecting the issuance and allotment of the new shares on unissued treasury shares and the Board of Directors may place

APR 07 1983

N.M. ST. CORP. COMM.  
Corp./Franchise Tax Depts.

such restrictions as are permitted by law upon the transfer of shares of its stock or other securities as they deem proper for the protection of the stockholders and the corporation.

The corporation shall have the right and first option, for a period of forty-five (45) days, to purchase the stock of any stockholder who desires to sell his stock of the corporation at the same price and under the same terms and conditions as any other bona fide purchaser.

ARTICLE VII

The Board of Directors shall have the power and authority to make such bylaws as they deem proper for the management of the affairs of the corporation, consistent with the Articles of Incorporation and the laws of the State of New Mexico.

ARTICLE VIII

Cumulative voting shall not be allowed.

ARTICLE IX

The business, property and affairs of the corporation shall be managed by not less than three nor more than seven directors. No director shall be required to be a shareholder in the corporation.

ARTICLE X

Shareholders and directors shall have the power to hold their meetings, keep their books, records and the documents of the corporation within or without the State of New Mexico at such place or places as may be designated from time to time by

the bylaws or by resolution of the shareholders or by resolution of the directors.

ARTICLE XI

The articles and bylaws shall be restricted to the extent necessary to comply with the laws of any state, territory, or foreign country in which the corporation may qualify to do business.

ARTICLE XII

The registered office of the corporation shall be at 212 South Fourth, Artesia, New Mexico 88210; the registered agent shall be George A. Graham, Jr, at 212 South Fourth, Artesia, New Mexico 88210.

ARTICLE XIII

The names and addresses of the persons who are to serve as directors until the annual meeting of shareholders or until the successors are elected and qualified are:

<u>NAME</u>	<u>ADDRESS</u>
Orthell Kinnibrugh	2714 W. Main Artesia, New Mexico 88210
Arvin Kinnibrugh	2714 W. Main Artesia, New Mexico 88210
Randy Kinnibrugh	Loco Hills, New Mexico 88255
Tracy Kinnibrugh	2714 W. Main Artesia, New Mexico 88210

ARTICLE XIV

APR 07 1983

N.M. ST. CORP. COMM.  
Corp./Franchise Tax Depts.

The corporation may enter into contracts or transact business with one or more of its directors, officers or stockholders, or with any corporation, association, trust company, organization or other concern in which any one or more of its directors, officers or stockholders are directors, officers, trustees, beneficiaries or stockholders or otherwise interested in other contracts or transactions in which any one or more of its directors, officers or stockholders is in any way interested; and, in the absence of fraud, no such contract or transaction shall be invalidated or in any wise affected by the fact that such directors, officers or stockholders of the corporation have, or may have, interests which are, or might be adverse to, the interests of the corporation, even though the vote or action of directors, officers or stockholders having such adverse interests may have been necessary to obligate the corporation upon such contract or transaction. At any meeting of the Board of Directors of the corporation (or any duly authorized committee thereof) which shall authorize or ratify any such contract or transaction, any such director or directors may vote or act thereat with like force and effect as if he had not such interest, provided in such case the nature of such interest (though not necessarily the extent or details thereof), shall be disclosed, or shall have been known to the directors or a majority thereof. A general notice that a director or officer is interested in any corporation or other concern of any kind

APR 07 1983

N.M. ST. CORP. COMM.  
Corp./Franchise Tax Depts.

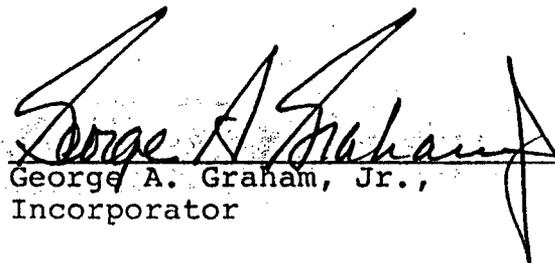
above referred to shall be sufficient disclosure as to such director or officer with respect to all contracts and transactions with such corporation or other concern. No director shall be disqualified from holding office as a director or officer of the corporation by reason of any such adverse interest. In the absence of fraud, no director, officer or stockholder having such adverse interest shall be liable to the corporation or to any stockholder or creditor thereof, or to any other person for any loss incurred by it under or by reason of such contract or transaction, nor shall any such director, officer or stockholder be accountable for any gains or profits realized thereon.

ARTICLE XV

The name and address of the incorporator is as follows:

<u>NAME</u>	<u>ADDRESS</u>
George A. Graham, Jr.	212 South Fourth Artesia, New Mexico 88210

WITNESS my hand and seal this 31<sup>st</sup> day of March,  
1983.

  
George A. Graham, Jr.,  
Incorporator



# Exhibit 7-A

## AMENDMENT TO SURFACE USE AGREEMENT

On February 14, 2000 MACK ENERGY CORPORATION ("Mack Energy"), P. O. Box 960, Artesia, New Mexico 88211-0960, and BOGLE LTD. CO., a New Mexico limited liability company ("Bogle"), 7331 Cherokee Road, Dexter, New Mexico 88230, entered into that certain Surface Use Agreement ("Agreement") recorded at Book 374, Page 1166, Eddy County Records.

WHEREAS, OK Hot Oil Service, Inc. ("OK"), P. O. Box 146, Loco Hills, New Mexico 88255, has requested that it be made a party to the Agreement to allow it to utilize a portion of the 400 foot by 400 foot area (hereinafter "Lands") described in the plat attached to the Agreement.

Mack Energy and Bogle have agreed to allow OK to become a party to the Agreement to allow it to utilize a portion of the Lands for an oil reclamation facility.

NOW, THEREFORE, in consideration of the premises and such other considerations as have been agreed to by the parties, it is hereby agreed as follows:

1. OK and Mack Energy will have the right to utilize that portion of the Lands as is shown on the plat attached hereto as Exhibit "A."

2. Mack Energy and OK shall jointly utilize existing or share equally the costs of any new access roads necessary to utilize the Lands from the date of this Amendment forward. Either party will bear the cost of any easements for pipeline purposes for its use. Bogle shall have the right to charge damages to either or both parties for road easements and to any party building a pipeline to or across the Lands.

3. The term of the Agreement, as amended, shall be a term of 25 years from February 14, 2000, with either Mack Energy or OK having the right to terminate its participation under this agreement upon notice to Bogle in compliance with the Agreement.

4. Restrictions. OK and Mack Energy hereby agree to the following restrictions as to its utilization of the Lands:

a) Any tank facilities or other facilities located on the Lands shall be bermed with earthen berms high enough to contain spills and leaks, or by such other means as shall be satisfactory to Bogle.

b) No surface disposal ponds will be maintained or utilized by either party on the Lands.

c) If not already fenced, upon request by Bogle, OK and Mack Energy will share equally the cost of fencing the Lands with a fence of sufficient size and strength to exclude livestock from the Lands.

d) All uses of the Lands shall be in accordance with all applicable rules and regulations of the Oil Conservation Division, as well as any other applicable state, county or federal regulations.

5. Except as to the Lands, Bogle shall retain the right to utilize the remainder of the lands surrounding the Lands (subject to reasonable utilization by Mack Energy and OK of portions thereof for access roads and pipeline easements as set out herein).

6. Mack Energy and OK shall retain all risk and liability of whatsoever nature connected with their operations conducted on the Lands, and Mack Energy and OK agree to indemnify, defend and hold Bogle harmless from all liabilities, penalties, claims, causes of action, demands, lawsuits, and expenses associated with their respective operations subsequent to the date hereof. OK shall assume all risk and liability of whatsoever nature connected with its operations conducted on the Lands from and after the date hereof, and agrees to indemnify, defend and hold Mack Energy harmless from all liabilities, penalties, claims, causes of action, demands, lawsuits and expenses associated with its operations on the Lands from and after the date hereof. Mack Energy shall assume all risk and liability of whatsoever nature connected with its operations conducted on the Lands from and after the date hereof, and agrees to indemnify, defend and hold OK harmless from all liabilities, penalties, claims, causes of action, demands, lawsuits and expenses associated with its operations on the Lands from and after the date hereof or from February 14, 2000 to date.

7. This agreement may be terminated at any time by either OK or Mack Energy upon the giving of notice of such intention to Bogle. Upon said termination, and within 120 days of the date thereof, the notifying party shall remove all of its surface facilities and otherwise restore the Lands in compliance with the Oil Conservation Division's rules and regulations. Upon such termination, the terminating party and Bogle will file in the records of Eddy County a Notice of Termination of this agreement as between those parties.

8. This Amendment to Surface Use Agreement will supersede the Agreement in all things.

The terms of this agreement shall be covenants running with the Lands and shall be binding upon the parties hereto, their successors and assigns.

EXECUTED this 14<sup>th</sup> day of Nov, 2001.

BOGLE LTD. CO.

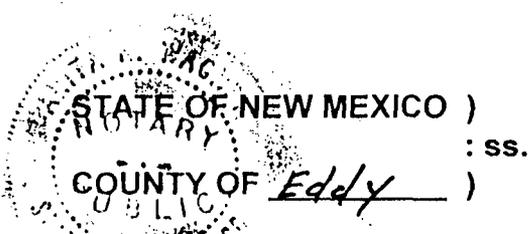
By: [Signature]  
Its: PARTNER

MACK ENERGY CORPORATION

By: [Signature]  
Its: Vice President

OK HOT OIL SERVICE, INC.

By: [Signature]  
Its: [Signature]



STATE OF NEW MEXICO )  
NOTARY )  
: ss.  
COUNTY OF Eddy )

This instrument was acknowledged before me on NOV 14<sup>th</sup>, 2001, by Stuart Bogle, PARTNER of BOGLE LTD. CO., a New Mexico limited liability company.

My commission expires:  
July 11, 2003

[Signature]  
Notary Public

STATE OF NEW MEXICO )  
: ss.  
COUNTY OF EDDY )

This instrument was acknowledged before me on November 20, 2001,  
by Robert C. Chase, Vice President of MACK  
ENERGY CORPORATION, a New Mexico corporation, on behalf of said corporation.

My commission expires:  
February 15, 2005

Staci D. Sanders  
Notary Public

STATE OF NEW MEXICO )  
: ss.  
COUNTY OF EDDY )



OFFICIAL SEAL  
STACI D. SANDERS  
NOTARY PUBLIC - STATE OF NEW MEXICO  
My commission expires: 2-15-05

This instrument was acknowledged before me on November 20, 2001,  
by Randy Kinnibrugh, Secretary of OK HOT  
OIL SERVICE, INC., a New Mexico corporation, on behalf of said corporation.

My commission expires:  
February 15, 2005

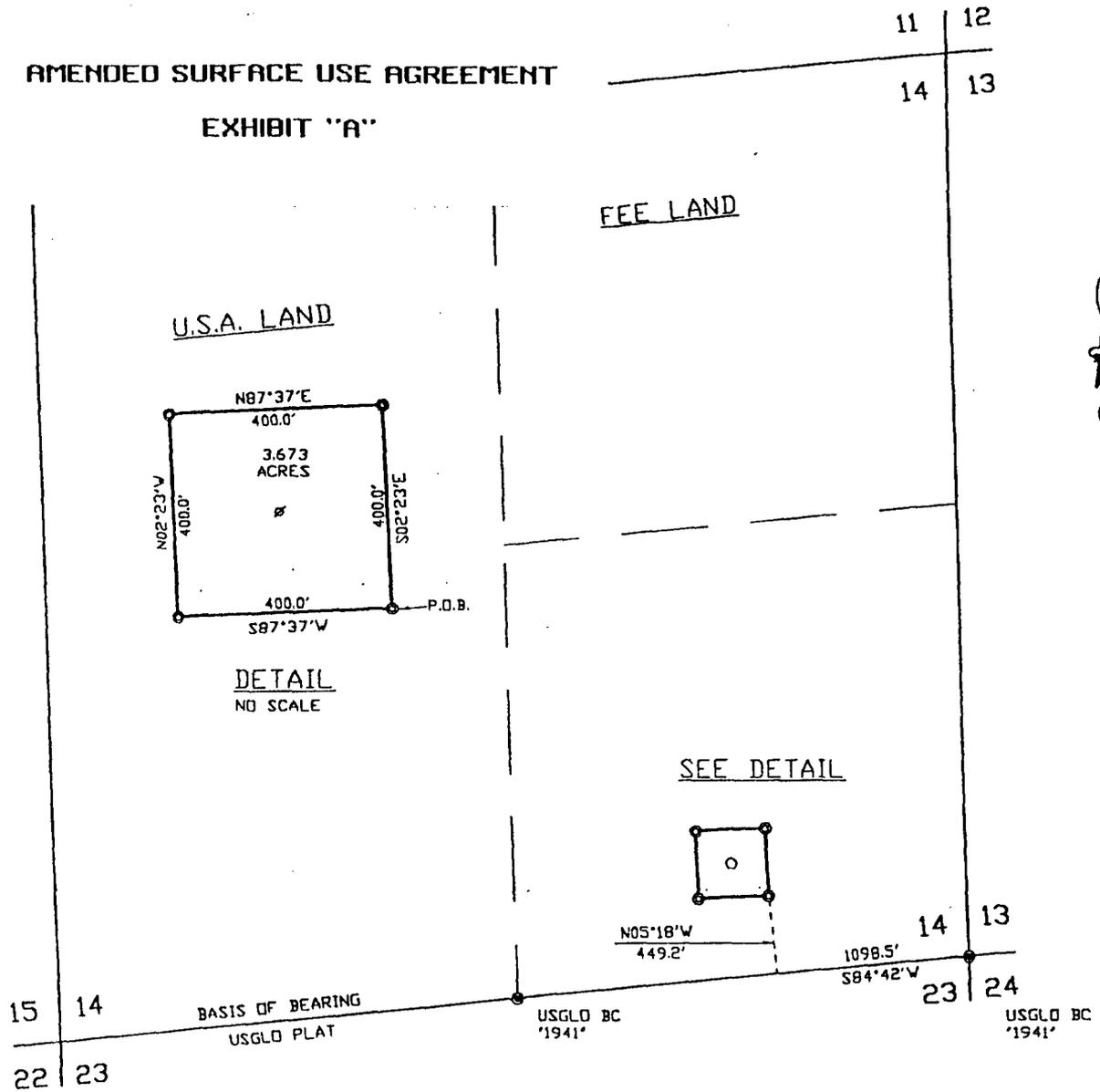
Staci D. Sanders  
Notary Public



OFFICIAL SEAL  
STACI D. SANDERS  
NOTARY PUBLIC - STATE OF NEW MEXICO  
My commission expires: 2-15-05

AMENDED SURFACE USE AGREEMENT

EXHIBIT "A"



SEE DETAIL

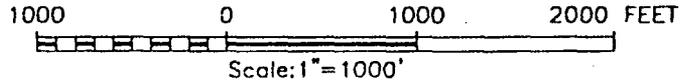
DESCRIPTION

A TRACT OF LAND IN THE SE 1/4 SECTION 14, TOWNSHIP 17 SOUTH, RANGE 28 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A 1/2" STEEL ROD W/PVC CAP MKD. 'PS 3239 PS 12641' SET FOR THE SOUTHEAST CORNER OF SAID TRACT WHICH LIES S84°42'W, 1098.5 FEET AND N05°18'W, 449.2 FEET FROM A USGLO BRASS CAP FOUND FOR THE SOUTHEAST CORNER OF SAID SECTION; THEN S87°37'W, 400.0 FEET TO A 1/2" STEEL ROD W/PVC CAP MKD. 'PS 3239 PS 12641' SET FOR THE SOUTHWEST CORNER OF SAID TRACT; THEN N02°23'W, 400.0 FEET TO A 1/2" STEEL ROD W/PVC CAP MKD. 'PS 3239 PS 12641' SET FOR THE NORTHWEST CORNER OF SAID TRACT; THEN N87°37'E, 400.0 FEET TO A 1/2" STEEL ROD W/PVC CAP MKD. 'PS 3239 PS 12641' SET FOR THE NORTHEAST CORNER OF SAID TRACT; THEN S02°23'E, 400.0 FEET TO THE POINT OF BEGINNING AND CONTAINING 3.673 ACRES OF LAND.

LEGEND

- DENOTES SET 1/2" STEEL ROD W/PVC CAP MKD. 'PS 3239 PS 12641'
- ⊗ DENOTES PLUGGED & ABANDONED WELL



I HEREBY CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

*Ronald J. Eidson*  
 RONALD J. EIDSON, N.M. F.S. No. 3239  
 GARY C. EIDSON, N.M. P.S. No. 12641

JOHN WEST SURVEYING COMPANY

412 N. DALLAS ST. - MOBBE NEW MEXICO - 505-393-3117

MACK ENERGY CORP.

A 400' X 400' TRACT OF LAND  
 IN THE SE 1/4  
 OF SECTION 14,  
 TOWNSHIP 17 SOUTH,  
 RANGE 28 EAST, N.M.P.M.,  
 EDDY COUNTY, NEW MEXICO

Survey Date: 1/28/00	Sheet 1 of 1 Sheets
W.O. Number: 00-11-0152	Drawn By: D.COLLINS
Date: 1/31/00 TRACT	MACK0152 Scale: 1" = 1000'

OK Hot Oil Services Inc. Proposed location for new Treating Plant  
May 30, 2000, 2:40 pm  
SW/4 SE/4 Section 14, Township 17 South, Range 28 East,  
NMPM, Eddy County, New Mexico



Photo 1: The Mack Energy Corp. SWD under construction and Disposal Well.



Photo 2: Looking back to the South West to the entrance to the facility. The Playa in the distance the collection point for this small topographic closed basin.

District I - (505) 393-6161  
P. O. Box 1980  
Hobbs, NM 88241-1980  
District II - (505) 748-1283  
811 S. First  
Artesia, NM 88210  
District III - (505) 334-6178  
1000 Rio Brazos Road  
Aztec, NM 87410  
District IV - (505) 827-7131

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

RECEIVED  
DEC 28 2000  
Environmental Bureau  
Oil Conservation Division

Form C-137  
Originated 8/8/95  
Revised 6/25/97

Submit Original  
Plus 1 Copy  
to Santa Fe  
1 Copy to appropriate  
District Office

APPLICATION FOR WASTE MANAGEMENT FACILITY  
(Refer to the OCD Guidelines for assistance in completing the application)

Commercial

Centralized

1. Type:  Evaporation  Injection  Other \_\_\_\_\_  
 Solids/Landfarm  Treating Plant

2. Operator: O K Hot Oil Service, Inc.

Address: P. O. Box 146, Loco Hills, New Mexico, 88255

Contact Person: Randy Kinnibrugh Phone: (505) 746-6233

3. Location: SW 4 SE /4 Section 14 Township 17S Range 28E

Submit large scale topographic map showing exact location

4. Is this a modification of an existing facility?  Yes  No

5. Attach the name and address of the landowner of the facility site and landowners of record within one mile of the site.

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

7. Attach designs prepared in accordance with Division guidelines for the construction/installation of the following: pits or ponds, leak-detection systems, aerations systems, enhanced evaporation (spray) systems, waste treating systems, security systems, and landfarm facilities.

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

9. Attach a routine inspection and maintenance plan to ensure permit compliance.

10. Attach a closure plan.

11. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact groundwater. Depth to and quality of ground water must be included.

12. Attach proof that the notice requirements of OCD Rule 711 have been met.

13. Attach a contingency plan in the event of a release of H<sub>2</sub>S.

14. Attach such other information as necessary to demonstrate compliance with any other OCD rules, regulations and orders.

15. CERTIFICATION

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

Name: Randy Kinnibrugh

Title: Secretary

Signature: Randy Kinnibrugh

Date: 8-16-00

# APPLICATION FOR WASTE MANAGEMENT FACILITY

## Commercial Facility

1. **Type:** Treating Plant
2. **Operator:** O K Hot Oil Service, Inc.  
**Address:** P. O. Box 146, Loco Hills, New Mexico, 88255  
**Contact Person:** Randy Kinnibrugh **Phone:** (505) 677-2262
3. **Location:** SW/4 SE/4 Section 14 Township 17S Range 28E  
See Exhibit 1 and Exhibit 2 for Maps.
4. This is not a modification of an existing facility.
5. The only land owner within one mile of facility is Bogle Farms Inc., 7331 Cherokee Rd., Dexter, New Mexico.
6. **Description of facility:** Facility will accept only BS&W from tank bottoms to be reclaimed and disposed as marketable crude oil. See Exhibit #3 for site diagram.
7. **Design for Construction/Installation of Waste Treatment System:**
  - a. All tanks will be located within a 36 inch berm. There will be a 40 mil. plastic liner beneath the entire bermed area with a 6 inch layer of sand and a 6 inch layer of gravel covering the plastic. This will include the berm itself. (See Exhibit # 4)
  - b. All BS&W will be pumped into a 750 bbl. gun barrel. Free water will then be separated and collected into a 250 bbl. netted fiberglass tank. From there the water will be pumped into a 500 bbl. tank to be disposed of into the Aid St. 14 Disposal well.  
  
Crude oil waste will be pumped into a steam heated 1000 bbl. tank in order for marketable crude oil to be reclaimed and recovered. The salvaged crude oil will then be collected into another 1000 bbl. heated tank to be purchased by Genex Petroleum or some other reclaimed oil purchaser.  
  
Crude waste not salvaged at that time will be recycled through the system until no more crude oil can be reclaimed. The sludge or solids that remain will be removed and taken to Controlled Recovery Inc. located at Hobbs, New Mexico.  
( 1 Lea County Airport Hobbs ) 505-393-1079

## 8. Spill/Leak Prevention & Reporting Procedure

- a. There are no surface impoundment's or other disposal units leak detection on this facility.
- b. No ground water monitoring is done at this facility.

### Reporting Procedure:

All spills of hazardous substances must be reported to the facility manager. The facility manager must report any spill whose quantity may injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, as soon as possible after learning of such a discharge, but in no event more than 24 hours thereafter.

The spill or leak must be reported to:

O K Hot Oil Service, Inc.  
Randy Kinnibrugh  
(505) 746-6233

New Mexico Health & Environment Improvement Division  
24 hour call (505) 827-9329

New Mexico Energy, Minerals, and Natural Resources Dept.  
Oil Conservation Division  
(505) 748-1283

- c. Spill containment and clean up:

Spills most likely will occur around the tank facility. As the tank battery will be enclosed by a 36 inch berm with a plastic liner under tanks and in the berm, all spills will be contained inside the enclosed area. All spilled materials will be picked up and disposed of in the appropriate location as approved by the NMOCD.

- d. Leak Detection and Inspection:

Above ground tanks and piping will be inspected monthly for leaks. If leaks or possible problem areas are identified facility manager must be notified and action taken to stop any leaks. Maintenance will be scheduled for problems noted.

**10. Closure Plan:**

- A. Should this facility be shut down or discontinued for a period in excess of six months NMOCD will be notified.
1. All waste products or hazardous materials will be removed and taken to the appropriate site for disposal.
  2. Soil samples will be taken 3 feet below tanks and submitted to the NMOCD for analysis.
  3. Area will be reseeded with native grasses and allowed to return to its natural state.
  4. Closure will be pursuant to all NMOCD requirements in effect at the time of closure, and any other applicable local, state, and/or federal regulations.

**11. Site Characteristics:**

1. Hydrologic Features ( See Exhibits # 5, # 6, # 7 and # 8 )
2. Geological Description: Caliche
3. Flood Protection
  - a. Flooding at the facility is highly unlikely. Location is built in an area not susceptible to flooding.
  - b. In the highly unlikely event flooding does occur berms will be built around the perimeter of the location to contain any rainwater which may collect at the facility.
  - c. NMOCD will be notified within 24 hours of any flooding occurrence.

**12. Proof of notice:**

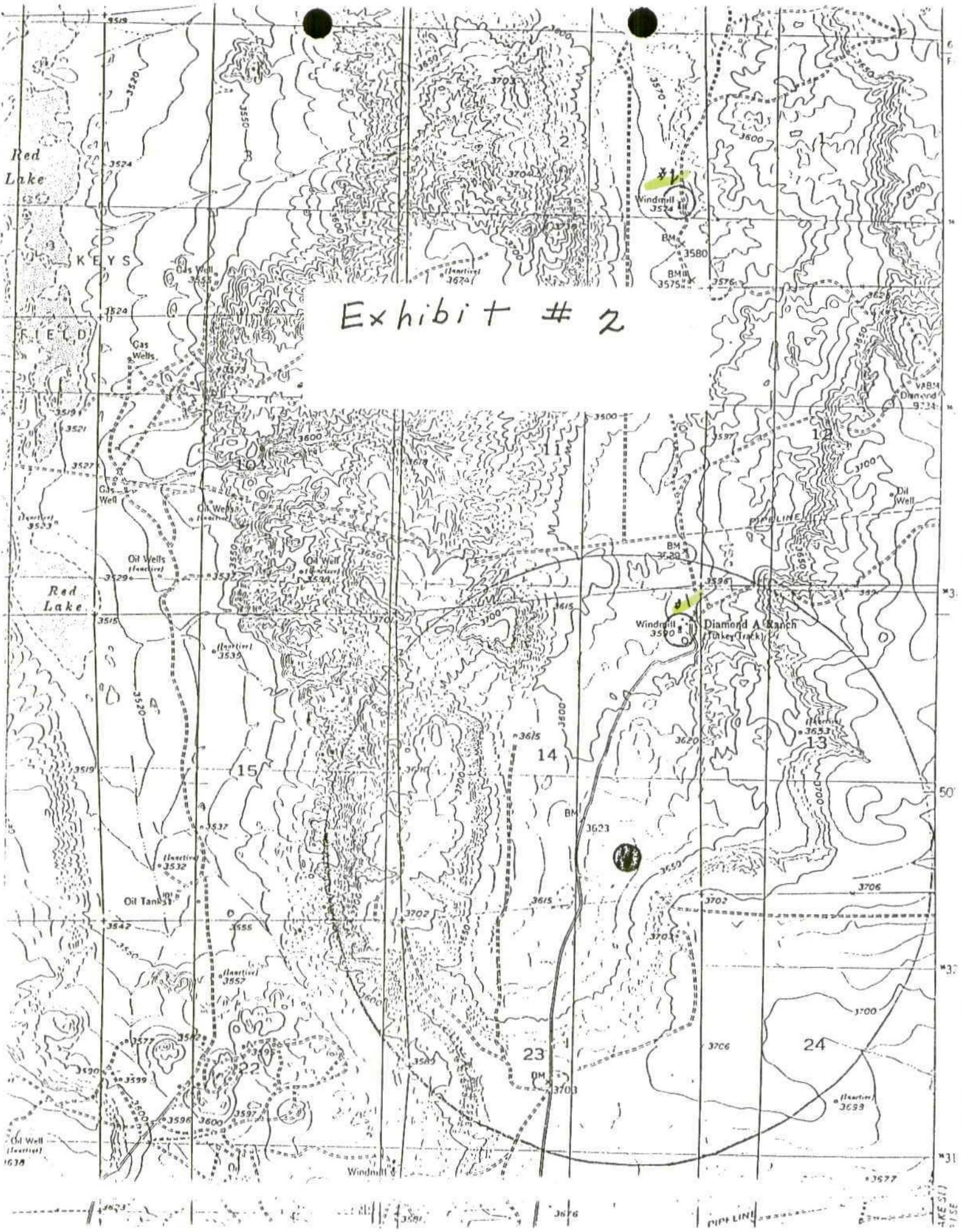
1. Proof of notice as required by OCD Rule 711 will be met.
2. Written notice of application to surface owners and occupants within a one (1) mile radius will be given.

**13. Hydrogen Sulfide Contingency Plan:**

- a. All personnel located in the immediate vicinity will be required to be equipped with a hydrogen sulfide monitor with an audible and visual alarm in the event of dangerous levels of hydrogen sulfide.
- b. Wind socks will be installed along with warning signs of the appropriate action to be taken in the event of a hydrogen sulfide release.



Exhibit # 2



Red Lake

KEYS

FIELD

Red Lake

Windmill  
3574

BM  
3580

BM  
3575

V.B.M.  
Diamond  
9724

Windmill  
3590

Diamond A Ranch  
(Turkey Track)

Windmill  
3653

Windmill

PIPER LINE

PIPER LINE



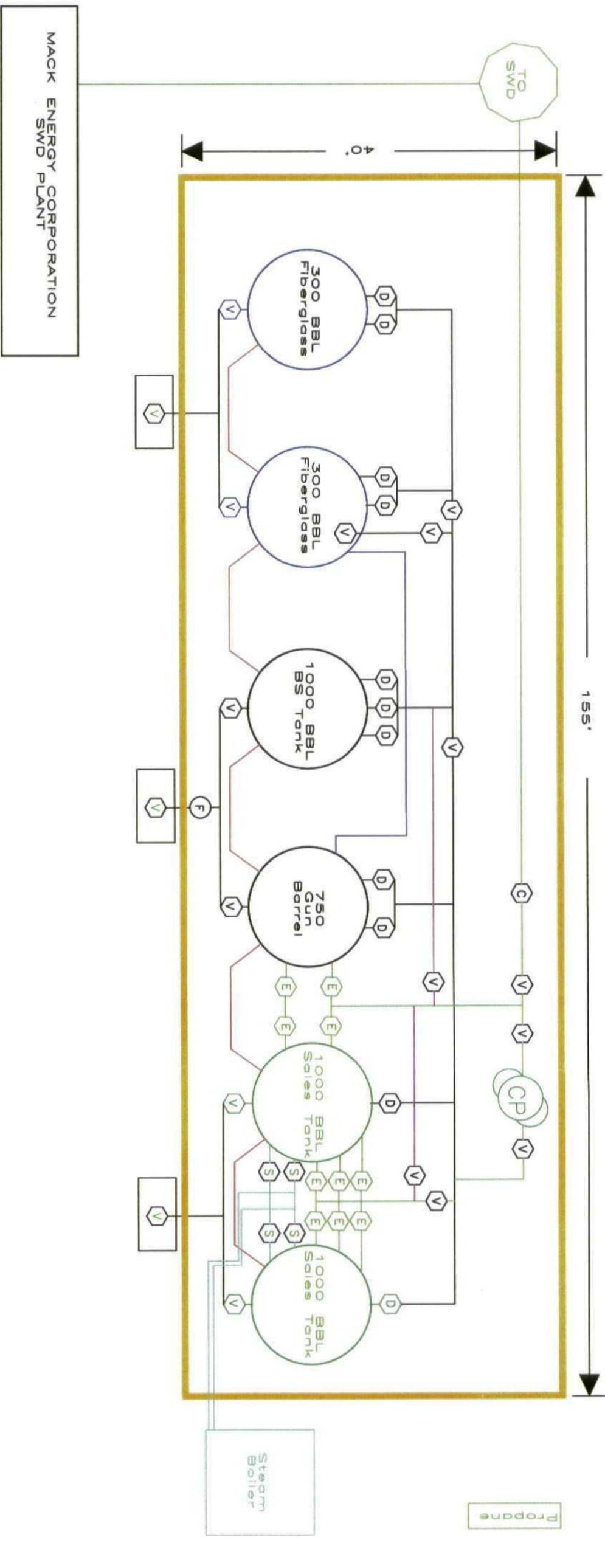


Exhibit # 3

OK Hot Oil Service
Reclaiming Plant
SE/4 SW/4
Section 17 T17S R30E
Emergency Overflow
Circulating Lines
WATER LINES
V & D - valves
E - equalizer lines
C - check valve

CROSS SECTION OF BERM

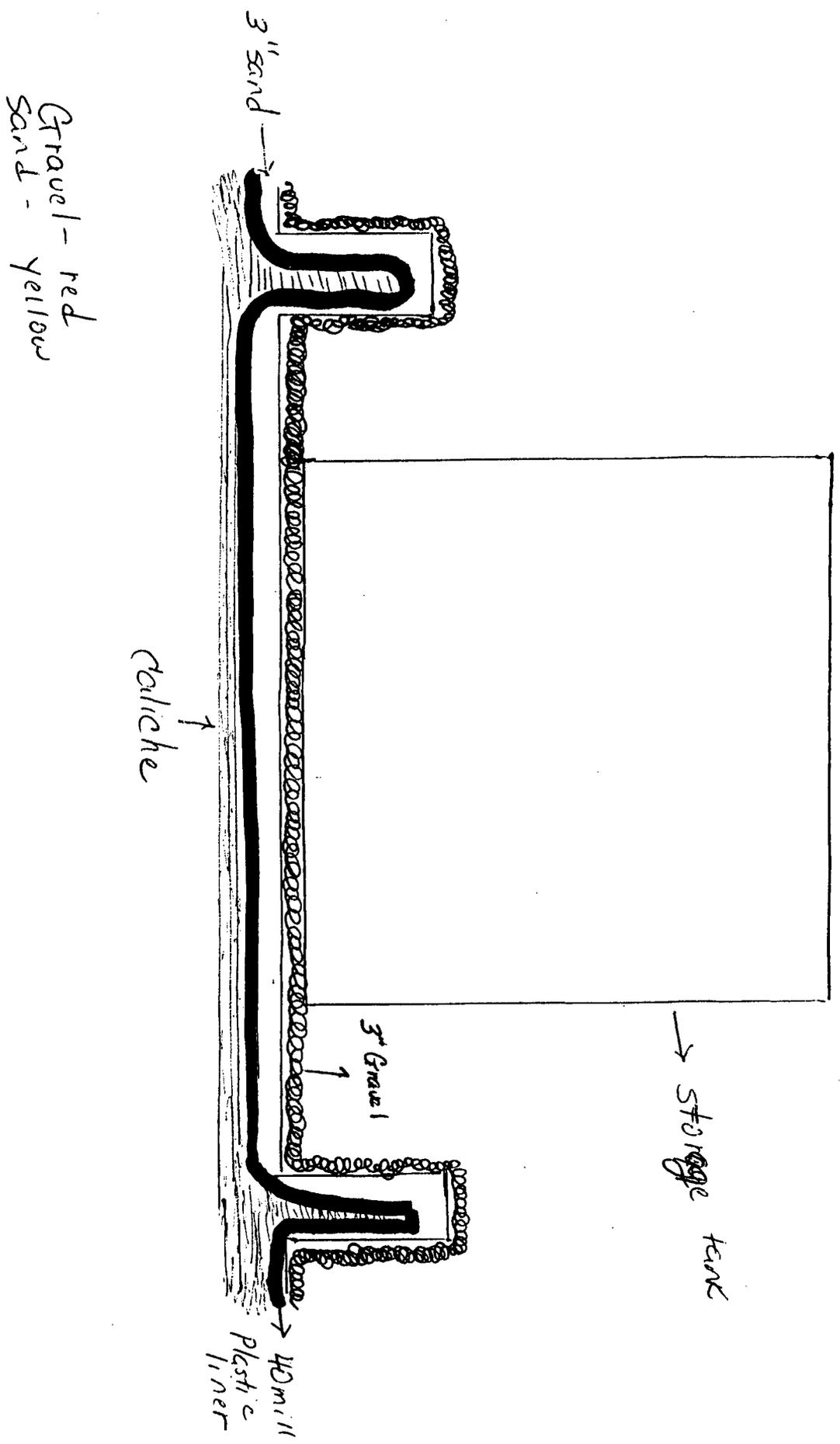


Exhibit # 4



**MILLER CHEMICALS, INC.**

Post Office Box 298  
 Artesia, N.M. 88211-0298  
 (505) 746-1919 Artesia Office  
 (505) 393-2893 Hobbs Office  
 (505) 746-1918 Fax

WATER ANALYSIS REPORT  
 -----

Company	: MACK ENERGY	Date	: 9-3-99
Address	:	Date Sampled	: 9-3-99
Lease	: WINDMILL	Analysis No.	: 8082
Well	: #1		
Sample Pt.	:		

ANALYSIS		mg/L		* meq/L
-----		----		-----
1. pH	7.0			
2. H2S	0			
3. Specific Gravity	1.002			
4. Total Dissolved Solids		5370.8		
5. Suspended Solids		NR		
6. Dissolved Oxygen		NR		
7. Dissolved CO2		NR		
8. Oil In Water		NR		
9. Phenolphthalein Alkalinity (CaCO3)				
10. Methyl Orange Alkalinity (CaCO3)				
11. Bicarbonate	HCO3	231.0	HCO3	3.8
12. Chloride	Cl	1491.0	Cl	42.1
13. Sulfate	SO4	1875.0	SO4	39.0
14. Calcium	Ca	952.0	Ca	47.5
15. Magnesium	Mg	44.4	Mg	3.6
16. Sodium (calculated)	Na	775.6	Na	33.7
17. Iron	Fe	1.8		
18. Barium	Ba	0.0		
19. Strontium	Sr	0.0		
20. Total Hardness (CaCO3)		2560.0		

PROBABLE MINERAL COMPOSITION  
 -----

*milli equivalents per Liter		Compound	Equiv wt X meq/L	=	mg/L
+-----+	+-----+				
48   *Ca <----- *HCO3	4	Ca (HCO3) 2	81.0	3.8	307
-----  /----->	-----	CaSO4	68.1	39.0	2657
4   *Mg -----> *SO4	39	CaCl2	55.5	4.7	259
-----  <-----/	-----	Mg (HCO3) 2	73.2		
34   *Na -----> *Cl	42	MgSO4	60.2		
+-----+	+-----+	MgCl2	47.6	3.6	174
Saturation Values Dist. Water 20 C		NaHCO3	84.0		
CaCO3	13 mg/L	Na2SO4	71.0		
CaSO4 * 2H2O	2090 mg/L	NaCl	58.4	33.7	1972
BaSO4	2.4 mg/L				

REMARKS:  
 -----

Exhibit # 6

SCALE TENDENCY REPORT  
-----

Company : MACK ENERGY Date : 9-3-99  
Address : Date Sampled : 9-3-99  
Lease : WINDMILL Analysis No. : 8082  
Well : #1 Analyst : STEVE TIGERT  
Sample Pt. :

STABILITY INDEX CALCULATIONS  
(Stiff-Davis Method)  
CaCO3 Scaling Tendency

S.I. = 0.4 at 70 deg. F or 21 deg. C  
S.I. = 0.5 at 90 deg. F or 32 deg. C  
S.I. = 0.5 at 110 deg. F or 43 deg. C  
S.I. = 0.5 at 130 deg. F or 54 deg. C  
S.I. = 0.6 at 150 deg. F or 66 deg. C

\*\*\*\*\*

CALCIUM SULFATE SCALING TENDENCY CALCULATIONS  
(Skillman-McDonald-Stiff Method)  
Calcium Sulfate

S = 2048 at 70 deg. F or 21 deg C  
S = 2091 at 90 deg. F or 32 deg C  
S = 2106 at 110 deg. F or 43 deg C  
S = 2092 at 130 deg. F or 54 deg C  
S = 2067 at 150 deg. F or 66 deg C

Respectfully submitted,  
STEVE TIGERT



**MILLER CHEMICALS, INC.**

Post Office Box 298  
 Artesia, N.M. 88211-0298  
 (505) 746-1919 Artesia Office  
 (505) 393-2893 Hobbs Office  
 (505) 746-1918 Fax

WATER ANALYSIS REPORT  
 -----

Company : MACK ENERGY	Date : 9-3-99
Address :	Date Sampled : 9-3-99
Lease : WINDMILL	Analysis No. : 8083
Well : #2	
Sample Pt. :	

ANALYSIS	mg/L	* meq/L
-----	----	-----
1. pH	7.0	
2. H2S	0	
3. Specific Gravity	1.001	
4. Total Dissolved Solids	3374.9	
5. Suspended Solids	NR	
6. Dissolved Oxygen	NR	
7. Dissolved CO2	NR	
8. Oil In Water	NR	
9. Phenolphthalein Alkalinity (CaCO3)		
10. Methyl Orange Alkalinity (CaCO3)		
11. Bicarbonate	HCO3 183.0	HCO3 3.0
12. Chloride	Cl 170.0	Cl 4.8
13. Sulfate	SO4 2000.0	SO4 41.6
14. Calcium	Ca 648.0	Ca 32.3
15. Magnesium	Mg 22.3	Mg 1.8
16. Sodium (calculated)	Na 351.2	Na 15.3
17. Iron	Fe 0.4	
18. Barium	Ba 0.0	
19. Strontium	Sr 0.0	
20. Total Hardness (CaCO3)	1710.0	

PROBABLE MINERAL COMPOSITION  
 -----

*milli equivalents per Liter	Compound	Equiv wt X meq/L	= mg/L
+-----+	-----	-----	-----
32  *Ca <----- *HCO3   3	Ca(HCO3)2	81.0	3.0 243
-----  /----->  -----	CaSO4	68.1	29.3 1997
2  *Mg -----> *SO4   42	CaCl2	55.5	
-----  <-----/  -----	Mg(HCO3)2	73.2	
15  *Na -----> *Cl   5	MgSO4	60.2	1.8 110
+-----+	MgCl2	47.6	
Saturation Values Dist. Water 20 C	NaHCO3	84.0	
CaCO3 13 mg/L	Na2SO4	71.0	10.5 744
CaSO4 + 2H2O 2090 mg/L	NaCl	58.4	4.8 280
BaSO4 2.4 mg/L			

REMARKS:  
 -----

Exhibit # 8

SCALE TENDENCY REPORT  
-----

Company : MACK ENERGY Date : 9-3-99  
Address : Date Sampled : 9-3-99  
Lease : WINDMILL Analysis No. : 8083  
Well : #2 Analyst : STEVE TIGERT  
Sample Pt. :

STABILITY INDEX CALCULATIONS  
(Stiff-Davis Method)  
CaCO3 Scaling Tendency

S.I. = 0.3 at 70 deg. F or 21 deg. C  
S.I. = 0.3 at 90 deg. F or 32 deg. C  
S.I. = 0.3 at 110 deg. F or 43 deg. C  
S.I. = 0.4 at 130 deg. F or 54 deg. C  
S.I. = 0.4 at 150 deg. F or 66 deg. C

\*\*\*\*\*

CALCIUM SULFATE SCALING TENDENCY CALCULATIONS  
(Skillman-McDonald-Stiff Method)  
Calcium Sulfate

S = 1661 at 70 deg. F or 21 deg C  
S = 1691 at 90 deg. F or 32 deg C  
S = 1697 at 110 deg. F or 43 deg C  
S = 1683 at 130 deg. F or 54 deg C  
S = 1657 at 150 deg. F or 66 deg C

Respectfully submitted,  
STEVE TIGERT

Exhibit # 8

SCALE TENDENCY REPORT

Company : MACK ENERGY Date : 9-3-99  
Address : Date Sampled : 9-3-99  
Lease : WINDMILL Analysis No. : 8083  
Well : #2 Analyst : STEVE TIGERT  
Sample Pt. :

STABILITY INDEX CALCULATIONS  
(Stiff-Davis Method)  
CaCO3 Scaling Tendency

S.I. = 0.3 at 70 deg. F or 21 deg. C  
S.I. = 0.3 at 90 deg. F or 32 deg. C  
S.I. = 0.3 at 110 deg. F or 43 deg. C  
S.I. = 0.4 at 130 deg. F or 54 deg. C  
S.I. = 0.4 at 150 deg. F or 66 deg. C

\*\*\*\*\*

CALCIUM SULFATE SCALING TENDENCY CALCULATIONS  
(Skillman-McDonald-Stiff Method)  
Calcium Sulfate

S = 1661 at 70 deg. F or 21 deg C  
S = 1691 at 90 deg. F or 32 deg C  
S = 1697 at 110 deg. F or 43 deg C  
S = 1683 at 130 deg. F or 54 deg C  
S = 1657 at 150 deg. F or 66 deg C

Respectfully submitted,  
STEVE TIGERT