7012

JUL 2003 RECEIVED OCD - ARTESIA

Oil Cons.
N.M. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

Form 3160-3
(August 1999)

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NM98187

6. If Indian, Allottee or Tribe Name:

1a. Type of Work: ☐ DRILL ☒ REENTER

7. If Unit or CA Agreement, Name and No.: 32632

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☒ Other SWD ☐ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.: LLANO MCKAY FED #2 SWD

2. Name of Operator: MARBOB ENERGY CORPORATION 14049

9. API Well No.: 30-015-23159

3a. Address: PO BOX 227, ARTESIA, NM 88211-0227

3b. Phone No. *(include area code)*: (505) 748-3303

10. Field and Pool, or Exploratory: SWD; BONE SPRING DOLOMITE

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: 750 FNL 660 FWL, UNIT D

At proposed prod. zone: SAME

11. Sec., T., R., M., or Blk. and Survey or Area: SEC. 13-T19S-R31E

14. Distance in miles and direction from nearest town or post office*: SEE SURFACE USE PLAN

12. County or Parish: EDDY

13. State: NM

| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) | 16. No. of Acres in lease | 17. Spacing Unit dedicated to this well |
|---|---|---|
| 660' | 280 | 40 |
| **18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.** | **19. Proposed Depth** | **20. BLM/BIA Bond No. on file** |
| | 8850' | 585716 |
| **21. Elevations (Show whether DF, KDB, RT, GL, etc.)** | **22. Approximate date work will start*** | **23. Estimated duration** |
| 3562' GL | ASAP | |

24. Attachments — CAPITAN CONTROLLED WATER BASIN

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

| 25. Signature | Name *(Printed/Typed)* | Date |
|---|---|---|
| Diana J. Cannon | DIANA J. CANNON | 4/3/03 |

Title: PRODUCTION ANALYST

| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
|---|---|---|
| /s/ Joe G. Lara | /s/ Joe G. Lara | 24 JUL 2003 |

Title: ACTING FIELD MANAGER — Office: CARLSBAD FIELD OFFICE

Application approval does not warrant or certify the the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**(Instructions on reverse)*

SUBJECT TO LIKE APPROVAL BY STATE

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

This well was originally drilled to a TD of 12660' as the Llano McKay Federal Com #2 by Petroleum Development Co (PEDCO) in 1980. It was plugged in December, 1982. The 4 ½" production casing was cut and pulled from 8895'. Marbob Energy Corporation proposes to re-enter this well and convert it to SWD service in the Bone Spring 8710' - 8726'. See the attached wellbore schematics for the before and after wellbore description. We plan to drill cement plugs down to 8850', run 5 ½" casing, cement from 8850' - 3500', and complete the well as a SWD well. The re-entry/completion procedure and OCD Order SWD-867 are also attached.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 15, 2000

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| [1] API Number | [2] Pool Code | [3] Pool Name |
|---|---|---|
| 30-015 | 96095 | SWD; BONE SPRING DOLOMITE |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| | LLANO MCKAY FEDERAL SWD | 2 |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 14049 | MARBOB ENERGY CORPORATION | 3562' GL |

## [10] Surface Location

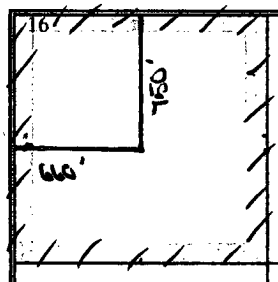
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| D | 13 | 19S | 31E | | 750 | NORTH | 660 | WEST | EDDY |

## [11] Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| [12] Dedicated Acres | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| 40 | | | |

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION




## [17] OPERATOR CERTIFICATION

*I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.*

Signature

DIANA J. CANNON
Printed Name

PRODUCTION ANALYST
Title

APRIL 3, 2003
Date

## [18] SURVEYOR CERTIFICATION

*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.*

Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number

**DRILLING PROGRAM**

**Attached to Form 3160-3**
**Marbob Energy Corporation**
**Llano McKay Federal No.2**
**750' FNL and 660' FWL**
**Section 13-19S-31E**
**Eddy County, New Mexico**

## 1. Geologic Name of Surface Formation:

Permian

## 2. Estimated Tops of Important Geologic Markers:

| | | | |
|---|---|---|---|
| Permian | Surface | Seven Rivers | 2763′ |
| Rustler | 680′ | Queen | 3230′ |
| Salt | 840′ | Delaware | 4998′ |
| Tansill | 2270′ | Bone Springs | 6940′ |
| Yates | 2357′ | | |

## 3. Estimated Depths of Anticipated Fresh Water, Oil or Gas:

Fresh water: 400′ or less
Oil or gas: None

No formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands are protected by the 13 3/8 casing at 400'.

## 4. Casing Program:

| Hole Size | Interval | OD Casing | Wt. | Grade | Type | Status |
|---|---|---|---|---|---|---|
| 17 1/2″ | 1 – 400′ | 13 3/8″ | 48# | H-40 | STC | In Place |
| 11″ | 400 – 3882′ | 8 5/8″ | 32,24# | J-55 | STC | In Place |
| 7 7/8″ | 3882 – 8850′ | 5 1/2″ | 17# | J-55 | LTC | Proposed |

See attached well bore schematics and procedure to reenter well and convert to SWD service.

**Cement Program:**

| | |
|---|---|
| 13 3/8" Surface Casing: | Cemented to surface with 450 sx (in place). |
| 8 5/8" Intermediate Casing: | Cemented to surface with 1125 sx (in place). |
| 5 1/2" Production Casing: | Cemented sufficient to overlap into the 8 5/8" with 975 sx Halliburton Light plus 180 sx Super H. |

**5. Minimum Specifications for Pressure Control:**

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type preventer. This unit will by hydraulically operated and the ram-type preventer will be equipped with blind rams on bottom and pipe rams on top. This BOP will be nippled up on the 8 5/8" casing and used continuously until TD is reached.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a full opening ball valve with 5000 psi WP rating.

**6. Types and Characteristics of the Proposed Mud System:**

The well will be cleaned out to TD with cut brine.

**7. Auxiliary Well Control and Monitoring Equipment:**

A full opening 5000 psi WP ball-type valve with proper pipe connections will be on the rig floor at all times.

**8. Logging, Testing, and Coring Program:**

None

**9. Abnormal Conditions, Pressures, Temperatures, and Potential Hazards:**

No abnormal pressures or temperatures are anticipated.

## 10. Anticipated Starting Date and Duration of Operations:

Location and road work will begin as soon as approval has been received from the BLM. Once commenced, the re-entry operation should be finished in approximately 7 days.

## SURFACE USE AND OPERATING PLAN

**Attached to Form 3160-3**
**Marbob Energy Corporation**
**Llano McKay Federal No. 2**
**750' FNL and 660' FWL**
**Section 13-19S-31E**
**Eddy County, New Mexico**

### 1. Existing Roads:

A. All roads to the location are shown in Exhibit #3. The existing roads are illustrated in red and are adequate for travel during drilling and production operations. Upgrading of the road prior to re-entry will be done where necessary as determined during the onsite inspection.

B. Directions to location: The location is located 14 miles south southeast of Loco Hills, New Mexico, near the Querecho Plains.

C. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

### 2. Proposed Access Road:

We plan to blade the original access road.

### 3. Location of Existing Wells:

Exhibit #2 shows all existing wells within a one-half mile radius of this well.

### 4. Location of Existing and/or Proposed Facilities:

A. Marbob Energy Corporation will construct salt water disposal facilities on well pad.

B. If necessary, power will be obtained from Central Valley Electric. Central Valley Electric will apply for ROW for their power lines.

C. Rehabilitation plans are as follows:

1. The reserve pit will be back-filled after the contents of the pit are dry (within 10 months after the well is completed)

2. Topsoil removed from the drill site will be used to recontour the pit area and any unused portions of the drill pad to the original natural level, as nearly as possible, and reseeded as per BLM specifications.

## 5. Location and Type of Water Supply:

The well will be drilled with a brine water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to the location by transport truck over the existing access roads shown in Exhibit #3.

## 6. Source of Construction Materials:

If caliche is required for improvement of the re-entry pad and the access road, it will be obtained from a BLM - approved caliche pit.

## 7. Methods of Handling Water Disposal:

A. Drill cuttings not retained for evaluation purposes will be disposed into the reserve pit.

B. Drilling fluids will be contained in lined working pits. The reserve pit will contain any excess drilling fluid or flow from the well during drilling, cementing, and completion operations. The reserve pit will be an earthen pit, approximately 12' X 30' X 6' deep. The reserve pit will be plastic-lined.

C. Water produced from the well during completion may be disposed into the reserve pit.

D. Garbage and trash produced during drilling or completion operations will be hauled off. All waste material will be contained to prevent scattering by the wind. All water and fluids will be disposed of into the reserve pit. Salts and other chemicals produced during drilling or testing will be disposed into the

reserve pit. No toxic waste or hazardous chemicals will be produced by this operation.

E. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. No adverse materials will be left on location.

The reserve pit will be completely fenced until it has dried. When the reserve pit is dry enough to breakout and fill, the reserve pit will be leveled and reseeded as per BLM specifications. In the event of a dry hole, the location will be ripped and seeded, as per BLM specifications, and a dry hole marker will remain.

## 8. Ancillary Facilities:

No airstrip, campsite, or other facilities will be built as a result of the operations on this well.

## 9. Well Site Layout:

A. The re-entry pad layout is shown in Exhibit #4. Dimensions of the pad and pits are shown. Top soil, if available, will be stockpiled per BLM specifications as determined at the on-site inspection.

B. The reserve pit will be lined with high-quality plastic sheeting.

## 10. Plans for Restoration of the Surface:

A. Upon finishing re-entry and/or completion operations, all equipment and other material not needed for operations will be removed.

All trash, garbage, and pit lining will be hauled away in order to leave the location in an aesthetically pleasing condition. All pits will be filled and the location leveled within 10 months after abandonment.

B. Three sides of the reserve pit will be fenced prior to and during drilling operations. At the time that the rig is removed, the reserve pit will be fenced on the rig (fourth) side. The fencing will remain in place until the pit area is cleaned up and leveled. No oil will be left on the surface of the fluid in the pit.

C. Upon completion of the proposed operations, if the well is completed, the reserve pit area will be treated as outlined above within the same prescribed time. Any additional caliche required for facilities will be obtained from a BLM-approved caliche pit. Topsoil removed from the drill site will be used to recontour the pit area to the original natural level and reseeded as per BLM specifications.

## 11. Surface Ownership:

The well site and lease is located on Federal Surface.

A. The area around the well site is grassland and the top soil is sandy. The vegetation is native scrub grasses with oak brush, sagebrush, yucca, and prickly pear.

B. There is no permanent or live water in the immediate area.

C. A Cultural Resources Examination has been requested and will be forwarded to your office in the near future.

## 12. Lessee's and Operator's Representative:

The Marbob Energy Corporation representative responsible for assuring compliance with the surface use plan is follows:

Johnny C. Gray
Marbob Energy Corporation
2208 West Main Street
Post Office Box 227
Artesia, New Mexico 88211-0227
Phone: 505/748-3303 (office)
505/885-3879 (home)

Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Marbob Energy Corporation and its contractors and subcontractors in conformity with this plan and the provision of 18 U.S.C. 1001 for the filing of a false statement.

Date: 4-3-2003

Signed: _____
Dean Chumbley

**MARBOB ENERGY CORPORATION**

**HYDROGEN SULFIDE DRILLING OPERATIONS PLAN**

## I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide ($H_2S$).

2. The proper use and maintenance of personal protective equipment and life support systems.

3. The proper use of $H_2S$ detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.

4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of $H_2S$ on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.

2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.

3. The contents and requirements of the $H_2S$ Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable $H_2S$ zone (within 3 days or 500 feet) and weekly $H_2S$ and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific $H_2S$ Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

## II. $H_2S$ SAFETY EQUIPMENT AND SYSTEMS

Note: All $H_2S$ safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain $H_2S$.

1. Well Control Equipment:

   A. Flare Line.

   B. Choke manifold.

   C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

   D. Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

2. Protective equipment for essential personnel:

   A. Mark II Surviveair 30-minute units located in the dog house and at briefing areas, as indicated on well site diagram.

3. $H_2S$ detection and monitoring equipment:

   A. 2 - portable $H_2S$ monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when $H_2S$ levels of 20 ppm are reached.

4. Visual warning systems:

   A. Wind direction indicators as shown on well site diagram.

   B. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a

reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud Program:

   A. The mud program has been designed to minimize the volume of $H_2S$ circulated to the surface. Proper mud weight, safe drilling practices, and the use of $H_2S$ scavengers will minimize hazards when penetrating $H_2S$ bearing zones.

   B. A mud-gas separator will be utilized.

6. Communication:
   A. Radio communications in company vehicles including cellular telephone and 2-way radio.

   B. Land line (telephone) communications at field office.

# W A R N I N G

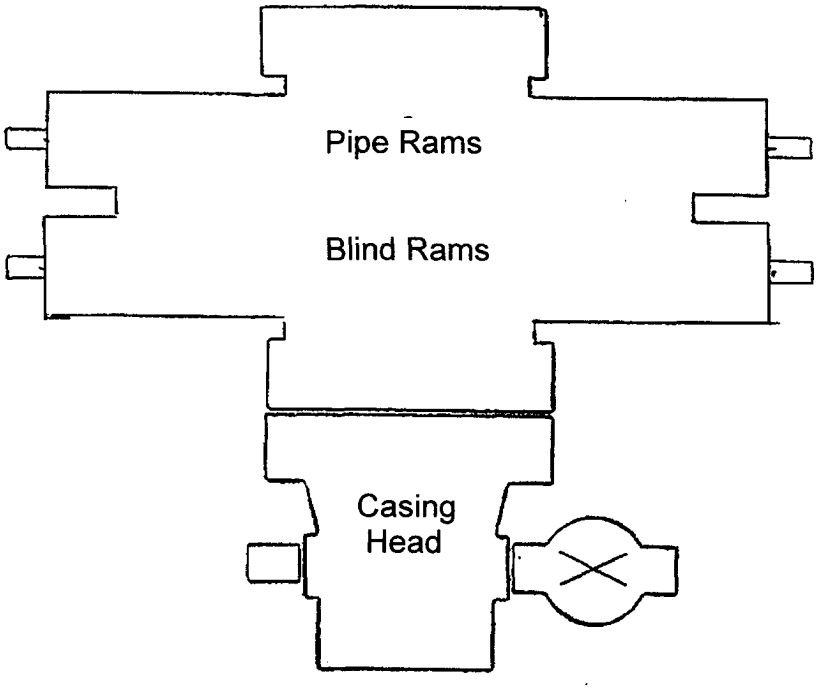
**YOU ARE ENTERING AN $H_2S$ AREA**
**AUTHORIZED PERSONNEL ONLY**

1. ***BEARDS OR CONTACT LENSES NOT ALLOWED***
2. ***HARD HATS REQUIRED***
3. ***SMOKING IN DESIGNATED AREAS ONLY***
4. ***BE WIND CONSCIOUS AT ALL TIMES***
5. ***CK WITH MARBOB FOREMAN AT MAIN OFFICE***

MARBOB ENERGY CORPORATION

1-505-748-3303

# 7 1/16" 5000 PSI WP Flocon LWS Hydraulic Double-Ram BOP

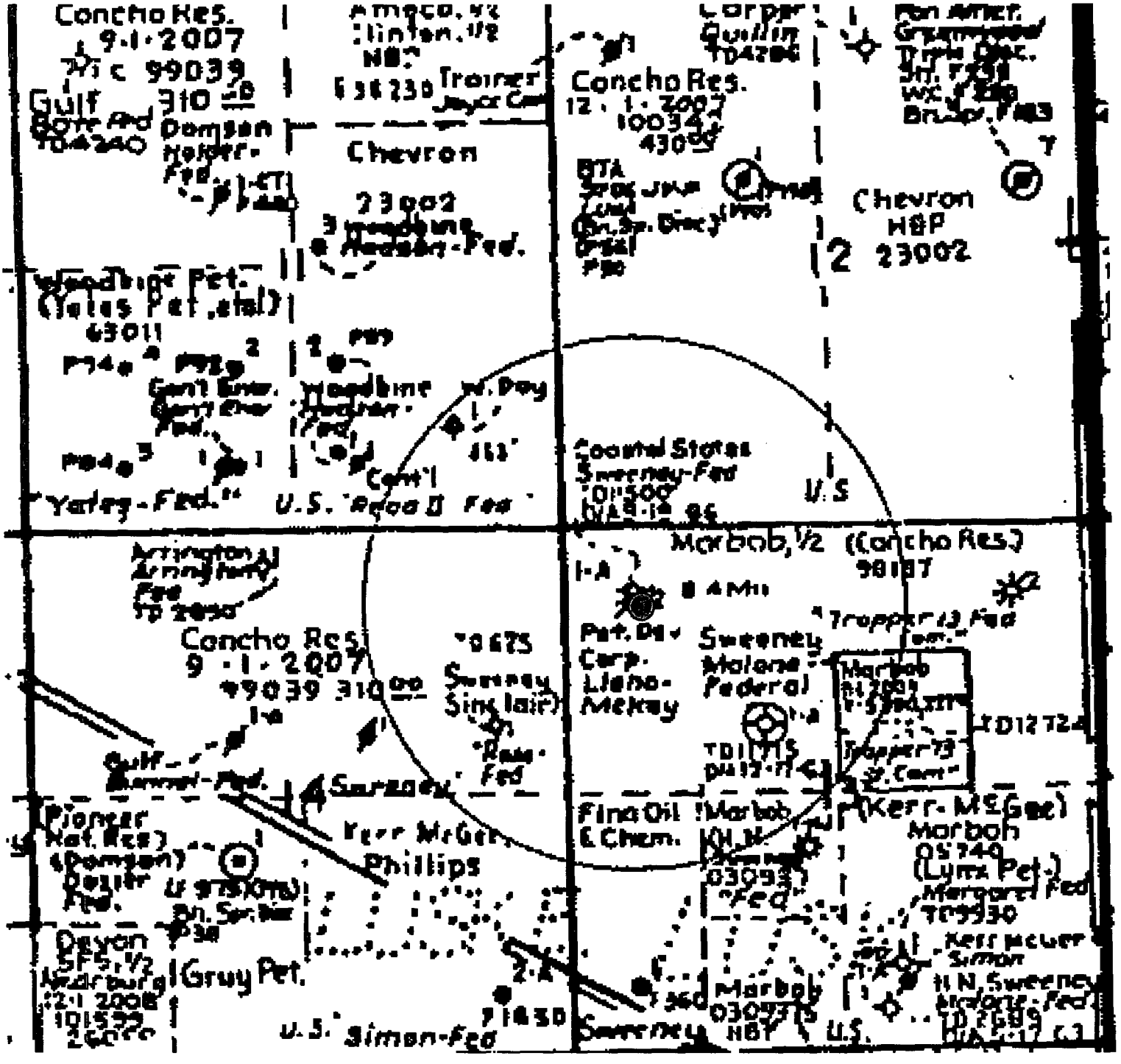



THE FOLLOWING CONSTITUTES MINIMUM BLOWOUT PREVENTER REQUIREMENTS:

1. All preventers to be hydraulically operated with secondary manual closing wheels installed.
2. All connections from operating manifolds to preventers to be steel reinforced hose or steel tube a minimum of one inch in diameter.
3. The closing unit will have sufficient pressure and volume to close all BOP's and retain 200 psi above precharge.
4. All connections to and from preventer to have a pressure rating equal to that of the BOP's.
5. Full opening 5000 psi WP ball type safety valve to be available on rig floor.
6. Operating controls located a safe distance from the rig floor.

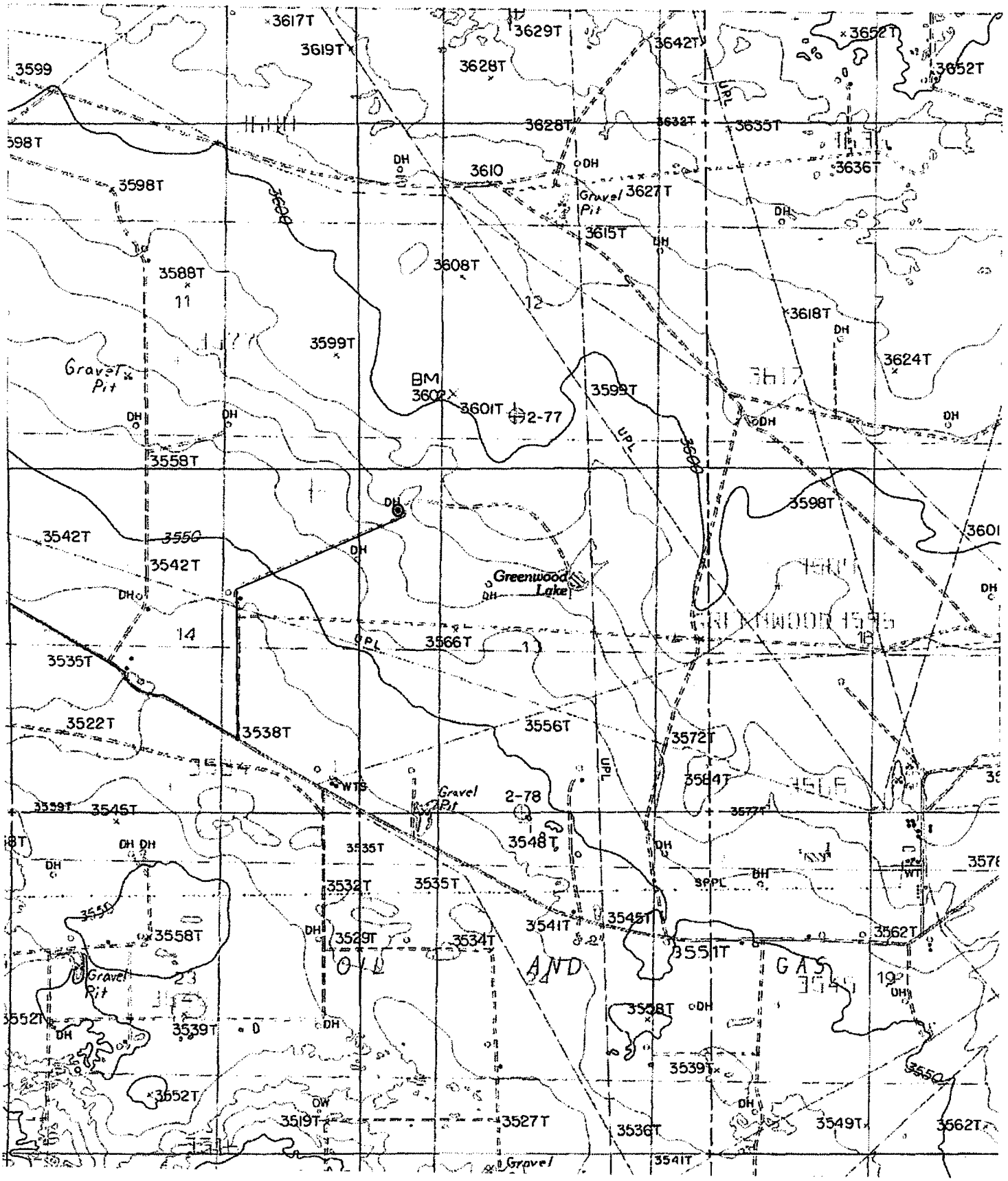
MARBOB ENERGY CORPORATION
LLANO McKAY FEDERAL NO. 2
750' FNL & 660' FWL
Section 13, T19S, R31E
Eddy County, New Mexico

EXHIBIT 1




MARBOB ENERGY CORPORATION
LLANO McKAY FEDERAL NO. 2
750' FNL & 660' FWL
Section 13, T19S, R31E
Eddy County, New Mexico

EXHIBIT 2




MARBOB ENERGY CORPORATION
LLANO McKAY FEDERAL NO. 2
750' FNL & 660' FWL
Section 13, T19S, R31E
Eddy County, New Mexico

EXHIBIT 3

# Well Site Lay-Out Plat

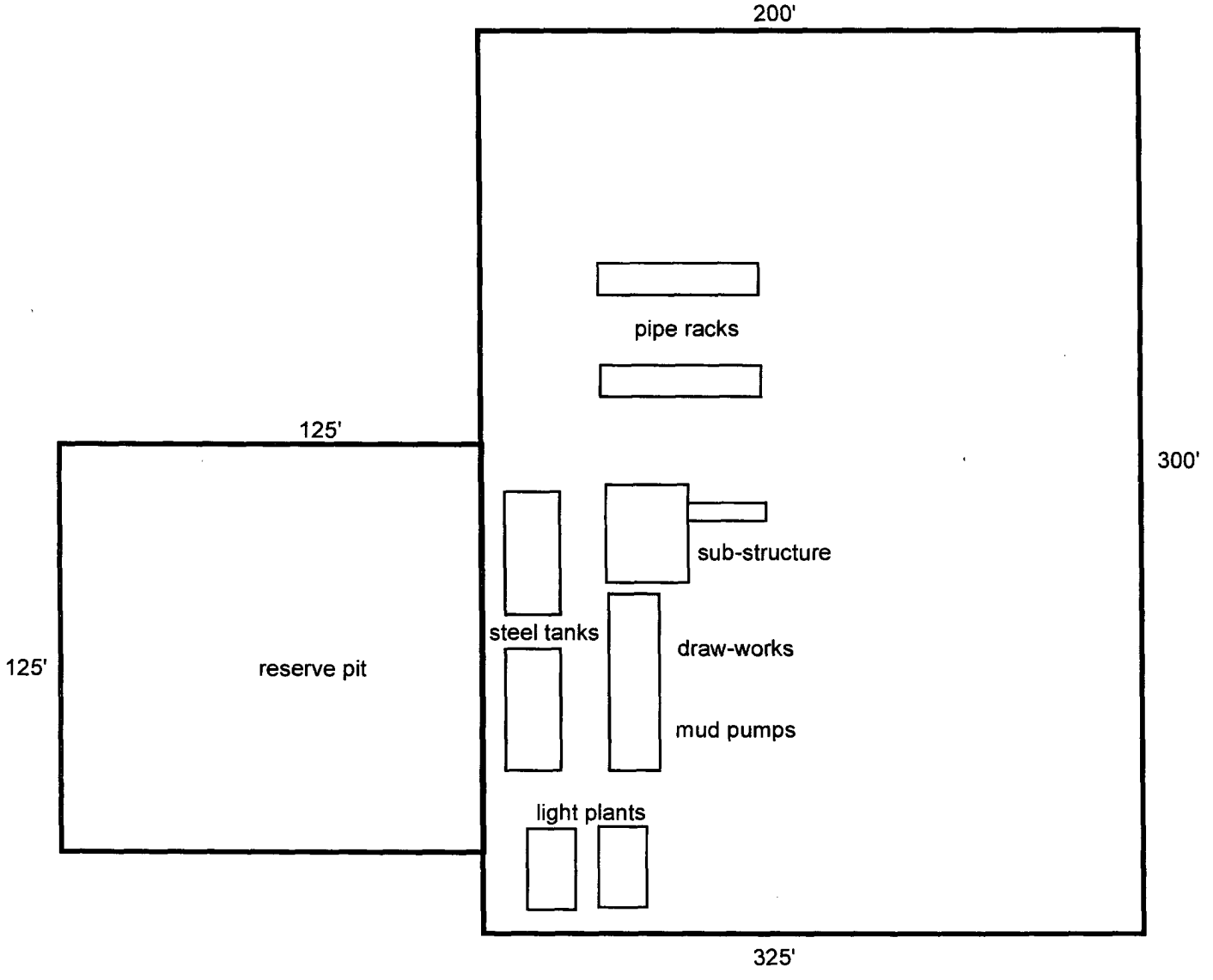



EXHIBIT FOUR

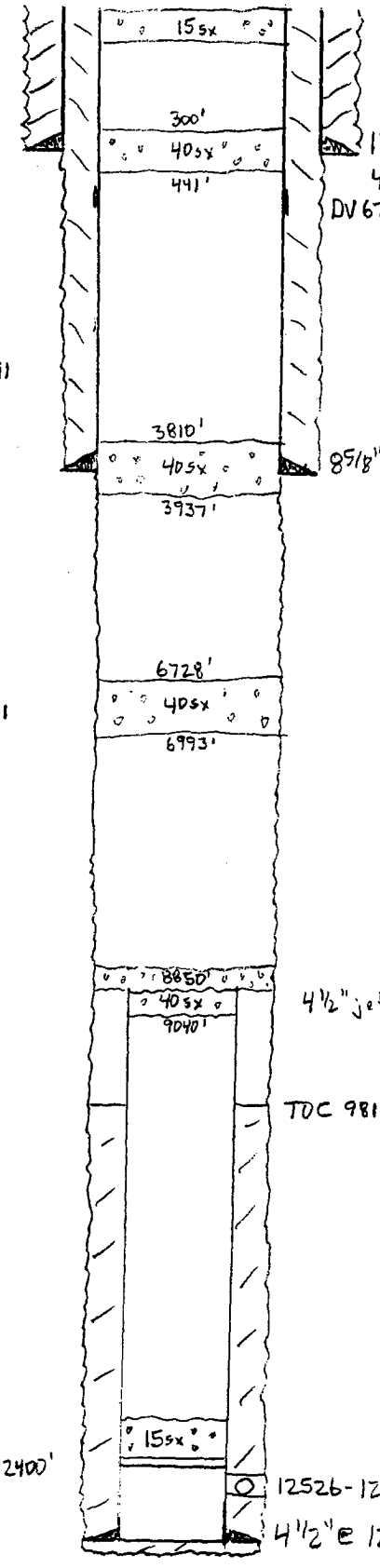
Well: Llano McKay Fed. 2 SWD

Location: 660' FNL 750' FNL
D-13-19s-31e
Eddy NM

Zero: 18' AGL
KB: 3580'
GL: 3562'

Casing Program:

| Size | Wt. | Grade | Conn. | Depth |
|---|---|---|---|---|
| 13 3/8" | 48 | | | 400 |
| 8 5/8" | 24 | | | 2883' ± |
| | 32 | | | 3882' |
| 4 1/2" | 11.6, 13.5 | | LTC | 8895 - 12655' |




BEFORE

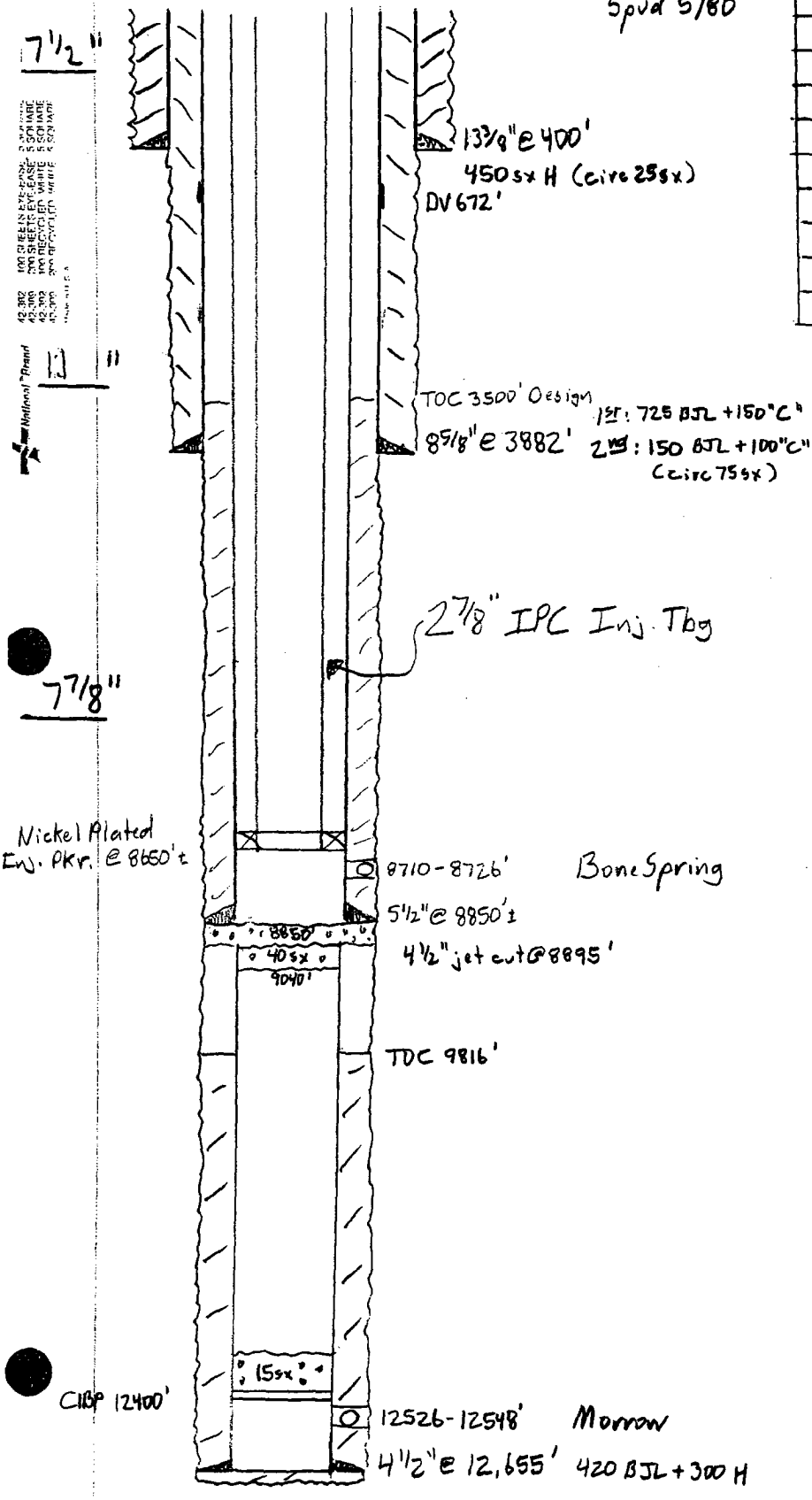
Well: Llano McKay Fed. 2 SWD

Location: 660' FNL, 750' FNL
D-13-19s-31e
Eddy NM

Zero: 18' AGL
KB: 3580'
GL: 3562'

Casing Program:

| Size | Wt. | Grade | Conn. | Depth |
|---|---|---|---|---|
| 13 3/8" | 48 | | | 400 |
| 8 5/8" | 24 | | | 2883' ± |
| | 32 | | | 3882' |
| 4 1/2" | 11.6, 13.5 | | LTC | 8895 - 12655' |
| | | | | |
| 5 1/2" | 17 | J55 | LTC | ± 8850' |
| | | | | |
| | | | | |
| 2 7/8" | 6.5 | J55 | EUE | ± 8650' |
| Internally Plastic Coated | | | | |




AFTER

JAN 0 8 2003

# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**GARY E. JOHNSON**
Governor
**Betty Rivera**
Cabinet Secretary

**Lori Wrotenbery**
Director
**Oil Conservation Division**

COPY

*ADMINISTRATIVE ORDER SWD-867*

***APPLICATION OF MARBOB ENERGY CORPORATION FOR SALT WATER DISPOSAL, EDDY COUNTY, NEW MEXICO.***

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701(B), Marbob Energy Corporation made application to the New Mexico Oil Conservation Division on November 20, 2002, for permission to re-enter and complete for produced water disposal its Llano McKay Federal Well No. 2 (API No. 30-015-23159) located 750 feet from the North line and 660 feet from the West line (Unit D) of Section 13, Township 19 South, Range 31 East, NMPM, Eddy County, New Mexico.

THE DIVISION DIRECTOR FINDS THAT:

(1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations;

(2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified;

(3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met; and

(4) No objections have been received within the waiting period prescribed by said rule.

IT IS THEREFORE ORDERED THAT:

Marbob Energy Corporation is hereby authorized to re-enter and complete its Llano McKay Federal Well No. 2 (API No. 30-015-23159) located 750 feet from the North line and 660 feet from the West line (Unit D) of Section 13, Township 19 South, Range 31 East, NMPM, Eddy County, New Mexico, in such a manner as to permit the injection of produced water for disposal purposes into the Bone Spring Dolomite from a depth of 8710 feet to 8726 feet through 2 7/8 inch plastic-lined tubing set with a packer located at approximately 8650 feet.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

**As preparation for injection, 5 ½" casing shall be installed from surface to approximately 8,850 feet and cemented sufficient to tie into the 8 5/8" intermediate casing. The depth of cement top and quality of cement sheath shall be verified by running a Cement Bond Log. The operator shall perforate the intended injection interval and – prior to acid treatment – rig for H2S safety then swab test for a fluid sample and as a short test for hydrocarbons. The Cement Bond Log, the swab test results, and the fluid analysis shall be forwarded to the Artesia District Office of the Division.**

The casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 1742 psi.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the injection formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Artesia District Office of the Division of the date and time of the installation of disposal equipment and of any mechanical integrity test so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Artesia District Office of the Division of the failure of the tubing, casing, or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

PROVIDED FURTHER THAT, jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh water or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the injection authority granted herein.

The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Rule Nos. 706 and 1120 of the Division Rules and Regulations.

The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

Approved at Santa Fe, New Mexico, on this 3rd day of January 2003.

Lori Wrotenbery (wvjj)

LORI WROTENBERY, Director

LW/wvjj

cc: Oil Conservation Division – Artesia
Bureau of Land Management – Carlsbad

**Llano McKay Fed. No. 2 SWD**
**D-13-19s-31e**
**Eddy Co., NM**

**SWD Conversion**
**Bone Spring Dolomite**
**15 January 2003**

**Note:** See attached SWD Order 867. Notify OCD 24 hrs. in advance of installing injection tubing and packer. See attached wellbore sketches for wellbore info.

**Procedure:**

1. Scrape off location, dig and line workover pit if necessary, dig out cellar, remove dryhole marker and install wellhead on 8-5/8" casing. MIRU reverse unit equipment, BOP and WSU. Mix a simple 9 ppg salt gel spud mud and put in reverse unit pit.

2. Drill out the following plugs, clean out to 8850', circulate the well clean then TOOH laying down the drill collars.

15 sx. Surface plug
40 sx. 300-441'
40 sx. 3810-3937'
40 sx. 6728-6993'

3. RU casing crew, casing handling equipment, tongs and pickup machine. Run 5.5"/ 17 ppf / J55 /LTC casing as follows:

a. Float Equipment: Run float shoe, one joint casing, float collar. Howco Weld float assembly.
b. Centralizers: Run one centralizer per joint on bottom 15 joints. Place centralizers over casing collars.
c. Clean threads to white metal and drift casing on rack. Apply API casing thread compound when RIH.
d. Make Up Torque: Optimum = 2470 ft-lb, Min = 1850 ft-lb, Max = 3090 ft-lb
e. Fillup: Recommend filling casing every 1000-1500' while TIH.

4. Wash fill to bottom, pick up a few feet, pump approximately 750 bbls mud to circulate casing and annulus volume, then pump cement as follows:

a. 5 bbls. Fresh water
b. 20 bbls. Mud flush
c. 5 bbls. Fresh water
d. 975 sx. Halliburton Light Cement with 5 pps Gilsonite (12.5 ppg, 2.05 cfps, 10.7 gwps)
e. 180 sx. Super H with approx. 5 pps Gilsonite, 3 pps salt, 0.5% Halad 344, 0.4% CFR 3 (13.0 ppg, 1.67 cfps, 8.3 gwps) Adjust additive concentrations as necessary based on pilot test results. Est. BHST = 145-150° F.
f. Drop plug and flush with approx. 204 bbs clean fresh water. Need to bump plug.
g. Set slips and land casing "as cemented".

5. Install wellhead onto 5.5" casing and NU BOP. WOC 36 to 48 hrs.

6. RIH with bit and scraper to PBD. If PBD not at least 8750', then drill out to float collar and circulate well clean.

7. RU lubricator, run GR/CCL/Cement Bond Log from PBD to TOC, then perf the Bone Spring dolomite with 4 spf at any phasing at the depths shown below using a 4" casing gun. If it is difficult to determine TOC on Bond Log, pressurize casing to 1000-1500 psi and rerun CBL.

Bone Spring: 8710-8726' (approx. 68 shots)

8. RIH with treating packer on work string. Swab tubing volume (50 bbls). Continue swabbing until it looks like we're getting formation water. Catch a sample at end of testing and send to Halliburton for analysis. If get good oil show, keep testing.

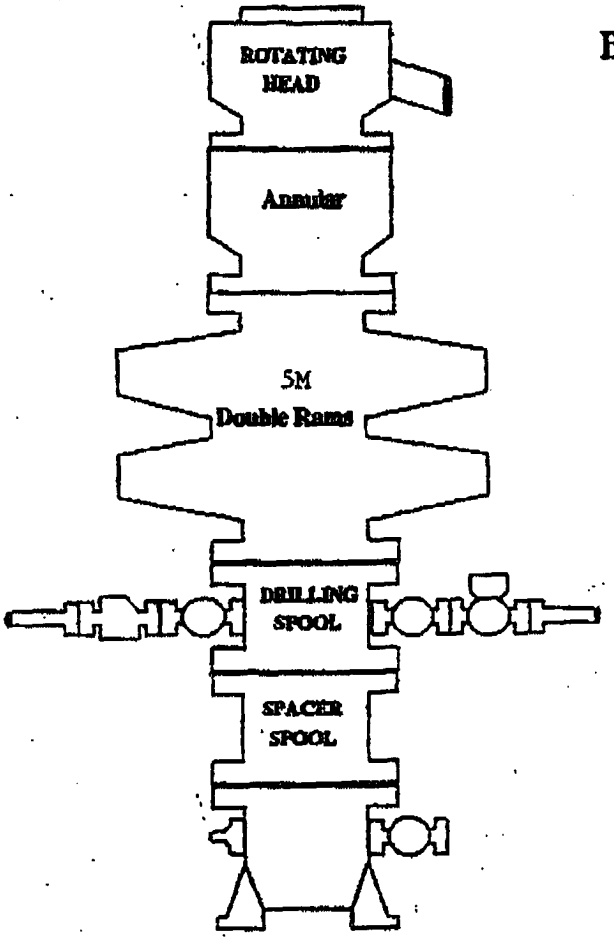
9. When done testing zone, acidize with 5000 gal NE Fe 20% HCL at 3-5 bpm while limiting treating pressure to 5000 psi. Drop 2 slugs of 25 ball sealers spaced evenly through job. Flush acid with 2 transport loads of produced water. TOOH with work string.

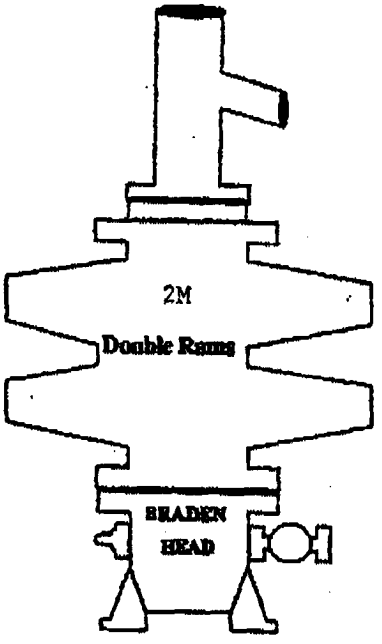
9. RIH with nickel plated 5.5" retrievable packer on 2-7/8"/6.5/N80/EUE internally plastic coated tubing (Tuboscope TK-69 or similar) from George Young Sales. Plastic coat all subs and crossovers used. Space out to set packer near 8650', pump 140 bbls clean fresh water containing corrosion inhibitor, biocide and oxygen scavenger down annulus, set packer, tree well up and load annulus the rest of the way to surface (if not already full) with clean fresh water containing corrosion inhibitor, biocide and oxygen scavenger (total annular volume is 131 bbls). Bleed air if/as necessary and test the annulus to 300 psi for 30 minutes using a chart recorder.

10. Plumb 2-7/8" x 5.5" annulus to surface and install a gauge so the annular pressure can be monitored. Build injection tree assembly and start water disposal. Limit injection pressure to 1742 psi.

Kbc/llano mckay swd 1a

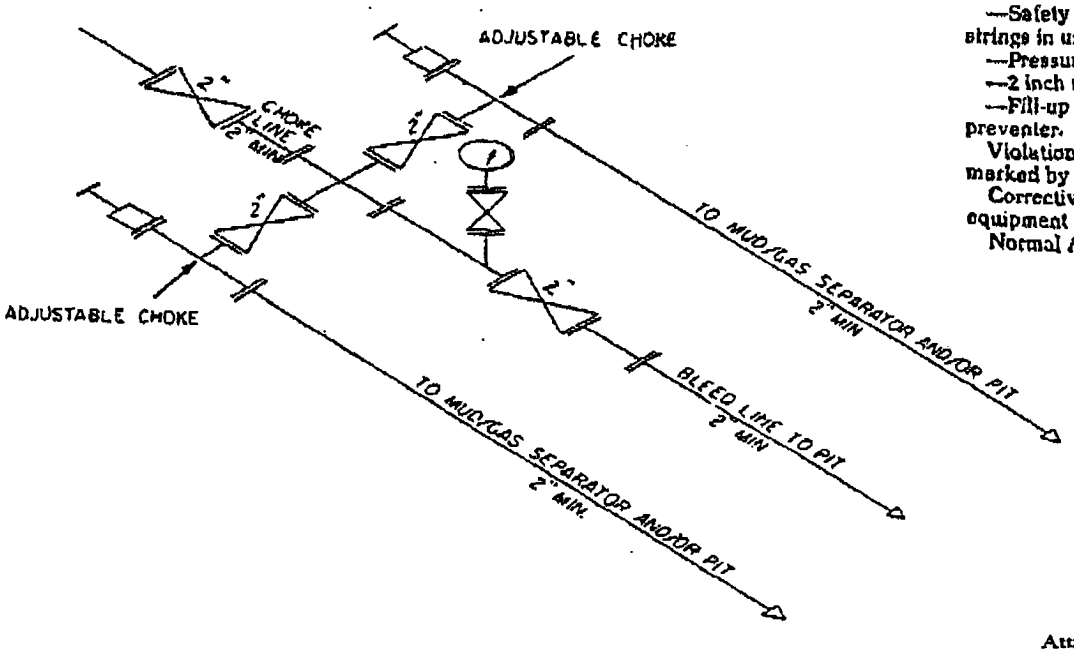
# BOPE SCHEMATIC




ONSHORE OIL AND GAS ORDER NO. 2

2M system:
—Annular preventer, or, double ram, or two rams with one being blind and one being a pipe ram *
—Kill line (2 inch minimum)
—1 kill line valve (2 inch minimum)
—1 choke line valve
—2 chokes (refer to diagram in Attachment 1)
—Upper kelly cock valve with handle available
—Safety valve and subs to fit all drill strings in use
—Pressure gauge on choke manifold
—2 inch minimum choke line
—Fill-up line above the uppermost preventer.
Violation: Minor (all items unless marked by asterisk).
Corrective Action: Install the equipment as specified.
Normal Abatement Period: 24 hours




Llano McKay Fed #2 SWD
750' FNL & 660' FWL Unit D
Sec 13-T19S-R31E
Eddy County, NM

Attachment to Application to Re-Enter

2M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION OF CHOKES MAY VARY

**Exhibit One**