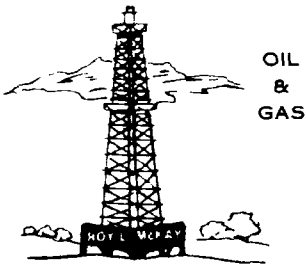


McKay Oil Corporation

ROY L. MCKAY, PRESIDENT

MAILING ADDRESS: P.O. BOX 2014 ROSWELL, N.M. 88202 • TELEPHONE 505 / 623 - 4735

STREET ADDRESS: ONE MCKAY PLACE ROSWELL, N.M. 88201 • FAX NO. 505 / 624 - 2202



December 13, 1990

10208

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504

Attention: David R. Catanach

RE: Horizontal Drilling
West Fork Unit #5
Chaves County, New Mexico

Dear Mr. Catanach:

This letter is to request approval of an unorthodox location and deviation drilling for the captioned well which is located as described below:

West Fork Unit #5
660 FNL 460 FEL
Section 25, T-5S-21E

A copy of the Application for Drilling Permit is enclosed for your reference.

The proposed plan for horizontally drilling of this well shall be as follows:

- (1) Drilling a verticle hole to a total depth of approximately 3400 feet from ground level.
- (2) Run compensated neutron log and dual lateral log to TD.
- (3) If productive zone is indicated, cement back to approximately 40 feet above the zone and wait 24 hours.
- (4) Using a horizontal tool, at the top of the cement commence drilling a 90° curve to reach a horizontal plane at approximately 45 feet below kickoff point and 50

page 2 of 2
Oil Conservation Division
December 13, 1990

feet from verticle wellbore. (The exact direction of the kickoff can not be determined until actual drilling is commenced, but it is intended to be in a southwesternly direction and the drilling will not be any closer than 330 feet from an outside boundary line.)

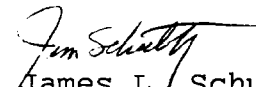
- (5) Drilling horizontally for approximately 500 feet from the verticle wellbore.
- (6) Run directional surveys to determine location of bottom of hole.
- (6) Run casing liner and tubing.

McKay Oil Corporation is the lessee of the adjacent proration units to this well and therefore no additional notices are required.

Please schedule this application for the next available hearing date.

Very truly yours,

MCKAY OIL CORPORATION


James L. Schultz
V.P. Land & Legal

JLS/tr
40:OCDB.1-2

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Effective Date: 10-1-90
Expiration Date: 10-1-95
LEASE IDENTIFICATION NO. 2311

NM-32311

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals.)

1. ☐ OIL ☐ GAS ☒ WELL ☐ OTHER
2. NAME OF OPERATOR
McKay Oil Corporation
3. ADDRESS OF OPERATOR
Post Office Box 2014, Roswell, New Mexico 88201
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface

7. UNIT AGREEMENT NAME
West Fork Federal Unit
8. WELL NO.
#5
10. FIELD AND POINT OF INTEREST
W. Pecos Slope Abo
11. SEC., T., R., M., OR B.L. AND
SURVEY OR AREA
Sec. 25-5S-21E
12. COUNTY OR PARISH 13. STATE
Chaves NM

14. PERMIT NO.
4267 GL
15. ELEVATIONS (Show whether DE, RL, OR, etc.)

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT OFF

PULL OR ALTER CASING

FRAC TURE TREAT

MULTIPLE COMPLETION

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

OTHER: 1 year extension-APD

SEQUENT REPORT OF:

WATER SHUT OFF

FRAC TURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE UNDESIGNED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and down hole tool joints in this work.)*

Operator requests a 1 year extension of the Application for Permit to Drill on the referenced location.

18. I hereby certify that the foregoing is true and correct

SIGNED Theresa Rodriguez

TITLE Production Analyst

DATE 10-26-90

(This space for Federal or State office use)

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

*See Instructions on Reverse Side

OPERATOR'S COPY

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions
reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>			5. LEASE DESIGNATION AND SERIAL NO. NM-32311	
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>			6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR McKay Oil Corporation			7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR P.O. Box 2014, Roswell, New Mexico 88202			8. FARM OR LEASE NAME West Fork Federal Unit	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At surface 660'FNL & 460'FEL At proposed prod. zone			9. WELL NO. 5	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 28 Miles Northwest of Roswell, N.M.			10. FIELD AND POOL, OR WILDCAT W. Pecos Slope Abo	
10. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 460'			11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 25-5S-21E	
18. DISTANCE FROM PROPOSED* LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. None			12. COUNTY OR PARISH Chaves	
16. NO. OF ACRES IN LEASE 1598.64			13. STATE N.M.	
19. PROPOSED DEPTH 3,400'			17. NO. OF ACRES ASSIGNED TO THIS WELL 160.0	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 4267 GL			20. ROTARY OR CABLE TOOLS Rotary	
			22. APPROX. DATE WORK WILL START* ASAP	

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24.0 J-55	900±	850 cf cement circulated
7 7/8"	4 1/2"	9.5 J-55	TD	1200 cf cement including
				480 cf to tie in 4 1/2" to
				8 5/8" from 1500' to 800'.

We propose to drill and test the Abo formation. Approximately 900' of surface casing will be set and cemented to surface. If commercial, 4 1/2" production casing will be run and cemented with adequate cover, perforated and stimulated as needed for production.

MUD PROGRAM: See Supplemental Drilling Data Which is Attached.

BOP PROGRAM: BOP will be installed on 8 5/8" casing and tested daily.

Gas is not dedicated.



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED James Schuster TITLE V.P. Land & Legal DATE 11/10/89

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY James E. May TITLE Acting Area Manager DATE Feb. 1, 1990

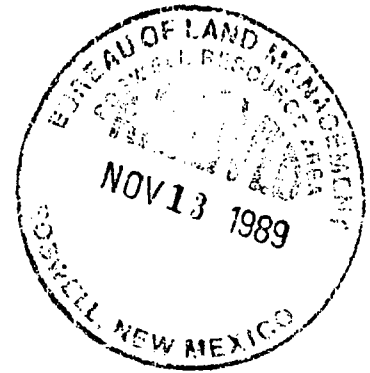
CONDITIONS OF APPROVAL, IF ANY:

APPROVAL OF THIS APPLICATION DOES NOT WARRANT OR CERTIFY THAT THE APPLICANT HOLDS LEGAL OR EQUITABLE TITLE TO THOSE RIGHTS IN THE SUBJECT LEASE WHICH WOULD ENTITLE THE APPLICANT TO CONDUCE OPERATIONS THEREON. PLEASE BE ADVISED THAT THERE WILL BE NO EXCAVATION OF FEDERALLY OWNED MINERAL MATERIAL FOR CONSTRUCTION OF THE ACCESS ROAD OR PAD WITHOUT PAYMENT IN ADVANCE. THE APPLICANT KNOWINGLY AND WILLFULLY MAKES TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES ANY FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR REPRESENTATIONS AS TO ANY MATTER WITHIN ITS JURISDICTION.

PERTINENT INFORMATION

For

McKAY OIL CORPORATION
West Fork Federal Unit #5
NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 25-5S-21E
Chaves County, N.M.



<u>LOCATED:</u>	30 air miles north of Roswell, New Mexico
<u>LEASE NUMBER:</u>	NM 32311
<u>LEASE ISSUED:</u>	March 1, 1979
<u>RECORD LESSEE:</u>	Louisiana Land & Exploration
<u>BOND COVERAGE:</u>	Lessee's \$25,000 Statewide
<u>AUTHORITY TO OPERATE:</u>	Designation of Operator
<u>ACRES IN LEASE:</u>	1598.64 acres more or less
<u>SURFACE OWNERSHIP:</u>	Federal
<u>OWNER:</u>	USA - BLM
<u>POOL RULES:</u>	General Statewide Rules
<u>EXHIBITS:</u>	A. Road and Well Map B. Contour Map C. Rig Layout D. BOP Diagram E. Lease Map F. Location Topography

SUPPLEMENTAL DRILLING DATA

McKAY OIL CORPORATION
West Fork Federal Unit #5
NE1/4NE1/4 Sec. 25-5S-21E
Chaves County, N.M.

NM 32311

The following items supplement Form 9-331C in accordance with instructions contained in NTL-6.

1. SURFACE FORMATION: San Andres
2. ESTIMATED TOPS OF GEOLOGIC MARKERS:

Yeso	- 818'
Tubb	- 2348'
Abo	- 3028'
3. ESTIMATED DEPTHS TO WATER, OIL OR GAS FORMATION:

Fresh water	- In surface formations above 600'
Gas	- In Abo formation below 3028'
4. PROPOSED CASING PROGRAM: See Form 9-331C
5. PRESSURE CONTROL EQUIPMENT: Blowout preventer stack will consist of at least a double-ram blowout preventer rated to ~~3000~~²⁰⁰⁰ #WP. A sketch of the BOP is attached.
6. CIRCULATING MEDIUM:

0' - 600'	Lime and gel, spud mud, viscosity 32 to 34 seconds.
600' - 2928'	Fresh water
2928' - TD	Start mudding up at 2928'; viscosity 36 to 38 seconds; water loss 10 cc or less; 3-5% Diesel; 2 KCL

Mud additives will be used to control water loss.
7. AUXILIARY EQUIPMENT: full-opening drill string safety valve fit the drill string in use, will be kept on the rig floor at all times.

8. TESTING, LOGGING AND CORING PROGRAM:
Samples: Catch samples from surface to TD.
DST'S: None
Logging: GR-CNL, Dual Lateral MSFL from
surface to TD.
Coring: None
9. ABNORMAL PRESSURES, TEMPERATURES OR HYDROGEN SULFIDE:
None anticipated.
10. ANTICIPATED STARTING DATE: On or before January 17,
1987. Drilling should be completed within 60 days.
Completion operations (perforations and stimulation)
will follow drilling operations.

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

MCKAY OIL CORPORATION
West Fork Federal Unit #5
NE1/4NE1/4 Sec. 25-5S-21E
Chaves County, N.M.

NM-32311

This plan is submitted with the application for permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operation so that a complete appraisal can be made of the environmental effects associated with the operation.

1. EXISTING ROADS:

- A. Exhibit "A" is a portion of a road map showing the location of the proposed well as staked. The well is approximately 30 miles North of Roswell, N.M.
- B. Directions: Heading North out of Roswell, New Mexico on U.S. 285 for approximately 23 miles and turn left on county road just before mile marker 137 (Cottonwood Road). Go approximately 1 3/4, the road will then turn to the west. Go west until you go thru a cattleguard. Once past the cattleguard you are on county road #35. Go west for 1 mile and go right at the fork in the road for 2 miles, turn north on new access road, go 1 1/2 mile to location road, which is to the left. Go in 1/2 mile.

2. PLANNED ACCESS ROAD:

- A. Length and Width: The new access road will be approximately 1/2 mile long and 14' wide.
- B. Surfacing Materials: Sand and gravel will be placed where necessary.
- C. Turnouts: one halfway
- D. Maximum Grade: No more than 3%.
- E. Drainage Design: Road will have drainage ditches on both sides and a crowned top, with culverts and/or low water crossings as necessary.

- F. Culverts: None necessary
 - G. Cuts and Fills: Less than ten feet
 - H. Gates, Cattleguards: none
 - I. Top Soil: Very little
3. LOCATION OF EXISTING WELLS:
- A. A map indicating the location of adjacent wells is attached.
4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:
- A. See Exhibit "A" for location of existing lease wells. If the well is commercial, production facilities and tank battery will be constructed.
 - B. Cuts and Fills: Less than 10' of cut and fill will be required for the pad size of 250' X 250'. (see Exhibit "F")
 - C. Top Soil: Any top soil which can sustain plant vegetation will be bladed and piled for future rehabilitation.
5. LOCATION AND TYPE OF WATER SUPPLY:
- A. Water will be purchased from a commercial source and trucked to the location over existing and proposed access roads.
6. SOURCE OF CONSTRUCTION MATERIALS:
- A. Federal pit located in the NW/4NE/4 Sec. 13-6S-22E.
7. METHODS OF HANDLING WASTE DISPOSAL:
- A. Drill cuttings will be disposed of in the drilling pits.
 - B. Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.
 - C. Water produced during test will be disposed of in the drilling pits. Oil produced during tests will be stored in test tanks until sold.

- D. Current laws and regulations pertaining to the disposal of human waste will be complied with.
 - E. Trash, waste paper, garbage, and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of dirt or deposited in an approved sanitary landfill. All waste material will be contained by a netted container to prevent scattering by the wind. Location of the trash pit is shown on Exhibit "C".
 - F. All trash and debris will be buried or removed from the well site within 30 days after finishing drilling and/or completion operations.
8. ANCILLARY FACILITIES:
- A. None necessary
9. WELL SITE LAYOUT:
- A. Exhibit "C" indicates the relation location and dimensions of the well pad, mud pits, reserve pit and major rig equipment.
 - B. The location slopes slightly to the northwest.
 - C. The reserve pit will be lined with plastic to prevent loss of water.
10. PLANS FOR RESTORATION OF THE SURFACE:
- A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. Pits will be filled and the location cleaned of all trash and junk to leave the well site in an aesthetically pleasing condition as possible.
 - B. Any unguarded pits containing fluids will be fenced until they are filled.
 - C. If the well is non-productive or abandoned, the disturbed area will be rehabilitated using the preserved soil mentioned in 2. I. and 4. C.
11. OTHER INFORMATION:
- A. Topography: The topography is a gradual sloping

the northwest in the vicinity of the access road and southeast in the vicinity of the drill pad. Regional slope is Southwest toward the Arroyo del Macho which is approximately 1 mile from this location.

- B. Soil: Sandy loam with limestone outcropping.
- C. Flora and Fauna: The flora consists of typical desert vegetation, such as yucca, cactus and various grasses. Fauna consists of desert wildlife such as coyotes, rodents, snakes, deer and antelope.
- D. Ponds or Streams: Arroyo del Macho is about 1 mile southwest of the proposed location.
- E. Residences and other Structures: An abandoned ranch house is approximately 1 3/4 mile south of this location.
- F. Archaeological, Historical and Other Cultural Sites: No artifacts are noted in the area of the pad or access road. An Archaeologist from Eastern New Mexico University has checked the location and access road and furnishes a favorable recommendation.
- G. Land Use: Grazing
- H. Surface Ownership: Federal

12. OPERATOR'S REPRESENTATIVE:

Gary Richburg
Roswell, New Mexico
(505) 623-4735

13. 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 presently exist; that the statements made in this plan are, to the best of my knowledge true and correct; that the work

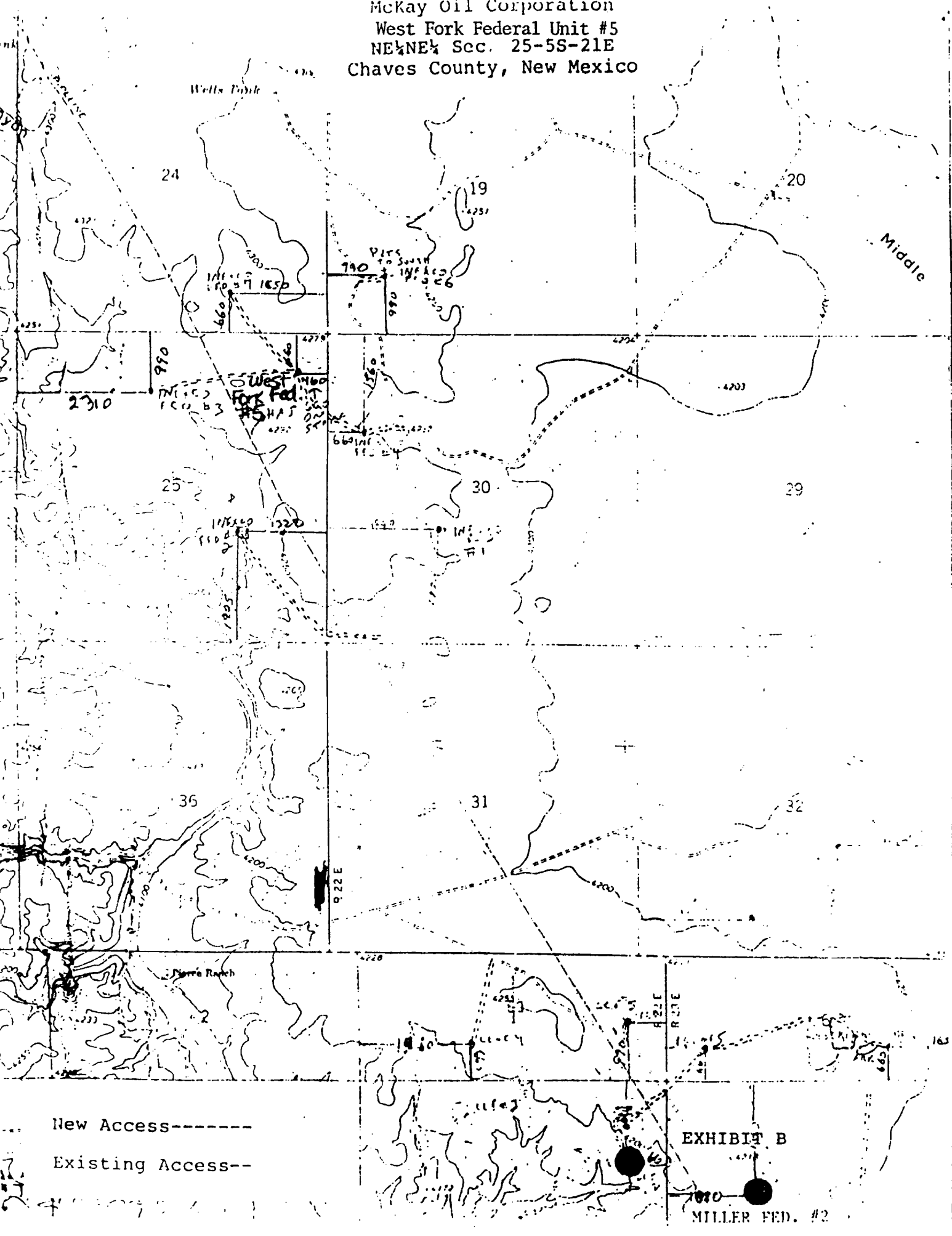
associated with the operations proposed herein will be performed by MCKAY OIL CORPORATION and its sub-contractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to provisions of 18 USC 1001 for the filing of a false statement.

11/10/89
DATE: _____

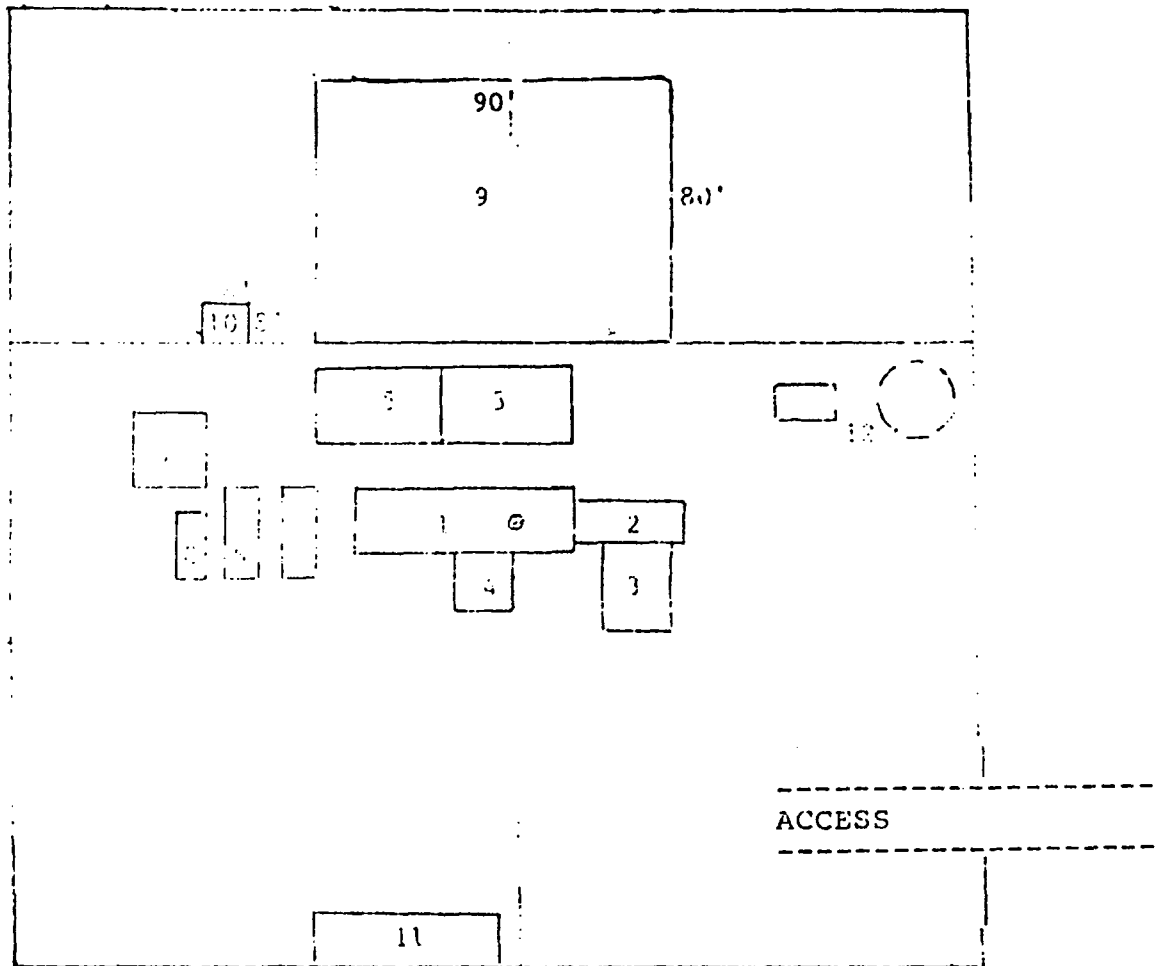
Jim Schultz

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McKay Oil Corporation
West Fork Federal Unit #5
NE¼NE¼ Sec. 25-5S-21E
Chaves County, New Mexico



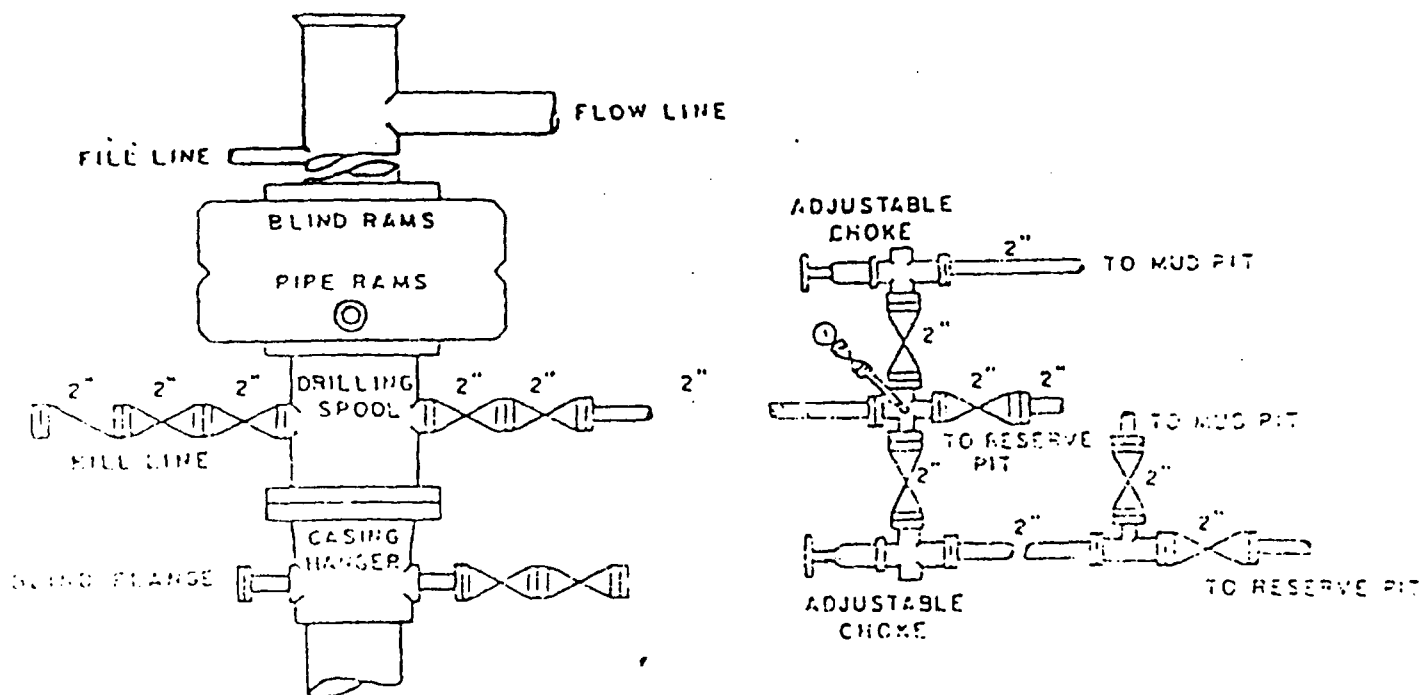
McKay Oil Corporation
West Fork Federal Unit #5
NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 25-5S-21E
Chaves County, New Mexico



RIG LAYOUT

- | | |
|-----------------|---------------------------|
| 1. Substructure | 7. Water Tank |
| 2. Catwalk | 8. Light Plant |
| 3. Pipe Rack | 9. Reserve Pit |
| 4. Doghouse | 10. Trash Pit |
| 5. Mud Pits | 11. Trailer House |
| 6. Mud Pumps | 12. Production Facilities |

McKay Oil Corporation
 West Fork Federal Unit #5
 NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 25-5S-21E
 Chaves County, New Mexico



BOP DIAGRAM

2000 Psi
~~3000 Psi~~ Working Pressure
 Rams Operated Daily

McKay Oil Corporation
West Fork Federal Unit #5
NE 1/4 Sec. 25-5S-21E
Chaves County, New Mexico

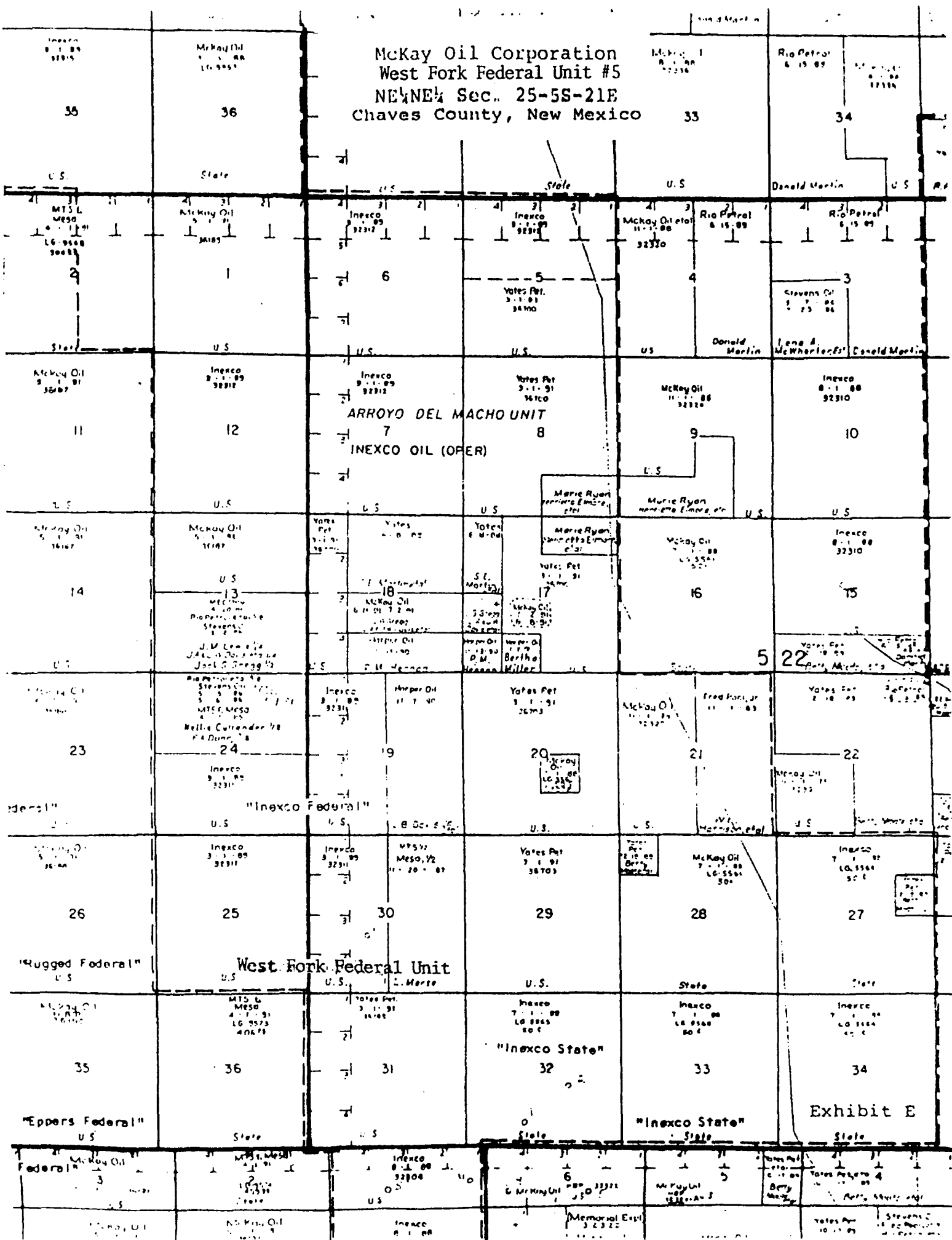


Exhibit E

CONSULTING ENGINEER
Suite 327 J.F. White Building
ROSWELL, NEW MEXICO 88201
(505) 622-8866

SHEET NO. _____ OF _____

CALCULATED BY _____ DATE _____

CHECKED BY _____ DATE _____

SCALE _____

West Fork Federal Unit #5
460 FEL 660 FNL
Section 25-5-21

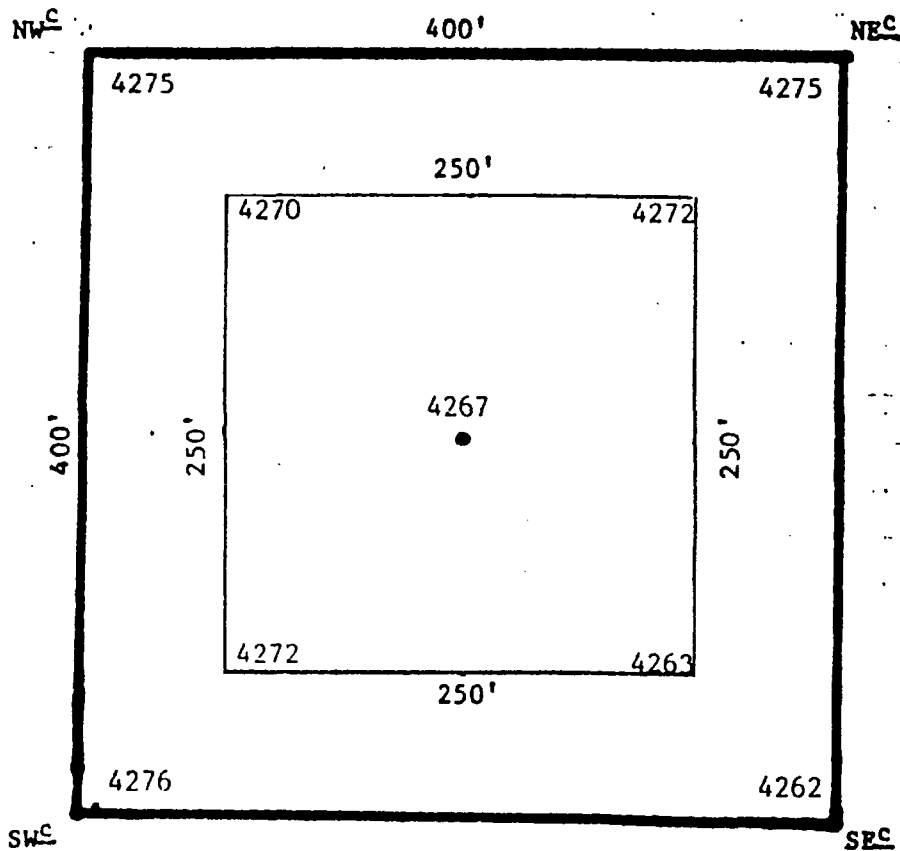


EXHIBIT F

GENERAL REQUIREMENTS
FOR
OIL AND GAS OPERATIONS ON FEDERAL LEASES

The General Requirements apply universally to all oil and gas operations on Federal leases in the Roswell District.

Special Stipulations are in addition to the General Requirements and apply specifically to an individual well.

GENERAL

1. A complete copy of the approved Application for Permit to Drill and the accompanying Surface Use and Operations Plan along with any conditions of approval, will be made available to authorized government personnel at the drillsite whenever active construction or drilling operations are underway.
2. Full compliance is required with all applicable laws and regulations: with Federal Regulations at 43 CFR 3160, the lease terms, the approved Permit to Drill, the approved Surface Use and Operations Plan, the Special Drilling Stipulations, Onshore Oil and Gas Orders, NTL's and with other orders and instructions of the authorized officer.
3. Prior approval is required for variance from the approved Surface Use Plan or drilling program. Similar approval is also required for addition to, or alteration of, facilities and before commencing plugging operations, plug-back work, casing repair work, corrective cementing operations, or suspending drilling operations indefinitely. Emergency approval may be obtained orally; but such approval does not waive the written report requirements.

For changes to the Surface Use Plan, contact the Supervisory Mineral Resources Specialist.

For changes to the drilling plan, contact the Petroleum Engineer:

Roswell Resource Area: (505) 624-1790
Carlsbad Resource Area: (505) 887-6544

4. Drilling Deadline: This permit is valid for a period of one year from the date of approval, or until lease expiration, whichever is shorter. If the permit terminates, any surface disturbance created under the application must be rehabilitated in accordance with an approved plan. If construction does not commence within 90 days from the date of approval, the operator must contact the Surface Management Agency prior to beginning construction.
5. Well area and lease premises will be maintained in a workmanlike manner, with due regard to safety, conservation, and appearance. All waste associated with drilling operation will be contained in a separate netted trash pit and buried in place or removed and deposited in an approved sanitary landfill. All garbage (metal containers will be crushed) and debris that is left on-site will be buried at least four feet deep. No hazardous wastes may be buried in place. All trash and debris will be buried or removed from the site within 30 days after drilling operations have ceased. The wellsite will be kept clean and in an aesthetically satisfactory condition for the life of the well.

6. Lessees and/or operators are fully accountable for the actions of their contractors and subcontractors.

7. No construction activities such as roads, well sites, tank battery sites, pits, or other work involving surface disturbance will be commenced until a Surface Use and Operations Plan is submitted, and approval is obtained in writing.

8. Payment for Federal mineral materials used for construction is required prior to construction of the pad and access road.

ON LEASE SURFACE REQUIREMENTS PRIOR TO DRILLING

1. Prior to commencing construction of road, pad, or other associated developments the operator will provide the dirt contractor with a copy of the Surface Use Plan and the attached conditions of approval.

2. Access Roads:

(RESERVED)

3. Archeological or Historical Sites:

The lessee/operator shall comply with all cultural resource laws and policies. The lessee/operator shall immediately report the discovery of any cultural or paleontological resources encountered during dirt work and shall

immediately cease operations until advised to recommence work by the authorized officer. Further, the company shall be held responsible for the conduct of its employees and subcontractors while on lease. Any unauthorized collection or disturbance of cultural or paleontological resources by these persons may result in a shutdown order by the authorized officer.

4. Cave Stipulations:

A. No discarded materials or chemicals will be placed, or disposed of, in sinkholes or cave entrances.

B. If, during any construction activities any sinkholes or cave openings are discovered, all construction activities will cease immediately, and the BLM office will be notified.

5. Palaeontology Stipulations:

Fossils or vertebrate animals discovered during any phase of the operation will be left undisturbed, and the BLM office will be immediately notified.

DRILLING OPERATION REQUIREMENTS

1. Each well will have a well sign in legible condition from spud date to final abandonment. The sign will show the operator's name, lease or unit name, well number, location of the well and the lease serial number.

2. Drilling Pits:

A. Mud pits will be constructed so as not to leak, break, or allow discharge of liquids. Pits are not to be located in natural drainage. If plastic material is used to line pits, the plastic must be removed to below ground level before the pits are covered.

B. All unguarded pits containing liquids will be fenced; and any unguarded pit containing oil and/or toxic liquids will be covered with a fine mesh netting, if necessary, to protect wildlife.

C. Liquids in pits will be allowed to evaporate, or be properly disposed of otherwise, before pits are broken. Under no circumstances will pits be cut to be drained.

3. After cementing, but before commencing any test, the casing string will stand cemented under pressure until the cement has reached a compressive strength of at least 500 psi at the shoe, except that in no case will tests be initiated until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log.

4. All casing strings (except the conductor casing) will be pressure-tested (0.2 psi/foot or 1,000 psi, whichever is greater) prior to drilling the plug after cementing; test pressures must not exceed the internal yield pressure of the casing. If the pressure declines more than 10 percent in 30 minutes, or if there is other indication of a leak, corrective measures must be taken. A successful pressure test must be obtained before proceeding to the next step of the drilling program. Test data shall be entered into the daily drillers log.

5. Ram-type preventers and related control equipment must be tested to the rated working pressure of the stack assembly, or to 70 percent of the minimum internal yield pressure of the casing, whichever is less; or to such pressure as the authorized officer may otherwise prescribe. After installation, annular-type preventers must be tested to 50 percent of the rated working pressure; or to such pressure as the authorized officer may otherwise prescribe. Test data will be entered into the daily driller's log.
6. While drill pipe is in use, ram-type blowout preventers shall be actuated to test proper functioning once each trip, but in no event less than once each day. The annular-type blowout preventer shall be actuated on the drill pipe at least once each week.
7. Blowout preventers are to have proper rams for the operations being performed. Casing rams are required when running casing.
8. Blowout preventers are to have handwheels installed where applicable.
9. A choke line and a kill line are to be installed and maintained in good working order. The kill line is not to be used as a fill-up line.
10. The accumulator system will have a pressure capacity to provide for repeated operation of hydraulic preventers.
11. Immediate notice is required of all blowouts, fires, spills, and accidents involving life-threatening injuries or loss of life. (See NTL-3)
12. On rotary rigs, a drill string safety valve (or valves) must be maintained in the open position on the rig floor at all times while drilling operations are conducted. Separate valves are required when drilling with a mixed string.
13. On rotary rigs, a kelly cock will be installed and maintained in operable condition.
14. Blowout prevention drills are to be conducted as necessary to assure that equipment is operational and that each crew is properly trained to carry out emergency duties. All BOP tests and drills are to be recorded in the driller's log.
15. The maximum pressure allowed on blowout preventers during well control operations is to be posted for each casing string.
16. Quantities of mud materials sufficient to insure well control will be maintained, readily accessible for use at all times.
17. When coming out of the hole with drill pipe, the mud level in the hole will be maintained within 100 feet of the surface. The volume of mud required to fill the hole will be watched; and at any time at which there is an indication of swabbing, or an influx of formation fluids, proper blowout prevention precautions must be taken. The mud will not be circulated and conditioned except on or near bottom, unless well conditions prevent the running of pipe to bottom.

18. From the time operations are initiated until drilling operations are completed, a member of the drilling crew or the toolpusher will maintain rig floor surveillance at all times, unless the well is secured with blowout preventers or cement plugs.

19. Drill-Stem Tests:

Test intervals and estimated amount of oil and gas recovered and/or produced during drill-stem tests are to be shown in the driller's log and Sundry Report Form 3160.5.

20. Driller's Log:

A. The following shall be entered in the daily driller's log:

- (1) Blowout-preventer pressure tests, including test pressures and results.
- (2) Blowout-preventer tests for proper functioning.
- (3) Blowout-prevention drills conducted.
- (4) Casing run, including size, grade, weight, and depth set.
- (5) How pipe was cemented, including amount of cement, type, whether cement circulated, location of cementing tools, etc.
- (6) Waiting on cement time for each casing string.
- (7) Casing-pressure tests after cementing, including test pressure and results.

21. Safety:

- A. New employees are to be advised of safety procedures.
- B. Safety drills will be conducted on a regular schedule.
- C. Hard hats shall be utilized.
- D. Rig lighting will be vapor-or explosion-proof.
- E. Rig-safety lines will be installed.

22. Removal of Drilling Rig:

Unless a well has been properly cased and cemented, or properly plugged, the drilling rig must not be moved from the drill-site without prior approval from the BLM.

23. Reports:

A. The following reports are to be filed with the appropriate area office within 15 days after the work is completed: original and five copies of Sundry Notice, Form 3160-5, giving complete information concerning:

- (1) Setting of each string of casing. Show size, grade and weight of casing set, size hole, depth set, amount and type of cement used, whether cement was circulated, top of cement behind casing if determined, depth of cementing tools used, casing test methods and results, and date work was done. Show spud date on first report submitted.
- (2) Intervals tested, perforated, acidized, or fractured, and the results obtained. Show the date work was done.
- (3) All undesirable events must be reported to the BLM within 24 hours.

WELL COMPLETION

1. 5-Day Production Start-Up Notification:

Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or Sundry Notice, Form 3160-5, or orally to be followed by a letter or Sundry Notice, of the date on which such production has begun or resumed."

The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.

2. Original and six copies of Well Completion Report, Form 3160-4, will be sent within 30 days of well completion, even when the well is a dry hole. Show formation tops, drill stem test information, completion data, and production tests. Show all oil and gas zones and important water sands under item 37. Data on water sands should include rate of water inflow or hydrostatic level.

3. Two copies of each electrical and radioactivity log run.

4. Water Disposal and Pits:

An application for approval of the disposal method for water production and/or pits must be filed with the appropriate BLM area office pursuant to NTL-2B.

5. Gas Flaring or Venting:

An application for flaring or venting of gas must comply with NTL-4A. Short-term venting and flaring of gas is allowed without prior approval pursuant to NTL-4A, Part III.

6. Painting Stipulations:

All above-ground permanent facilities, including, but not limited to, tanks, separators, heater treaters, and piping 4-inches in diameter or greater shall be painted Carlsbad Canyon, Munsell Soil, Color-25Y 6/2 (Formerly-Sandstone Brown) within 60 days of installation (unless contrary to state and Federal safety requirements). Any deviations must be authorized in advanced by the BLM. Deviations from this color may be required by the authorized officer to fit special situations.

7. A Monthly Report of Operations must be filed monthly for each lease, communitized or unitized area or for each participating area beginning with the month in which operations were first initiated. Such report must include all wells that are not approved as permanently plugged and abandoned. Wells must be identified by Federal or Indian lease number or by State or fee identification as appropriate. Separate lines should be used where necessary to identify leases, participating area, etc.

Subsequent Well Operations

Approval for and subsequent report of subsequent well operations is needed as per code of Federal Regulations 43 CFR 3160.3-2.

ABANDONMENT

1. If the well is dry and is to be plugged, approval of the proposed plugging program may be obtained orally. However, oral approval must be confirmed in writing by immediately filing an original and six copies of the Notice of Intention to abandon on Form 3160-5 with the appropriate BLM area office. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where plugs are to be placed, type of plug, type of plugging mud, etc.

2. Plugging Procedures:

A. Plugging equipment used is to have separate mixing and displacement pumps and a calibrated tank to assure proper displacement of plugs.

B. A proper tank or pit will be used to contain all fluids pumped from the well during plugging operations.

C. All cement plugs are to be placed through tubing (or drill pipe) and shall be a minimum of 25 sacks or 100 feet in length, whichever is greater. The minimum length of plugs for deeper wells is 150 feet in length for depths 5,000' - 10,000' and 200 feet in length for depths below 10,000'.

D. Any cement plug placed when the well is not full of fluid, or when the well may be taking fluid, will be touched after cement has set to verify the proper location.

E. Mud must be placed between plugs. Minimum consistency of plugging mud must be that obtained by mixing at the rate of 25 sacks (50 lbs each) of gel per 100 barrels of water.

3. Upon completion of approved plugging, erect a regulation well marker which should not be less than 4 inches in diameter and extend at least 4 feet above general ground level. The top of the marker must be closed or capped. The following minimum information shall be permanently placed on the marker with a plate, cap, or welded bead:

- A. Operator
- B. Well number and name
- C. Section - Township - Range
- D. 1/4 1/4 section or footage location from section lines
- E. Lease No.

If approval is obtained to omit the dry hole marker, casings are to be cut off four feet below ground level.

4. Following receipt of "Notice of Intent to Abandon", final BLM requirements for surface reclamation will be specified by the approving BLM office.

5. Within 15 days after the plugging operation have been completed Subsequent Report will be filed; Sundry Notice Form 3160-5, an original and six copies. The Subsequent Report of Abandonment will contain; the dates of the plugging operations, the plug types depth, cement volumes, and other details of the plugging operation.

6. If the well is not drilled, please notify the BLM so that an official release can be approved.

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