



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**  
Cabinet Secretary

August 25, 2003

**Lori Wrotenbery**

Director

Oil Conservation Division

**McKay Oil Corporation**  
Attention: **April McKay**  
P. O. Box 2014  
Roswell, New Mexico 88202

**Re:** *Administrative application submitted on August 18, 2003 (administrative application reference No. pMES0-323332996) for an unorthodox West Pecos Slope-Abo gas well location for McKay Oil Corporation's proposed Cactus "B" Federal Well No. 6 to be drilled 330' FSL & 2430' FWL (Unit N) of Section 35, Township 6 South, Range 22 East, NMPM, Chaves County, New Mexico.*

Dear Ms. McKay:

The well in which the subject application was filed is located within the West Pecos Slope-Abo Gas Pool and is therefore subject to the "*Special Rules and Regulations for the West Pecos Slope-Abo Gas Pool*," as promulgated by Division Order No. R-9976-C, dated March 19, 1996 (see copy attached). These rules do not include an administrative procedure for authorizing unorthodox gas well locations (see Rule 5). This application will therefore be set for hearing and will be placed on the next available docket scheduled for September 18, 2003.

Please provide adequate notice pursuant to Rule 1207.A (2) of the Division's Rules and Regulations, also attached.

For reference please refer to the following Cases and Division Orders involving McKay Oil Corporation for unorthodox Abo gas wells in Chaves County: (i) Case No. 12183, Order No. R-11193; (ii) Case No. 12694, Order No. R-11628; (iii) Case No. 12695, Order No. R-11634; (iv) Case No. 12696, Order No. R-11635; (v) Case No. 12547, Order No. R-11514; and (vi) Case No. 12546, Order No. R-11513.

Sincerely,

Michael E. Stogner  
Chief Hearing Officer/Engineer

cc: New Mexico Oil Conservation Division - Artesia  
U. S. Bureau of Land Management - Roswell

(e) At the request of any interested person or upon the Division's own initiative, any pooling application submitted shall be set for full hearing with oral testimony by the applicant. [Rn, 19 NMAC 15.N.1207.A.(4), 7-15-99; A, 7-15-99]

**(2) Unorthodox Well Locations:** [1-1-87...2-1-96; Rn, 19 NMAC 15.N.1207.A.(5), 7-15-99; A, 7-15-99]

(a) Definition: "Affected persons" are the following persons owning interests in the adjoining spacing units:

1. the Division-designated operator;
2. in the absence of an operator, any lessee whose interest is evidenced by a written document of conveyance either of record or known to the applicant as of the date the application is filed; and
3. in the absence of an operator or lessee, any mineral interest owner whose interest is evidenced by a written document of conveyance either of record or known to the applicant as of the date the application was filed.

In the event the operator of the proposed unorthodox well is also the operator of an existing adjoining spacing unit and ownership is not common between the adjoining spacing unit and the spacing unit containing the proposed unorthodox well, then "affected persons" include all working interest owners in that spacing unit. [1-1-87...2-1-96; N, 7-15-99]

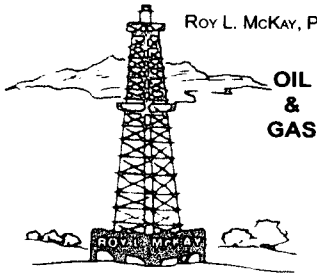
(b) If the proposed location is unorthodox by being located closer to the outer boundary of the spacing unit than permitted by rule, notice shall be given to the affected persons in the adjoining spacing units towards which the unorthodox location encroaches. [Rn, 19 NMAC 15.N.1207.A.(5).(a), 7-15-99, A, 7-15-99]

(c) If the proposed location is unorthodox by being located in a different quarter-quarter section or quarter section than provided in special pool orders, notice shall be given to all affected persons. [Rn, 19 NMAC 15.N.1207.A.(5).(a), A, 7-15-99]

Rec: 8/18/03 Sup: 9/8/03

PMESL- 323 332 996

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

RECEIVED

AUG 18 2003

OIL CONSERVATION  
DIVISION

Friday, August 15, 2003

Oil Conservation Division  
Mr. Mike Stogner  
1220 S St Francis Dr  
Santa Fe, NM 87505

Case 13152

RE: Administrative Approval  
NSL for Cactus B Federal #6

Mr. Stogner:

Per Bryan at OCD in Artesia, he suggested I talk with you for an administrative approval for a non standard location for the Cactus B Federal #6 which is located in Sec 35, T6S, R22E in Chaves County. The APD was originally filed in 2001 as 330' FSL & 2230' FWL. The BLM asked us to move the location 200 ft making the location 330' FSL & 2430' FWL due to drainage issues per the hydrologist. This is a very steep grade but excellent location for ABO sands. This location is on NM Lease 91498 and is federal surface. Bryan did not feel that there would be any objections to the location. McKay Oil Corporation would request an administrative approval from the OCD for this NSL. There is a slope to the south and south-southwest of the drilling pad. Regional slope is south-southwest toward the Arroyo del Macho which is south-southwest of the location. Please see attached approved APD for your viewing. Should you have any questions, please do not hesitate to call 505-623-4735.

Sincerely,

A handwritten signature in black ink, appearing to read "April McKay".

April McKay  
Vice President

RECEIVED JUL 3 1 2003

## OPERATOR'S COPY

Form 3160-3  
(August 1999)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
APPLICATION FOR PERMIT TO DRILL OR REENTER

Case 13152

FORM APPROVED  
OMB No. 1004-0136  
Expires November 30, 2003

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7. If Unit or CA Agreement, Name
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		8. Lease Name and Well No. Cactus "B" Federal
2. Name of Operator McKay Oil Corporation		9. API Well No.
3a. Address P.O. Box 2014 Roswell, NM	3b. Phone No. (include area code) 505-623-4735	10. Field and Pool, or Exploratory W. Pecos Slope
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone 330' FSL & 2430' FWL		11. Sec., T., R., M., or Blk. and St. Sec 35, T6S, R2E
14. Distance in miles and direction from nearest town or post office* Approximately 23 Miles		12. County or Parish Chaves
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330'	16. No. of Acres in lease 1,240.00	17. Spacing Unit dedicated to this well 160.00
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1,570	19. Proposed Depth 3400'	20. BLM/BIA Bond No. on file NM-1981
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 4152'	22. Approximate date work will start* August 2003	23. Estimated duration 14 days

## 24. Attachments

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

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

25. Signature <i>April D. McKay</i>	Name (Printed/Typed) April D. McKay	Date 6/
Title Vice President		
Approved by (Signature) <i>Larry D. Bray</i>	Name (Printed/Typed) LARRY D. BRAY	Date JUL 3
Title Assistant Field Manager, Lands And Minerals		
Office ROSWELL FIELD OFFICE		

Application approval 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 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 any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*(Instructions on reverse)

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS ATTACHED

APPROVED FOR 1 YEAR

ACT II  
1111 1st, Artesia, NM 88210

**DISTRICT III**  
1000 Rio Brazos Rd., Aztec, NM 87410

**DISTRICT IV**  
1220 S. St. Francis Dr., Santa Fe, NM 87505

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

☐ AMENDED RE

# WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name	Well Number
	CACTUS "B" FEDERAL	6
OGRID No.	Operator Name	Elevation
	McKAY OIL CORPORATION	4152

### Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	Co
N	35	6 S	22 E		330	SOUTH	2430	WEST	CH

## 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	Co
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						

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

<div style="text-align: center; font-size: 2em; font-weight: bold;">17</div>	<div style="text-align: center; font-weight: bold;">OPERATOR CERTIFICATION</div> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <div style="text-align: right;"><u>April D. McKay</u> Signature</div> <div style="text-align: right;"><u>April D. McKay</u> Printed Name</div> <div style="text-align: right;"><u>V.P.</u> Title</div> <div style="text-align: right;"><u>6/10/03</u> Date</div>	
	<div style="text-align: center; font-weight: bold;">SURVEYOR CERTIFICATION</div> <p>I hereby certify that the well location shown on this plat was plotted from field notes and actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief.</p> <div style="text-align: right;"><u>5/31/07</u> Date Surveyed</div> <div style="text-align: right;"><u>April D. McKay</u> Signature Professional Surveyor</div>	
	<div style="border: 2px solid black; border-radius: 50%; padding: 10px; width: 150px; margin: 0 auto;"><div style="text-align: center; font-weight: bold;">NEW MEXICO</div><div style="text-align: center; font-weight: bold;">REGISTERED SURVEYOR</div><div style="text-align: center; font-weight: bold; font-size: 1.5em;">9242</div></div>	
	<div style="font-size: 0.8em;">Certificate No. 9242 E. WAGENER N.M.S.P. WAGENER ENGINEERING 1410 N. MISSOURI AVE. ROSWELL, NM 88201 505-823-8382</div>	

24304

17

PERTINENT INFORMATION

FOR

MCKAY OIL CORPORATION  
CACTUS "B" FEDERAL #6  
SE/4SW/4 of Sec. 35, T6S, R22E  
Chaves County, New Mexico

<u>LOCATED:</u>	21 air miles Northwest of Roswell, NM.
<u>LEASE NUMBER:</u>	NM-91498
<u>LEASE ISSUED:</u>	September 1, 1993
<u>RECORD LESSEE:</u>	McKay Petroleum Corporation
<u>BOND COVERAGE:</u>	Operator's \$25,000 Statewide
<u>AUTHORITY TO OPERATE:</u>	Assignment of Operating Rights
<u>ACRES IN LEASE:</u>	1,240.00 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  
CACTUS "B" FEDERAL #6  
SE/4SW/4 of Sec. 35, T6S, R22E  
Chaves County, New Mexico

The following items supplement Form 3160-3 in accordance with instruction contained in Onshore Oil and Gas Order No. 1:

1. SURFACE FORMATION: San Andres

2. ESTIMATED TOPS OF GEOLOGICAL MARKERS:

Yeso	-	876'
Tubb	-	2372'
Abo	-	2600'

3. ESTIMATED DEPTHS TO WATER, OIL OR GAS FORMATIONS:

Fresh Water	-	In surface formation above 600'
Gas	-	In Abo Formation below 2600'

4. PROPOSED CASING PROGRAM:

12-1/4" hole	8-5/8" X-42	24#	950' +
7-7/8" hole	5-1/2" J-55	15.5#	TD

5. PROPOSED CEMENTING PROGRAM:

Surface to 950'	class "C" - 350 sxs cemented and circulated to surface.
Production Casing	class "C" - 300 sxs cemented with adequate cover.

6. PROPOSED DRILLING PROGRAM:

McKay Oil Corporation proposes to drill and test the ABO formation. Approximately 950' of surface casing will be set and cemented to surface. 5-1/2" production casing will be set and cemented with adequate cover, perforated and stimulated as needed for production.

7. PRESSURE CONTROL EQUIPMENT: Blowout preventer will consist of 2 ram, 2M system. A sketch of the BOP is attached.
8. CIRCULATION MEDIUM: Air Drilling
9. AUXILIARY EQUIPMENT: Full-opening drill string safety valve fit for the drill string in use, will be kept on the rig floor at all times.
10. 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.
11. ABNORMAL PRESSURES, TEMPERATURES OR HYDROGEN SULFIDE:  
None anticipated.
12. ANTICIPATED STARTING DATE: On or before August, 2003  
Drilling should be completed within 15 days. Completion operations (perforations and stimulation) will follow drilling operations.



## MULTI-POINT SURFACE USE AND OPERATIONS PLAN

MCKAY OIL CORPORATION  
CACTUS "B" FEDERAL #6  
SE/4SW/4 of Sec. 35, T6S, R22E  
Chaves County, New Mexico

NM 91498

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 is staked. The well is approximately 21 miles north of Roswell, NM.
- B. Directions: Heading North out of Roswell, New Mexico on U.S. 285 for approximately 21 miles and turn left on county road just before mile marker 137 (Cottonwood Road). Go approximately 2.0 miles, then turn north for approximately 1/4 mile to the lease road, turn west for approximately 1/2 mile, then turn south 1/4 mile to the location.

### 2. PLANNED ACCESS ROAD:

- A. Length and Width: 1/4 mile long and 20' wide.
- B. Surface Materials: Sand, gravel and caliche where needed.
- C. Turnouts: None
- D. Maximum Grade: No more than 3%.
- E. Drain 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.
- G. Cuts and Fill: None.

H. Gates, Cattleguards: None needed. Already in place.

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 400' x 400'. (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. Closest Pit to the location.

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 placed in portable receptacles and hauled from the location upon completion of drilling and completion operations.

F. All trash and debris will be 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 very slightly to the east and southeast.

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 conditions 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 slope to the south in the vicinity of the access road and south-southwest in the vicinity of the drill pad. Regional slope is south-southwest toward the Arroyo del Macho which is south-southwest of the 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 and Streams: Arroyo del Macho south-southwest of the proposed location.

E. Residences and other Structures: The David Corn ranch house (old W.R. McKnight Ranch) is approximately 1 mile to the south-southwest.

F. Archaeological, Historical and Other Cultural Sites: An Archaeologist from Roswell, NM will be contracted to check and approve this site and access road.

G. Land Use: Grazing.

H. Surface Ownership: USA-BLM.

12. OPERATOR'S REPRESENTATIVE:

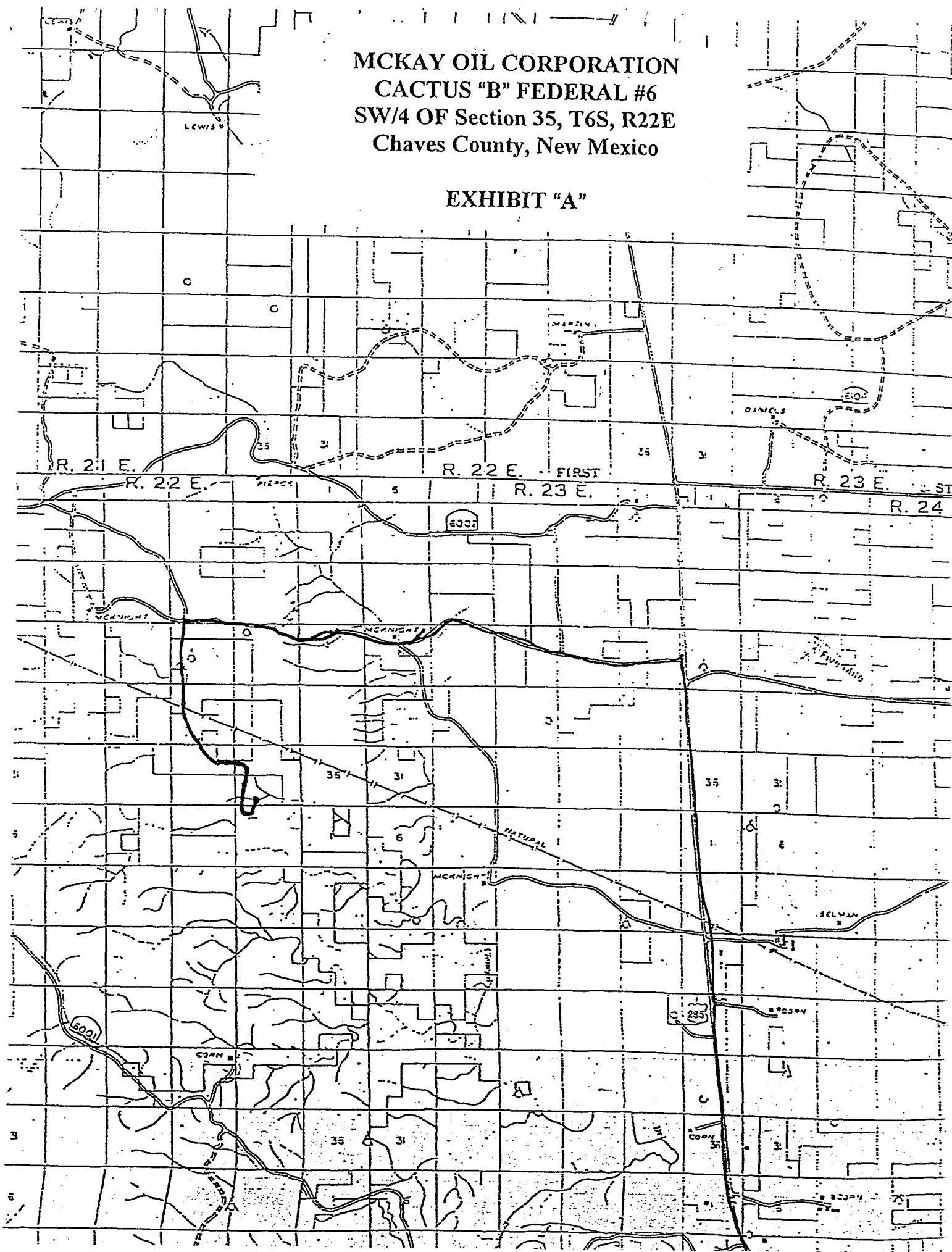
Humberto Perez  
Roswell, New Mexico  
(505) 623-4735 (O)  
(505) 626-8580 (C)

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 exists; 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.

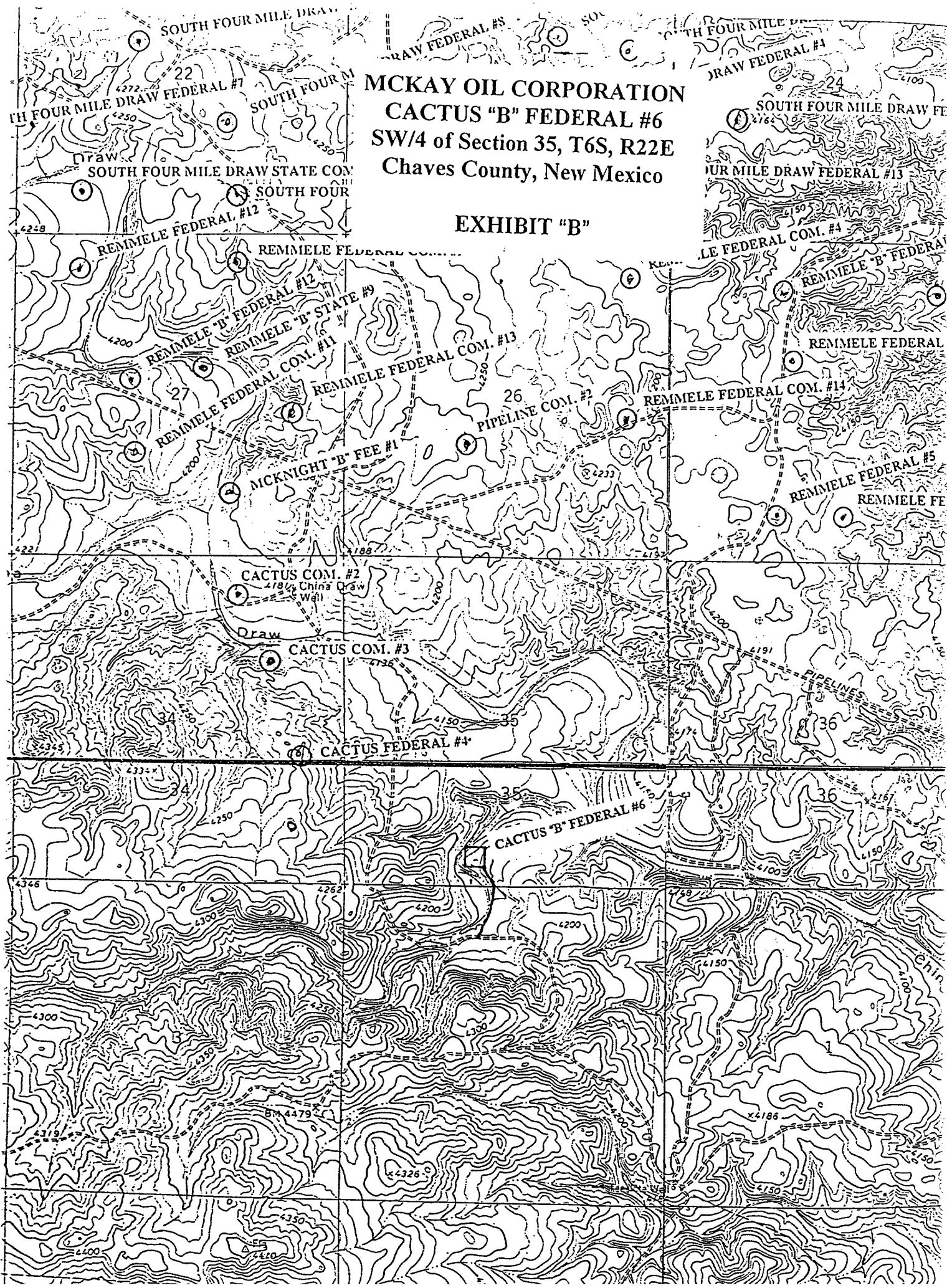
Asa D. McKnight 6/10/03  
DATE

**EXHIBIT "A"**

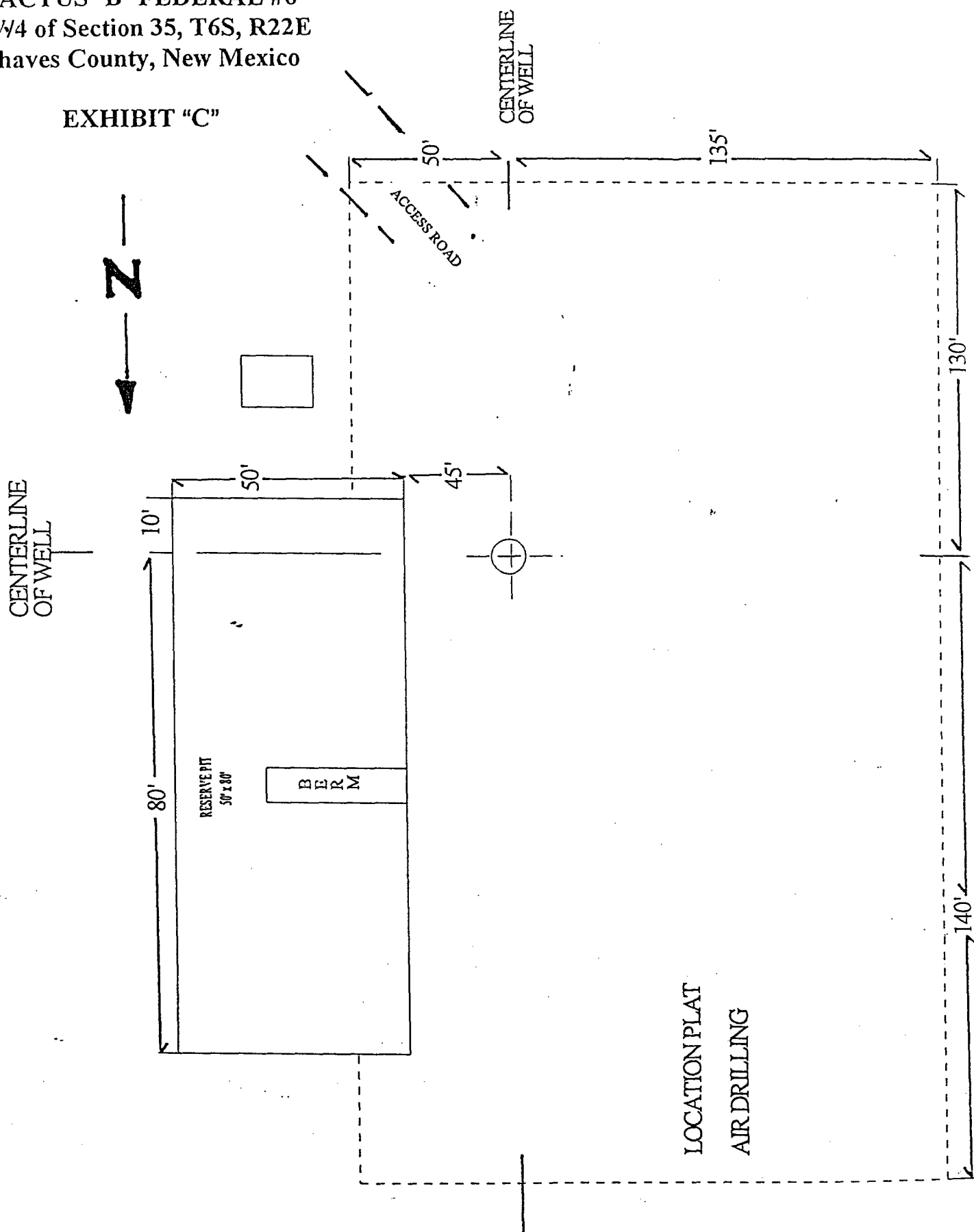


**MCKAY OIL CORPORATION**  
**CACTUS "B" FEDERAL #6**  
SW/4 of Section 35, T6S, R22E  
Chaves County, New Mexico

**EXHIBIT "B"**

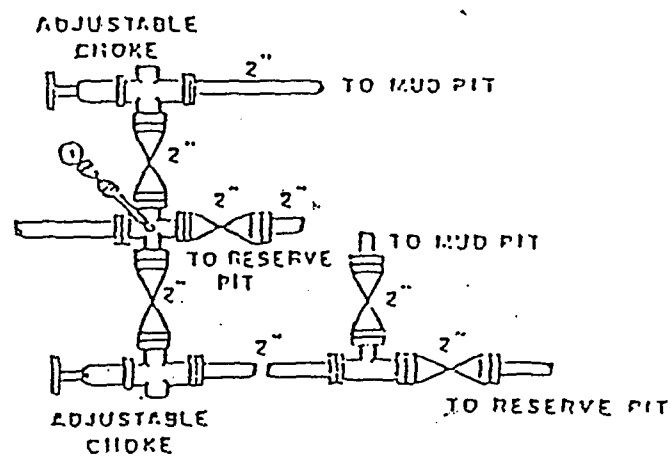
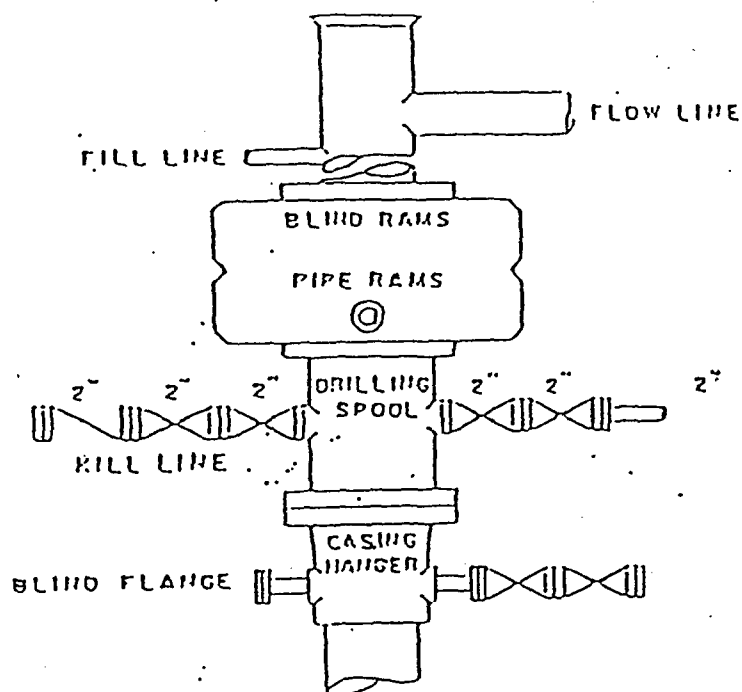


**EXHIBIT "C"**



MCKAY OIL CORPORATION  
CACTUS "B" FEDERAL #6  
SW/4 of Section 35, T6S, R22E  
Chaves County, New Mexico

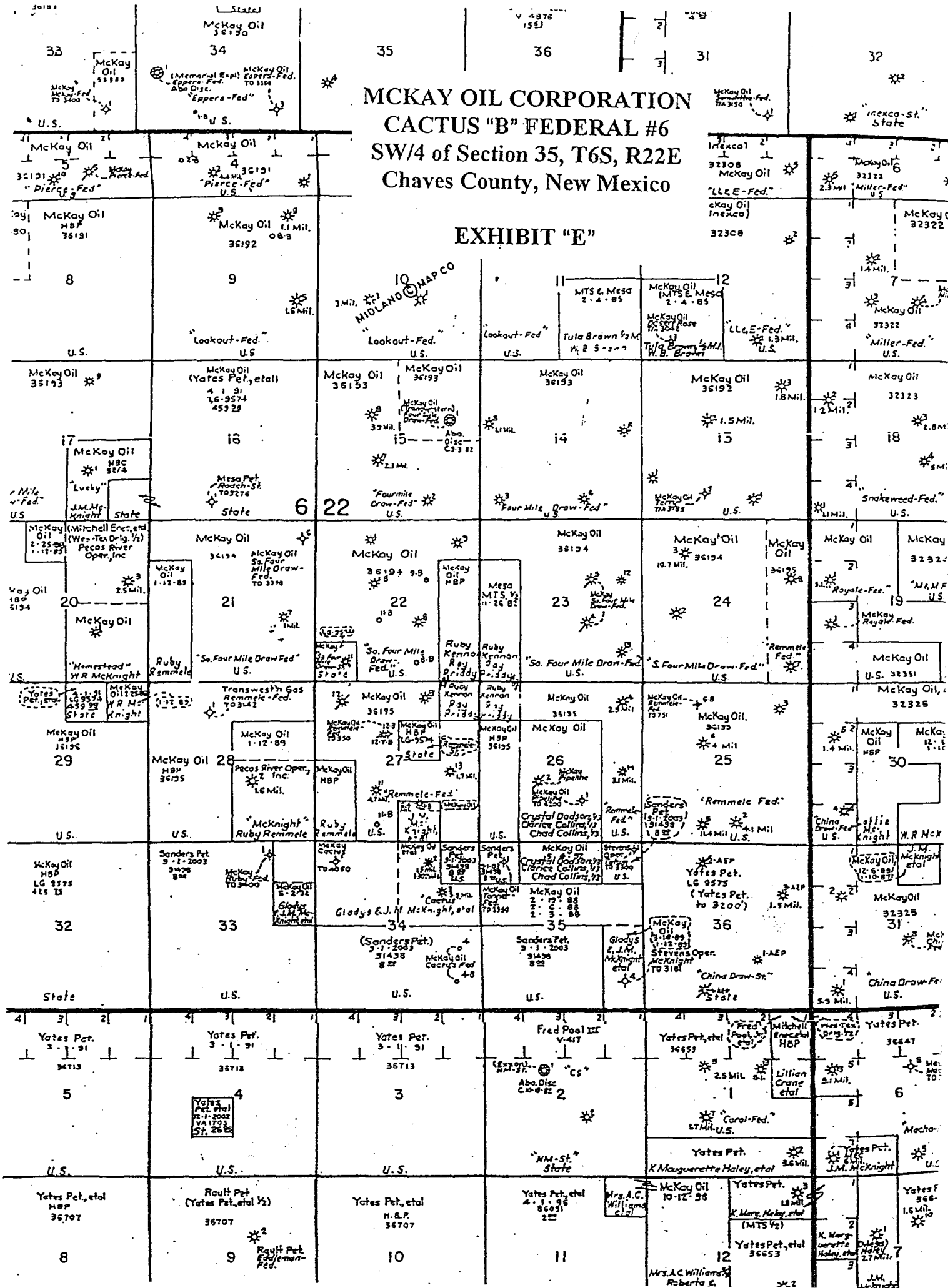
EXHIBIT "D"





MCKAY OIL CORPORATION  
CACTUS "B" FEDERAL #6  
SW/4 of Section 35, T6S, R22E  
Chaves County, New Mexico

EXHIBIT "E"



# EXHIBIT A

**OPERATOR:** McKay Oil Corporation

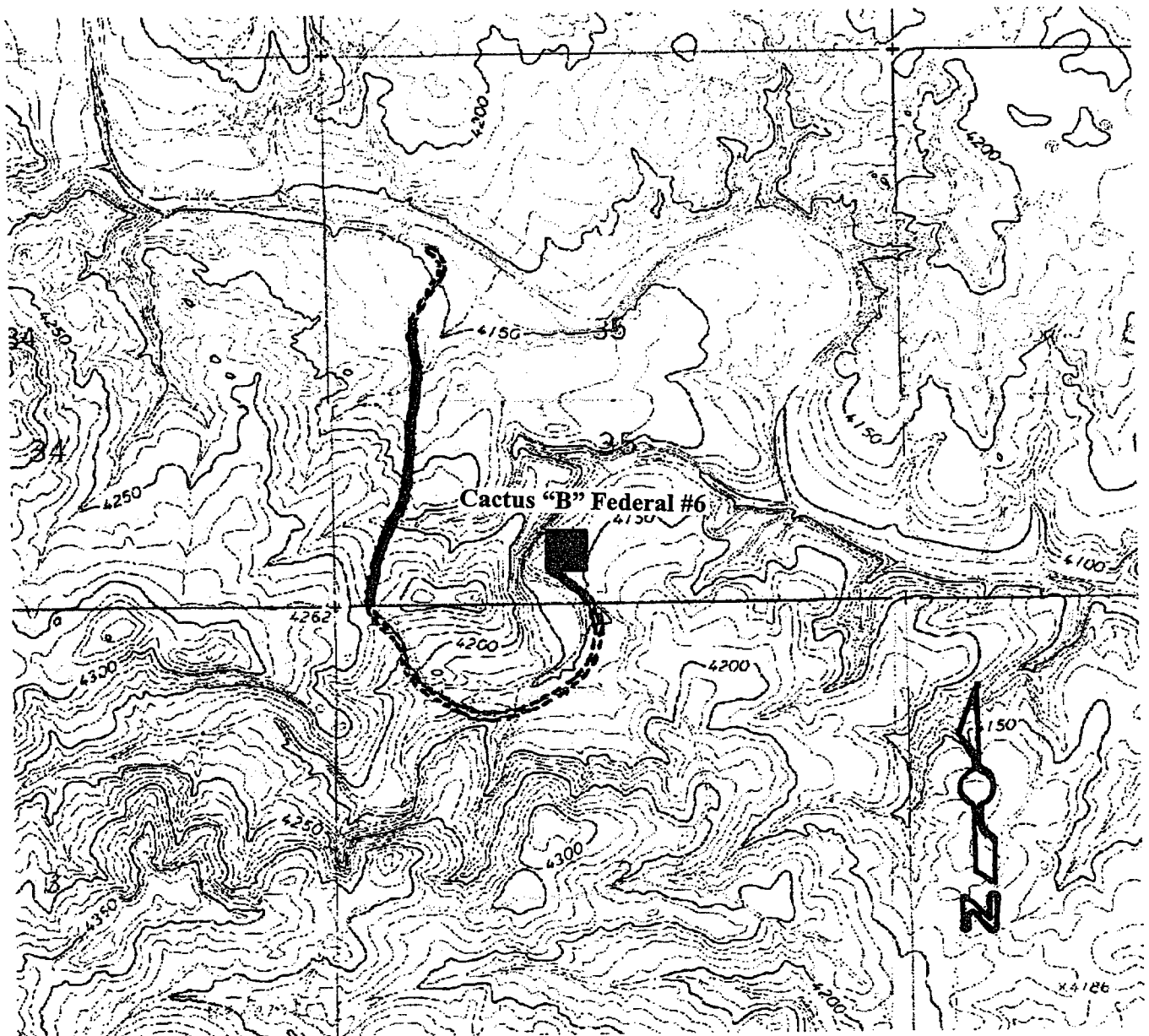
**LEASE NO:** NM-91498

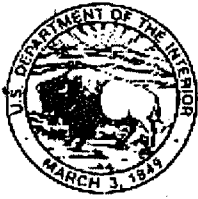
**WELL NAME & NO.:** Cactus "B" Federal #6

**LOCATION:** Section 35 T. 6 S., R. 22 E., N.M.P.M.

**QUARTER/QUARTER & FOOTAGE:** SE¼SW¼ - 330' FSL & 2430' FWL

**COUNTY:** Chaves County, New Mexico





**United States Department of the Interior**  
**BUREAU OF LAND MANAGEMENT**  
Roswell Field Office  
2909 West Second Street  
Roswell, New Mexico 88201

## EXHIBIT B

1 of 8 pages

### WELL DRILLING REQUIREMENTS

OPERATORS NAME: McKay Oil Corporation LEASE NO.: NM-91498  
WELL NAME & NO: Cactus "B" Federal #6  
QUARTER/QUARTER & FOOTAGE: SE $\frac{1}{4}$ SW $\frac{1}{4}$  - 330' FSL & 2430' FWL  
LOCATION: Section 35 T. 6 S., R. 22 E., NMPM  
COUNTY: Chaves County, New Mexico

#### I. GENERAL PROVISIONS:

- A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).
- B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who approves the Well Drilling Requirements.

#### II. WELL PAD CONSTRUCTION REQUIREMENTS:

- A. The BLM shall administer compliance and monitor the renovation of the access road and well pad. Notify Richard G. Hill at least 3 working days (72 Hours) prior to commencing renovation of the access road and/or well pad. Roswell Field Office number (505) 627-0247.
- B. Prior to commencing renovation of the access road, well pad, or other associated developments, the holder shall provide the dirt contractor with a copy of the approved APD signature page, a copy of the location map (EXHIBIT A), a copy of pages 1 & 2 from the Well Drilling Requirements (EXHIBIT B), and a copy of the Permanent Resource Road Requirements (EXHIBIT D).
- C. The holder shall stockpile the topsoil from the surface of the well pad for reclamation purposes. The topsoil on the Cactus "B" Federal #6 well pad is approximate 6 inches in depth. Approximately 800 cubic yards of topsoil shall be stockpiled on the Northwest corner of the well pad, opposite the reserve pit. Upon reclamation of the well pad, the topsoil stockpile shall be redistributed over the disturbed areas. See Well Drilling Requirements - VI. Seeding Requirements - for reclamation of the well pad.
- D. **Reserve Pit Requirements:**

The reserve pit shall be constructed 50' X 90' on the East side of the well pad.

2. The reserve pit shall be constructed four (4) feet below ground level. The reserve pit shall be constructed so that at least one half of the total drilling mud volume is below ground level.

## WELL DRILLING REQUIREMENTS

2 of 8 pages

3. The plastic lining that is used to line the reserve pit shall be at least 9 mil in thickness and have a bursting strength of 170 PSI. Upon reclamation of the reserve pit, any exposed plastic lining shall be cut below ground level, removed, and properly disposed of before the reserve pit is backfilled.
4. The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.
5. The reserve pit shall be constructed so as not to leak, break, or allow discharge of drilling muds. Under no circumstances will the reserve pit be cut to drain drilling muds on the terrain.
6. The reserve pit shall not be located in any natural drainage.
7. The reserve pit shall be equipped to deter entry by birds, bats, other wildlife, and livestock, if the reserve pit contains any oil and/or toxic fluids.
8. Drilling muds shall be properly disposed of before the reserve pit is reclaimed. Drilling muds can be allowed to evaporate in the reserve pit or be removed and transported to an authorized disposal site. The reserve pit shall be backfilled when dry.
9. Dumping of junk or trash into the reserve pit is not allowed. Junk or trash shall be removed from within the reserve pit before the reserve pit is reclaimed. **Junk or trash shall not be buried in the reserve pit.**

### E. Federal Mineral Materials Pit Requirements:

1. Caliche, gravel, or other related materials from new or existing pits on Federal mineral estate shall not be taken without prior approval from the authorized officer. Contact Jerry Dutchover at (505) 627 -0236.
2. Payment for any Federal mineral materials that will be used to surface the access road and the well pad is required prior to removal of the mineral materials.
3. Mineral Materials extracted from the reserve pit may used for the construction of the well pad and access road and used for the development of the Cactus "B" Federal #6 only. Removal of any additional material from location must be purchased from BLM prior to removal of any material .
  - a. An optional mineral material pit may be constructed within the archaeologically cleared area. The mineral material removed in the process can be used for pad and access road construction. However, a mineral material sales contract must be purchased from the BLM prior to removal of any material.

### F. Well Pad Surfacing Requirement:

The well pad shall be surfaced with 6 inches of compacted caliche, gravel, or other approved surfacing material. The well pad shall be surfaced prior to drilling operations. See **Permanent Resource Road Requirements - EXHIBIT D - requirement #4, for road surfacing.**

### G. Cave Requirements:

1. If, during any construction activities any sinkholes or cave openings are discovered, all construction activities shall immediately cease. Contact **Larry Bray** at (505) 627-0250.
2. The BLM Authorized Officer will, within 24 hours of notification in "A" above, conduct an on-the-ground field inspection for karst. At the field inspection the authorized field inspector will authorize or suggest mitigating measures to lessen the damage to the karst environment. A verbal order to proceed or stop the operation will be issued at that time.

**III. DRILLING OPERATION REQUIREMENTS:**

**A. GENERAL DRILLING REQUIREMENTS:**

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 in sufficient time for a representative to witness:

A. Spudding    B. Cementing casing: 8 $\frac{5}{8}$  inch 5 $\frac{1}{2}$  inch    C. BOP tests

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing ( size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

4. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

**B. CASING:**

1. The 8 $\frac{5}{8}$  inch surface casing shall be set at 950' and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 5 $\frac{1}{2}$  inch intermediate casing is **cement shall extend upward a minimum of 500 feet above the uppermost perforation.**

**C. PRESSURE CONTROL:**

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 8 $\frac{5}{8}$  inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2000 psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.

- A. The results of the test shall be reported to the appropriate BLM office.
- B. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- C. Testing must be done in a safe workman-like manner. Hard line connections shall be required.
- D. Testing of the BOPE to 1000 psi with the use of the rig pumps is approved.

**IV. DOWN HOLE ABANDONMENT REQUIREMENTS:**

- A. If the well is a dry hole and will be plugged, approval of the proposed plugging program may be obtained orally. However, oral approval must be confirmed in writing by immediately filing a Sundry Notice And Report On Wells (Form 3160-5) "**Notice of Intention to Abandon**", and submitting an original and five (5) copies to the Roswell Field 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..
- B. If the well is not drilled, please notify the BLM so that an official release can be approved.

**V. SURFACE RECLAMATION/RESTORATION REQUIREMENTS:**

- A. When the well is abandoned the "**Notice of Intention to Abandon**" (Form 3160-5) could also be used by the holder as the initial report for the surface reclamation/restoration of the access road and well pad. Upon receipt of the "**NOI**" the Authorized Officer shall provide the holder with the specific requirements for the reclamation/restoration of the access road and well pad.
- B. **Subsequent Report Of Abandonment:** The holder shall submit a second report on Form 3160-5, Sundry Notice and Report On Wells, the original and five (5) copies to the Roswell Field Office, pertaining to the reclamation/restoration of the access road and well pad. The holder shall demonstrate that the surface reclamation/restoration requirements have been complied with. The holder shall specify that the reclamation work accomplished the restoration of the disturbed areas to as near the original surface condition the land was in prior to construction of the access road and well pad.
- C. **Final Abandonment Notice:** The holder shall submit a third report on Form 3160-5, Sundry Notice and Report On Wells, the original and five (5) copies to the Roswell Field Office, that will ascertain that all surface reclamation/restoration requirements have finally been completed and that the access road and well pad are ready for final inspection. The holder shall specify that the surface has been reclaimed in accordance with federal regulations and request final approval of the access road and well pad.
- D. The holder shall comply with all the surface reclamation/restoration required by the Authorized Officer pertaining to the reclamation/restoration of the access road and well pad. Liability under bond shall be retained until surface reclamation/restoration of the access road and well pad has been completed to the satisfaction of the Authorized Officer.

**VI. SEEDING REQUIREMENTS:**

- A. The stockpile of topsoil shall be spread over the well pad to cultivate a seedbed. The holder shall not mix the topsoil with the reserve pit area soil. The mixing of the soils will render the conservation of the topsoil for reclamation purposes pointless, if the topsoil is contaminated with the reserve pit mud soils.
- B. The reclaimed area(s) shall be seeded with the seed mixture that was determined by the Roswell Field Office for the Desired Plant Community on this well site.

The same seed mixture shall be used on the reclaimed access road; **See PERMANENT RESOURCE ROAD REQUIREMENT #12.**

- D. The planting of the seed shall be done in accordance with the following seeding requirements:

1. The access road and well pad shall be ripped a minimum of 16 inches deep. The topsoil soil shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. Seed shall be planted using a drill equipped planter with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. Smaller/heavier seed has a tendency to drop to the bottom of the drill and are planted first, the holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled.

2. The holder shall seed all the disturbed areas with the DPC seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed per acre, (Pounds of pure live seed per acre: pounds of seed X percent purity X percent germination = pounds pure live seed). There shall be no primary or secondary noxious weeds in the seed mixture.

In accordance with State law(s) the seed should be tested for purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and the certified seed tag shall be made available for inspection by the Authorized Officer.

3. **Desired Plant Community** seed mixture to be planted in pounds of pure live seed per acre:

#### CP-4 Very Shallow Ecological Site

<u>Common Name and Preferred Variety</u>	<u>Scientific Name</u>	<u>Pounds of Pure Live Seed Per Acre</u>
Black grama, var. Nogal	( <i>Bouteloua eriopoda</i> )	2.00 Lbs.
Blue grama, var. Lovington	( <i>Bouteloua gracilis</i> )	1.00 Lb.
Sideoats grama, var. Vaughn or El Reno	( <i>Bouteloua curtipendula</i> )	2.00 Lb.
New Mexico Feathergrass	( <i>Stipa neomexicana</i> )	1.00Lb.
Desert or Scarlet Globemallow	( <i>Sphaeralcea ambigua</i> ) or ( <i>S. coccinea</i> )	1.00 Lb.
Buckwheat	( <i>Eriogonum</i> spp.)	1.00 Lb.
<b>TOTAL POUNDS PURE LIVE SEED PER ACRE</b>		<b>8.00 Lbs.</b>

**If one species is not available, increase ALL others proportionately. Certified Weed Free Seed. A minimum of 4 species is required, including 1 forb species.**

E. The recommended time to seed is from June 15<sup>th</sup> through September 15<sup>th</sup>. The optimum seeding time is in mid-July. Successive seeding should be done either late in the fall (Sept. 15<sup>th</sup> - Nov. 15<sup>th</sup>, before freeze up) or early as possible the following spring to take advantage of available ground moisture. However, the holder may seed immediately after completing surface abandonment requirements.

F. The seeding of the disturbed areas shall be repeated until a vegetation thicket is established on the access road and well pad. The Authorized Officer shall make the determination when the regrowth on the disturbed areas is satisfactory.

G. The holder shall be responsible for the establishment of vegetation on the access road and well pad. Evaluation of vegetation growth will not be made before the completion of the first growing season after seeding. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the disturbed areas have failed and the Authorized Officer determines that further attempts to replant the access road and well pad is futile.

**H. Contact Richard G. Hill at (505) 627-0247 to witness the seeding operations, two (2) days prior to seeding the disturbed areas.**

**VII. Invasive and Noxious Weeds Requirement:**

A. The holder shall be held responsible should the establishment of noxious weeds began to grow on the access road and well pad. Evaluation of growth of the noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land resulting from this actions, which include the roads, pads and associated pipelines and on adjacent land affected by the establishment of weeds due to this action.

B. The holder shall insure that the equipment and/or vehicles that will be used to construct the access road and/or well pad are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and/or vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds and the probability that the equipment and/or vehicles are carriers of noxious weed seed from the conduct of previous projects in noxious weed infested areas, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

**VIII. ON LEASE - WELL REQUIREMENTS:**

A. The holder shall post signs identifying the location permitted herein with the requirements contained in Onshore Oil and Gas Order #1 and 43 CFR 3162.6.

B. The following data is required on the well sign that shall be posted in a conspicuous place on the well pad. The sign shall be kept up with current identification and shall be legible for as long as the well is in existence:

Operator Name: McKay Oil Corporation  
Well Name & No.: Cactus "B" Federal #6  
Lease No.: NM-91498  
Footage: 330' FSL & 2430' FWL  
Location: Section 35, T. 6 S., R. 22 E.

C. UPON ABANDONMENT OF THE WELL, THE SAME INFORMATION SHALL BE INSCRIBED ON THE DRY HOLE MARKER WITH A BEADED WELD.

D. The approval of the APD does not in any way imply or grant approval of any on-lease, off-lease, or off-unit action(s). It is the responsibility of the holder to obtain other approval(s) such as rights-of-way from the Roswell Field Office or other agencies, including private surface landowner(s).



E. All vehicles, including caterpillar track-type tractors, motor graders, off-highway trucks and any other type of motorized equipment that is used in the construction of the access road and well pad shall be confined to the area(s) herein approved. The drilling rig that is used to drill the well shall also be confined to the approved area(s).

**F. Containment Structure Requirement:**

1. A containment structure or earthen dike shall be constructed and maintained around all storage facilities/batteries. The containment structure or earthen dike shall surround the storage facilities/batteries.
2. The containment structure or earthen dike shall be constructed two (2) feet high around the facilities/batteries (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum).
3. The perimeter of the containment structure or earthen dike can be constructed substantial larger for greater holding capacity of the contents of the largest tank.
4. The containment structure or earthen dike shall be constructed so that in case of a spill the structure can contain the entire contents of the largest tank, plus 24 hour production, within the containment structure or earthen dike, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

**G. Well Completion Requirement:**

If the well is completed, all areas of the well pad not necessary for operations shall be reclaimed to resemble the original contours of the surrounding terrain. Cut-and-fill slopes shall be re-contoured and reduced to a slope of 3:1 or less.

**H. Painting Requirement:**

All above-ground structures (e.g.: meter houses, tanks, above ground pipelines, and related appurtenance, etc.) not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for painting all the well facilities is Carlsbad Canyon, Munsell Soil Color Chart Number 2.5Y 6/2.

**I. Fence Requirement:**

The holder shall minimize disturbance to existing fences and other improvements on public land. The holder is required to promptly repair impacted improvements to at least their former state. On private surface the holder shall contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates shall be allowed unless approved by the Authorized Officer.

**J. Open-vent Exhaust Stack Requirements:**

1. All open-vent exhaust stacks associated with heater-treater, separators and dehydrator units shall be modified to prevent birds and bats from entering them and to the extent practical to discourage perching and nesting.

## **WELL DRILLING REQUIREMENTS**

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2. New production equipment installed on federal leases after November 1<sup>st</sup>, 1993, shall have the open-vent exhaust stacks constructed to prevent the entry of birds and bats and to the extent practical, to discourage perching, and nesting.

**IX. SPECIAL REQUIREMENT(S): NONE**



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Roswell Field Office  
2909 West Second Street

Roswell, New Mexico 88201

## EXHIBIT C

1 of 3 pages

### CONDITIONS OF APPROVAL

OPERATOR: McKay Oil Corporation

LEASE NO: NM-91498

WELL NAME & NO.: Cactus "B" Federal #6

LOCATION: Section 35 T. 6 S., R. 22 E., N.M.P.M.

QUARTER/QUARTER & FOOTAGE: SE $\frac{1}{4}$ SW $\frac{1}{4}$  - 330' FSL & 2430' FWL

COUNTY: Chaves County, New Mexico

### GENERAL CONDITIONS OF APPROVAL:

1. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Conditions Of Approval.
2. The holder shall indemnify the United States against any liability for damage to life or property arising from occupancy or use of public land under this authorization.
3. The holder shall have surface use approval prior to any construction work on change(s) or modification(s) to the access road and/or well pad. The holder shall submit (Form 3160-5), Sundry Notice and Report On Wells, an original plus one (1) copy to the Roswell Field Office, stating the basis for any changes to previously approved plans. Prior to any revised construction the holder shall have an approved Sundry Notice and Report On Wells or written authorization to proceed with the change in plans ratified by the Authorized Officer.
4. **Weed Control and Invasive and Noxious Weeds Requirement:**
  - A. The holder shall be held responsible should the establishment of noxious weeds began to grow on the access road and well pad. Evaluation of growth of the noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land resulting from this actions, which include the roads, pads and associated pipelines and on adjacent land affected by the establishment of weeds due to this action.
  - B. The holder shall insure that the equipment and/or vehicles that will be used to construct the access road and/or well pad are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and/or vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds and the probability that the equipment and/or vehicles are carriers of noxious weed seed from the conduct of previous projects in noxious weed infested areas, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.
  - C. The holder shall be responsible for weed control on disturbed areas within the limits of the site. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

## CONDITIONS OF APPROVAL

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### 5. Hazardous Substances:

- a. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act Of 1976, as amended (15 U.S.C. 2601, *et. seg.*) with regard to any toxic substances that are used, generated by or stored on the project/pipeline route or on facilities authorized. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.
- b. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substances or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seg.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seg.*) on this project/pipeline (unless the release or threatened release is wholly unrelated to the holder's activity on the pipeline). This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.

### 6. Undesirable Events:

If, during any phase of the construction, operation, maintenance, or termination of the authorization, any oil or other pollutants, should be discharged, and impacting Federal land, the control and total removal, disposal, and cleaning up of such oil or other pollutants, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal land, or to repair all damages to Federal land resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

### 7. Archaeological, Paleontology, and Historical Sites:

- a. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.
- b. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of the project work, the holder shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The holder or initiator of any project shall be held responsible for protecting,

## **CONDITIONS OF APPROVAL**

**3 of 3 pages**

evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes. Any unauthorized collection or disturbance of cultural resources may result in a shutdown order by the Authorized Officer.

### **8. Sanitation:**

The holder shall be responsible for maintaining the site in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

**9. Open-top Tanks:** Any open-top tank containing oil and/or toxic fluids shall be covered with netting or equipped to prevent birds, bats, and other wildlife from entering the open-top tank.

**10. Other:** None



**United States Department of the Interior**  
**BUREAU OF LAND MANAGEMENT**  
Roswell Field Office  
2909 West Second Street  
Roswell, New Mexico 88201

## **EXHIBIT D**

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### **PERMANENT RESOURCE ROAD REQUIREMENTS**

**Operator: McKay Oil Corporation**  
**BLM Serial Number: NM-91498**  
**Well Name & NO.: Cactus "B" Federal #6**  
**Location: Section 35, T. 6 S., R. 22 E.**  
**330' FSL & 2430' FWL, Chaves County, N.M.**

**The holder agrees to comply with the following requirements:**

#### **1. GENERAL REQUIREMENTS:**

- A. The **operator** shall hereafter be identified as the **holder** in these requirements. The Authorized Officer is the person who approves the Permanent Resource Road Requirements.
- B. The holder shall minimize any disturbance to structures on public domain surface. Damages caused to any structure during road construction operations shall be promptly repaired by the holder. Functional use of any structure shall be maintained at all times. The holder shall make a documented good-faith effort to contact the owner prior to disturbing any structure.
- C. When necessary to pass through an existing fence line, the fence shall be braced on both sides of the passageway prior to cutting and the fence shall be promptly repaired to at least it's former state or to a higher standard than it was previously constructed.
- D. A professional engineer shall design the access road if the road grade exceeds 10 percent slope.

#### **2. INGRESS AND EGRESS:**

The access road shall be constructed to access the well pad on the **Southwest**, corner of the well pad to comply with the planned access road route.

#### **3. ROAD TRAVELWAY WIDTH:**

The travelway of the road shall be constructed 14 feet wide. The maximum width of surface disturbance shall not exceed 30 feet of road construction. The specified travelway width is 14 feet for all road travelway surfaces unless the Authorized Officer approves a different width.

#### 4. ON LEASE SURFACING:

All roads on Federal surface shall be surfaced, from the dedicated road to the well pad, prior to drilling operations.

The access road travelway shall be surfaced with caliche or gravel material. If other surfacing material is used, the new type of material shall be approved by the Authorized Officer. The travelway of the road shall be surfaced with caliche material. The caliche material shall be compacted to a minimum thickness of 6 inches for the entire length of the travelway surface on the access road. The width of surfacing shall not be less than 14 feet of travelway surface. Prior to using any mineral materials from an existing federal pit, authorization must first be obtained from the Authorized Officer.

#### 5. CROWNING AND DITCHING:

Crowning with materials on site and ditching on one side of the road, on the uphill side, shall be required. The road cross section shall conform to the cross section diagrams in Figure 1 (attached page 6). Where conditions dictate, ditching is required on both sides of the road. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road).

#### 6. DRAINAGE:

No lead-off ditches are required for this road.

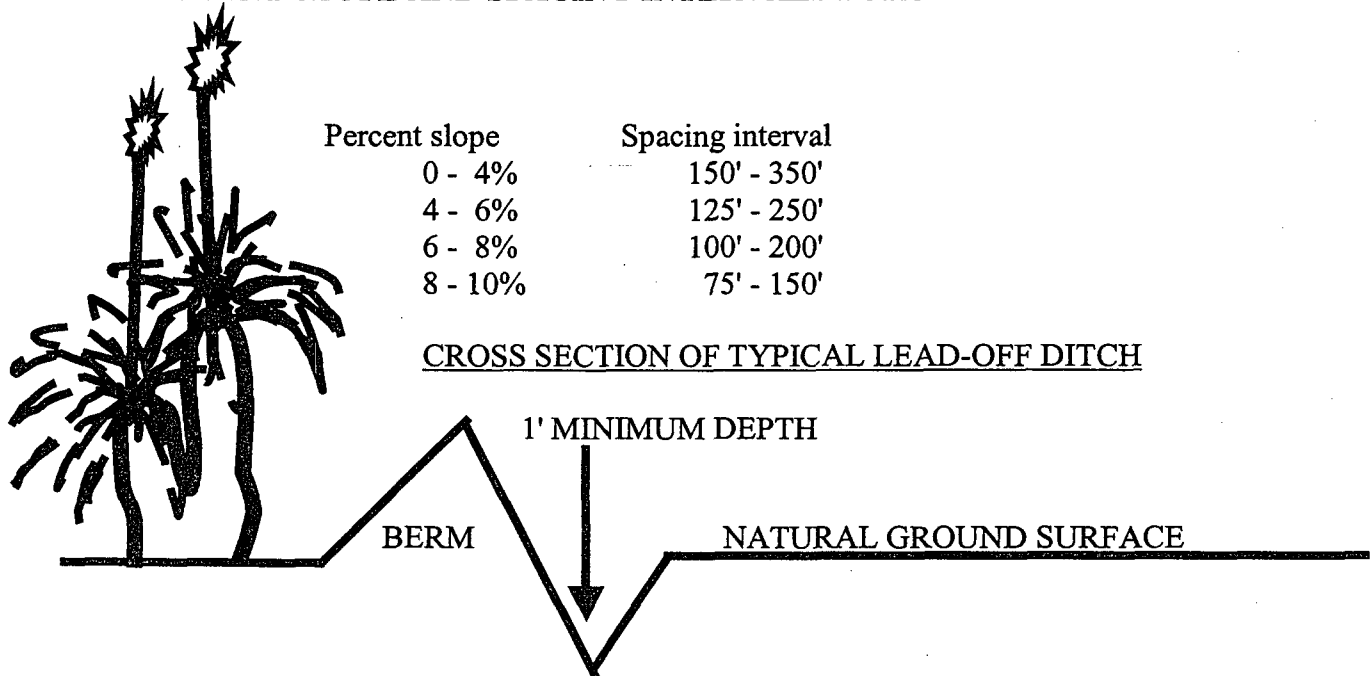
A. Drainage control shall be ensured over the entire road through the construction of ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings.

All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

#### PERCENT SLOPE AND SPACING INTERVALS FOR LEAD-OFF DITCHES:

Percent slope	Spacing interval
0 - 4%	150' - 350'
4 - 6%	125' - 250'
6 - 8%	100' - 200'
8 - 10%	75' - 150'

#### CROSS SECTION OF TYPICAL LEAD-OFF DITCH



## PERMANENT RESOURCE ROAD REQUIREMENTS

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C. A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

D. On road slopes exceeding 2%, water flow shall drain water into an adjacent lead-off ditch. Water flow drainage location and spacing shall be determined by the following formula:

FORMULA FOR SPACING INTERVAL OF LEAD-OFF DITCHES:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Ex. 4% slope:     spacing interval =  $\frac{400}{4} + 100 = 200$  feet

### 7. CULVERT INSTALLATION:

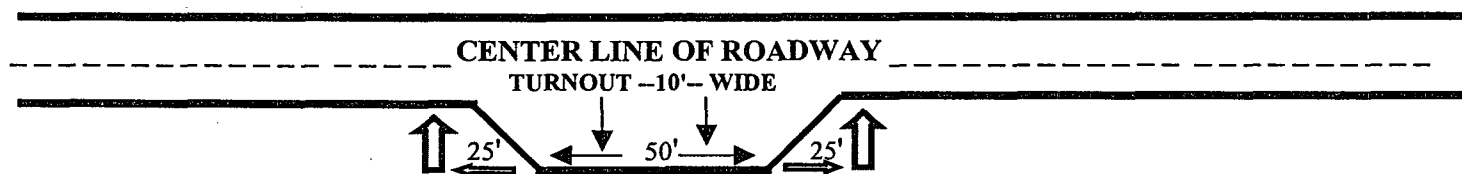
**No culverts are required on this road.**

Culvert pipes shall be used where ravines, arroyo gullies, and deep waterway channel flows are crossed by the access road construction route. The culvert(s) shall not be less than XX inches in diameter (minimum 18 inch culvert). The location for the culvert installation is designated on the attached map - **EXHIBIT A**. (A culvert pipe installation diagram shall be attached to this requirement when a culvert is required to be installed, see EXHIBIT - X).

### 8. TURNOUTS:

Vehicle turnouts shall be constructed on all single lane roads (unless the Authorized Officer determines that the turnouts are not required). Turnouts shall be intervisible and shall be constructed on all blind curves with additional turnouts as needed to keep spacing below 1000 feet. Turnouts shall conform to the following diagram:

STANDARD TURNOUT - PLAN VIEW



### 9. CATTLEGUARDS:

**NONE REQUIRED**



## **PERMANENT RESOURCE ROAD REQUIREMENTS**

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The existing cattleguard(s) on the access road shall be replaced if they are damaged from heavy vehicular traffic use and the Authorized Officer determines that a new cattleguard shall be installed where the existing in place cattleguard(s) have deteriorated beyond practical use. The holder shall be held responsible for the condition of the existing in place cattleguard(s) that are utilized for vehicular traffic use on lease operations by the holder.

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads, (exceeding H-20 loading,) are anticipated. (See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

**A cattleguard installation diagram shall be attached to this stipulation when a cattleguard is required to be installed - see EXHIBIT X - DIAGRAM A & B).**

### **10. MAINTENANCE:**

A. The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, cattleguard maintenance, surfacing, and weed control.

B. The holder shall cooperate with other authorized users in maintenance of the road(s). Failure of the holder to share maintenance costs in dollars, equipment, materials, and manpower proportionate to the holders use with other authorized users may be adequate grounds to terminate the road use. The determination as to whether maintenance expenditures have been withheld by the holder and the decision to terminate the road use shall be at the discretion of the Authorized Officer. Upon request, the Authorized Officer shall be provided with copies of any maintenance agreements entered into by the holder.

### **11. PUBLIC ACCESS:**

A. Public access on this road shall not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public land shall not be locked or closed to public use unless closure is absolutely necessary and is authorized in writing by the Authorized Officer.

### **12. ROAD REHABILITATION REQUIREMENTS:**

A. **The access road shall be ripped a minimum of 16 inches deep.** The surface material on the road may be removed and re-used in other approved area(s). Surfacing material left in place shall be plowed under with soil turning equipment and the plowed surface shall be disked before seeding. All culverts and other road structures shall be removed. All over-burden material shall be replaced in the cut areas, ditches, lead-off ditches, and any other excavated earthwork shall be back filled. The road shall be recontoured to as near it's original topography, as possible.

B. An earthen berm shall be constructed at the entrance of the road to prevent vehicular traffic on the reclaimed road.

## PERMANENT RESOURCE ROAD REQUIREMENTS

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C. The reclaimed road shall be seeded with the following **DPC seed mixture** (the Roswell Field Office has determined the Desired Plant Community seed mixture for the reclaimed area(s)):

**SEE EXHIBIT B - WELL DRILLING REQUIREMENTS - VI. SEEDING REQUIREMENTS - FOR THE DESIRED PLANT COMMUNITY SEED MIXTURE THAT SHALL BE USED ON THE RECLAIMED ACCESS ROAD.**

D. The seed and any fertilizer involved shall be broadcast over the roadbed with a spreader, than harrowed to cover the seed. Use of a seed drill planter to plant is acceptable. Appropriate measures shall be taken to ensure that the seed/fertilizer mixture is evenly and uniformly applied. There shall be no primary or secondary noxious weeds in the seed mixture. In accordance with State law(s) the seed should be tested for purity and viability within nine (9) months prior to sell. Commercial seed shall be either certified or registered and the seed mixture container shall be tagged in accordance with State law(s). The seed mixture tag shall be made available to the Authorized Officer for inspection. The seeding shall be repeated until a satisfactory vegetation thicket is established and this determination shall be made by the Authorized Officer. Evaluation of plant growth will not be made before the first growing season.

E. Seeding shall be done between June 15<sup>th</sup> through September 15<sup>th</sup>. However, the holder can seed the road immediately after preparing the road bed.

F. The Authorized Officer reserves the right to require reseeding at a specific time if seed does not germinate after one (1) growing season. Waiver of this requirement would be considered if diligent attempts to revegetate the road has repeatedly failed and the Authorized Officer determines that further attempts to revegetate the road would be futile.

G. Contact Richard G. Hill at (505) 627-0247 to witness the seeding operations two (2) days before the start of the seeding process.

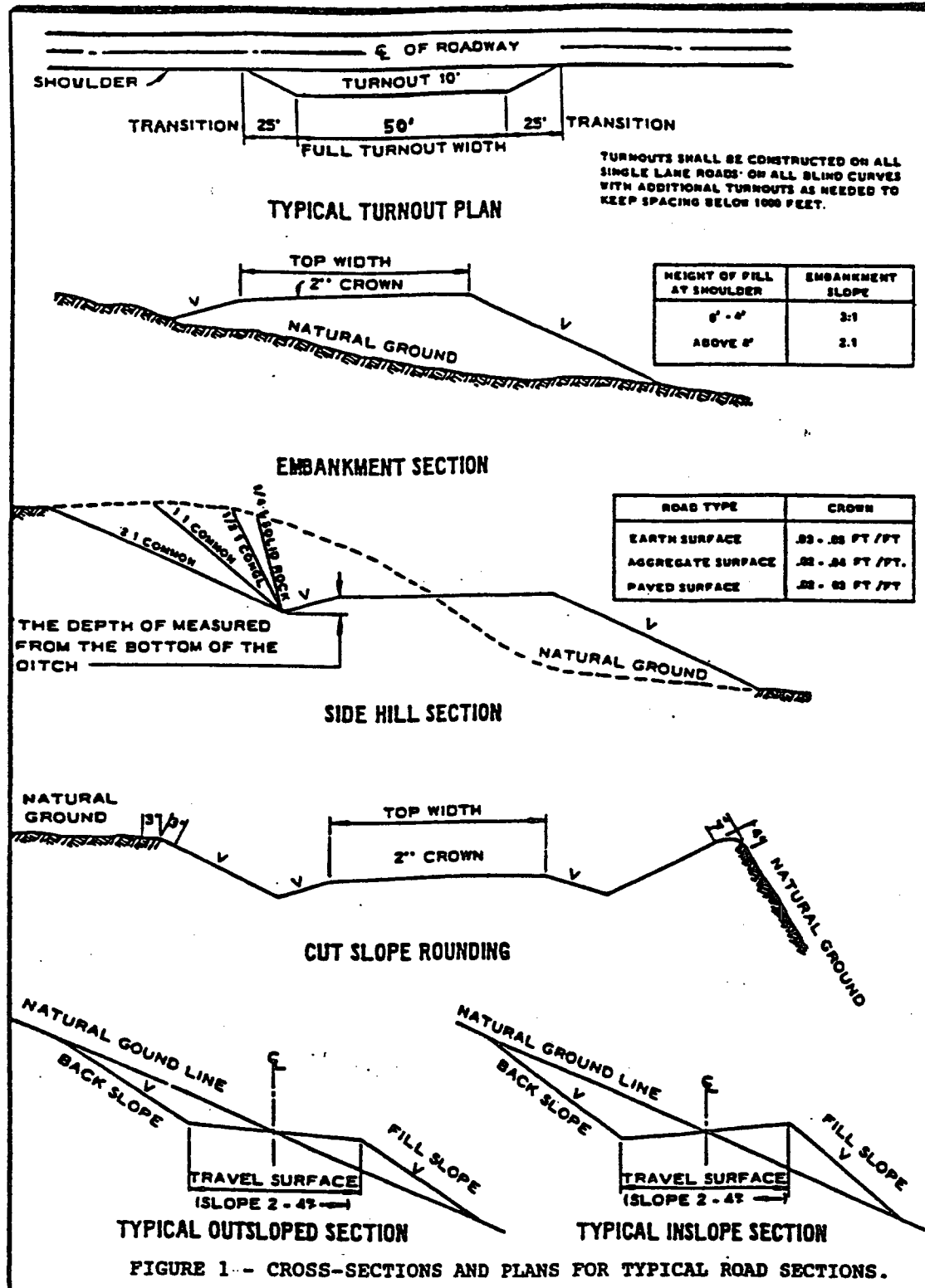
H. Invasive and Noxious Weeds Requirement:

a. The holder shall be held responsible should the establishment of noxious weeds began to grow on the access road and well pad. Evaluation of growth of the noxious weeds shall be made upon discovery. Weed control will be required on the disturbed land resulting from this actions, which include the roads, pads and associated pipelines and on adjacent land affected by the establishment of weeds due to this action.

b. The holder shall insure that the equipment and/or vehicles that will be used to construct the access road and/or well pad are not polluted with invasive and noxious weed seed. Transporting of invasive and noxious weed seed could occur if the equipment and/or vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds and the probability that the equipment and/or vehicles are carriers of noxious weed seed from the conduct of previous projects in noxious weed infested areas, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

c. The holder shall be responsible for weed control on disturbed areas within the limits of the site. The holder is responsible for consultation with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policy.

13. SPECIAL REQUIREMENT(S): NONE



# EXHIBIT A

7 of 7 pages

**OPERATOR:** McKay Oil Corporation

**LEASE NO:** NM-91498

**WELL NAME & NO.:** Cactus "B" Federal #6

**LOCATION:** Section 35 T. 6 S., R. 22 E., N.M.P.M.

**QUARTER/QUARTER & FOOTAGE:** SE¼SW¼ - 330' FSL & 2430' FWL

**COUNTY:** Chaves County, New Mexico

