

JUN - 9 2010

NMOC D ARTESIA

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007Secretary's Polash  
ATS-10-419

## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-0560353
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Chi Operating, Inc.		7. If Unit or CA Agreement, Name and No.
3a. Address P.O. Box 1799 Midland, TX 79702		8. Lease Name and Well No. <b>&lt;27108&gt;</b> Munchkin Federal <b>#15</b>
3b. Phone No. (include area code) 432-685-5001		9. API Well No. <b>30-015-38298</b>
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 150' FSL & 1550' FWL <b>Unit N</b> At proposed prod. zone same <b>UNORTHODOX LOCATION</b>		10. Field and Pool, or Exploratory Benson Delaware <b>&lt;97083&gt;</b>
11. Sec., T. R. M. or Blk. and Survey or Area Sec. 1-T19S-R30E		12. County or Parish Eddy
13. State NM		
14. Distance in miles and direction from nearest town or post office* 16 road miles south of Loco Hills, NM	15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 150'	16. No. of acres in lease 2,160.32
17. Spacing Unit dedicated to this well 40	18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 644'	19. Proposed Depth 5,500'
20. BLM/BIA Bond No. on file NM-1616	21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3473' GL	22. Approximate date work will start* 04/26/2010
23. Estimated duration 3 - 4 weeks	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 on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature <i>George R. Smith</i>	Name (Printed/Typed) George R. Smith	Date 03/23/2010
Title POA agent for Chi Operating, Inc.		
Approved by (Signature) <i>1st Tony J. Herrell</i>	Name (Printed/Typed) <i>1st Tony J. Herrell</i>	Date <i>5/25/10</i>
Title FOR STATE DIRECTOR		
Office NM STATE 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 conduct operations thereon.  
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

\*(Instructions on page 2)

CAPTAIN CONTROLLED WATER BASIN

SEE ATTACHED FOR  
CONDITIONS OF APPROVALAPPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

N4L-6297

K3 12/03/10

DISTRICT I  
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II  
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III  
1000 RIO BRAZOS RD., AZTEC, NM 87410

DISTRICT IV  
1300 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION  
1300 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number <b>30-015-38298</b>	Pool Code <b>97083</b>	Pool Name <b>Benson Delaware</b>
Property Code <b>27108</b>	Property Name <b>MUNCHKIN FEDERAL</b>	Well Number <b>15</b>
OGRID No. <b>4378</b>	Operator Name <b>CHI OPERATING</b>	Elevation <b>3473'</b>

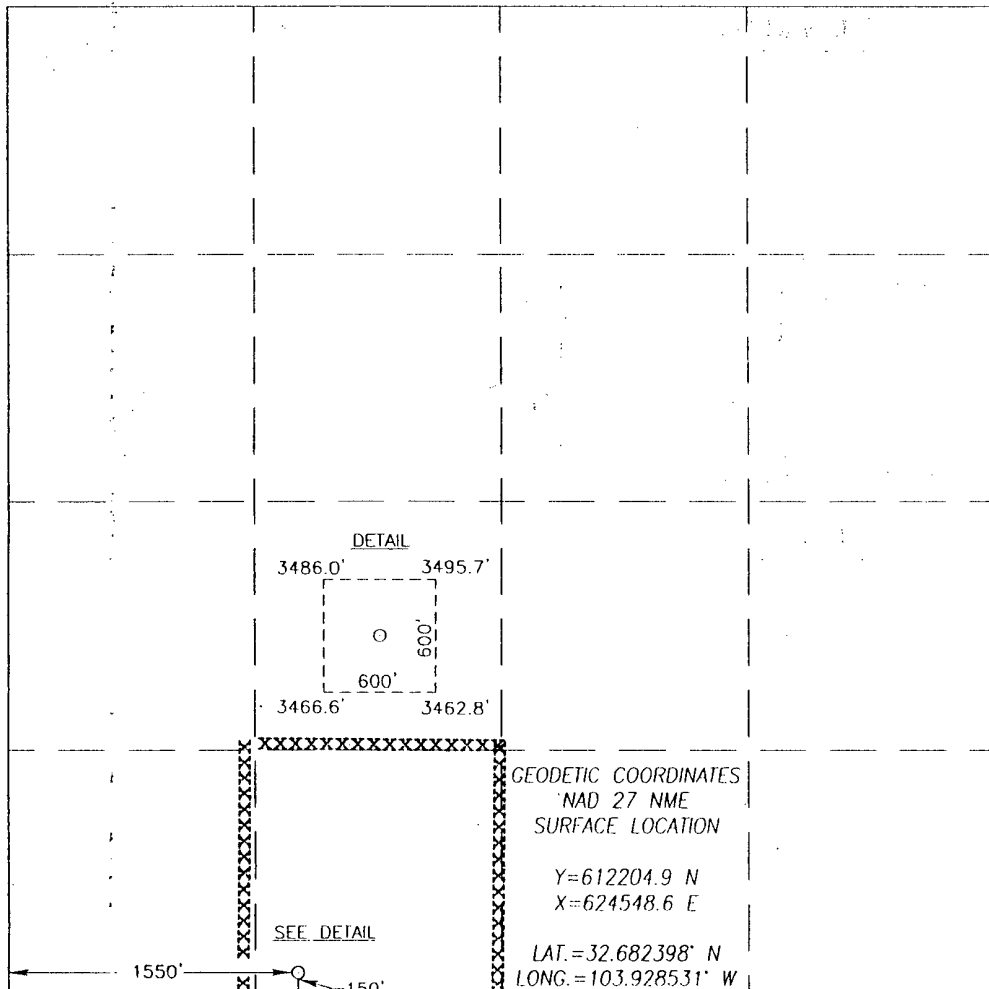
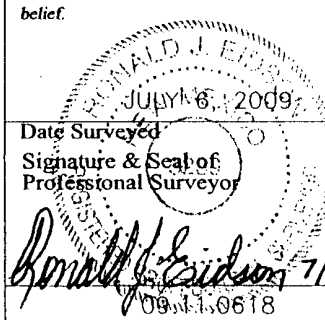
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>N</b>	<b>1</b>	<b>19-S</b>	<b>30-E</b>		<b>150</b>	<b>SOUTH</b>	<b>1550</b>	<b>WEST</b>	<b>EDDY</b>

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres <b>40</b>	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

 <p>DETAILED SURFACE LOCATION</p> <p>Y=612204.9 N X=624548.6 E</p> <p>LAT.=32.682398° N LONG.=103.928531° W</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>George R. Smith</i> 3/23/10 Signature Date</p> <p>George R. Smith, agent Printed Name</p> <p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p> Date Surveyed Signature &amp; Seal of Professional Surveyor</p> <p><i>Ronald J. Eidson</i> 7/14/09 09110618</p> <p>Certificate No. GARY G. EIDSON 12641 RONALD J. EIDSON 3239</p>
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**SIGNATURE AND ACKNOWLEDGMENT**

CHI OPERATING, INC.

By: \_\_\_\_\_

Name: John W. Qualls

Title: Vice President

Date: November 3, 2008

Address: 212 N. Main Street, Suite 200, Midland, Texas 79701

Telephone: (432) 685-5001

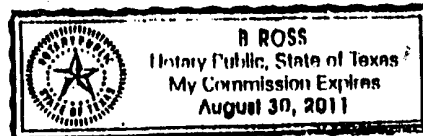
STATE OF TEXAS

COUNTY OF MIDLAND

This instrument was acknowledged before me on November 3, 2008 by John W. Qualls, of CHI OPERATING, INC., acting on behalf of said corporation.

Signature of notary: \_\_\_\_\_

My commission expires: 08/30/2011



**POWER OF ATTORNEY**  
**DESIGNATION OF AGENT**

CHI OPERATING, INC., hereby names the following person as its agent:

Name of Agent: George R. Smith d/b/a Energy Administrative Services Company

Agent's Address: P.O. Box 458, Roswell, NM 88202

Agent's Telephone Number: (575) 623-4940

**GRANT OF SPECIAL AUTHORITY**

CHI OPERATING, INC., grants its agent the authority to act for it with respect to the following only:

1. Executing forms required to be filed with the Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department.
2. Executive forms required to be filed with the Bureau of Land Management of the Department of Interior of the United States of America.

**EFFECTIVE DATE**

This power of attorney is effective immediately.

**RELIANCE ON THIS POWER OF ATTORNEY**

Any person, including the agent, may rely upon the validity of this power of attorney or a copy of it unless that person knows it has terminated or is invalid.

## APPLICATION FOR DRILLING

**CHI OPERATING, INC.**  
Munchkin Federal, Well No. 15  
150' FSL & 1550' FWL, Sec. 1-T19S-R30E  
Eddy County, New Mexico  
Lease No.: NM-0560353  
(Development Well)

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Chi Operating, Inc. submits the following items of pertinent information in accordance with BLM requirements:

1. The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits.

2. The estimated tops of geologic markers are as follows:

Anhydrite	400'	Delaware	4170'
Yates	2128'	Cherry Canyon	4450'
Seven Rivers	2430'	Lower Brushy	5275'
Queen	3050'	T.D.	5500'
Penrose	3360'		

3. The estimated depths at which water, oil or gas formations are anticipated to be encountered:

Water: Surface water between 100' - 300'.  
Oil: Possible in the Queen, Delaware.  
Gas: Possible in the Delaware

4. Proposed New Casing Program:

See COA

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH FACTOR	COLLAPSE DESIGN FACTOR	BURST DESIGN FACTOR	TENSION DESIGN FACTOR
17 1/2"	13 3/8"	48.0#	H-40	ST&C	<del>500'</del> 520'	2.42	8.79	SF>10
11"	8 5/8"	32.0#	K-55	ST&C	2,050'	1.94	4.61	7.23
7 7/8"	5 1/2"	15.5#	K-55	LT&C	5,500'	1.16	2.23	3.31

5. Cement Program

CASING	SETTING DEPTH	QUANTITY OF CEMENT	TOC	YIELD
13 3/8"	<del>500'</del> 520'	400 sx "C" + 4% gel + 2% CaCl <sub>2</sub> + .25pps CF + 1 pps Gil	Surface	1.34
8 5/8"	2,050'	375 sx "C" lite/Poz (35/65) + 10% Salt+1pps Gil & 150 sx "C" +1% CaCl <sub>2</sub> + .25 lb/sk Cello Flake	"	1.34
5 1/2"	<del>8,950'</del> 5500'	Stage 1: 276 sx "C"+1.2%FL-52+.3% CD-32+.3% SMS	"	1.55
5 1/2"	"	Stage 2: 325 sx (35:65) POZ: Prem Plus "C" + 6%Bentonite + 5% bwow Sodium Chloride. + 3 lb/sack LCM-1	"	2.10
5 1/2"	"	50 sx Prem. Plus "C" + 1% bwoc Calcium Chloride	"	1.34

Note: DV tool @ +/- 3700' if necessary.

Can't fit a plug for surface casing  
~~1500 psi~~

See COA

6. Proposed Control Equipment: A 10" 3000 psi wp Shaffer Type E double gate hydraulic ram BOP will be installed on the 13 3/8" casing. Casing and BOP will be tested to ~~500~~ psi before drilling out with the 11". Prior to drilling out the 8 5/8" casing shoe, the BOP will be tested as per Onshore Oil & Gas Order #2. The pipe rams will be operated and checked daily, plus each time drill pipe is out of hole. This will be documented on driller's log. See Exhibit "E".

## 7. MUD PROGRAM

MUD PROGRAM		MUD WEIGHT	VIS.	W/L CONTROL
DEPTH	MUD			
0- <del>500</del> 520	Fresh water mud:	8.4 - 8.7 ppg	32 - 34	No W/L control
520-2050'	Brine	10 ppg	29	NC
2050-5500'	Cut brine or Fresh water *	9.2 ppg	29	NC
5500		9.2 ppg	29	<15 cc @TD for logs
*NOTE:	Switch to fresh water mud if loose circulation			

8. Auxiliary Equipment: Blowout Preventer, gas detector, Kelly cock, pit level monitor, flow sensors and stabbing valve.

## 9. Testing, Logging, and Coring Program:

Drill Stem Tests: As deemed necessary.

Open Hole Logs: T.D thru pay: GR-CAL-CNL-LDT-  
GR-Cal-DLL-Micro  
CMR

Coring: T.D. to Surface: GR-Neutron  
Rotary Sidewall: as dictated by logs.

Mud Logging: 10' samples-2000' to TD (2 sets of samples).

10. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered the proposed mud program will be modified to increase the mud weight. Estimated evacuated BHP = 2,393 psi with a temperature of 115°.
11. H<sub>2</sub>S: None expected. None in the previous drilling of wells in area, but the Mud Log Unit will be cautioned to use a gas trap to detect H<sub>2</sub>S and if any is detected the mud weight will be increased along with H<sub>2</sub>S inhibitors sufficient to control the gas. This well is being drilled in close proximity to other wells. The well will be shut down until a mud separator and flare line can be installed on the choke manifold if H<sub>2</sub>S continues to rise on the monitor.
12. Anticipated starting date: April 26, 2010  
Anticipated completion of drilling operations: Approximately 30 days.

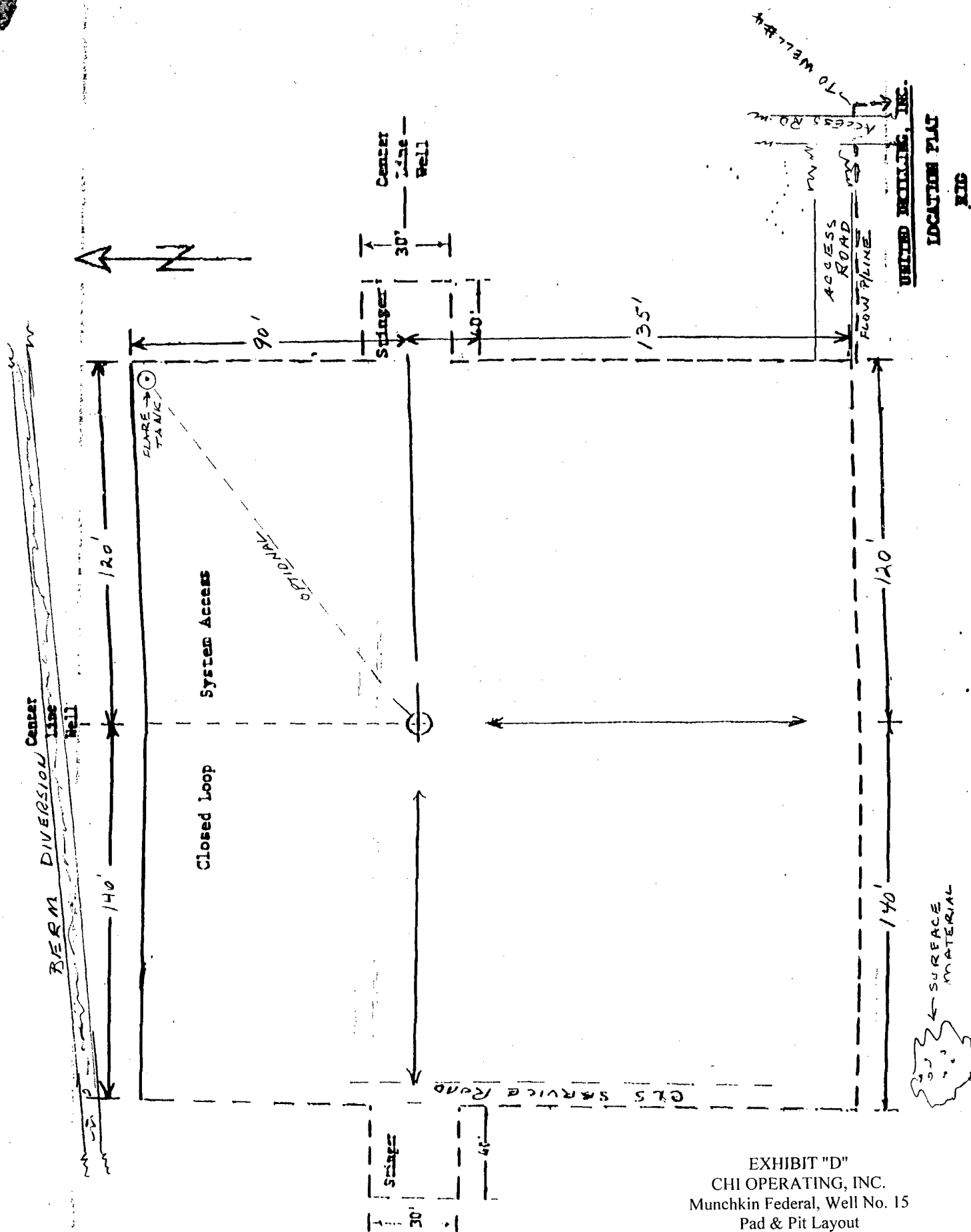


EXHIBIT "D"  
 CHI OPERATING, INC.  
 Munchkin Federal, Well No. 15  
 Pad & Pit Layout

UNITED MILLING, INC.  
 LOCATION PLAT  
 FIG

# BOP DIAGRAM 3000# SYSTEM

USED AS 2 M SYSTEM

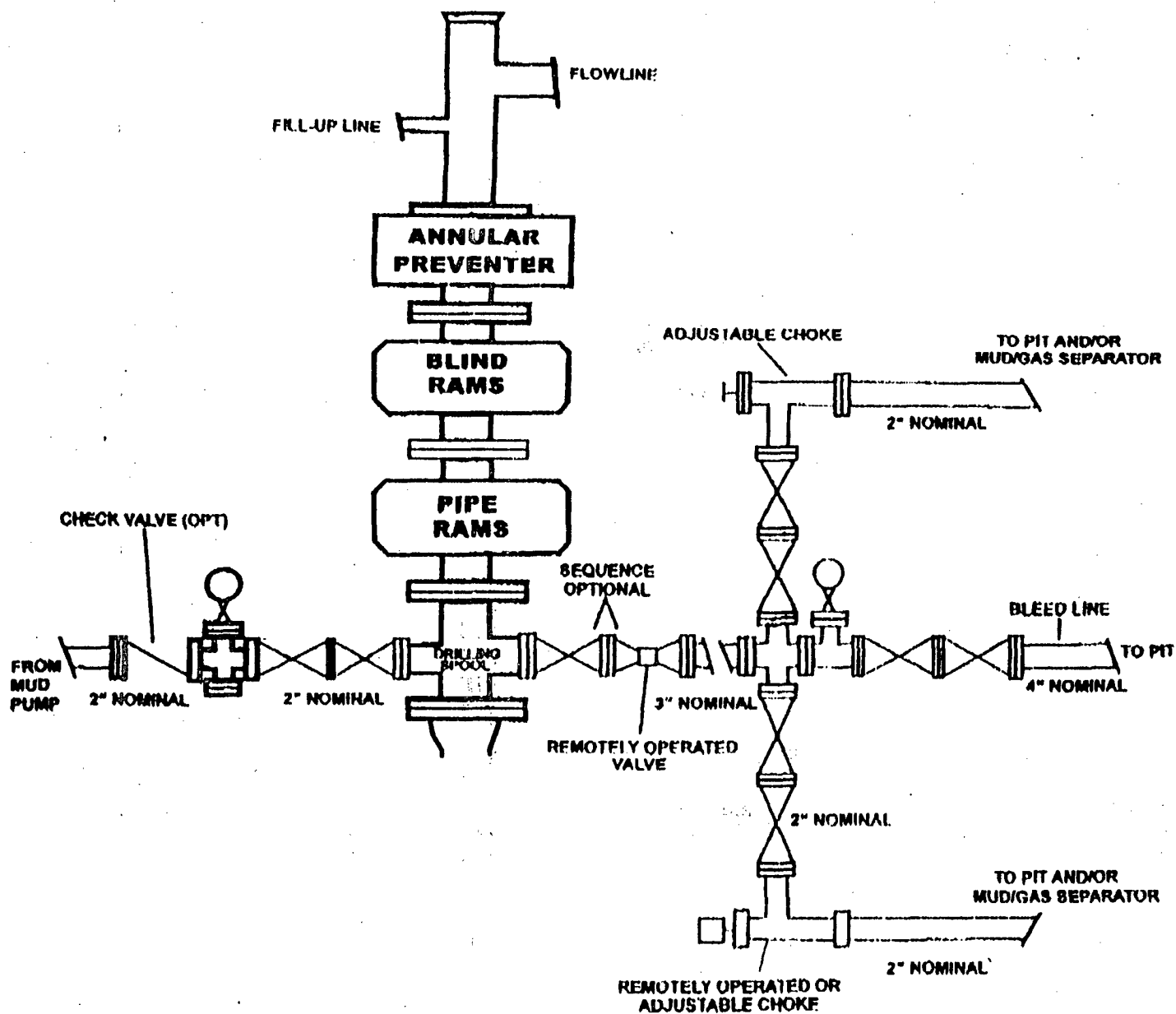
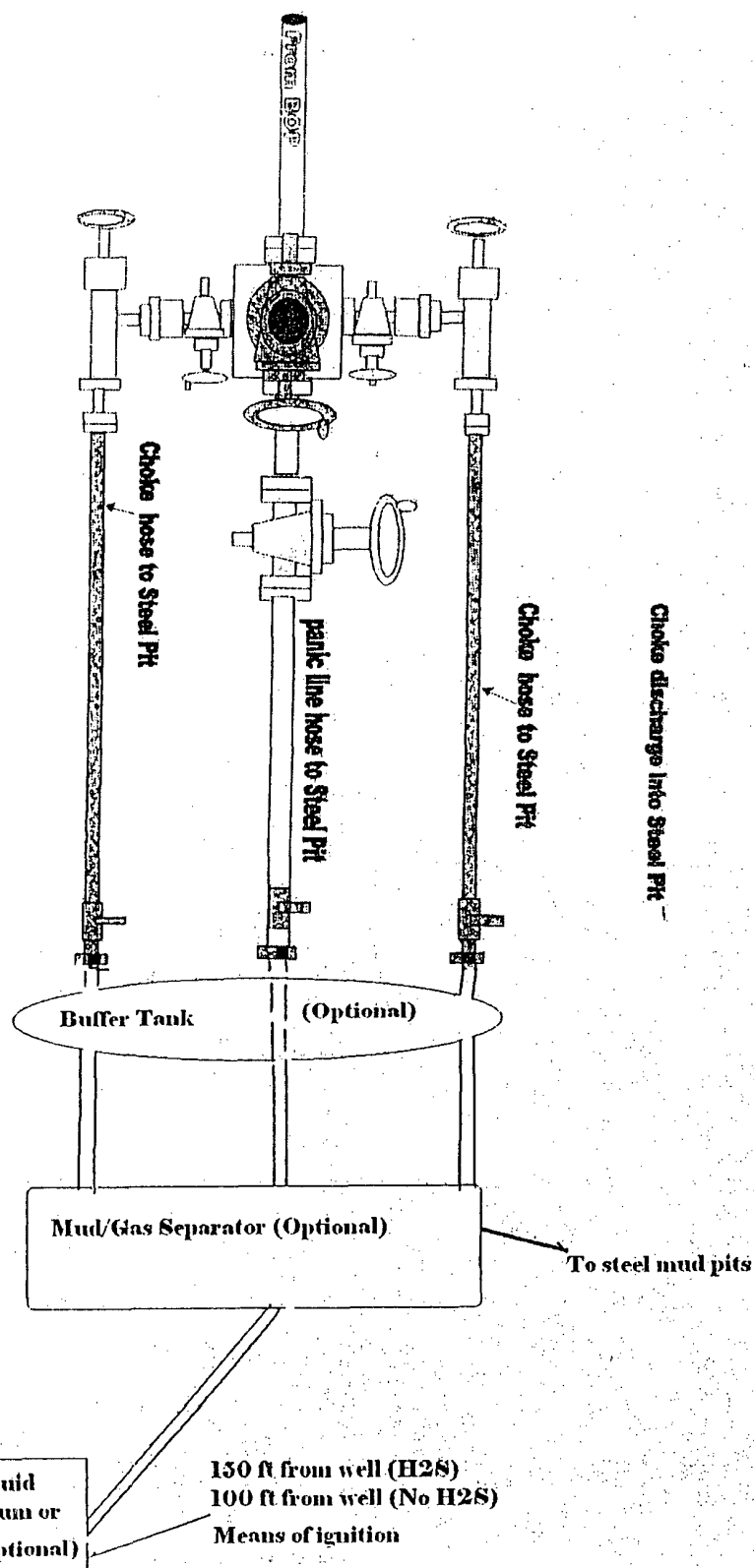


EXHIBIT "E"  
CHI OPERATING, INC.  
Munchkin Federal, Well No. 15  
BOP Specifications



# **2000# BOP manifold system** (Suggested configuration)



**Chi Operating, Inc., Munchkin Federal, Well No. 15**

**API: 30--**

**Sec. 1, T19S-R30E: 150' FSL & 1550' FWL Eddy Co., NM**

**DESIGN: Closed Loop System with roll-off steel bins (pits)**

**CLS/Carlsbad** will supply (2) bins ( ) volume, rails and transportation relating to the Close Loop system. Specifications of Close Loop System attached.

Contacts: Tommy Wilson 575-748-6367 Cell Office # 575-885-3996

**Closed Loop Specialties: Supervisor: Curtis: 575-706-4605 - Carlsbad Cell**

Monitoring 24 hour service

Equipment:

2-Centrifuges (brand): Swaco

2-Rig Shakers (brand): Mongoose

Air pumps on location for immediate remediation process

Layout of Close Loop System with bins, centrifuges and shakers attached.

Cuttings and associated liquids will be hauled to a State regulated third party disposal site: CRI (Controlled Recovery, Inc) Disposal Facility Permit # R-9166

2- CLS Bins with track system

1 500 bbl tank for fresh water

**OPERATIONS:**

Closed Loop equipment will be inspected daily by each tour and any necessary maintenance performed.

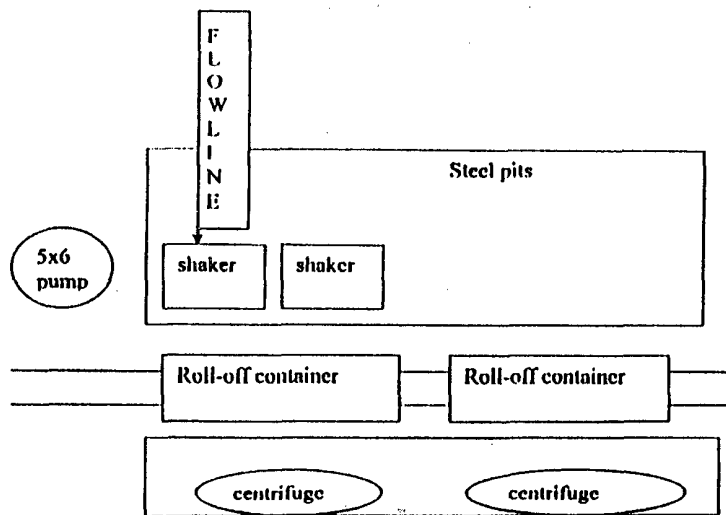
Any leak in system will be repaired and or/contained immediately

OCD will be notified within 48 hours of the spill.

Remediation process started immediately

**CLOSURE:**

During drilling operations all liquids, drilling fluids and cuttings will be hauled off by CLS (Closed Loop Specialties) to disposal facility, Controlled Recovery, Inc. Permit # R-9166



This will be maintained by 24 hour solids control personnel that stay on location.

*TOMMY WILSON*



**CLOSED LOOP  
SPECIALTY**

Office: 575.746.1689

Cell: 575.748.6367

## MULTI POINT SURFACE USE AND OPERATIONS PLAN

### CHI OPERATING, INC

Munchkin federal, Well No. 15  
1500' FSL & 2200' FEL, Sec. 1 -T19S-R30E  
Eddy County, New Mexico  
Lease No.: NMLC-063613  
(Development Well)

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, to be followed in rehabilitating the surface environmental effects associated with the operations.

#### 1. EXISTING ROADS:

- A. Exhibit "A" is a portion of a BLM Hackberry Lake Topo map showing the location of the proposed well as staked. The well site location is approximately 36 road miles southeast of Artesia, NM. Traveling east of Artesia on U.S. Highway 82, NM Hwy 360 and county roads No. 250 and 251, there will be 33 miles of paved highway, plus 3 miles of existing gravel oilfield roads.
- B. Directions: Travel east from U. S. Highway #285 in Artesia, NM on U. S. Highway 82 for approximately 14 miles, turn southeast on NM Hwy 360 for approximately 13 miles to paved County Rd #251. Turn north on #251 for 1.8 mile to County Rd. # 250, then turn right on #250 for 3.8 miles to top of Nimenim Ridge. Turn south onto a gravel oilfield road just west of a cattle guard with a pipeline buried near the road. Continue south for .8 mile to a large tank battery and water injection pump house; turn right (west) for .25 mile to a pump jack, then south (left ) ) for .63 mile to a P/A well site with a gas line tap. Turn right (west) for .3 mile, then south .25 mile to the Munchkin Fed. #1 well site. Turn west, north of the #1, for .2 mile to the access road on left (south) side. Follow this road southeast .1 mile then south .1 mile to the start of the access road on the west. The proposed access road will start on the west side of the access road and will run west for 75 feet to the southeast corner of the proposed well pad.

#### 2. PLANNED ACCESS ROAD:

- A. Length and Width: The proposed access road will be constructed to a width of 12 feet (24' Max.) and approximately 75 feet in length. The proposed and existing roads are color coded on Exhibit "A".
- B. Construction: The new access road will be constructed by grading and topping with compacted caliche.
- C. Turnouts: None required.
- D. Culverts: None required.
- E. Cuts and Fills: There will be minor cuts and leveling across drainage areas.
- F. Gates, Cattle guards: None required.
- G. Off Lease ROW: An off lease ROW No. NM-102279 was issued with a previous APD covering the existing access road in the E2 of Sec. 1-T19S-R30E.

#### 3. LOCATION OF EXISTING WELLS:

- A. Existing wells within a two-mile radius are shown on Exhibit "C".

**4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES;**

- A. Chi Operating, Inc. has production facilities on the lease at this time.
- B. If the well proves to be commercial, the necessary production facilities and gas production-process equipment will be installed on the drilling pad. A utility corridor will be set up on the south side of the well access road for a 3" poly flow line to run east under the existing access road then south to the Munchkin Federal #4 well site and tank battery. There are power lines on the east and south side of the #15 well site.

**5. LOCATION AND TYPE OF WATER SUPPLY:**

- A. It is planned to drill the proposed well with fresh water that will be obtained from private or commercial sources and will be transported over the existing and proposed access roads

**6. SOURCE OF CONSTRUCTION MATERIALS:**

- A. Caliche for surfacing the proposed access road and well site pad will be obtained from an approved pit on the drill site for the Wizard Federal #3 in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ , Sec. 1-T19S-R30E. The archaeologist has cleared this pit. No surface materials will be disturbed except those necessary for actual grading and leveling of the drill site and access roads. The surface soil will be stored near the NW corner of the pad for future rehabilitation.

**7. METHODS OF HANDLING WASTE DISPOSAL:**

- A. Drill cuttings and liquids will be stored in steel tanks of the closed loop mud system during the drilling operation. Drill cuttings will be delivered to CRI, Permit No. R-9166, as needed and at closure. Drilling liquids will be hauled to a separate approved disposal system.
- B. There are no mud pits to be fenced.
- C. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or a separate disposal application will be submitted to the BLM for approval.
- D. Oil produced during operations will be stored in tanks until sold.
- E. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- F. Trash, waste paper, garbage and junk will be contained in trash bins to prevent scattering by the wind and will be removed for deposit in an approved sanitary landfill within 30 days after finishing drilling and/or completion operations.

**8. ANCILLARY FACILITIES:**

- A. None required.

**9. WELL SITE LAYOUT:**

- A. Exhibit "D" shows the relative location and dimensions of the well pad, reserve pits, and major rig components. The pad and pit area has been staked and flagged, 600' X 600'.
- B. Mat Size: 260' X 135', plus 90' X 260' closed loop area on the north.
- C. Cut & Fill: The location will require a 3-4 foot cut on the north and fill to the south. Berms will be placed on the north side to direct water drainage to the west.
- D. The surface will be topped with compacted caliche.

**10. PLANS FOR RESTORATION OF THE SURFACE:**

- A. After completion of drilling and/or completion operations, all equipment and other material not required for operations will be removed. The location will be cleaned of all trash and junk to leave the well site in an aesthetically pleasing condition as possible.
- B. All produced mud and fluids of the closed loop mud system will be removed to authorized disposal sites.
- C. If the proposed well is non-productive or usable as an injection well, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible.

**11. OTHER INFORMATION:**

- A. Topography: The proposed location and access road is located in an area on top of and east of the Niminem Ridge. The location has an overall 3% slope to the southeast from an elevation of 3473' GL.
- B. Soil: The topsoil at the well site is a reddish-brown colored calcareous loam with some caliche scatter on the surface. The soil is of the Largo Loam Series.
- C. Flora and Fauna: The vegetation cover is a fair to sparse grass cover of threeawn, dropseed, fluff grass and ring muhly along with plants of mesquite, creosote and javalina bush, broomweed, yucca, cacti and miscellaneous weeds and wildflowers. The wildlife consists of rabbits, coyotes, antelope, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.
- D. Ponds and Streams: None in the area.
- E. Residences and Other Structures: None in the area except oil field equipment and tank batteries.
- F. Land Use: Cattle grazing.
- G. Surface Ownership: The proposed well site and access road is on Federal surface and minerals.
- H. There is no evidence of archaeological, historical or cultural sites in the area. Archaeological Survey Consultants, P. O. Box D, Roswell, NM 88202 are conducting an archaeological survey, and their report will be submitted to the appropriate government agencies.

**12. OPERATOR'S REPRESENTATIVE:**

- A. The field representative for assuring compliance with the approved use and operations plan is as follows:


John Qualls  
Chi Operating, Inc  
PO Box 1799  
Midland, Texas 79701  
Office Phone: (432) 685-5001  
Cell Phone: (432) 557-8774

Gary Womack  
Chi Operating, Inc  
PO Box 1799  
Midland, Texas 79701  
(432) 685-5001  
(432) 634-8958

**CERTIFICATION:**

I hereby certify that I have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in the plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Chi Operating, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

March 23, 2010

  
George R. Smith  
Agent for: Chi Operating, Inc.



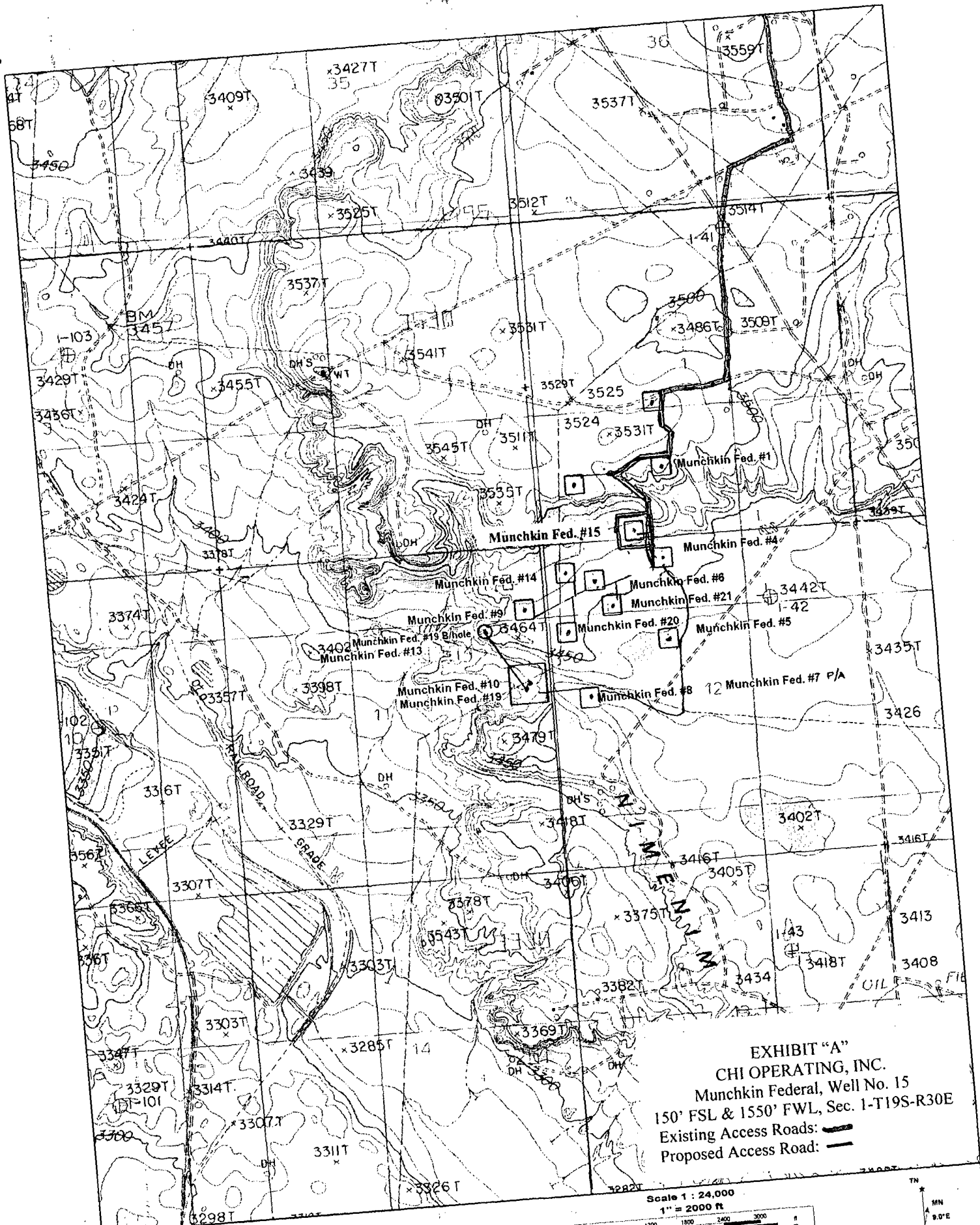
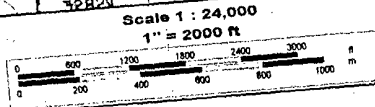


EXHIBIT "A"  
CHI OPERATING, INC.  
Munchkin Federal, Well No. 15  
150' FSL & 1550' FWL, Sec. 1-T19S-R30E  
Existing Access Roads: —  
Proposed Access Road: - - -



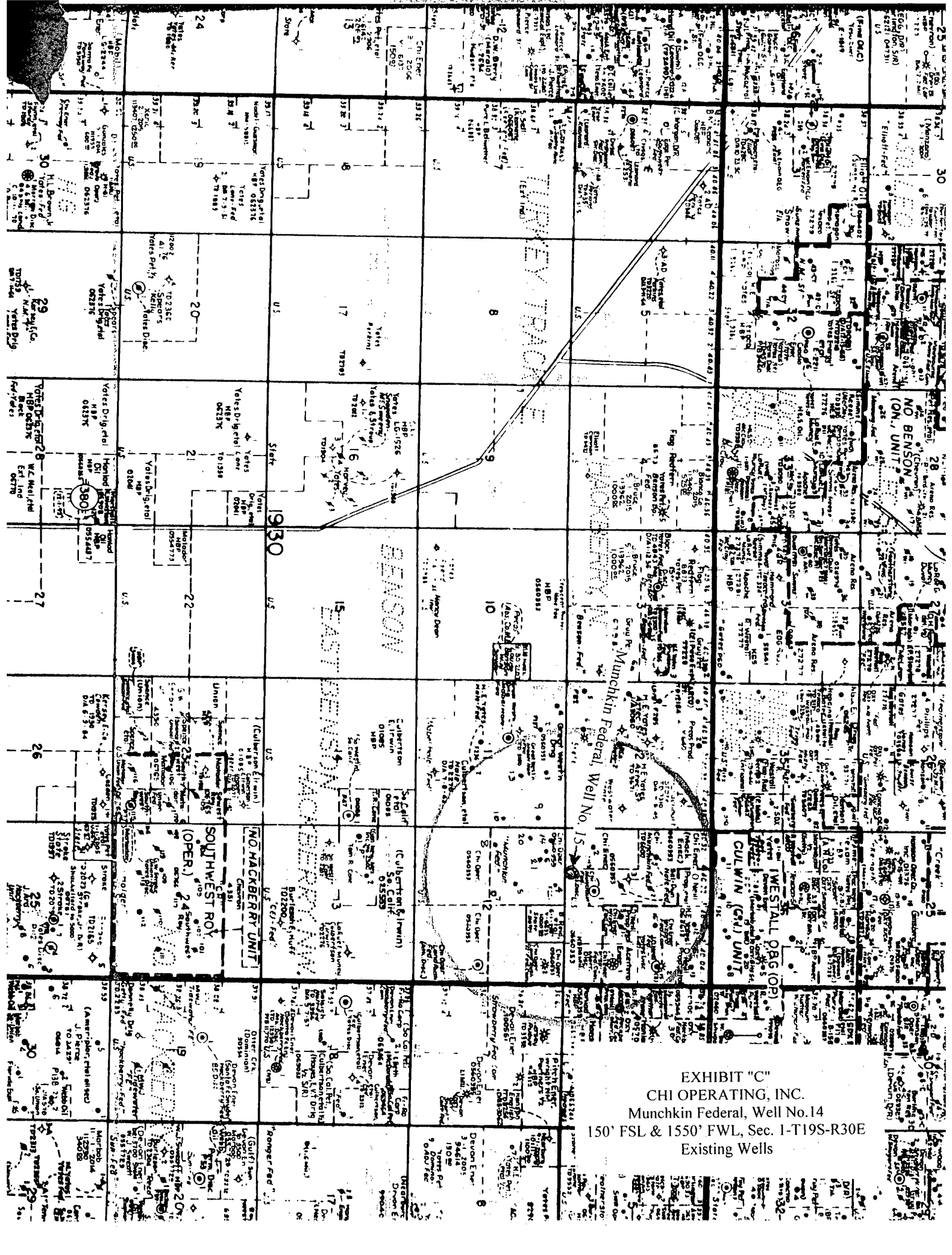


EXHIBIT "C"  
CHI OPERATING, INC.  
Munchkin Federal, Well No. 14  
150' FSL & 1550' FWL, Sec. 1-T19S-R30E  
Existing Wells

## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CHI OPERATING INC.
LEASE NO.:	NM-0560353
WELL NAME & NO.:	MUNCHKIN FEDERAL #15
SURFACE HOLE FOOTAGE:	150' FSL & 1550' FWL
BOTTOM HOLE FOOTAGE	SAME
LOCATION:	Section 01, T. 19 S., R 30 E., NMPPM
COUNTY:	Eddy County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Lesser Prairie-Chicken Timing Stipulations
  - Ground-level Abandoned Well Marker
  - Berming
- ☐ **Construction**
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  - V-Door Direction
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
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- ☒ **Drilling**
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  - Casing/Cement
  - Logging Requirements
  - BOP
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- ☒ **Interim Reclamation**
- ☒ **Final Abandonment & Reclamation**

## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator 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 shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

## **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

## **V. SPECIAL REQUIREMENT(S)**

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period.

Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted.

Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, see Section X.

### **Berming**

The north side of the pad shall be bermed.

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### **B. V-DOOR DIRECTION: East**

### **C. TOPSOIL**

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

### **D. CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

### **E. FEDERAL MINERAL MATERIALS PIT**

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

### **F. WELL PAD SURFACING**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

### **G. ON LEASE ACCESS ROADS**

#### **Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

### **Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

### **Crowning**

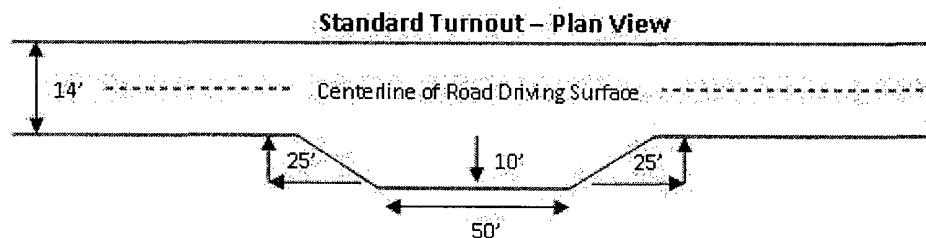
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### **Ditching**

Ditching shall be required on both sides of the road.

### **Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

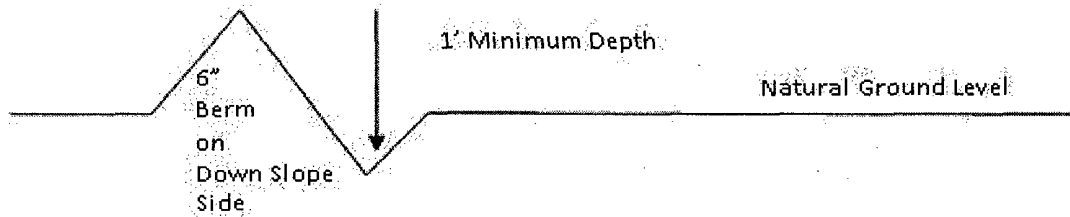


### **Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings).

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.

#### **Cross Section of a Typical Lead-off Ditch**



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

#### **Formula for Spacing Interval of Lead-off Ditches**

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

#### **Culvert Installations**

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

#### **Cattleguards**

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

#### **Fence Requirement**

Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

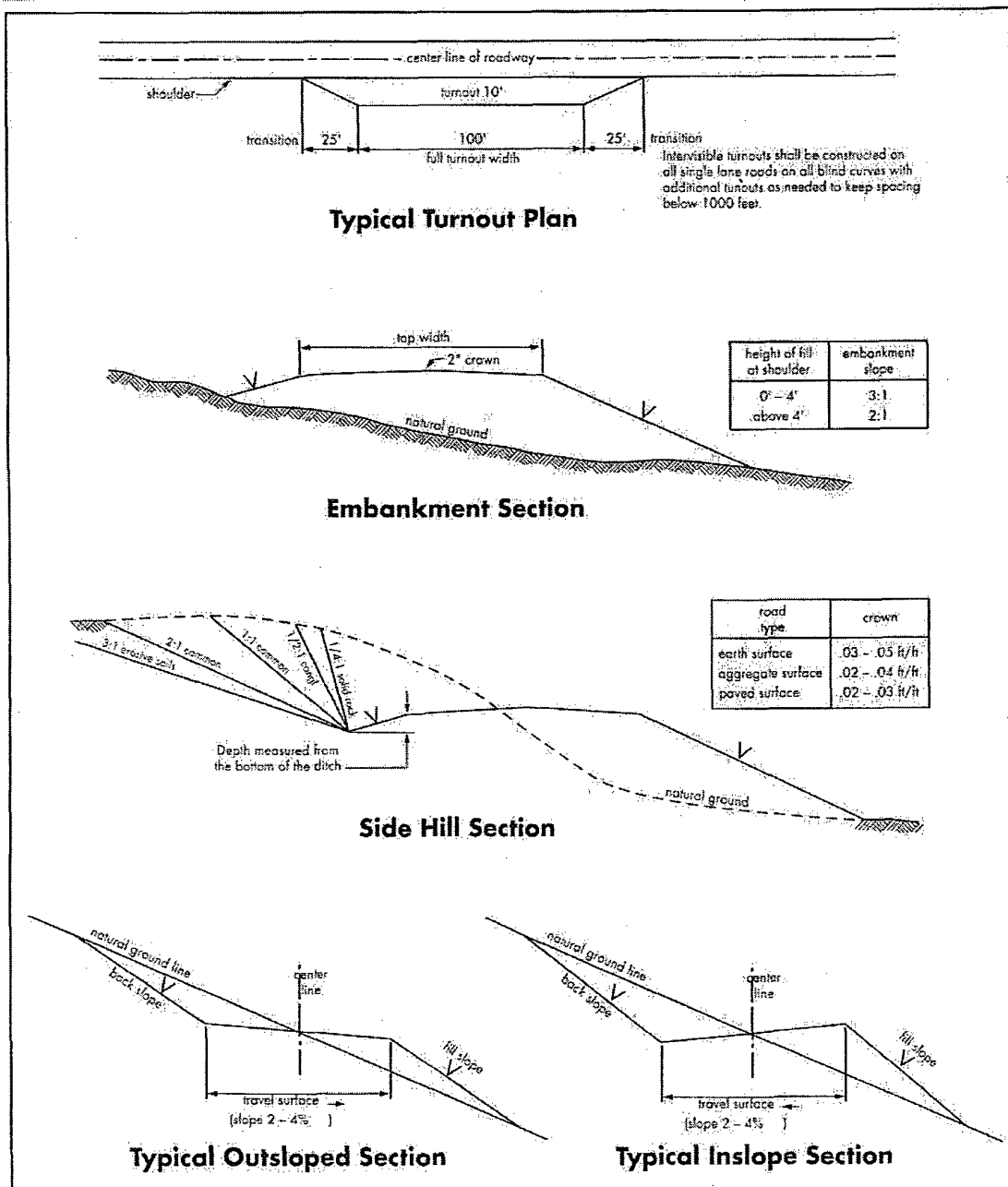


The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

**Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

**Figure 1 – Cross Sections and Plans For Typical Road Sections**



## VII. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,  
(575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a possible hazard. It has been reported in the section to the North. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
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. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

### B. CASING

**Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.**

**Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

**Secretary's Potash**

**Possible brine/water flows in the Salado and Artesia groups.**

**Possible lost circulation in the Artesia group.**

1. The 13-3/8 inch surface casing shall be set at **approximately 520 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **Additional cement may be required. Excess calculates to only 31%.**
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 8-5/8 inch intermediate casing is:
  - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash. Additional cement may be required. Excess cement calculates to only 8%.**

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
  - a. First stage to DV tool, cement shall:
    - ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job.
  - b. Second stage above DV tool, cement shall:
    - ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Additional cement may be required. Excess cement calculates to 15%.**
4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

#### **C. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi. The BOP will need to be a 13-5/8 inch** – Cannot drill an 11 inch hole through a 10 inch BOP.
  - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. Casing cut-off and BOP installation will not be initiated until the cement has had a minimum of 8 hours setup time for a water basin. The casing shall remain stationary and under pressure for at least eight hours after the operator places the cement. In the potash area, the minimum time is 12 hours and the casing shall remain stationary and under pressure during this time period. Casing shall be under pressure if the operator uses some acceptable means of holding pressure or if the operator employs one or more float valves to hold the cement in place. Testing the BOP/BOPE against a plug can commence after meeting the above conditions plus the BOP installation time.

- b. The tests shall be done by an independent service company utilizing a test plug.
- c. The results of the test shall be reported to the appropriate BLM office.
- d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
- e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
- f. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

**D. DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

**DHW 050510**

## **VIII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color Shale Green, Munsell Soil Color Chart # 5Y 4/2

### **B. PIPELINES**

#### **STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES**

**A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. 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 USC 2601 *et seq.* (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (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.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance 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 seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
- b. Activities of other parties including, but not limited to:
  - (1) Land clearing.
  - (2) Earth-disturbing and earth-moving work.
  - (3) Blasting.
  - (4) Vandalism and sabotage.
- c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, 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 lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up 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 responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of 25 feet.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline will be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will 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 will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement 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" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. 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 cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

(March 1989)

**C. ELECTRIC LINES**

## **IX. INTERIM RECLAMATION**

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

## **X. FINAL ABANDONMENT & RECLAMATION**

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared; these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

### **Requirements for ground level dry hole markers**

#### **Well Identification Markers**

#### **Conditions of Approval (COA)**

The BLM Carlsbad Field Office (CFO) Conditions of Approval (COA) Requires that ground level dry hole markers be placed on well within the Lesser Prairie Chicken habitat area. The dry hole markers will be to the following specifications. The operator will construct the markers as follows:

1. An 8 inch X 8 inch steel plate 1/8 to 3/16 of an inch thick is to be placed on the old dry hole marker stand pipe 2 inches from ground level, in the Lesser Prairie Chicken habitat area.
2. Steel plate may be welded or bolted approximately 2 inches from ground level on the stand pipes. If plates are bolted to the stand pipe, the person installing the plate will be required to weld a pipe collar on the plate and place a minimum of two set screws/bolt on each collar. Aluminum data plates may be bolted with minimum 1/4 inch bolt and locking nuts or self tapping fine threaded screws. A minimum of one in each corner is to be installed on each plate.
3. An 8 inch x 8 inch aluminum plate, which is 12 gauge or .080 sign material (1/8 inch aluminum plate may be used in place of the .080 plate) with the required information for that well stamped or engraved in a minimum 3/8 inch tall letter or number.
4. The following information will be stamped or engraved on the 8 inch X 8 inch aluminum plate in the following order.

- a. First row: Operators name
- b. Second row: Well name and number
- c. Third row: Legal location to include  $\frac{1}{4}$   $\frac{1}{4}$ , Section, Township, and range. If the legal location cannot be placed on one row it can be split into two rows with the  $\frac{1}{4}$   $\frac{1}{4}$  (example: 1980 FNL 1980 FWL) being on the top row.
- d. Fourth row: Lease Number and API number.
  - i. Example marker plate: (attached)

NMOCD Order No. R-12965 also required the operator to notify NMOCD when this type of dry hole marker is used. This can be done on the subsequent report of abandonment which is submitted to the BLM after the well is plugged. State that a ground level dry hole marker was installed as required in the COA's from the BLM.

## Seed Mixture 1, for Loamy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop 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 will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass ( <i>Eragrostis intermedia</i> )	0.5
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sideoats grama ( <i>Bouteloua curtipendula</i> )	5.0

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed