

09-959

OCD-ARTESIA

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ATS-09-596

Form 3160-3
(April 2004)

R-111-POTASH

NMOCD ARTESIA

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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. <27108> Munchkin Federal, Well No. 20	
3b. Phone No. (include area code) 432-685-5001		9. API Well No. 30-015-38299	
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 1400' FNL & 350' FWL Unit D At proposed prod. zone 1350' FNL & 20' FWL same UNORTHODOX LOCATION		10. Field and Pool, or Exploratory Benson Delaware <9083>	
11. Distance in miles and direction from nearest town or post office* 16 road miles S. of Loco Hills, NM		11. Sec., T. R. M. or Blk. and Survey or Area Sec. 12-T19S-R30E	
12. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 350' (20')		12. County or Parish Eddy	
13. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 500'		13. State NM	
14. Elevations (Show whether DF, KDB, RT, GL, etc.) 3457' GL		14. No. of acres in lease 2160.32	
15. Approximate date work will start* 11/30/2009		15. Spacing Unit dedicated to this well 40/20	
16. Estimated duration 30 days		16. BLM/BIA Bond No. on file NM-1616	

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 08/25/2009
Title POA agent for Chi Operating, Inc.		
Approved by (Signature) /s/ Linda S. C. Rundell	Name (Printed/Typed) /s/ Linda S. C. Rundell	Date JUL 16 2010
Title 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)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

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

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

DISTRICT III
3500 RIO BRAZOS RD., AZTEC, NM 87410

DISTRICT IV
11250 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
11250 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 30-015-38299	Pool Code 97083	Pool Name Benson Delaware <D>
Property Code 27108	Property Name MUNCHKIN FEDERAL	Well Number 20
GRID No. 4378	Operator Name CHI OPERATING	Elevation 3458'

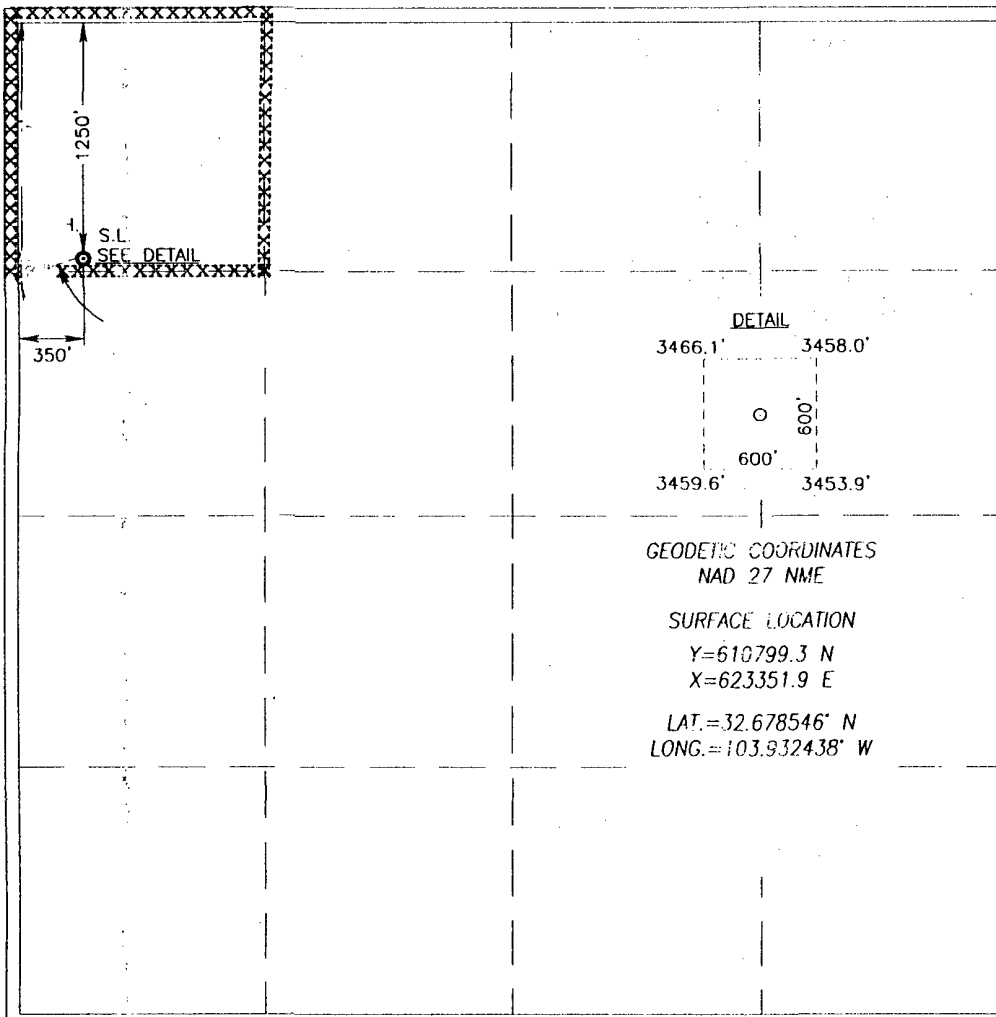
Surface Location

UL or lot No. D	Section 12	Township 19-S	Range 30-E	Lot Idn	Feet from the 1250	North/South line NORTH	Feet from the 350	East/West line WEST	County EDDY
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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 40	Joint or Infill	Consolidation Code	Order No. N5L-6298						

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



OPERATOR CERTIFICATION

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.

George R. Smith 3/16/10
Signature Date

George R. Smith, POA agent
Printed Name

SURVEYOR CERTIFICATION

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

FEBRUARY 26, 2010

Date Surveyed DSS

Signature & Seal of
Professional Surveyor

Harry B. Edson 3/8/10
10.11.0280

Certificate No. GARY C. BIDSON 12641
RONALD J. EIDSON 3239

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Chi Operating, Inc.

3a. Address

P.O. Box 1799 Midland, TX 79702

3b. Phone No. (include area code)

432/685-5001

4. Location of Well (Footage, Sec., T. R., M., or Survey Description)

1250' FNL & 350' FWL, Sec. 12-T19S-R30E New surface location

1400' FNL & 350' FWL, Sec. 12-T19S-R30E Original surface location.

5. Lease Serial No.

NM-0560353

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.

Munchkin Federal, # 20

9. API Well No.

10. Field and Pool, or Exploratory Area

Benson Delaware

11. County or Parish, State

Eddy

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment Notice

☐ Acidize

☐ Alter Casing

☐ Casing Repair

☒ Change Plans

☐ Convert to Injection

☐ Deepen

☐ Fracture Treat

☐ New Construction

☐ Plug and Abandon

☐ Plug Back

☐ Production (Start/Resume)

☐ Reclamation

☐ Recomplete

☐ Temporarily Abandon

☐ Water Disposal

☐ Water Shut-Off

☐ Well Integrity

☐ Other move location

3. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Chi Operating, Inc. has moved the above well location 150' north to avoid archaeology, as requested by Bruce Boeke. The well will be drilled vertical instead of directional as previously shown in APD. Disregard the directional drilling program.. Archaeological Survey Consultants have completed a survey of the change of the 150' X 600' on the north. The report is to be mailed shortly.

New survey plats attached.

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

Name (Printed/Typed)

George R. Smith

Title Agent for Chi Operating, Inc.

Signature

George R. Smith

Date March 12, 2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by (Signature)/s/ Linda S. C. Rundell

Name (Printed/Typed) Linda S. C. Rundell

Title STATE DIRECTOR

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

NM STATE OFFICE

Date

JUL 16 2010

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.

(Continued on next page)

APPLICATION FOR DRILLING

CHI OPERATING, INC.
1250' Munchkin Federal, Well No. 20 *Per SD 3/17/09 CR*
 Surface Location: ~~1400'~~ FNL & 350' FWL, Sec. 12-T19S-R30E
 Bottom Location: 1350' FNL & 20' FWL, Sec. 12-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' and Seven Rivers below 2430'.
 Oil: Possible in the Queen and Delaware.
 Gas: Possible in the Delaware

4. Proposed New Casing Program:

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	500'	2.42	8.79	SF>10
11"	8 5/8"	32.0#	K-55	ST&C	2,050'	1.94	4.61	9.05
7 7/8"	5 1/2"	15.5#	K-55	LT&C	5,500'	1.16	2.22	3.44

5. Cement Program *See C O A*

CASING	SETTING DEPTH	QUANTITY OF CEMENT	TOC	YIELD
13 3/8"	500'	Est. 500 sx "C" plus additives	Surface	1.34
8 5/8"	2,050'	Est. 375 sx "C" lite & 150 sx "C" plus add.	"	1.34
5 1/2"	8,950' <i>5,500</i>	Stage 1: 276 sx "C" plus add.	"	1.55
5 1/2"	"	Stage 2: 325 sx (35:65) POZ: Prem Plus "C" plus add.	"	2.10
5 1/2"	"	50 sx Prem. Plus "C" plus add.	"	1.34

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

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~~ *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

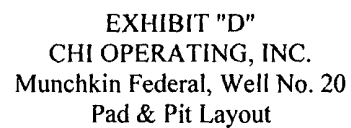
MUD PROGRAM		MUD WEIGHT	VIS.	W/L CONTROL
DEPTH	MUD			
0-500'	Fresh water mud:	8.4 - 8.7 ppg	32 - 34	No W/L control
500'-2050'	Brine	10 ppg	29	NC
2050-5500'	Cut brine or Fresh water *	9.2 ppg	29	NC
5500		9.2 ppg	29	<15 cc @TD for logs
*NOTE:	Switch to fresh water mud if loose circulation			

8. Auxiliary Equipment: Blowout Preventer, gas detector, Kelly cock, flow sensors and stabbing valve and Closed Loop System

9. Testing, Logging, and Coring Program: *See COA*
 Drill Stem Tests: As deemed necessary.
 Open Hole Logs: T.D thru pay: GR-CAL-CNL-LDT-
 GR-Cal-DLL-Micro
 CMR
 T.D. to Surface: GR-Neutron
 Coring: 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. H₂S: 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 H₂S and if any is detected the mud weight will be increased along with H₂S 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 H₂S is detected
12. Anticipated starting date: November 30, 2009
 Anticipated completion of drilling operations: Approximately 30 days.



BOP DIAGRAM 3000# SYSTEM

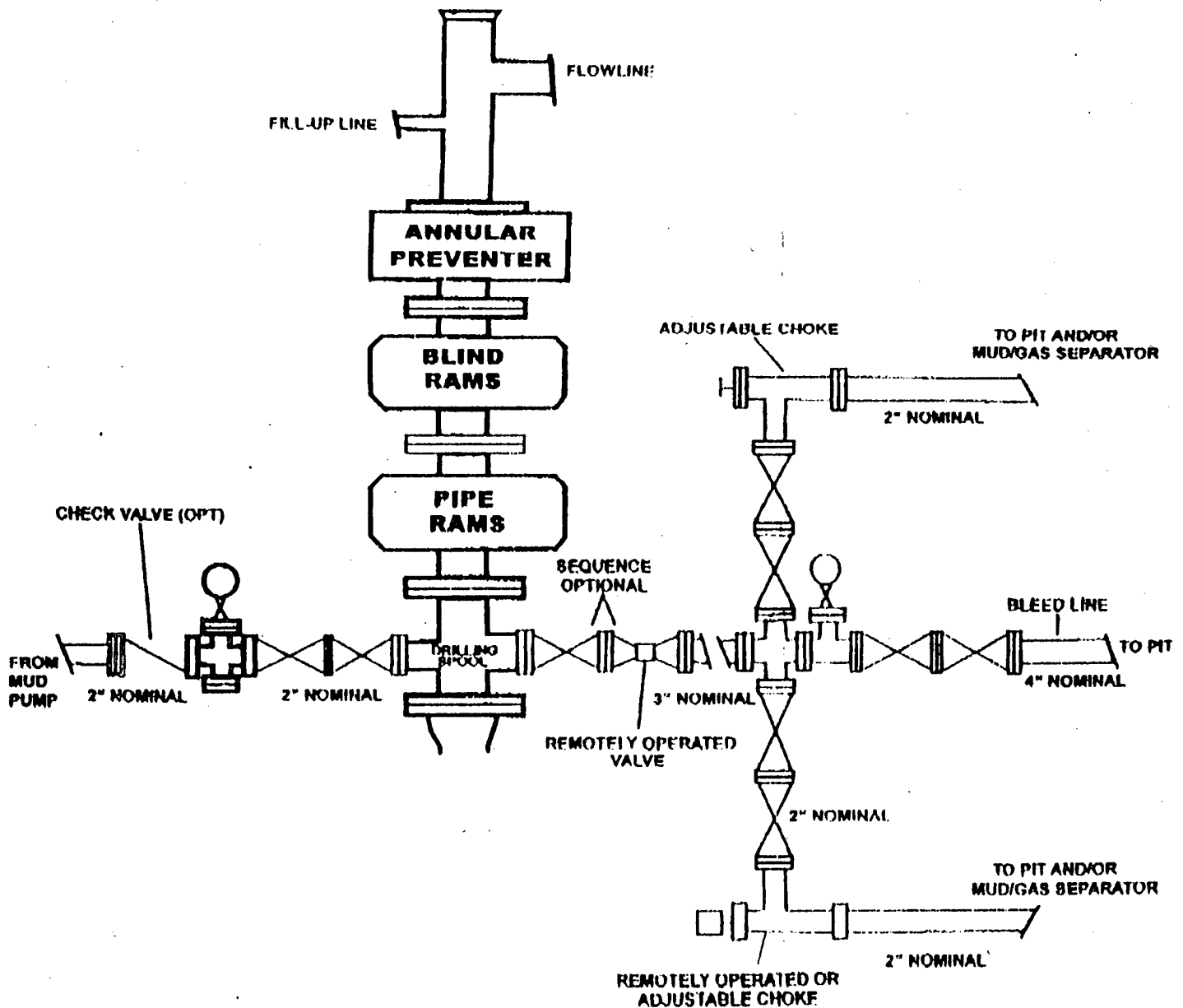
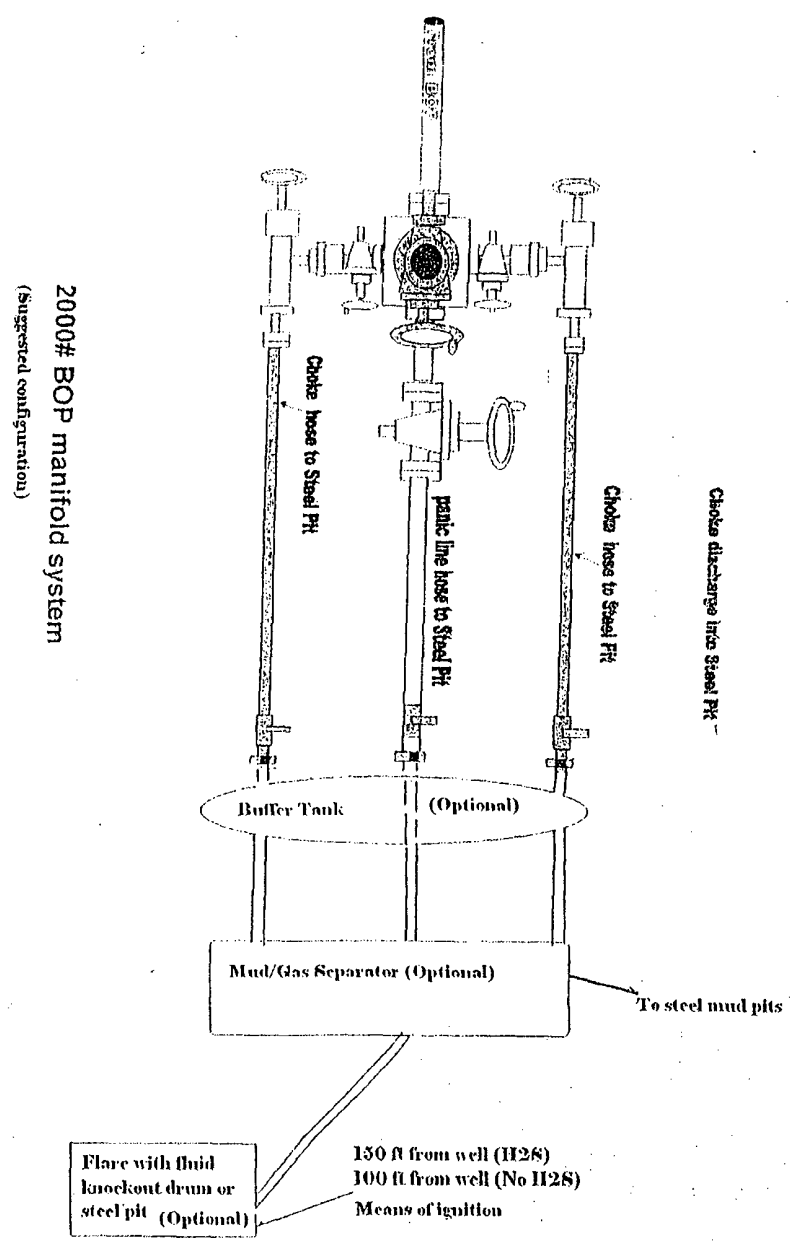


EXHIBIT "E"
CHI OPERATING, INC.
Munchkin Federal, Well No. 20
BOP Specifications

Sample



2000# BOP manifold system
(Suggested configuration)

Chi Operating , Inc., Munchkin Federal, Well No. 20

API: 30--

1250' per 3/11/12
Sec. 12, T19S-R30E: 1400' FNL & 350' 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.

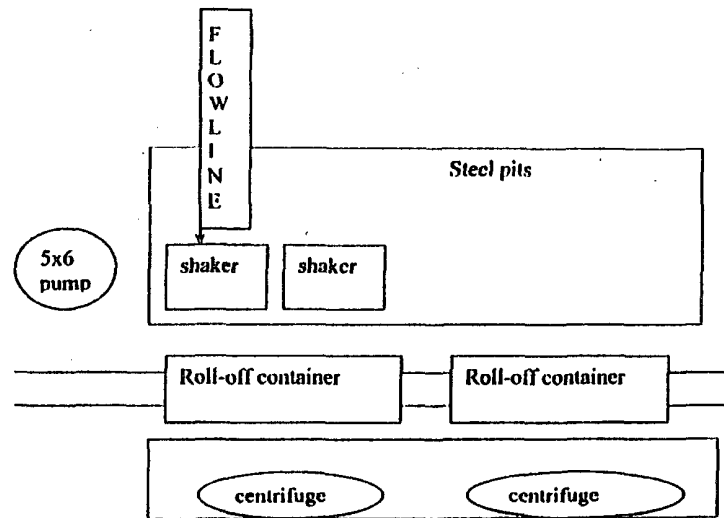
Any leak in system will be repaired and or/contained immediately

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

1250' Munchkin Federal, Well No. 20

Surface Location: ~~1400'~~ FNL & 350' FWL, Sec. 12-T19S-R30E

~~Bottom Location: 1350' FNL & 20' FWL, Sec. 12-T19S-R30E~~

Eddy County, New Mexico

Lease No.: NM-0560353

(Development Well)

*PLN SW
3/17/10
CA*

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 the left (south) side. Follow this road southeast then south to the southwest corner of the Munchkin Fed. #4 well pad. Take the access road on the right and continue southwest for .3 mile to the start of the proposed access road on the south. Continue south for 406 feet to the NE 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 and approximately 406 feet in length. The proposed and existing roads are color coded on Exhibit "A".
- B. Construction: The proposed access road will be will be constructed by grading and topping with compacted caliche and will be properly drained.
- C. Turnouts: None required.
- D. Culverts: None required
- E. Cuts and Fills: None required.
- 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 one-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 and tank battery, if required, will be installed on the drilling pad. A 3" poly low pressure flow line will run north, parallel to the proposed access road, to connect with a flow line running to the Munchkin Fed. Well #6 tank battery if a tank battery is not installed on the #20 pad.

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 proposed access road and construction of the well site pad will be obtained from a BLM 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.

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 and delivered to CRI, Permit No. R-9166, as needed and at closure.
- B. There will be 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, closed loop mud system, and major rig components. The pad and pit area was originally staked and flagged, 600' X 600'.
- B. Mat Size: 250' X 125', plus 80' X 250' closed loop area on the west.
- C. Cut & Fill: The location will require a 1 foot cut on the north and west with fill to the south and east. There are small undulating sand dunes 2 – 3 feet high that will need to be leveled.
- 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. There will be no unguarded pits containing fluids.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible or it will be shut-in until the lease is unitized for water flood injection..

11. OTHER INFORMATION:

- A. Topography: The proposed location and access roads are located in an area on top of and east of the Ninimem Ridge. The location has an overall 1.4% slope to the southeast from an elevation of 3457'GL.
- B. Soil: The topsoil at the well site is a deep yellowish red colored calcareous sandy loam with some caliche scatter on the surface. The soil is of the Berino loamy fine sand series.
- C. Flora and Fauna: The vegetation cover is a fair to poor grass cover of threeawn, grama, dropseed, fluff grass and bush muhly along with plants of mesquite, 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 some evidence of archaeological, historical or cultural sites in the area. Archaeological Survey Consultants, P. O. Box D, Roswell, NM 88202 have conducted an archaeological survey and submitted their report 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
P. O. Box 1799
Midland, Texas 79701
Office Phone: (432) 685-5001
Cell Phone: (432) 557-8774

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

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.

SIGNATURE AND ACKNOWLEDGMENT

CHI OPERATING, INC.

By: 

Name: John W. Qualls

Title: Vice President

Date: November 3, 2008

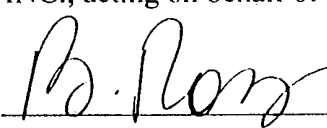
Address: 212 N. Main Street, Suite 200, Midland, Texas 79701

Telephone: (432) 685-5001

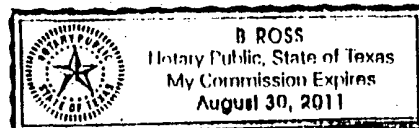
STATE OF TEXAS

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: 

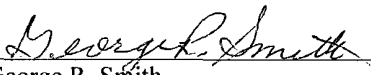
My commission expires: 08/30/2011



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.

August 25, 2009


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

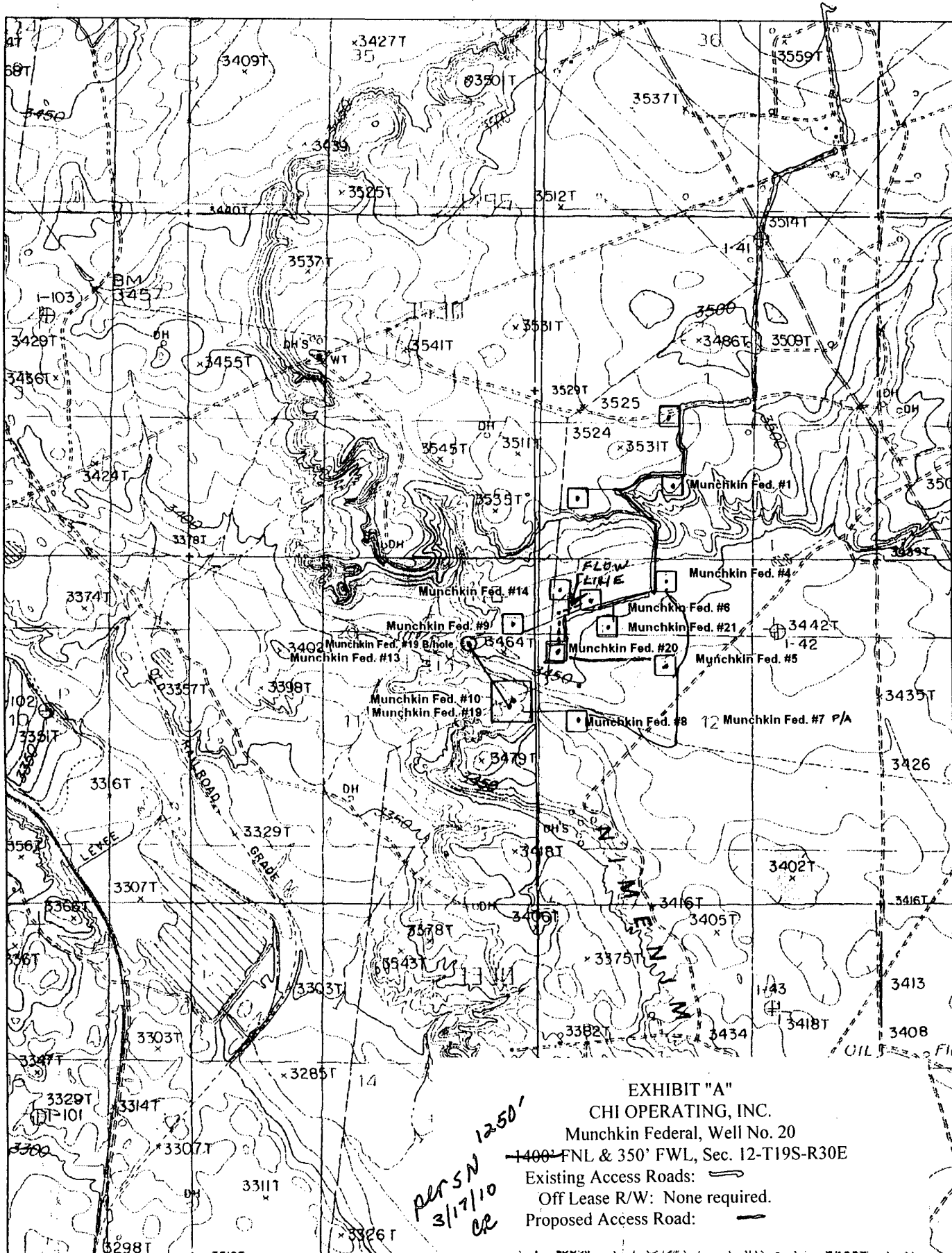


EXHIBIT "A"
CHI OPERATING, INC.

Munchkin Federal, Well No. 20

1400' FNL & 350' FWL, Sec. 12-T19S-R30E

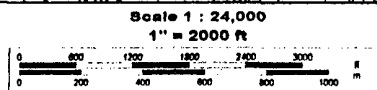
Existing Access Roads: —

Off Lease R/W: None required.

Proposed Access Road: —

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PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CHI OPERATING, INC.
LEASE NO.:	NM0560353
WELL NAME & NO.:	MUNCHKIN FEDERAL 20
SURFACE HOLE FOOTAGE:	1250' FNL & 350' FWL
BOTTOM HOLE FOOTAGE:	Same
LOCATION:	Section 12, T. 19 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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**
 - Recreational Mitigation
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - R-111 Potash
 - Logging Requirements
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Closed Loop System/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)

Recreational Mitigation

Impact minimizing practices required that pipelines and cables shall be buried a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe or cable will continue for 20 feet on each side of each crossing. The condition of the road or trail, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface. Open ditches shall be signed to notify trail users of construction. Chemical and other hazard signage will be prominently displayed. All vehicle and equipment operators will observe speed limits and practice responsible defensive driving habits.

EXHIBIT NO. 1

Date of Issue:

3/25/2010

Bureau of Land Management, Carlsbad Field Office

620 E. Greene Street Carlsbad, NM 88220

Cultural and Archaeological Resources

BLM Report No.

10-213 & 10-213.1

NOTICE OF STIPULATIONS

Historic properties in the vicinity of this project are protected by federal law. In order to ensure that they are not damaged or destroyed by construction activities, the project proponent and construction supervisors shall ensure that the following stipulations are implemented.

Project Name:	Munchkins 20 and 21 Well Locations and Access Roads
Required	1. A 3-day preconstruction call-in notification. Contact BLM Inspection and Enforcement at
A. <input checked="" type="checkbox"/>	These stipulations must be given to your monitor at least 5 days prior to the start of construction.
B. <input checked="" type="checkbox"/>	No construction, including vegetation removal or other site prep may begin prior to the arrival of the monitor.
Required	2. Professional archaeological monitoring. Contact your project archaeologist, or BLM's Cultural Resources Section at (575) 234- 5917, 5967, or 5986, for assistance.
A. <input type="checkbox"/>	3. Cultural site barrier fencing. (Your monitor will assist you). A temporary site protection barrier(s) shall be erected prior to all ground-disturbing activities. The minimum barrier(s) shall consist of upright wooden survey lath spaced no more than ten (10) feet apart and marked with blue ribbon flagging or blue paint. There shall be no construction activities or vehicular traffic past the barrier(s) at any time.
B. <input type="checkbox"/>	A permanent, 4-strand barbed wire fence strung on standard "T-posts" shall be erected prior to all ground-disturbing activities. No construction activities or vehicle traffic are allowed past the fence.
Required	4. The archaeological monitor shall:
A. <input type="checkbox"/>	Ensure that all site protection barriers are located as indicated on the attached map(s).
B. <input checked="" type="checkbox"/>	Observe all initial ground-disturbing activities for the Munchkins 20 and 21 well locations.
C. <input type="checkbox"/>	Ensure that all reroutes are adhered to avoid cultural site no.(s) LA
D. <input checked="" type="checkbox"/>	Ensure all construction activity, equipment, and personnel remain outside of any archaeology site.
E. <input checked="" type="checkbox"/>	Submit a brief monitoring report within 30 days of completion of monitoring.
Other:	If subsurface cultural resources are encountered during the monitoring, all activities shall cease and a BLM-CFO archaeologist shall be notified immediately.

Site Protection and Employee Education: It is the responsibility of the project proponent and his construction supervisor to inform all employees and subcontractors that cultural and archaeological sites are to be avoided by all personnel, vehicles, and equipment; and that it is illegal to collect, damage, or disturb cultural resources on Public Lands.

For assistance, contact
BLM Cultural Resources:Martin Stein (575) 234-5967 Bruce Boeke (575) 234-5917
George MacDonell (575)
234-2228

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. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Closed Loop System v-door north

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (575) 234-5972.

E. 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.

F. 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

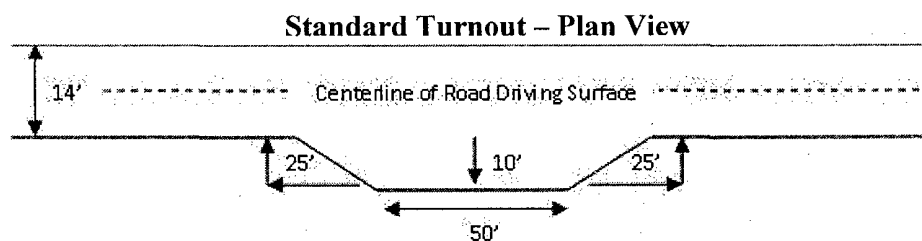
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

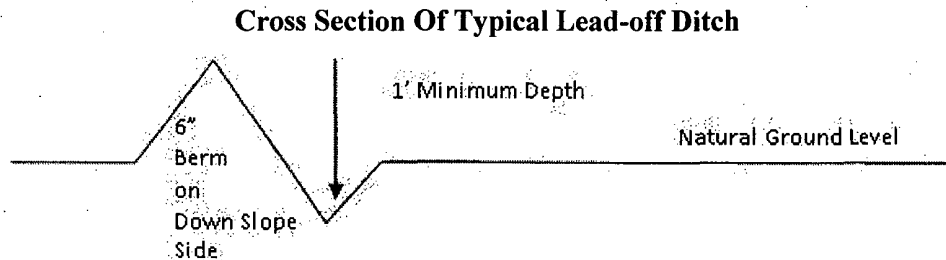
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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.



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:

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

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

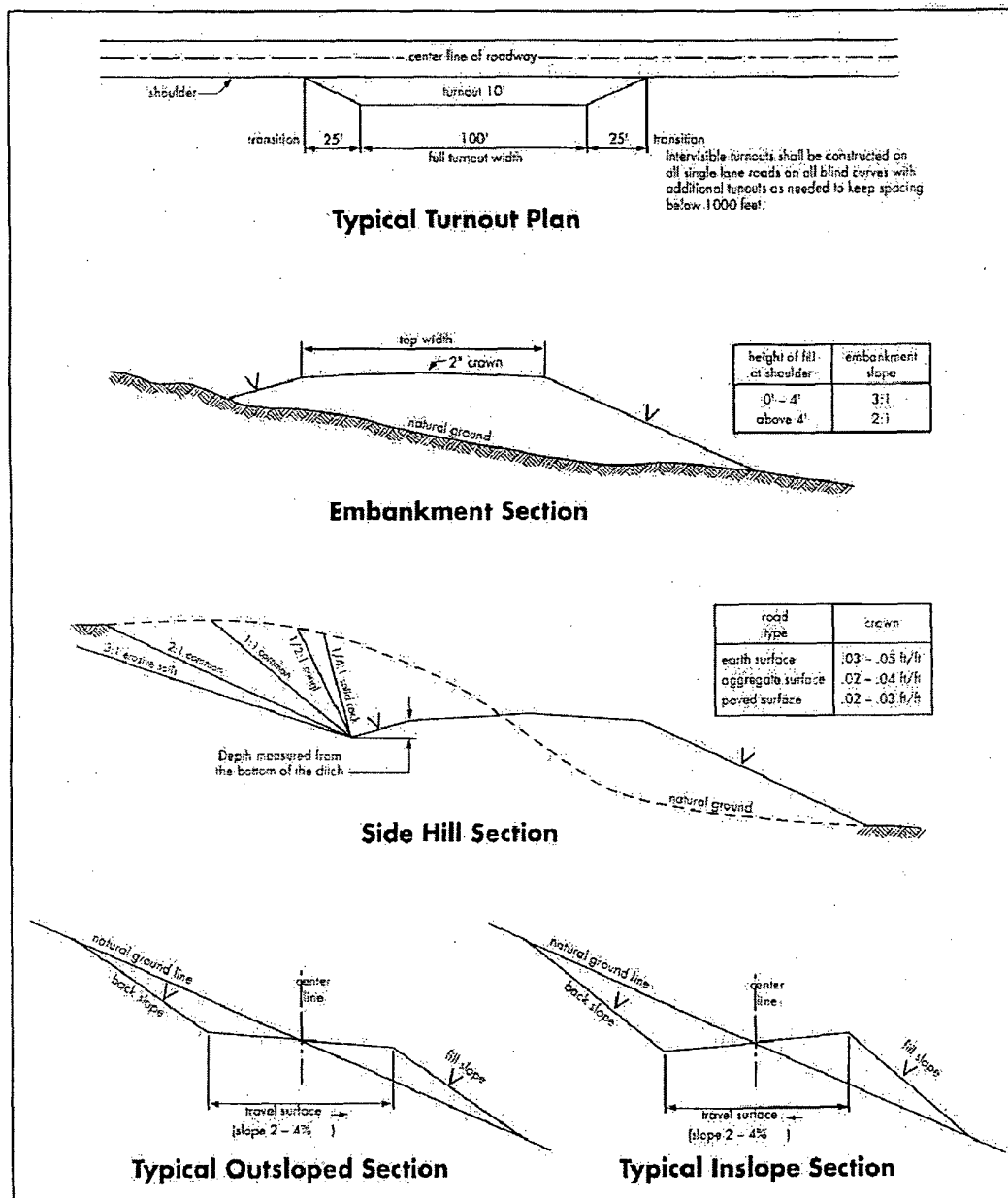
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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



VI. 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 potential hazard. 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. 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. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to or potash.

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

R-111 Potash.

Possible water flows in the Salado and Artesia Groups.

Possible lost circulation in the Artesia Group.

Possible lost circulation in the Capitan Reef.

1. The 13-3/8 inch surface casing shall be set at **approximately 500 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.
 - 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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - 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.
Casing is to be set in the Fletcher Anhydrite or Tansil Formation.
Additional cement may be required, as the excess calculated to 9%. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.
3. The minimum required fill of cement behind the **5-1/2" inch** production casing is:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
Additional cement may be required, as excess calculated to 22%.

If a DV tool is used the required fill of cement behind the 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, as excess calculated 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.
5. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

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**.
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. The tests shall be done by an independent service company.
- b. The results of the test shall be reported to the appropriate BLM office.
- c. 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.**
- d. 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.

- e. **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.

CRW 092809

VII. 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

C. ELECTRIC LINES

VIII. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

Seed Mixture 2, for Sandy 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 of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/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>
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sand love grass (<i>Eragrostis trichodes</i>)	1.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

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

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.