

Month-Year  
APR - 2 2007  
OCD-ARTESIA, NM

OCD-ARTESIA

158

ATS-07-118

FORM APPROVED  
OMB No 1004-0136  
Expires November 30, 2000UNITED 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. <del>NM-7749</del> LC028785B
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		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	3b. Phone No. (include area code) (432) 685-5001	8. Lease Name and Well No. Pinon Federal Com., Well No. 1
4. Location of Well (Report location clearly and in accordance with any State requirements *) 950' FSL & 990' FWL At proposed prod zone same		9. API Well No. 30-015-36041
14. Distance in miles and direction from nearest town or post office* Six road miles NW of Loco Hills, NM		10. Field and Pool, or Exploratory Anderson Penn
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) 950'	16. No. of Acres in lease 74.48	11. Sec., T., R., M., or Bk. and Survey or Area Sec. 6-T17S-R30E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. N/A	17. Spacing Unit dedicated to this well 160	12. County or Parish Eddy
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3680' GL	19. Proposed Depth 11,300'	13. State NM
22. Approximate date work will start* Nov. 27, 2006	20. BLM/BIA Bond No. on file NM-1616	
23. Estimated duration 4-6 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:

- |  |  |
|--|--|
| 1. Well plat certified by a registered surveyor  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.  | 5. Operator certification  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office) | 6. 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 11/15/06
Title Agent for Chi Operating, Inc		
Approved by (Signature) <i>James A. Ames</i>	Name (Printed-Typed) James A. Ames	Date MAR 30 2007
Title ACTING FIELD MANAGER		
Office BLM-CARLSBAD FIELD OFFICE		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR 1 YEAR

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

\*(Instructions on reverse)

Lease Responsibility Statement: Chi Operating, Inc. accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof.

SEE ATTACHED FOR  
CONDITIONS OF APPROVALAPPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED*George R. Smith*, agent

Roswell Controlled Water Basin

If earthen pits are used in  
association with the drilling of this  
well, an OCD pit permit must be  
obtained prior to pit construction.

# State of New Mexico

Energy, Minerals and Natural Resources Department

## DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

## DISTRICT II

1301 W. GRAND AVENUE, ARTESHA, NM 88210

## DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

## DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

## OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

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		Pool Code 70200	Pool Name Anderson Penn
Property Code 36951	Property Name PINON FEDERAL COM		Well Number 1
OGRID No. 4378	Operator Name CHI OPERATING, INC.		Elevation 3680'

### Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
7	6	17-S	30-E		950	SOUTH	990	WEST	EDDY

### 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	Joint or Infill	Consolidation Code	Order No.
160		Com.	

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

LOT 4 36.82 AC	LOT 3 39.78 AC	LOT 2 39.63 AC	LOT 1 39.48 AC
<p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=676280.2 N X=597464.5 E</p> <p>LAT.=32.858775° N LONG.=104.015933° W</p>			
LOT 5 37.03 AC			
LOT 6 37.17 AC			
LOT 7 37.31 AC			

3681.9' 3680.7'

600'

990'

3678.9' 3677.8'

600'

950'

### 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* 11/15/06  
Signature Date  
George R. Smith, 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.

NOVEMBER 4, 2006

Date Surveyed JR  
Signature & Seal of Professional Surveyor  
*Gary A. Edson* 11/8/06  
06.11.1744  
Certificate No. GARY-EDSON 12641

## APPLICATION FOR DRILLING

**CHI OPERATING, INC.**  
Pinon Federal Com., Well No. 1  
950' FSL & 990' FWL, Sec. 6-T17S-R30E  
Eddy County, New Mexico

(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:

Yates	1,200'	Strawn	9,980'
Queen	2,000'	Atoka	10,300'
San Andres	2,800'	Morrow Clastic	10,700'
Tubb	5,500'	Morrow Uncon.	10,870'
Wolfcamp	7,600'	T.D.	11,300'
Upper Penn	8,750'		

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 Upper Penn or Cisco below 8,750'.

Gas: Possible in the Atoka below 10,300' and the Morrow below 10,700'.

#### 4. Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48.0#	H-40	ST&C	450'	Circ. 450 sx "C" + add.
11"	8 5/8"	32.0#	J-55	ST&C	2,950'	Circ. 850 sx "C" cement.
7 7/8"	5 1/2"	17.0#	N-80	LT&C	11,300'	675 sx of Super "C" + add.

#### 5. Proposed Control Equipment:

A 12" 5000 psi wp Shaffer Type LWS Double Gate BOP will be installed on the 13 3/8" casing. Casing and BOP will be tested as described in Onshore Oil & Gas Order No. 1 before drilling out with 11" and will be tested weekly. Request waiver to test to a maximum of 3000 psi wp, which is in excess of maximum expected surface pressure. See Exhibit "E".

6. MUD PROGRAM:	MUD WEIGHT	VIS.	W/L CONTROL
0' - 450': Fresh water mud:	8.4 - 8.7 ppg	32 - 36	No W/L control
450' - 2950': Brine mud:	10.0 - 10.2 ppg	29 - 30	No W/L control
2950' - 7500': Fresh water mud:	8.4 - 8.7 ppg	28 - 29	No W/L control
7500' - 8700': Cut Brine mud:	9.0 - 9.2 ppg	28 - 29	No W/L control
8700' - 10,600': Brine (starch) mud:	10.0 - 10.1 ppg	30 - 32	W/L control 15 cc +/-
10,600' - 11,300': Controlled Brine	9.5 - 9.7 ppg	38 - 42	W/L control 8 cc +/-

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

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

Drill Stem Tests: As deemed necessary.

Logging: T.D. to 2950': (GR/CAL-CNL-LDT)DLL/MSFL  
2950' to surface: GR/Neutron

Coring: As dictated by logs.

**Chi Operating, Inc.**

PINON Federal Com., Well No. 1

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9. 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 = 4972 and 2486 psi surface pressure with a temperature of 173°.

10. H<sub>2</sub>S: None expected.

11. Anticipated starting date: November 27, 2006.

Anticipated completion of drilling operations: Approximately 30 - 40 days.

## **MULTI POINT SURFACE USE AND OPERATIONS PLAN**

### **CHI OPERATING, INC.**

Pinon Federal Com., Well No. 1  
950' FSL & 990' FWL, Sec. 6-T17S-R30E  
Eddy County, New Mexico

(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 and environmental effects associated with the operations.

#### **1. EXISTING ROADS:**

- A. Exhibit "A" is a portion of a BLM minerals map showing the location of the proposed well as staked. The well site location is approximately 6 road miles northwest of Loco Hills, NM. Traveling east of Artesia, NM on U.S. Highway 82, there will be approximately 22 miles of paved highway and 3.4 miles of gravel County Road #215 and 1.4 of CR 257.
- B. Directions: Travel east of Artesia, NM on U.S. Highway 82 for approximately 22 miles to County Rd# 215 (Kewanee Rd.). Turn north on #215 for 3.4 miles to County Rd. # 257 on the east. Turn east on CR#257 for 1.4 miles to a gravel road to the south. Turn south for .9 mile to the Carlsbad Water Pipeline. Turn southwest on the pipeline road for 400 feet to a tank battery on the south side of the road. The start of the proposed access road for the Pinon Federal Com., #1 is on the southwest corner of this location and will run southwest for approximately 1000 feet to the southeast corner of the Piñon Fed. #1 proposed location.

#### **2. PLANNED ACCESS ROAD:**

- A. Length and Width: The proposed access road will be constructed to a surface width of 12 feet and will be approximately 1000 feet long to the Piñon Fed Com., #1. The proposed and existing roads are color coded on Exhibits "A" and "B".
- B. Construction: The proposed access road will be constructed by grading and topping with compacted caliche. The existing oilfield road will be upgraded as required. The surface will be properly drained.
- C. Turnouts: There will be one turnout on the proposed access road at the midsection of the road, increasing the width to 20 feet for passing.
- D. Culverts: None.
- E. Cuts and Fills: None required, except leveling small to medium dunes and basins.
- F. Gates, Cattle guards: None required.
- G. Off lease right of way: An off-lease R/W for existing roads back to CR 257 is being applied for.

#### **3. LOCATION OF EXISTING WELLS:**

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

**Chi Operating, Inc.**

Pinon Federal Com., Well No. 1

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

- A. Chi Operating, Inc. has no production facilities on the lease at this time.
- B. If the well proves to be commercial, the necessary production facilities, gas separation-process equipment and tank battery, if required, will be installed on the drilling 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 the proposed access road and well site pad will be obtained from the location, if available, or will use a State pit in NE4 Sec. 2-T17S-R29E. No surface materials will be disturbed except those necessary for actual grading and leveling of the drill site and access road.

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

- A. Drill cuttings will be disposed of in the reserve pits.
- B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- C. All pits will be fenced with normal fencing materials to prevent livestock from entering the area.
- D. 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.
- E. Oil produced during operations will be stored in tanks until sold.
- F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- G. 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: 285' X 160', plus 125' X 125' reserve pits on the North.
- C. Cut & Fill: The location will require a leveling of 4 to 10 foot sand dunes and deflation basins. The overall slope to the southwest is .004%
- D. The surface will be topped with compacted caliche and the reserve pits will be plastic lined. A surface 2" poly pipe flow line 50' west of the center hole stake will be moved away from the pad area.

**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. Pits will be filled and the location cleaned of all trash and junk to leave the well site in an aesthetically pleasing a condition as possible.
- B. Any unguarded pits containing fluids will be fenced until they are filled.
- 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. All pits will be filled and leveled as soon as they are dry enough to be worked.

**11. OTHER INFORMATION:**

- A. Topography: The proposed well site and access road are located northwest of Loco Hills on a slight .004% slope to the southwest from an elevation of 3680' GL. The area has 4 – 10 foot sand dunes and basins well covered with vegetation.
- B. Soil: The topsoil at the well site is a reddish brown sandy loam with a surface scatter of caliche rock. The soil is part of the Kermit – Berino fine sands complex.
- C. Flora and Fauna: The vegetation cover has a poor to fair grass stand consisting of plains bristle grass, muhly and other miscellaneous grasses along with plants of mesquite, yucca, broomweed, Mormon tea, sage, cacti and miscellaneous weeds and wildflowers. The wildlife consists of rabbits, coyotes, antelope, deer, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.
- D. Ponds and Streams: None.
- E. Residences and Other Structures: None in the immediate vicinity except oil field facilities.
- F. Land Use: Cattle grazing.
- G. Surface Ownership: The proposed well site and access road is on Federal surface and minerals.
- H. There is visible evidence of archaeological, historical or cultural sites in the staked 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:**

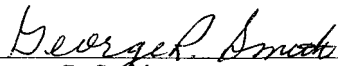
- A. The field representative for assuring compliance with the approved use and operations plan is as follows:

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

**13. 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.

November 15, 2006

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





**DRILLING INC.**

**RIG #2**

**BLOWOUT PREVENTOR ARRANGEMENT**

13 5/8" SHAFFER TYPE SL<sub>a</sub> 5000 psi WP  
13 5/8" Hydril SPHERICAL, 5000 psi WP  
80 GALLON, 6 STATION KOOMEY ACCUMULATOR  
5000 psi WP CHOKE MANIFOLD

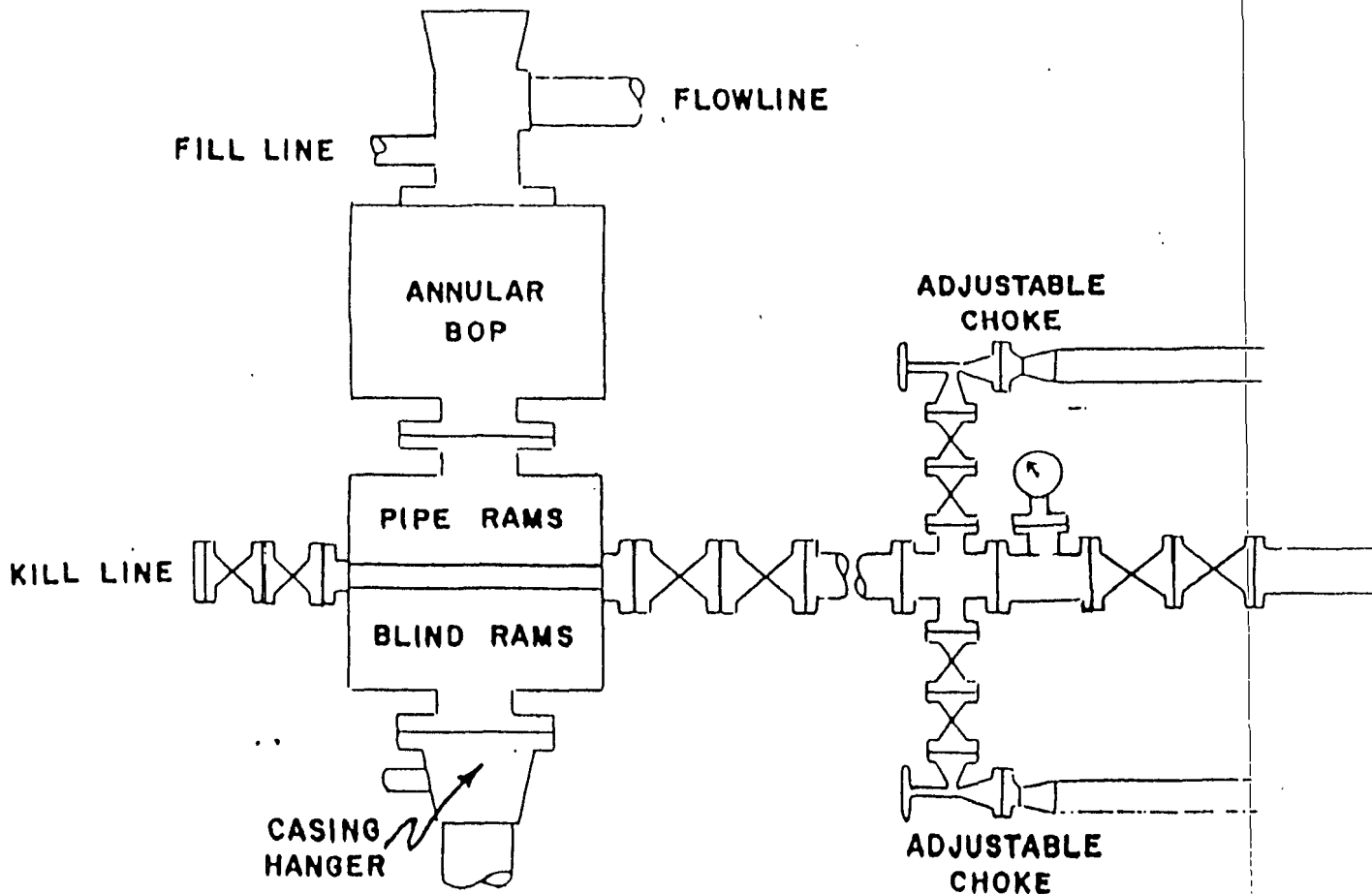


EXHIBIT "E"  
CHI OPERATING, INC.  
Pinon Federal Com., Well No. 1  
BOP Specifications

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-144  
March 12, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.  
For downstream facilities, submit to Santa Fe office

**Pit or Below-Grade Tank Registration or Closure**

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: Chi Operating, Inc. Telephone: 1-432-685-5001 e-mail address:

Address: P.O. Box 1799 Midland, TX 79702

Facility or well name: Pinon Federal Com., Well No 1 API U/L or Qtr/Qtr SWSW Sec 6 T 17S R 30E

County Lea Latitude N 32 858775' Longitude W 104 015933' NAD 1927X 1983 Surface Owner Federal ☒ State ☐ Private ☐ Indian ☐

**Pit**

Type: Drilling - Production ☒ Disposal ☐

Workover Emergency ☐

Lined ☒ Unlined ☐

Liner type Synthetic ☒ Thickness current rule at time of drilling mil

Clay ☐ Volume 1,000 +/- bbl

**Below-grade tank**

Volume: bbl Type of fluid:

Construction material:

Double-walled, with leak detection? Yes ☐ If not, explain why not

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water. Not Avail Est 200-300')

Less than 50 feet

(20 points)

50 feet or more, but less than 100 feet

(10 points)

100 feet or more

(0 points)

Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)

Yes

(20 points)

No

(0 points)

Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses)

Less than 200 feet

(20 points)

200 feet or more, but less than 1000 feet

(10 points)

1000 feet or more

(0 points)

**Ranking Score (Total Points)**

--0-- points

**If this is a pit closure:** (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location

onsite ☐ offsite ☐ If offsite, name of facility (3) Attach a general description of remedial action taken including remediation start date and end date (4) Groundwater encountered No ☐ Yes ☐ If yes, show depth below ground surface ft and attach sample results (5) Attach soil sample results and a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed according to NMOCD guidelines X, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date November 15, 2006

Printed Name/Title George R. Smith, agent for Chi Operating, Inc. (505) 623-4940 Signature *George R. Smith*

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations

Approval

Date

Printed Name/Title Signature

## CONDITIONS OF APPROVAL - DRILLING

Well Name & No. 1-Pinon Federal Com  
Operator's Name: Chi Operating, Inc  
Location: 0950FSL, 0990FWL, Section 6, T-17-S, R-30-E  
Lease: NMLC-028785-B

### I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5972 or (505) 361-2822 - for wells in Eddy County in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13-3/8 inch 8-5/8 inch 5-1/2 inch

C. BOP tests

2. Although no H<sub>2</sub>S has been reported in this section, it has been reported in Sec 21-17-S-30E measuring 1900 ppm in gas streams from a well completed in the Seven Rivers and Grayburg Jackson. It has also been reported in Sec. 17-17S-30E measuring 1600 ppm in gas streams and 1500 ppm in STVs from the Queen, Grayburg Jackson and San Andres, and in Sec 20-17S-30E measuring 10,000 ppm in gas streams and 4000 ppm in STVs from the Grayburg Jackson and Morrow. It is recommended that monitoring equipment be available prior to drilling into the Queen.

3 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.

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

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

6. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

7. Gamma-Ray/Neutron logs shall be run from the base of the Salado Formation to the surface; cable speed not to exceed 30 feet per minute.

### II. CASING:

1. The 13-3/8 inch surface casing shall be set at a minimum of 25' in the Rustler Anhydrite at approximately 450 feet or in the case that salt occurs at a shallower depth above the top of the salt, below usable water and cement circulated to the surface. If cement does not circulate, contact the BLM for further instructions.

Possible lost circulation in the Grayburg and San Andres formations.

Possible water flows in the Salado Group and the Premier member of the Grayburg formation.

Possible over pressurized zones in the Strawn, Atoka, and Morrow formations.

2. The minimum required fill of cement behind the 8-5/8 inch salt protection casing is circulate cement to the surface.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is cement shall extend a minimum of 200 feet into the intermediate casing.

### **III. PRESSURE CONTROL:**

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 13-3/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling the surface and intermediate casing shall be 2M psi. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the 8-5/8 inch casing shall be 3M psi. **Manifold is okay if operated as a 3M system.**

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

- A variance to test the 5M BOP, BOPE to the reduced pressure of 3000 psi is approved. **Surface casing to be tested to a maximum of 70% of the burst rating.**

- The tests shall be done by an independent service company.

- The results of the test shall be reported to the appropriate BLM office.

- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.

- Testing must be done in a safe workman-like manner. Hard line connections shall be required.

- BOPE must be tested prior to drilling into the Wolfcamp Formation by an independent service company.

### **IV. DRILLING MUD:**

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp Formation, and shall be used until production casing is run and cemented. Monitoring equipment shall consist of the following:

1. Recording pit level indicator to indicate volume gains and losses.

2. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.

3. Flow-sensor on the flow line to warn of abnormal mud returns from the well.

**Engineer on call phone: 505-706-2779**

**WWI 020707**