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NM-0315712

BA-09-42

Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No **NM-0315712**	
6 If Indian, Allotee or Tribe Name	
1a Type of work ☑ DRILL ☐ REENTER	7 If Unit or CA Agreement, Name and No
1b Type of Well ☐ Oil Well ☑ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone	8 Lease Name and Well No (37472) **Screech Federal Com., Well No. 1**
2 Name of Operator **Chi Operating, Inc.** (4378)	9 API Well No. 30-025-39249
3a Address **P.O. Box1799** **Midland, TX 79702**	3b Phone No *(include area code)* **432-685-5001**
	10 Field and Pool, or Exploratory **Wildcat** Morrow
4 Location of Well *(Report location clearly and in accordance with any State requirements)* At surface **1080' FSL & 1080' FWL** At proposed prod zone **same** Unit M Split Estate	11 Sec , T R M or Blk and Survey or Area **Sec. 4-T17S-R32E**
14 Distance in miles and direction from nearest town or post office* **1 mile NW of Maljamar, NM**	12 County or Parish **Lea** / 13 State **NM**

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any)	**900'** **N/A**	16 No of acres in lease **760**	17 Spacing Unit dedicated to this well **320**
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**500'**	19 Proposed Depth **12,900'**	20 BLM/BIA Bond No on file **NM-1616**
21 Elevations (Show whether DF, KDB, RT, GL, etc) **4116' GL**		22 Approximate date work will start* **10/01/2008**	23 Estimated duration **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
2. A Drilling Plan
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)
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25 Signature George R. Smith	Name *(Printed Typed)* **George R. Smith**	Date **09/09/2008**
Title **Agent for Chi Operating, Inc.**		
Approved by *(Signature)* /s/ James Stovall	Name *(Printed/Typed)* /s/ James Stovall	Date NOV 04 2008
Title **FIELD MANAGER**	Office **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 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)

KZ

Lea County Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

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, ARTESIA, NM 88210

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

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

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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	Pool Name
30-025-39249		Undesignated Morrow

Property Code	Property Name	Well Number
37472	SCREECH FEDERAL COM	1

OGRID No.	Operator Name	Elevation
4378	CHI OPERATING	4116'

Surface Location

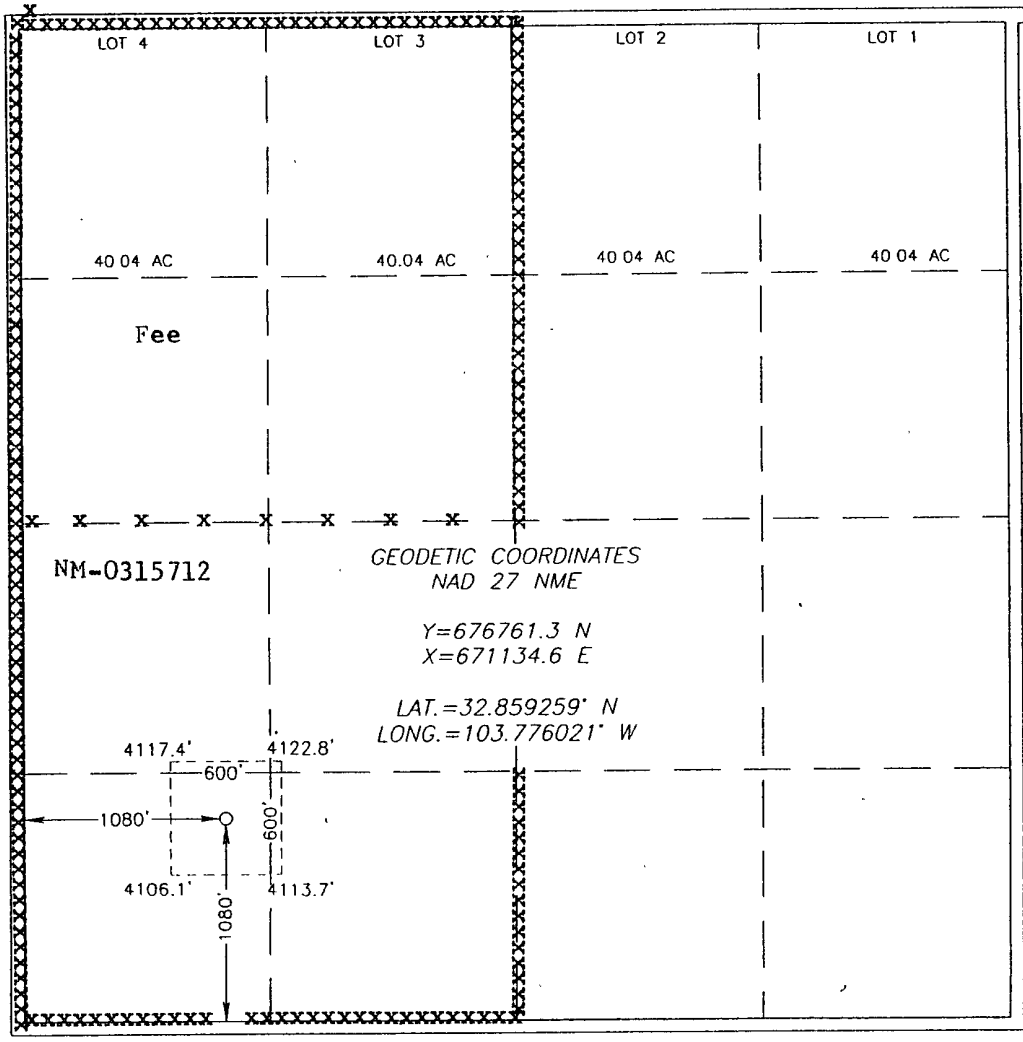
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	4	17-S	32-E		1080	SOUTH	1080	WEST	LEA

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.
320		C	

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 9/9/08
Signature Date

George R. Smith
Printed Name

agent for Chi Operating, Inc

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.

Date Surveyed: AUGUST 15, 2008

Signature & Seal of Professional Surveyor

Ronald J. Eidson 8/25/08

Certificate No. GARY EIDSON 12641
RONALD EIDSON 3239

SELF-CERTIFICATION STATEMENT FROM LESSEE/OPERATOR

SURFACE OWNER IDENTIFICATION

Federal or Indian Lease No. NMNM 0315712

I hereby certify to the Authorized Officer of the Bureau of Land Management that I have reached one of the following agreements with the Surface Owner; or after failure of my good-faith effort to come to an agreement of any kind with the Surface Owner, have provided a bond and will provide evidence of service of such bond to the Surface Owner:

1) X I have a signed access agreement to enter the leased lands;

2) _____ I have a signed waiver from the surface owner;

3) _____ I have entered into an agreement regarding compensation to the surface owner for damages for loss of crops and tangible improvements.

4) _____ because I have been unable to reach either 1), 2), or 3) with the surface owner, I have obtained a bond to cover loss of crops and damages to tangible improvements and served the surface owner with a copy of the bond.

Surface owner information: (if available after diligent effort)

Surface Owner Name: Olane Casuell

Surface Owner Address: 1702 Gilliam Dr. Brownfield, TX. 79316

Surface Owner Phone Number: 806-777-0584

Signed this 8th -- day of September -, 2008

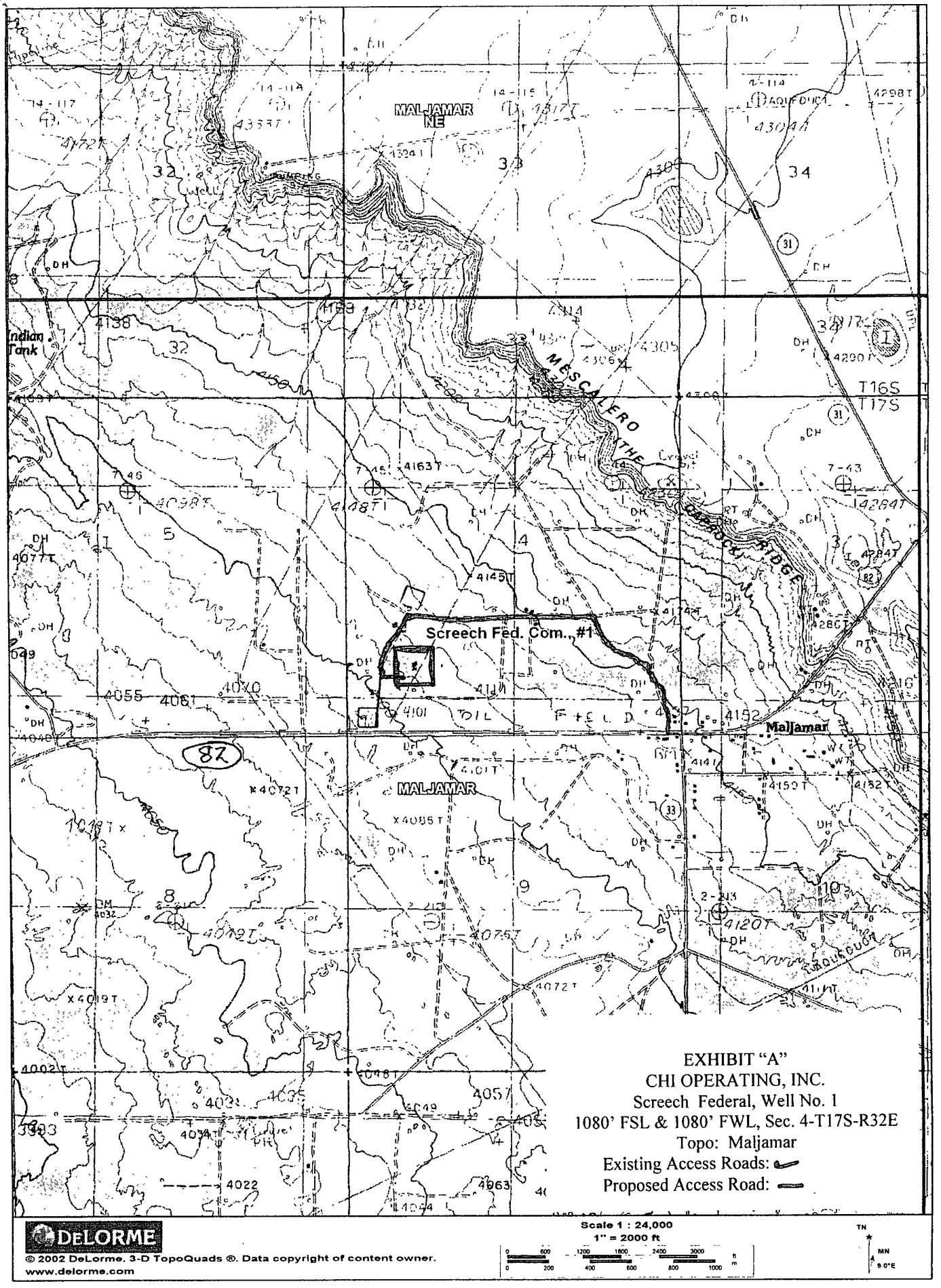
Chi Operating Inc. Johnny Hicks V.P.
(Name of lessee/operator)

I (Surface Owner) accept X do not accept _____ the lessee or operator=s Surface Owner Agreement under 1, 2, or 3 above.

Signed this 10th - day of September -, 2008

Olane Casuell
(Signature of Surface Owner if an agreement has been reached)

Attachment 1-1


MALJAMAR NE
MESCALERO RIDGE
Screech Fed. Com., #1
Maljamar
MALJAMAR
Indian Tank
T16S
T17S
82
EXHIBIT "A"
CHI OPERATING, INC.
Screech Federal, Well No. 1
1080' FSL & 1080' FWL, Sec. 4-T17S-R32E
Topo: Maljamar
Existing Access Roads:
Proposed Access Road:
DELORME
© 2002 DeLorme. 3-D TopoQuads ®. Data copyright of content owner.
www.delorme.com
Scale 1 : 24,000
1" = 2000 ft

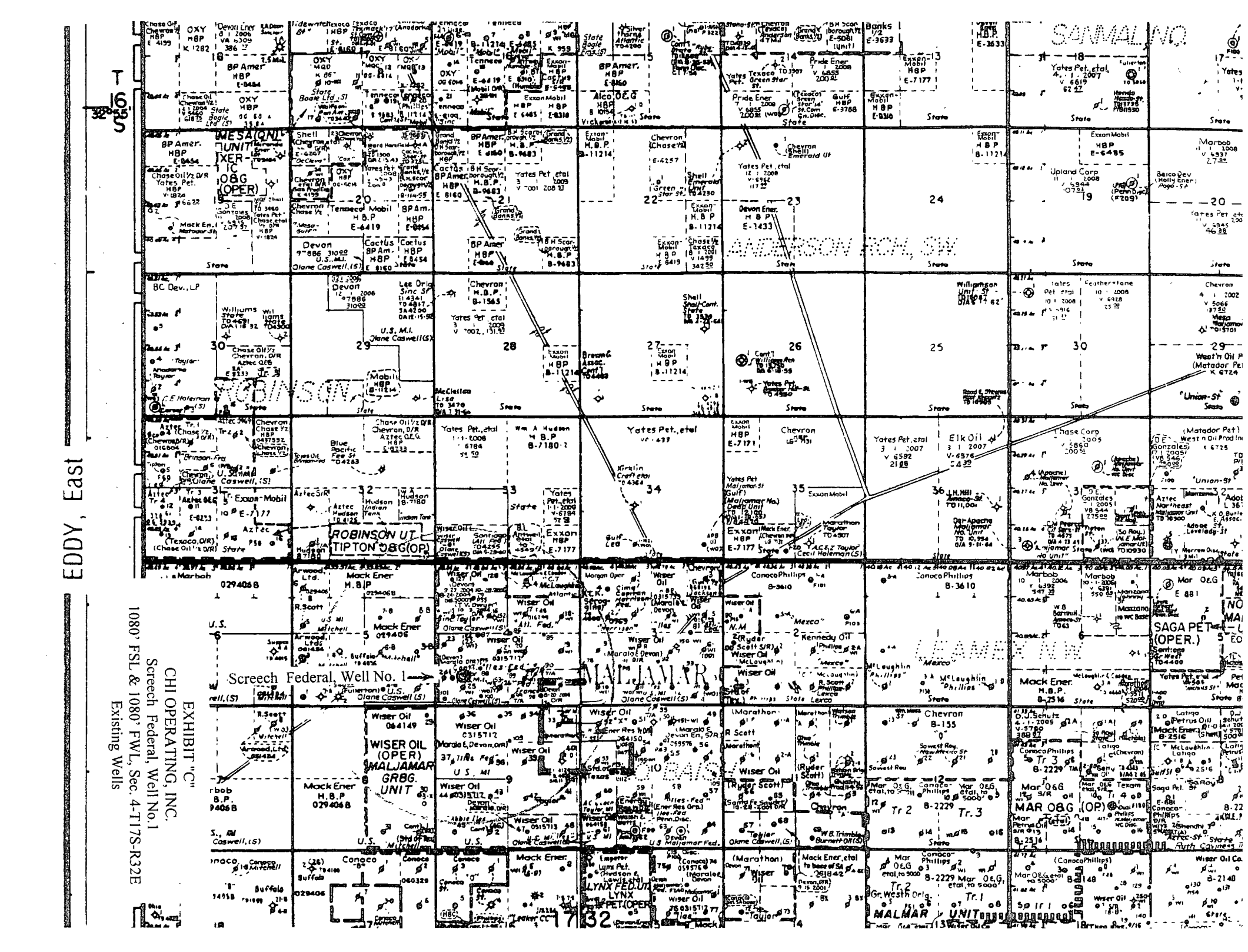


EXHIBIT "C"
CHI OPERATING, INC.
Screech Federal, Well No.1
1080' FSL & 1080' FWL, Sec. 4-T17S-R32E
Existing Wells

APPLICATION FOR DRILLING

CHI OPERATING, INC.
Screech Federal Com., Well No. 1
1080' FSL & 1080' FWL, Sec. 4-T17S-R32E
Lea County, New Mexico
Lease No.: NM-0315712
(Exploratory 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:

Rustler	960'	Wolfcamp	9030'
Top Salt	1074'	Penn	10,780'
Yates	2268'	Strawn	11,580'
Seven Rivers	2602'	Atoka	11,740'
Queen	3460'	Morrow	12,500'
Delaware	5215'	Mississippian	12,700'
		T.D.	12,900'

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 Grayburg and/or Queen below 3400'.
   Gas: Possible in the Morrow below 12,500' and the Mississippian below 12,700'

4. **Proposed Casing Program: New Casing**

HOLE SIZE	CASING SIZE	WEIGHT	GRADE H-40	JOINT	SETTING DEPTH	COLLAPSE DESIGN FACTOR	BURST DESIGN FACTOR	TENSION DESIGN FACTOR
17 1/2"	13 3/8"	48.0#	J-55	ST&C	1,000'	1.125	1.00	1.80
12 1/4"	9 5/8"	36.0#	J-55	LT&C	3,100'	1.218	1.56	3.14
12 1/4"	9 5/8"	36.0#	HCK-55	ST&C	4,700'	1.2218	1.44	16.15J
7 7/8"	5 1/2"	17.0#	N-80	LT&C	9,100'	1.143	1.12	1.90J
7 7/8'	5 1/2"	17.0#	S-95	LT&C	12,900'	1.164	1.25	13.99J

5. Proposed Control Equipment: A 13 3/8" 3000 psi wp casing head annular will be installed on the 13 3/8" casing and tested to 1,000 psi. A 5M Shaffer Type LWS Double Gate BOP will be installed on the 9 5/8" casing. Casing and BOP will be tested as per Onshore Oil & Gas Order #2 before drilling out with the 7 7/8". 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".

6. **Proposed Cement Program:**

CASING	SETTING DEPTH	QUANITY OF CEMENT	TOC	YIELD
13 3/8"	1,000'	Lead 1: 710 sx "C" plus add.	Surface	1.47
13 3/8"	1,000'	Tail 2: 500 sx Class "C" plus add.	"	1.32
9 5/8"	4,700'	1,300 sx "C"	"	1.89
5 1/2"	12,900'	950 sx Super Class "C" MOD plus add.	4,500'	1.56

7. MUD PROGRAM:

MUD PROGRAM DEPTH	MUD	MUD WEIGHT	VIS.	W/L CONTROL
0'-~~600'~~ 1000'	Fresh water mud:	8.4 ppg	32-36	No W/L control
~~600'~~ 1000'-4,700'	Fresh water/Brine mud	8.4 - 10.0 ppg	34	NC
4,700'-8,700'	Fresh Water/ C.Brine mud	8.4 ppg	29	NC
8,700'-10,000'	Brine/ C.Brine mud	9.0-10 ppg	29	NC
10,000'-12,900'	XCD (Subject to change)	9.6 - 10+ppg	32-34	W/L control <6 cc

Set CDA

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.
Logging: T.D.to 5200':(GR-CAL-CNL-LDT)(GR-CAL-DLL-MICRO) (and possible FMI).
5200' to Surface: GR/CNL
Coring: Rotary Sidewall as dictated by logs.
Mud Logging: T.D. to intermediate casing: Log 10' samples below int. casing.

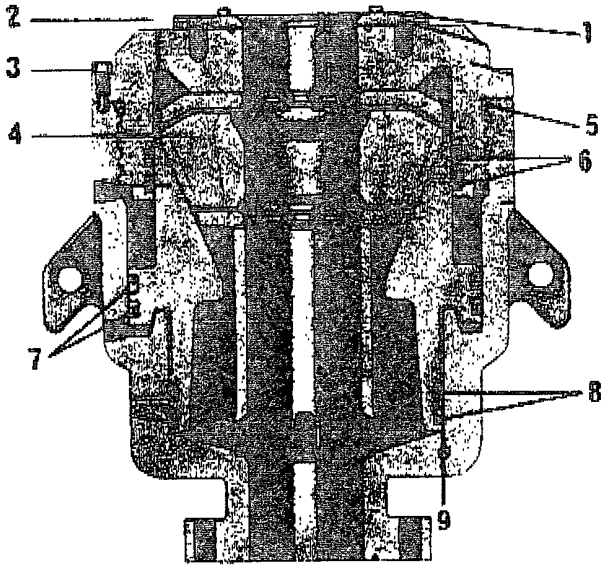
10. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered the proposed mud program will be modified to increase the mud weight. Estimated evacuated BHP = 6708 psi and surface Pressure of 3870 psi with a BH temperature of 189°.

11. H_2S: None expected. The Mud Log Unit will be cautioned to use a gas trap to detect H_2S and if any is detected the mud weight will be increased along with H_2S inhibitors sufficient to control the gas. H_2S monitoring equipment will be installed before drilling out from the 9 5/8" casing.

12. Anticipated starting date: September 29, 2008
Anticipated completion of drilling operations: Approximately 40 days.

Odessa, Tx. [915] 362-0491 • Oklahoma City, Ok. [405] 670-3601 • Lafayette, La. [318] 837-2981

HYDRIL® TYPE "GK" ANNULAR BLOWOUT PREVENTER



Star Tools

Item #	Part Name		No. Req'd	TYPE 'GK' BLOWOUT PREVENTER SIZE					
				6 x 3000	6 x 5000	10 x 3000	10 x 5000	12 x 3000	13-5/8 x 5000
1	Protector Plate Screws		4	105-3046	105-3046	105-3046	105-3046	105-3046	105-3046
2	Pipe Plug		1	63-33773	65-35627	103-35627	105-35627	123-35627	135-35627
3	Head Lock Screw		1	63-31067	65-30695	103-31607	105-31407	123-30695-L	135-31407
4	Packing Unit	Synthetic	1	63-31078-MR	65-30667-S	103-31818-S	105-31401-S	123 30732-S	135-38148-S
		Natural	1	63-31078-MS	65-30667-N	103-31818-N	105-31041-N	123-30732-N	135-38148-N
5	Head Gasket		1	63-31602	65-30690	103-31809	105-31402	123-30738	135-38150
6	Upper Piston Seal		2	63-31603	65-30689	103-31808	105-31403	123-30736	135-38151
7	Piston Head Seal		2	103-31604	65-30688	103-31807	123-30736	123-30737	135-38152
8	Lower Piston Seal		2	63-15614	65-30705	103-31604	105-32599	123-30735	135-38165
9	Piston Indicator Seal		1	1-29644	1-29644	1-29644	1-29644	1-29644	1-29644
	Complete Seal Kit (Less Piston Indicator Seal)		1	63-50683	65-50684	103-50687	105-50688	123-50689	135-50690

5000 PSI WORKING PRESSURE BLOWOUT PREVENTER STACK

EXHIBIT C-1

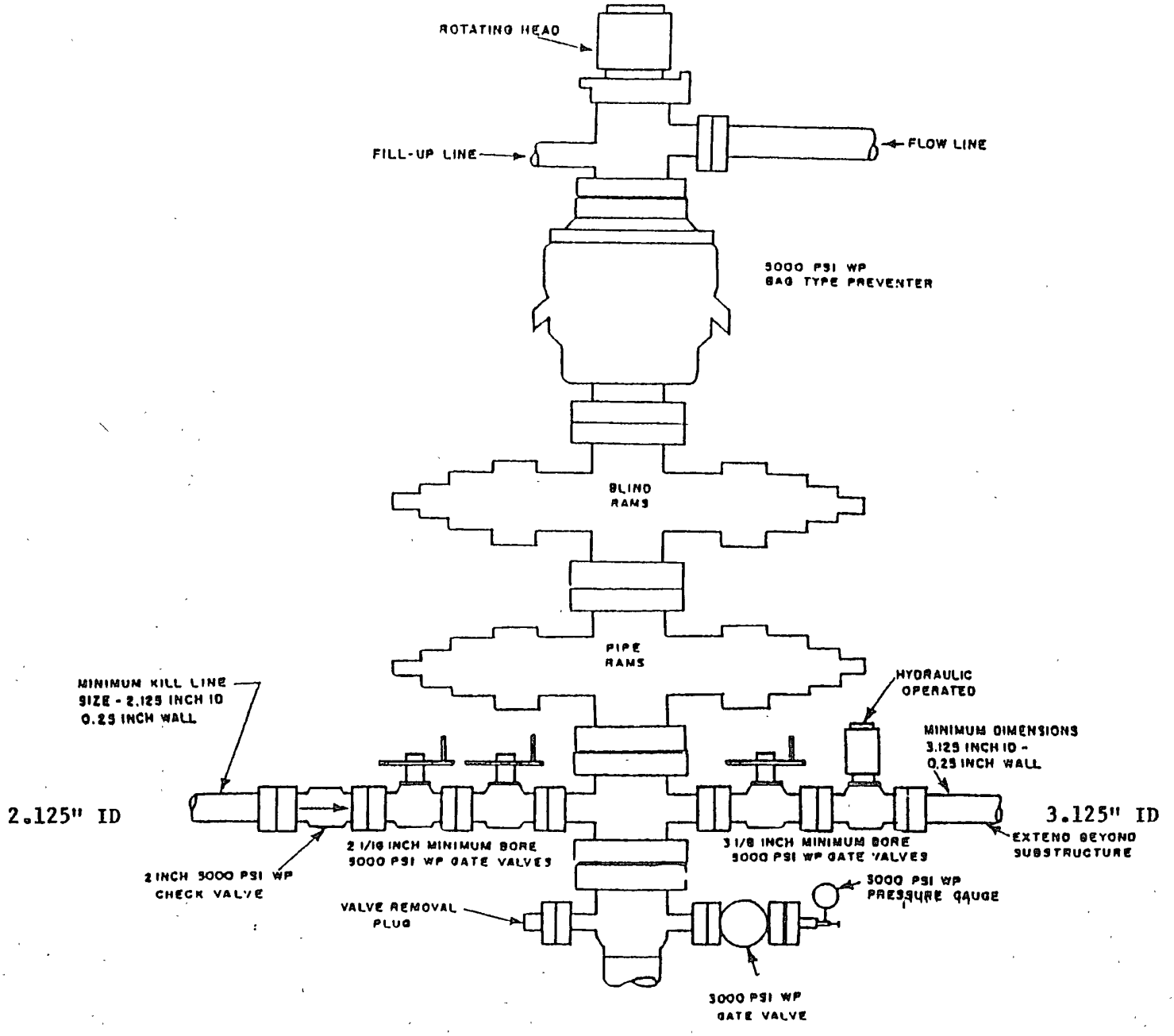
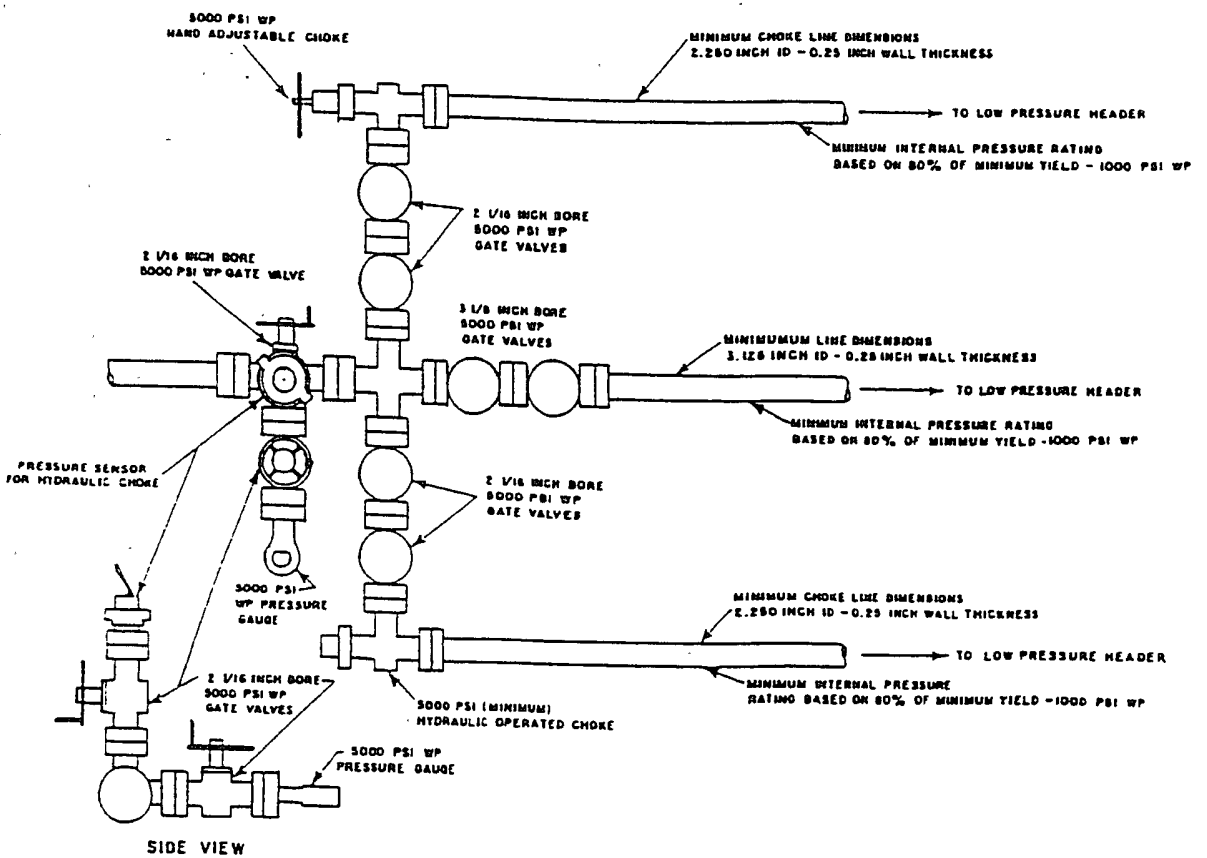


EXHIBIT "E"
CHI OPERATING, INC.
Screech Federal, Well No. 1
BOP Specifications



5000 PSI WORKING PRESSURE CHOKE MANIFOLD

EXHIBIT C-2

EXHIBIT "F"

Chi Operating, Inc.

H_2S DRILLING OPERATIONS PLAN
For:
Screech Federal Com., Well No. 1
1080' FSL & 1080' FWL, Sec. 4-T17S-R32E

I. HYDROGEN SULFIDE TRAINING

All key personnel whether regularly assigned, contracted or employed on an unscheduled basis will receive or represent that they have received training in accordance with the general training requirements outlined in the API RP49 for safe drilling of wells containing hydrogen sulfide, Section 2.

In addition, supervisory personnel will be trained in the following areas:

1. The corrective action and shut-in procedures when drilling or reworking a well, and blowout prevention in well control procedures.

2. The contents and requirements of the H_2S drilling operations plan.

II. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested and operational when drilling reaches a depth of 500' above the first zone containing or reasonably expected to contain 100 ppm or more hydrogen sulfide.

1. Well Control Equipment:

a. Choke manifold with a minimum of one choke.
b. Blind rams and pipe rams and pipe rams to accommodate all drill pipe sizes with a properly sized closing unit.

2. Protective Equipment:

a. Proper protective breathing apparatus shall be readily accessible to all essential personnel on the drill site.

3. H_2S and Monitoring Equipment:

a. Three portable H_2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens.

4. Visual Warning Systems:

a. Wind direction indicators as shown on well site diagram.
b. Caution/Danger signs shall be posted on roads providing direct access to location.

5. **Mud Program:**

   a. The mud program has been designed to minimize the volume of H_2S circulated to the surface. Proper mud weight and safe drilling practices will minimize hazards when penetrating possible H_2S bearing zones.

6. **Communications:**

   a. Cell phone communication available in all vehicles and at the drilling site.
   b. EMERGENCY PHONE NUMBERS:
   Maljamar: 575-396-3611
   Lovington:
   Ambulance No.:575-396-2359
   Police No. 575-396-2811
   Fire Dept.: 575-396-2359

7. **Well Testing:**

   a. Drillstem testing, if required, will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. When drillstem testing intervals known to or reasonably expected to contain 100 ppm or more H_2S, the drillstem test will be conducted during daylight hours and formation fluids will not be flowed to the surface.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CHI OPERATING INC.
LEASE NO.:	NM0315712
WELL NAME & NO.:	Screech Federal Com 1
SURFACE HOLE FOOTAGE:	1080' FSL & 1080' FWL
BOTTOM HOLE FOOTAGE	Same
LOCATION:	Section 4, T. 17 S., R 32 E., NMPM
COUNTY:	Lea 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.

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)

Mitigation Measures: The mitigation measures include the Pecos District Conditions of Approval, and the standard stipulations for the Lesser Prairie Chicken.

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, geophysical exploration other than 3-D operations, and 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 ft. from the source of the noise.

Screech Federal Com., Well # 1: Closed Loop System- Pit North V- Door East

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. 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

Screech Federal Com., Well # 1: Closed Loop System- Pit North V- Door East

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.

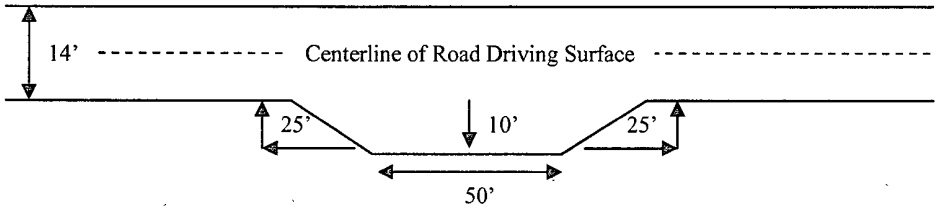
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

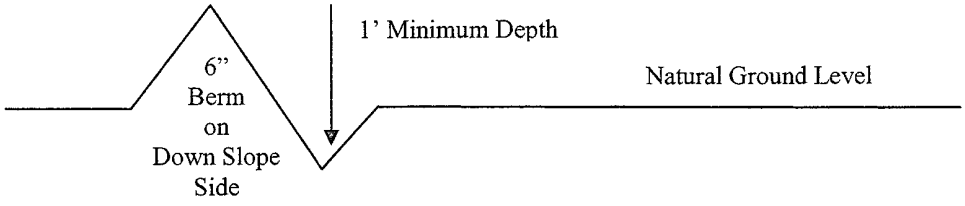
Standard Turnout – Plan View



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping 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 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ 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.

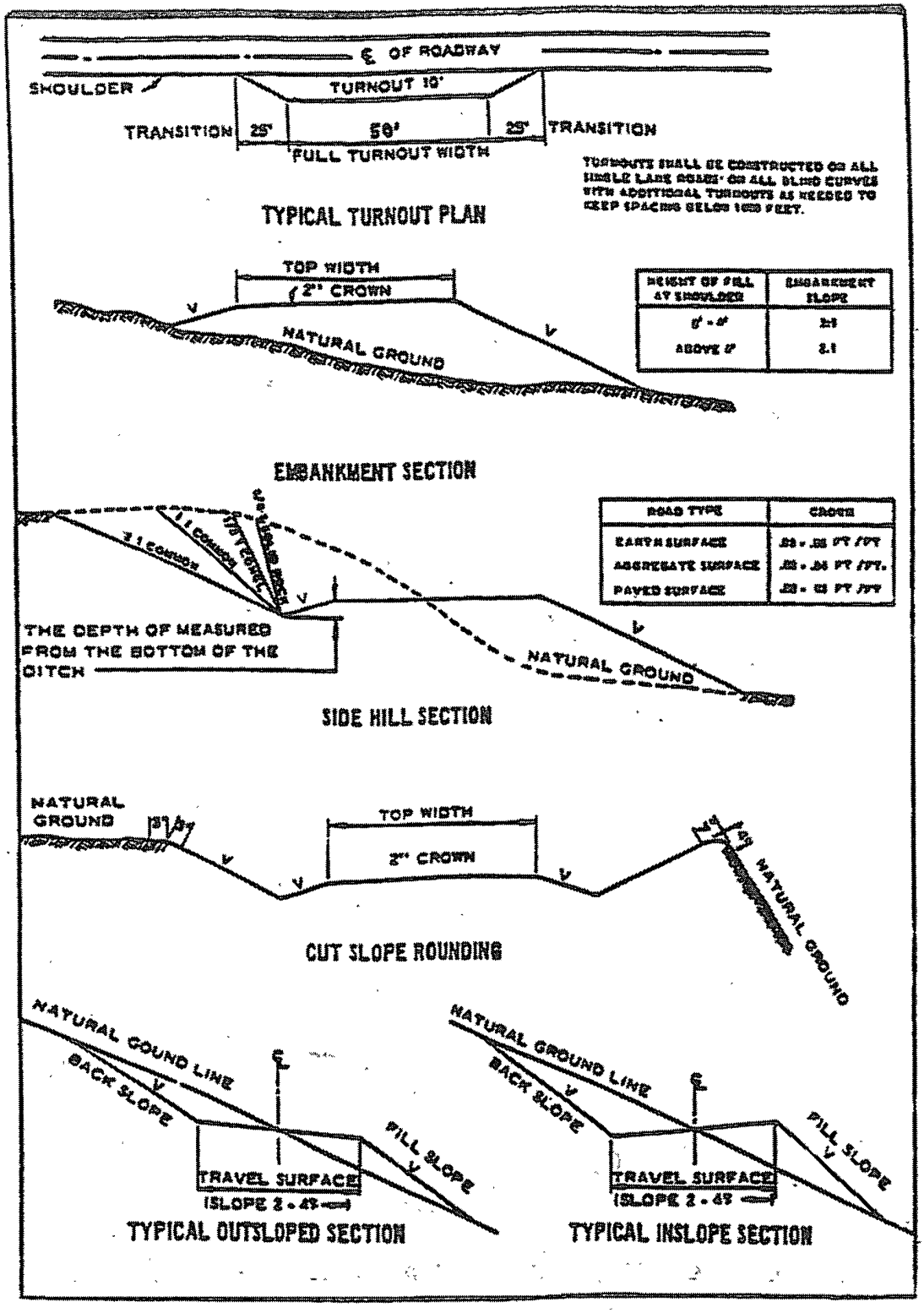
A gate shall be constructed and fastened securely to H-braces.

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

☒ **Lea County**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Grayburg** formation. **If Hydrogen Sulfide is encountered, please provide measured values 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.

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.

Possible lost circulation in the Grayburg and San Andres formations.
Possible water and brine flows in the Salado and Artesia Group.
Possible over pressure in the Wolfcamp and the Pennsylvanian Section.

1. The **13-3/8** inch surface casing shall be set **at approximately 1000 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **Fresh water mud to be used to setting depth.**

    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 **9-5/8** inch intermediate casing is:

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

    ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement will be required since the excess cement calculates to less than 5%.**

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 **2000 (2M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8"** intermediate casing shoe shall be **5000 (5M)** psi.

4. 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. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

    f. A variance to test the surface casing and BOP/BOPE **(entire system)** to the reduced pressure of **1000** psi with the rig pumps is approved.

D. 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.

E. DRILL STEM TEST

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

WWI 102508

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

C. ELECTRIC LINES

IX. 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 see 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:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	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.