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09-116

AFS-09-409

Form 3160-3
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137
Expires July 31, 2010

## APPLICATION FOR PERMIT TO DRILL OR REENTER

| | |
|---|---|
| 5 Lease Serial No. NMNM-111242 | |
| 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. (305059) Pearsall 6 Federal # 11 |
| 2 Name of Operator Nadel and Gussman HEYCO, LLC (258462) | 9 API Well No. 30-025-39487 |
| 3a Address P.O. Box 1936 Roswell N.M. 88202 | 3b. Phone No (include area code) (575) 623-6601 |
| | 10 Field and Pool, or Exploratory Young: Bone Spring North |
| 4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface 660' FSL & 990' FEL Unit P At proposed prod zone Same | 11. Sec, T R M or Blk and Survey or Area Sec 6, T18S, R32E |
| 14 Distance in miles and direction from nearest town or post office* 10 miles South Maljamar, N.M. | 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) 660' | 16 No of acres in lease 483.87 | 17 Spacing Unit dedicated to this well 40 |
| 18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 990' | 19 Proposed Depth 9150' | 20 BLM/BIA Bond No. on file NMB000520 |
| 21 Elevations (Show whether DF, KDB, RT, GL, etc) 3818' GL | 22 Approximate date work will start* 09/09/2009 | 23 Estimated duration 45 days |

### 24 Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, must 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 must 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 BLM.

| | | |
|---|---|---|
| 25 Signature | Name (Printed/Typed) Keith Cannon | Date 05/20/2009 |
| Title Drilling Superintendent | | |
| Approved by (Signature) /s/ Don Peterson | Name (Printed/Typed) | Date JUL 27 2009 |
| 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

(Continued on page 2)

*(Instructions on page 2)

Approval Subject to General Requirements & Special Stipulations Attached

Capitan Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell Resource Area
P.O. Drawer 1857
Roswell, New Mexico 88202-1857



## Statement Accepting Responsibilities for Operations

Operator Name: Nadel and Gussman Heyco, LLC
Street or Box: P.O. Box 1936
City, State: Roswell, New Mexico
Zip Code: 88202

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below.

Lease No.: NMNM - 111242

Lease Name: Pearsall 6 Federal #11
Legal description of land: Sec 6, T18S, R32E, Lea County, New Mexico

Formation(s) (if applicable): Bone Spring 2nd Sand, Bone Spring 1st Sand, Bone Spring B&C Carb., Grayburg-SanAndres,

Bond Coverage: Statewide Bond

BLM Bond File No.: NM B 000520

Authorized Signature:

Title: Drilling Superintendent

Date: 5/20/2009

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

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State of New Mexico
Energy, Minerals and Natural Resources Department

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

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

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

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

# WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

| API Number | Pool Code | Pool Name |
|---|---|---|
| 30-025-39487 | 65350 | Young; Bone Spring-North |

| Property Code | Property Name | Well Number |
|---|---|---|
| 305050 | PEARSALL 6 FEDERAL | 11 |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| 258462 | NADEL AND GUSSMAN HEYCO, LLC. | 3818' |

## Surface Location

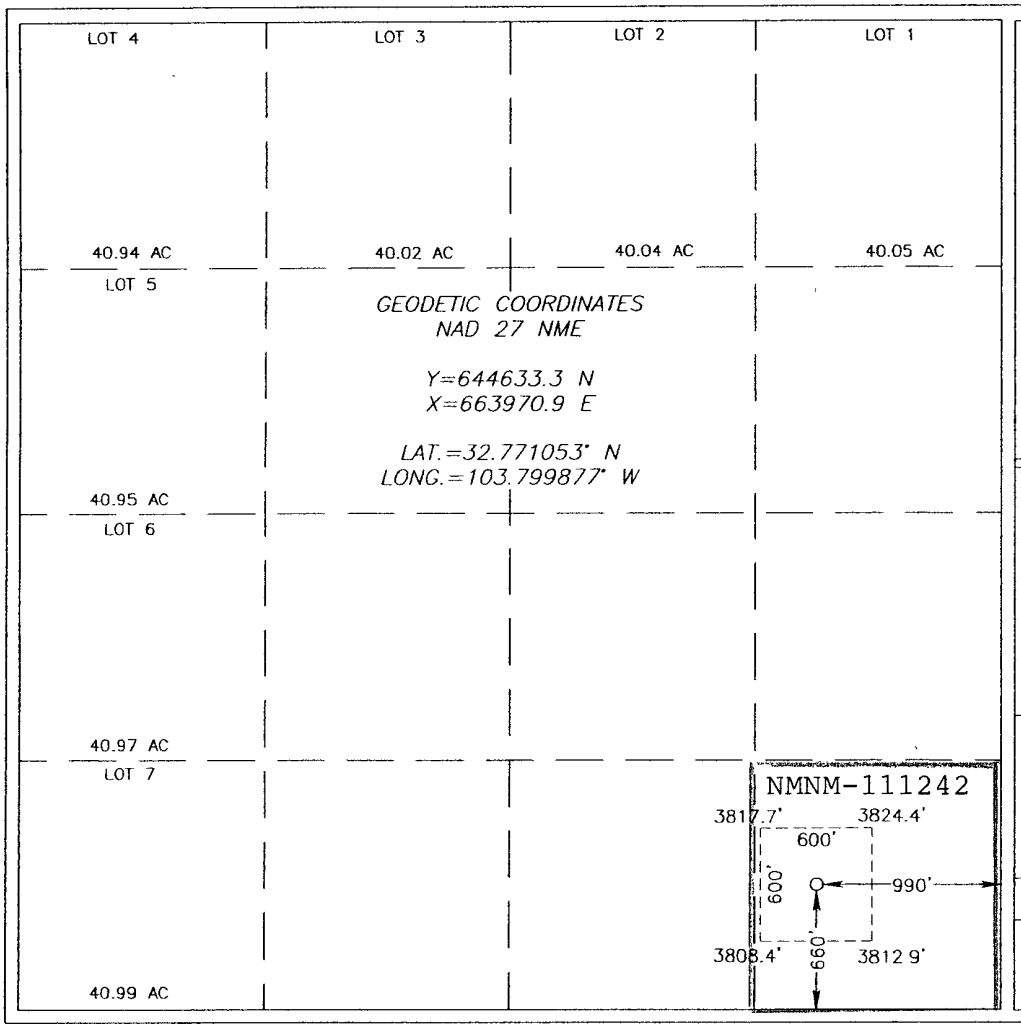
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| P | 6 | 18-S | 32-E | | 660 | SOUTH | 990 | EAST | LEA |

## 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 |
|---|---|---|---|---|---|---|---|---|---|
| P | 6 | 18-S | 32-E | | 660 | South | 990 | East | Lea |

| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|---|---|---|---|
| 40 | | | |

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.*

Signature — Date: 5/20/09

Keith Cannon
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.*

MAY 11, 2009

Date Surveyed: AR

Signature & Seal of Professional Surveyor

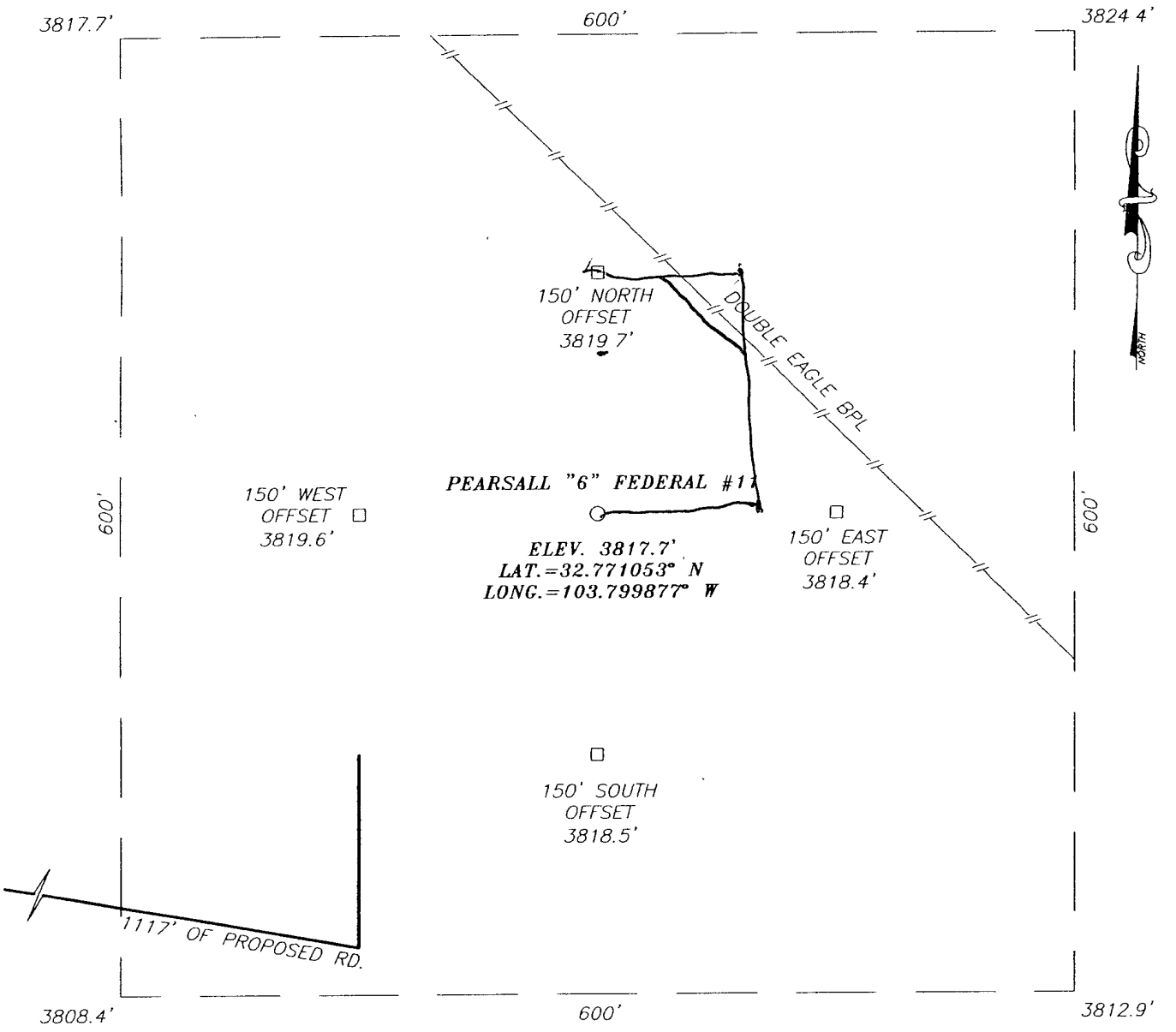
Ronald J. Eidson 05/15/09

NEW MEXICO 9 11 0408

Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

# SECTION 6, TOWNSHIP 18 SOUTH, RANGE 32 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO




DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. HWY. #529 AND CO. RD. #L126, GO SOUTH ON CO. RD. #L126 APPROX. 2 5 MILES. TURN RIGHT AND GO WEST APPROX. 0.7 MILES. TURN RIGHT AND GO NORTH APPROX. 0.4 MILES. TURN LEFT AND GO WEST APPROX. 0.6 MILES. VEER RIGHT AND GO NORTHWEST APPROX. 0.4 MILES. TURN RIGHT AND GO NORTH APPROX. 0.2 MILES TO EXIST. PEARSALL "6" FEDERAL #2 BATTERY AND PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY EAST THEN SOUTHEAST THEN NORTH APPROX. 1117 FEET TO THIS LOCATION.

100 0 100 200 Feet

Scale: 1"=100'

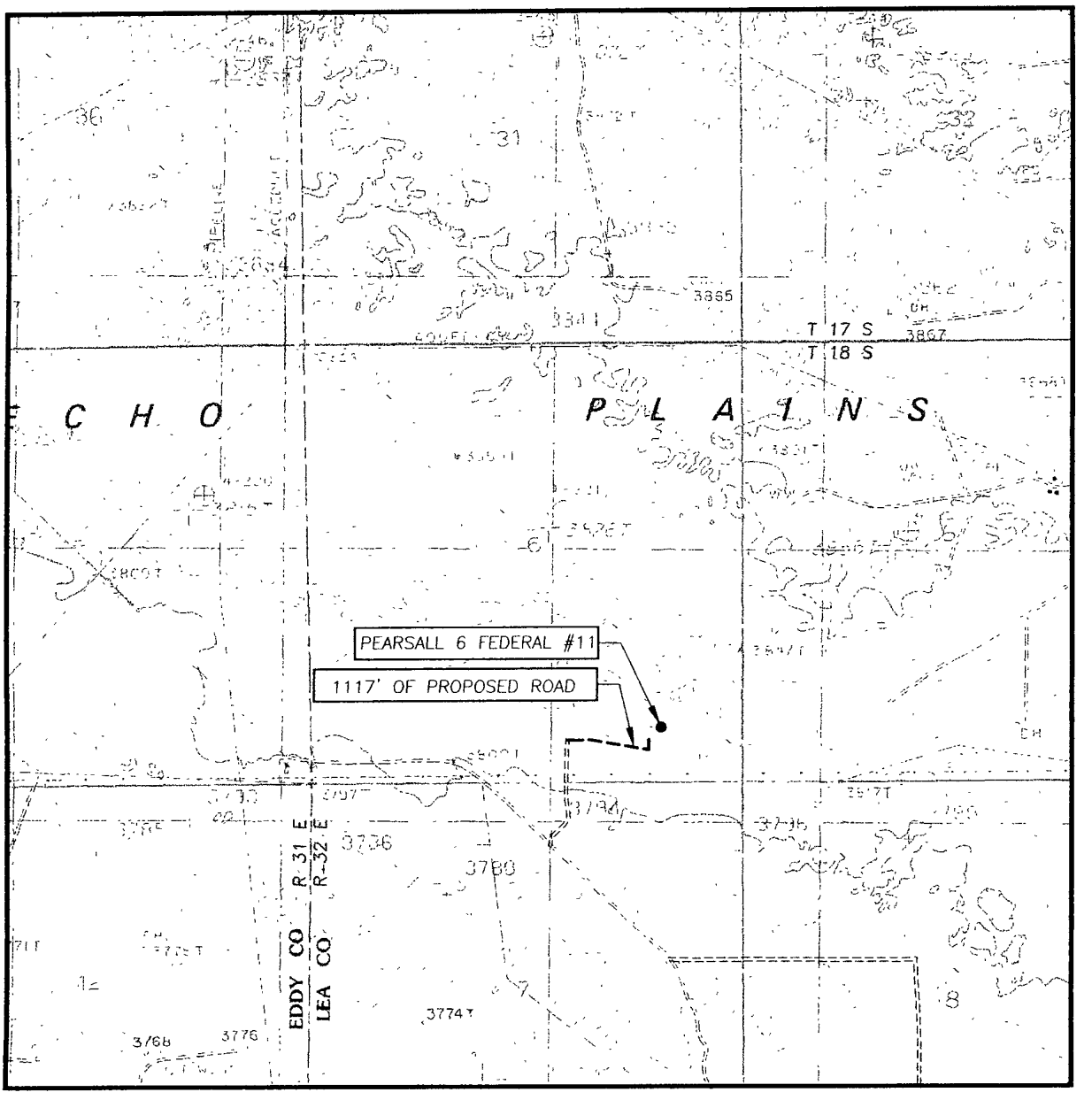

PROVIDING SURVEYING SERVICES SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117


## NADEL AND GUSSMAN HEYCO, LLC.

PEARSALL 6 FEDERAL #11 WELL
LOCATED 660 FEET FROM THE SOUTH LINE
AND 990 FEET FROM THE EAST LINE OF SECTION 6,
TOWNSHIP 18 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

| | | | |
|---|---|---|---|
| Survey Date: 5/11/09 | Sheet 1 of 1 Sheets | | |
| W.O. Number: 09.11.0438 | Dr By: AR | Rev 1:N/A | |
| Date: 5/15/09 | | 09110438 | Scale: 1"=100' |

# LOCATION VERIFICATION MAP




SCALE: 1" = 2000'

CONTOUR INTERVAL
MALJAMAR, N.M. – 10'

SEC. 6 TWP. 18-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 660' FSL & 990' FEL

ELEVATION 3818'

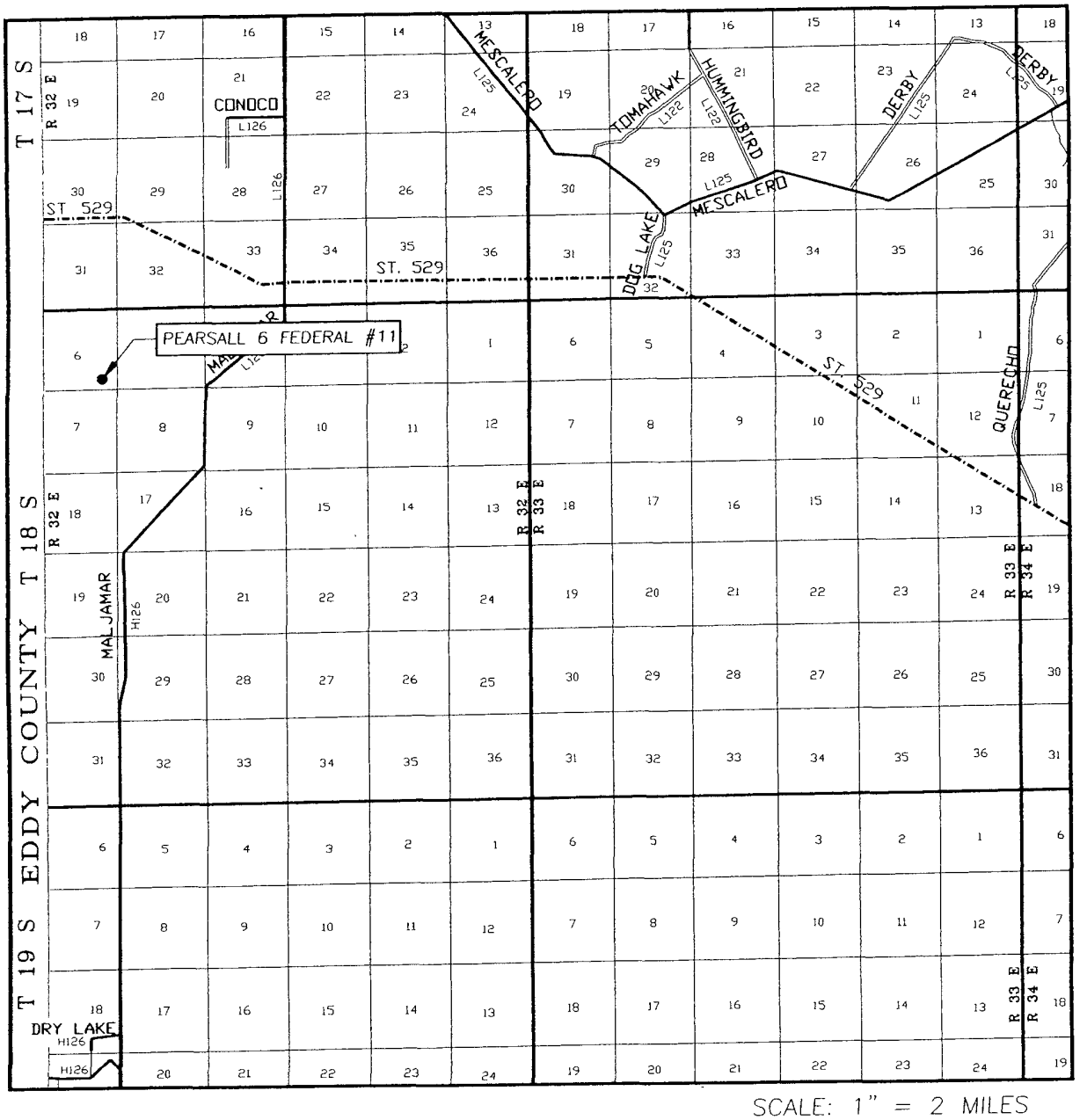
OPERATOR NADEL AND GUSSMAN HEYCO, LLC.

LEASE PEARSALL 6 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
MALJAMAR, N.M.

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M 88240
(575) 393-3117

# VICINITY MAP




SCALE: 1" = 2 MILES

SEC. 6 TWP. 18-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 660' FSL & 990' FEL

ELEVATION 3818'

OPERATOR NADEL AND GUSSMAN HEYCO, LLC.

LEASE PEARSALL 6 FEDERAL


PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117

Application
**Nadel and Gussman Heyco, LLC**
**Pearsall 6 Federal #11**
**UL . P, Sec 6, T18S, R32E**
**660' FSL & 990' FEL**
**Lea County, New Mexico**

**In conjunction with Form 3160-3, Application For Permit To Drill Or Deepen subject well, Nadel and Gussman Heyco, LLC submits the following ten items of pertinent information in accordance with Onshore Oil & Gas Order No. 10.**

1. **Geologic Name of Surface Formation:**
   PERMIAN

2. **Estimated Tops of Significant Geologic Markers:**

| Formation | Depth | | | | |
|---|---|---|---|---|---|
| Rustler | 1,050' | Water | L.San Andres Dol. Equiv. | 5,775' | Oil |
| Salado | 1,150' | | Bone Spring Ls | 6,475' | Oil |
| BX (BASE OF SALT) | 2,330' | | A – Zone Carb | 7,375' | Oil |
| Yates | 2,515' | | Bone Spring 1st Sand | 7,675' | Oil |
| Seven Rivers | 2,900' | Oil | B – Zone Carb | 7,890' | Oil |
| Bowers | 3,360' | Oil | Bone Spring 2nd Sand | 8,310' | Oil |
| Queen | 3,625' | Oil | C Bench Pay | 8,620' | Oil |
| Penrose | 3,865' | Oil | C – zone Carb | 8,890' | Oil |
| Grayburg | 4,145' | Oil | Bone Spring 3rd Sand | 8,985' | Oil |
| Loco Hills | 4,255' | Oil | PTD | 9,150' | |
| Metex | 4,355' | Oil | | | |
| Premier Sand | 4,480' | Oil | | | |
| Upper San Andres | 4,675' | Oil | | | |
| Delaware (CRCN Toungue) | 4,895' | Oil | | | |
| Brushy Canyon | 5,300' | Oil | | | |

No other formations are expected to yield oil, gas, or fresh water in measurable volumes.
The surface fresh water sands will be protected by setting 13 3/8" casing at 1040' and circulating Cement back to surface. All other intervals will be isolation by setting 9 5/8"Casing at 3100' and circulating cement back to surface. Bone Spring intervals will be isolation by setting 5 ½" casing to total depth and circulating cement 200' up into 9 5/8" casing.

3. **Proposed Casing Program:**

| Hole size | Depth | OD Csg | Weight | Collar | Grade | New/Used |
|---|---|---|---|---|---|---|
| 17 ½" | 0' – 1040' | 13 3/8" | ~~54.4#~~ 54.5 | ST&C | J-55 | NEW |
| 12 ¼" | 0' – 3100' | 9 5/8" | 36# | ST&C | J-55 | NEW |
| 7 7/8" | 0' – 2650" | 5 ½" | 17# | LT&C | L-80 | NEW |
| 7 7/8" | 2650' – 8300' | 5 ½" | 15.5# | LT&C | L-80 | NEW |
| 7 7/8" | 8300' – 9150' | 5 ½" | 17# | LT&C | L-80 | NEW |

Safety Factors: Burst 1.0 Collapse 1.125 Tension 1.8
All casing is new and API approved

4. **Cement Program: ( Note yields; and DV tool depths if multiple stages )**
   a. 13 3/8" Surface Cement to surface with:
   Lead – 647 sx 35:65 Poz C, 3% CaCl, 0.125 pps Celloflake and 6% Bentonite, 12 7 ppg, 1.94 cu ft./sk yield, TOC @ surface (100% excess)
   Tail – 200 sx C, 2% CaCl and 0.125 pps Celloflake, 14 8 ppg, 1.34 cu.ft./sk yield, TOC @ 903' (100% excess).

   b. 9 5/8" Intermediate Cement to surface with:
   Lead - 453 sx 50:50 Poz C, 5% Salt, 0.125 pps Celloflake, 10% Bentonite and 0.2% AntiFoamer, 11.9 ppg, 2.46 cu.ft./sk yield, TOC @ surface (30% excess).
   Tail – 200 sx C and 1% CaCl, 14.8 ppg, 1.33 cu.ft./sk yield, TOC @ 2570' (30% excess).

   c 5 1/2" Production Lead - 299 sx 35.65 Poz H, 5% Salt, 6% Bentonite, 0.2% Uniflac, 0 2% TIC Dispersant, 0 2%
   See COA

see COA

AntiFoamer and 0.2% Retarder, 12.6 ppg, 2.04 cu.ft./sk yield, TOC @ 2900' (30% excess).
Tail – 625 sx TXI Lightweight, 1.33% Salt, 0.2% AntiFoamer, 0.3%, Uniflac, 0.2% TIC Dispersant and 0.2% Retarder, 13.0 ppg, 1.39 cu.ft./sk yield, TOC @ 5500' (30% excess)

The above volumes, additives and depths may be revised based on open hole logs, conditions encountered while drilling and on cement field blend tests. The top of cement for the production string is designed to reach approximately 200' above the 9 5/8" casing shoe.

5. **Pressure Control Equipment:**

The blowout preventor equipment (BOPE) shown will consist of a (3m system)
Double ram type (3000psi WP) preventor and a bag type (hydril) preventor (3000psi WP)
Both unit will be hydraulically operated and the ram type preventor will
be equipped with blind rams on top,4 ½" drill pipe rams on bottom.
The BOP's and Hydrill will be tested as per BLM Drilling Operations Order #2. Pipe rams will be
Operated and checked each 24hr period and each time drill pipe is out of the hole. These functional
Test will be documented on the daily driller log. A 2" kill line and 3" choke line will be incorporated
In the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly
Cock, floor safety valve, choke line and choke manifold having a 3000psi wp rating.

6. **Drilling Fluid Program:**

| Depth | Mud Wt. | Visc | Fluid Loss | Type System |
|---|---|---|---|---|
| 0' – 1040' | 8.4 – 8.8 | 80 - 55 | NC | Fresh Water |
| 1040'– 3100' | 9.8 – 10.0 | 28 - 30 | NC | Brine Water |
| 3100'– 7500' | 8.8 – 9.4 | 28 - 32 | NC | Cut Brine Water |
| 7500' – 9150' | 8.8 – 10.0 | 34 - 36 | NC - 20 | Cut Brine Water |

The necessary mud products for weight addition and fluid loss control will be on
Location at all times. Mud Program subject to change due to hole conditions.

7. **Auxiliary Equipment:**
   a. A Kelly Cock will be in the drill string at all times.
   b. A full opening drill pipe stabbing valve having the appropriate Connections will be on the rig floor at all times.
   c. Hydrogen Sulfide detection equipment will be in operation after drilling Out the 9 5/8" casing shoe unit the 5 ½" casing is cemented. Breathing Equipment will be on location upon drilling the 9 5/8" shoe unit total Depth is reached.

8. **Testing, Logging, & Coring Program:**

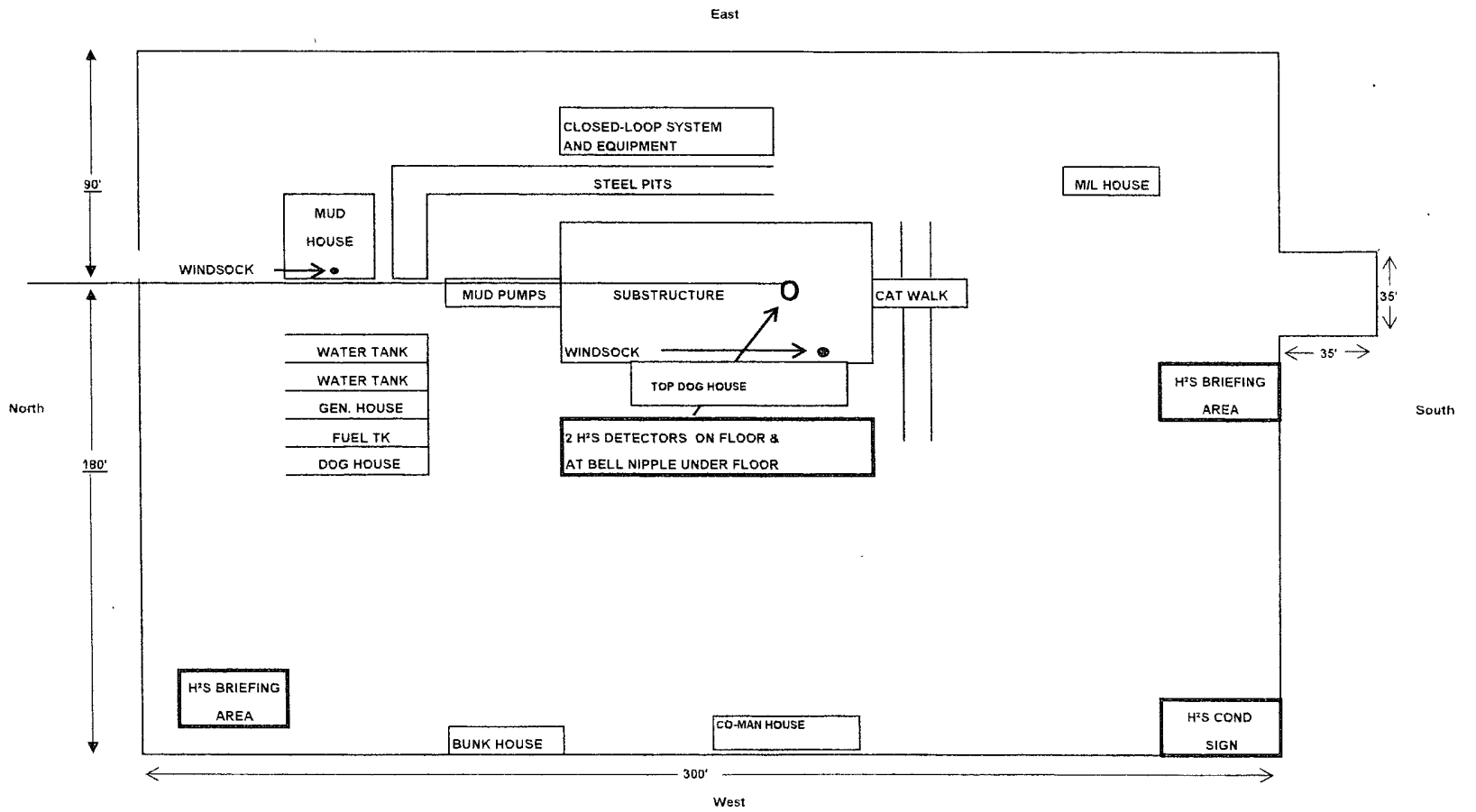
   a Mud logging unit from the base intermediate casing to depth 10' samples will be caught by loggers
   b. Possible rotary sidewall cores
   e. Platform express ( GR / LDT – CNL – PE / DLL – MCFL / NGT)

9. **Abnormal Conditions, Pressures, Temperature, or Potential Hazards:**
No abnormal conditions are expected. There is no known presence of H2S in this area.
If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas
Order No 6. Lost circulation might occur in the Capitan Reef. All personnel will be familiar
with all aspects of safe operation of equipment being used to drill this well.
Estimated BHP 4700 psi and estimated BHT 180 F. No H2S is anticipated to be encountered.

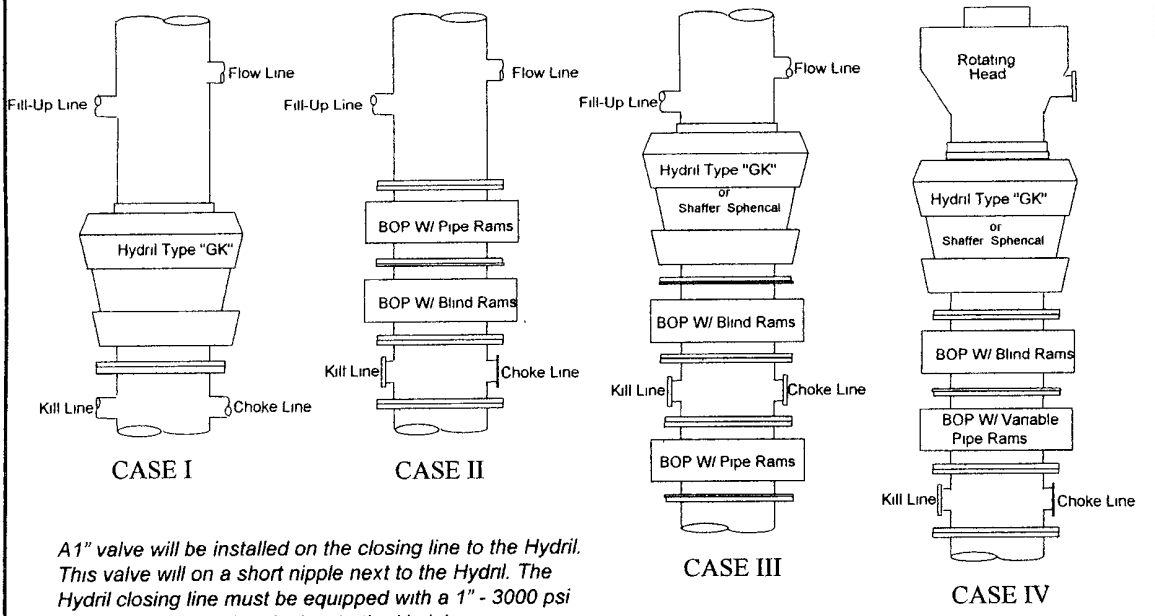
9. **Anticipated Starting Date & Duration of Operation:**
Road and location construction will begin after the BLM has approved the APD.
Anticipated spud date will be as soon as possible after BLM approval and as soon
as a rig will be available. Move in operations and drilling is expected to take 30 days.
If production casing is run then an additional 15 days will be needed to complete well
And construct surface facilities and/or lay flow line in order to place well on production.

EXHIBIT "D" LOCATION DIAGRAM

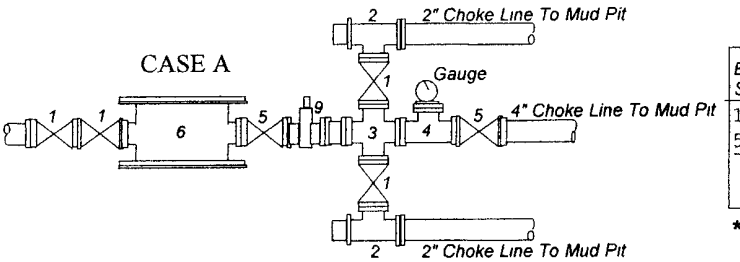
**Pearsall 6 Federal #11**
**660' FSL & 990' FEL**
**SEC 6, T18S, R32E**
**Lea Co, NM**



# Nadel and Gussman Heyco, LLC
## MINIMUM BLOWOUT PREVENTER REQUIREMENTS

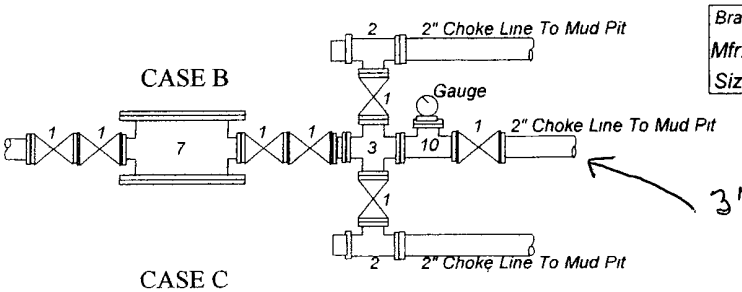



*A 1" valve will be installed on the closing line to the Hydril. This valve will on a short nipple next to the Hydril. The Hydril closing line must be equipped with a 1" - 3000 psi WP plug valve on the nipple into the Hydril.*



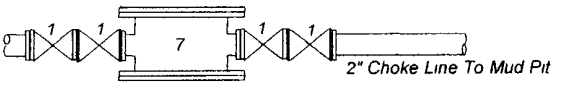

| BOP SIZE | BOP CASE | WORKING PRESSURE | CHOKE CASE |
|---|---|---|---|
| 13-5/8" | III | 3000 psi | B |
| | | | |

**Rotating head required*




3" required per O.O.2

Bradenhead
Mfr: _____
Size: _____ Type: _____




Legend

1 2" flanged all steel valve must be either Cameron "F", Halliburton Low Torque or Shaffer Flo-Seal
2 2" flanged adjustable chokes, min. 1" full opening & equiped with hard trim
3 4" x 2" flanged steel cross
4 4" flanged steel tee.
5 4" flanged all steel valve (Type as in no. 1)
6 Drilling Spool with 2" x 4" flanged outlet
7. Drilling Spool with 2" x 2" flanged outlet
8 2" x 2" flanged steel cross
9. 4" pressure operated gate valve
10 2" flanged steel tee

Notes

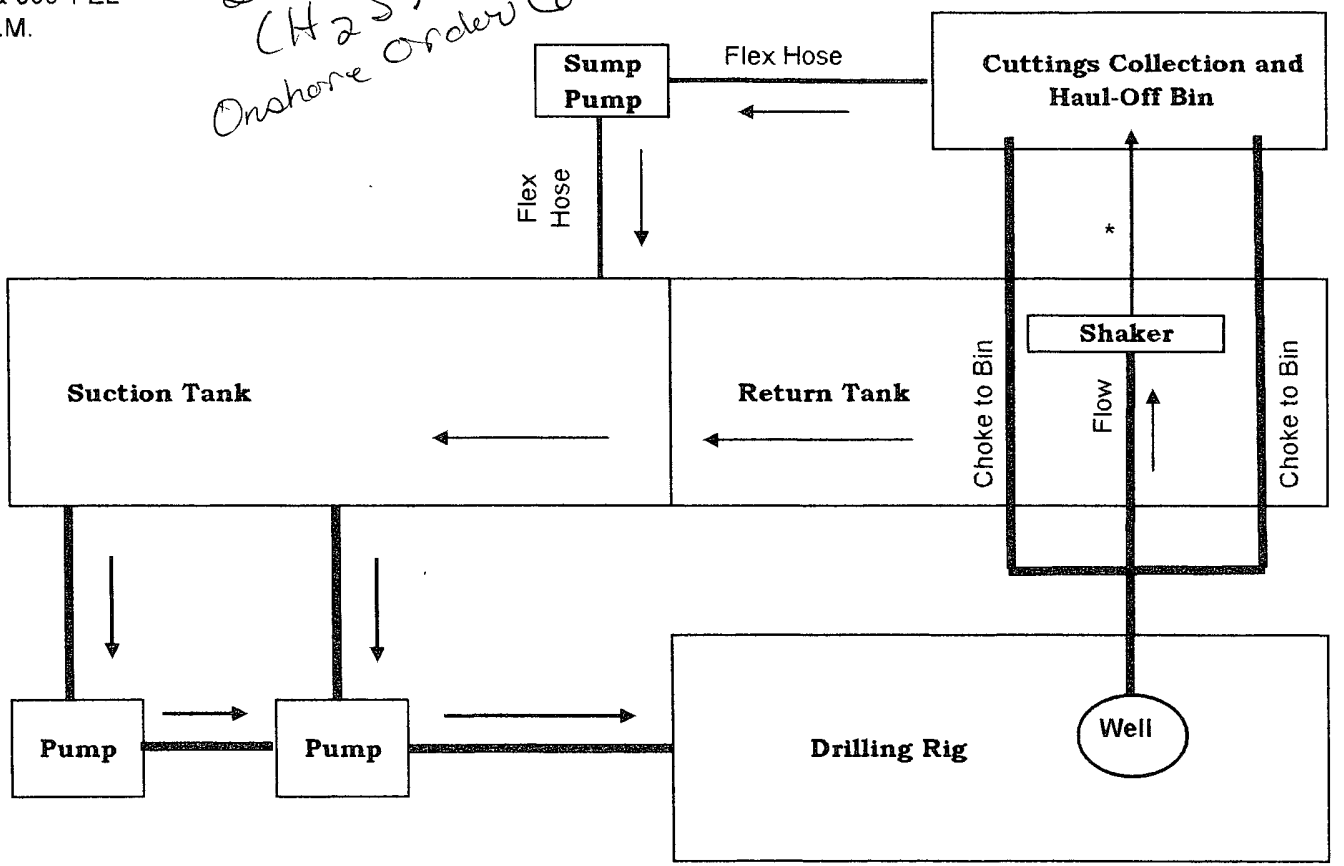
Choke manifold may be located in any convenient position. Use all steel fittings throughout Make 90° turns with bull plugged tees only. No field welding will be permitted on any of the components of the choke manifold and related equipment upstream of the chokes The choke spool and all lines and fittings must be at least equivalent to the test pressure of the preventers required Independent closing control unit with clearly marked controls to be located on derrick floor near driller's position

(10-31-96) WTXBOPS PPT

# Choke Manifold Schematic for Closed Loop System

Pearsall 6 Federal #11
Sec 6, T18S, R32E
660' FSL & 990' FEL
Lea Co N.M.

See COA (H2S) Onshore Order 6




mud/gas separator & flare

* No pipe manifold from shaker to haul-off bin.

**NADEL AND GUSSMAN HEYCO, L.L.C.**
**P.O. BOX 1936**
**ROSWELL N.M. 88202**
**(575) 623-6601 (Office)**
**(575) 624-5321 (Fax)**

**Re: Pearsall 6 Federal #11**
**660' FSL & 990' FEL**
**Unit Letter P Sec. 6, T18S, R32E**
**Lea, NM**
**Rule 118 H2S Exposure**

Dear Mr. Ingram

Nadel and Gussman Heyco, LLC have evaluated this well and we do not expect to encounter hydrogen sulfide. However, we will employ a third party monitoring system. We will begin monitoring prior to drilling out the intermediate casing and will continue monitoring the remainder of the well.

Please contact me if you have any additional questions.

Sincerely,

Keith Cannon
Drilling superintendent

# Hydrogen Sulfide Drilling Operations Plan
# Pearsall 6 Federal #11
# Sec 6, T18S, R32E
# 660' FSL & 990' FEL
# Lea Co. N.M.

1. Company and contract personnel admitted on location should be trained by a qualified $H_2S$ safety instructor to the recognize and handle following:
   A. Characteristics of $H_2S$ gas
   B. Physical effects and hazards
   C. Proper use of safety equipment and life support systems
   D. Principle and operation of $H_2S$ detectors, warning system and briefing knowledge
   E. Evacuation procedure, routes and first aid support
   F. Proper use of 30 minutes Pressure-on-Demand Air Pack

2. $H_2S$ Detection and Alarm Systems
   A. $H_2S$ detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse

3. Windsock and/or Wind Streamers
   A. Windsock at mud pit area (high enough to be visible)
   B. Windsock at briefing area (high enough to be visible)
   C. Windsock at location entrance

4. Condition Flags and Signs
   A. $H_2S$ warning signs on lease access road into location
   B. Flags displayed on sign at location entrance
      1. Green flag indicates "Normal Safe Conditions"
      2. Yellow Flag indicates "Potential Pressure and Danger"
      3. Red Flag indicates "Danger - $H_2S$ Present in High Concentrations" *admit only emergency personnel*

5. Well Control Equipment
   A. See Exhibit #5.

6. Communication
   A. While working under masks chalkboards will be used for communication
   B. Hand signals will be used where chalk board is inappropriate
   C. Two -way radios or cell phones used to communicate off location or minimally in Drilling Foreman's trailer or living quarters

7. Drillstem Testing
   A. Exhausts watered
   B. Flare line equipped with electric Igniter/propane pilot light in case gas reaches surface
   C. If location near dwelling closed DST will be performed

8. Drilling Supervisor required to be familiar with effects of $H_2S$ on tubular goods/mechanical equipment

9. If $H_2S$ encountered, mud system shall be addressed to maintain control of formation. A mud gas separator will be brought into service along with $H_2S$ scavengers, if necessary.

PUBLIC PROTECTION PLAN FOR EMERGENCY CONTACTS

**NADEL AND GUSSMAN HEYCO, LLC** (575) 623-6601

**Company Personnel**

| | | |
|---|---|---|
| Terry West | Drilling Enrineer | 432-682-4429 |
| | | 432-238-2874 |
| Keith Cannon | Drilling Supt. | 575-623-6601 |
| | | 575-626-1936 |

ARTESIA N.M

| | |
|---|---|
| Ambulance | 911 |
| State Police | 575-746-5000 |
| City Police | 575-746-5000 |
| Sheriff's Office | 575-746-9888 |
| Fire Department | 575-746-5050 or 575-746-5051 |
| N M.O.C.D | 575-748-1283 |

CARLSBAD N.M

| | |
|---|---|
| Ambulance | 911 |
| State Police | 575-885-3137 |
| City Police | 575-885-2111 |
| Sheriff's Office | 575-887-7551 |
| Fire Department | 575-885-3125 or 575-885-2111 |
| Carlsbad BLM | 575-887-6544 |

HOBBS N.M.

| | |
|---|---|
| Ambulance | 911 |
| State Police | 575-392-5588 |
| City Police | 575-397-9265 |
| Sheriff's Office | 575-396-3611 |
| Fire Department | 575-397-9308 |
| N.M.O.C.D | 575-393-6161 |
| Hobbs BLM | 575-393-3612 |

| | |
|---|---|
| Flight for Life (Lubbock Tx) | 806-743-9911 |
| Aerocare (Lubbock Tx) | 806-747-8923 |
| Med flight air Ambulance (Albuq NM) | 505-842-4433 |
| SB air Med Services (Albuq NM) | 505-842-4949 |

| | | |
|---|---|---|
| Boots & Coots IWC | | 800-256-9688 or 281-931-8884 |
| Cudd Pressure Control | | 915-699-0139 or 915-563-3356 |
| BJ Services | (Artesia NM) | 575-746-3569 |
| | (Hobbs NM) | 575-392-5556 |

| | |
|---|---|
| New Mexico Emergency Response Commission (Santa Fe) | 505-476-9600 |
| 24 Hour | 505-827-9126 |
| New Mexico State Emergency Operations Center | 505-476-9635 |

# PECOS DISTRICT
# CONDITIONS OF APPROVAL

| | |
|---|---|
| OPERATOR'S NAME: | Nadel & Gussman HEYCO, LLC |
| LEASE NO.: | NM111242 |
| WELL NAME & NO.: | Pearsall 6 Fed # 11 |
| SURFACE HOLE FOOTAGE: | 660' FSL & 990' FEL |
| BOTTOM HOLE FOOTAGE | Same |
| LOCATION: | Section 6, T. 18 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)

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.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972

# 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

Closed loop system- 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.

**The northeast corner of the pad must be reduced in order to avoid the buried pipeline located northeast of the proposed well location.**

## 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.

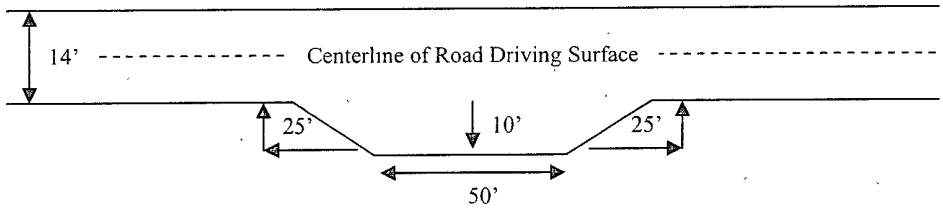
**Crowning**
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

**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**

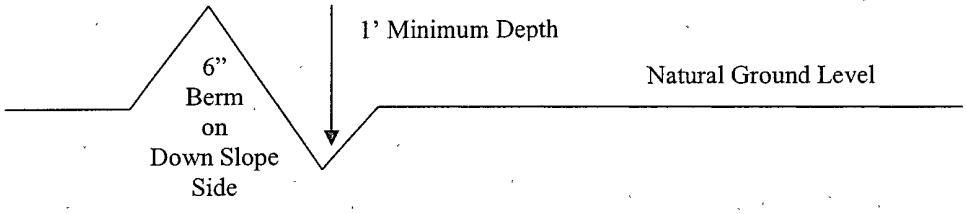



## Drainage

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.

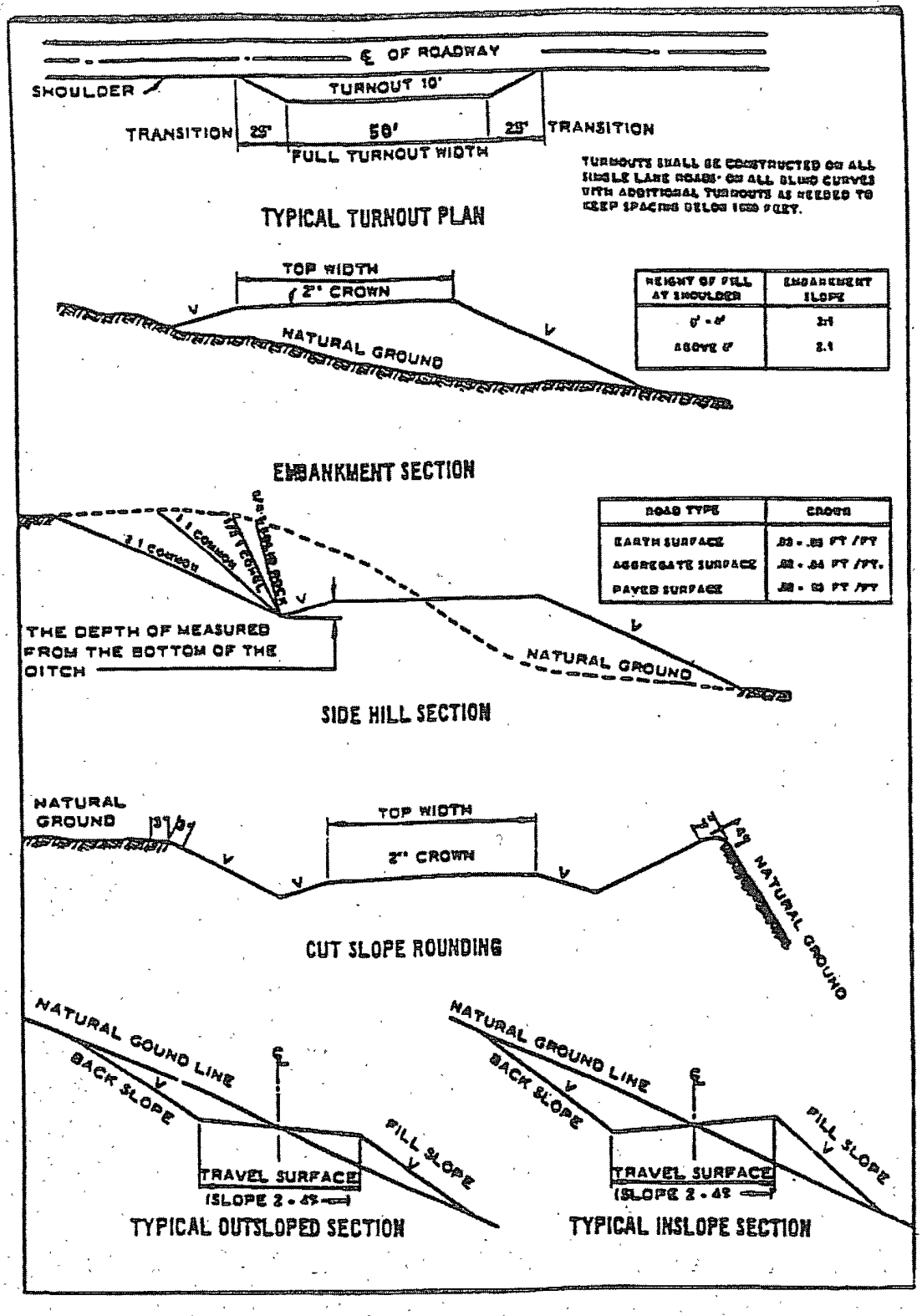
A gate shall be constructed and fastened securely to H-braces.

**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 **Queen** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. H2S has been recorded in the Queen formation less than a mile away in Section 5 at 2000 ppm. 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 water and brine flows in the Salado and Artesia Group.**
**Possible lost circulation in the Grayburg and San Andres formations.**
**Possible high pressure in the Wolfcamp formation if penetrated.**

1. The **13-3/8** inch surface casing shall be set **at approximately 1040 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 **9-5/8** inch intermediate casing is:

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

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 as excess cement calculates to a negative 7%.**

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. 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. **Operator to submit copies of test done for each casing string with the subsequent sundry detailing the casing/cementing details.**

    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.

## D. DRILL STEM TEST

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

**WWI 072109**

## 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

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

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

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

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency

or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Powerlines shall be constructed in accordance to standards outlined in "Suggested Practices for Raptor Protection on Powerlines, " Raptor Research Foundation, Inc., 1981. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "raptor safe." Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object)

discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:
    - For reclamation remove poles, lines, transformer, etc. and dispose of properly.
    - Fill in any holes from the poles removed.
    - See attached reclamation plans.

# IX. INTERIM RECLAMATION

## 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.