OCD-HOBBS

AT S-08-1072
EA-09-210

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Form 3160-3
(August 2007)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No. NMNM-~~120580~~ 056376	
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. Paloma Ridge # 1 (37541)
2 Name of Operator NADEL AND GUSSMAN HEYCO, LLC (258462)	9 API Well No. 30-025-39310
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 ~~Pearl~~ Lea Grayburg NE
4 Location of Well (Report location clearly and in accordance with any State requirements*) At surface 330' FNL & 660' FWL Unit D / At proposed prod zone	11. Sec., T R M. or Blk. and Survey or Area SEC 28, T19S, R34E
14 Distance in miles and direction from nearest town or post office* 20 MILES WEST OF HOBBS N.M.	12 County or Parish Lea / 13. State N.
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 330'	16 No of acres in lease 640 / 17 Spacing Unit dedicated to this well 40 Acre
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19 Proposed Depth ~~5050~~ 5200 / 20. BLM/BIA Bond No. on file NMB000520
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3711' GL Operator	22. Approximate date work will start* 1/1/09 / 23 Estimated duration 30 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 10/21/2008
Title Drilling superintendent		
Approved by (Signature)	Name (Printed Typed)	Date DEC 12 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

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

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- 056376

Lease Name: Paloma Ridge #1
Legal description of land: Sec 28, T19S, R34E, Lea County, New Mexico

Formation(s) (if applicable): Capitan, Penrose, Yates, Seven River

Bond Coverage: Statewide Bond

BLM Bond File No.: NMB000520

Authorized Signature: 

Title: Drilling Superintendent

Date: 10/21/08

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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
30-025-39310	~~96311~~ 96325	~~PEARL~~ Lea Graybu Northeast

Property Code	Property Name	Well Number
37541	PALOMA RIDGE	1

OGRID No.	Operator Name	Elevation
258462	NADEL AND GUSSMAN HEYCO, LLC	3711'

Surface Location

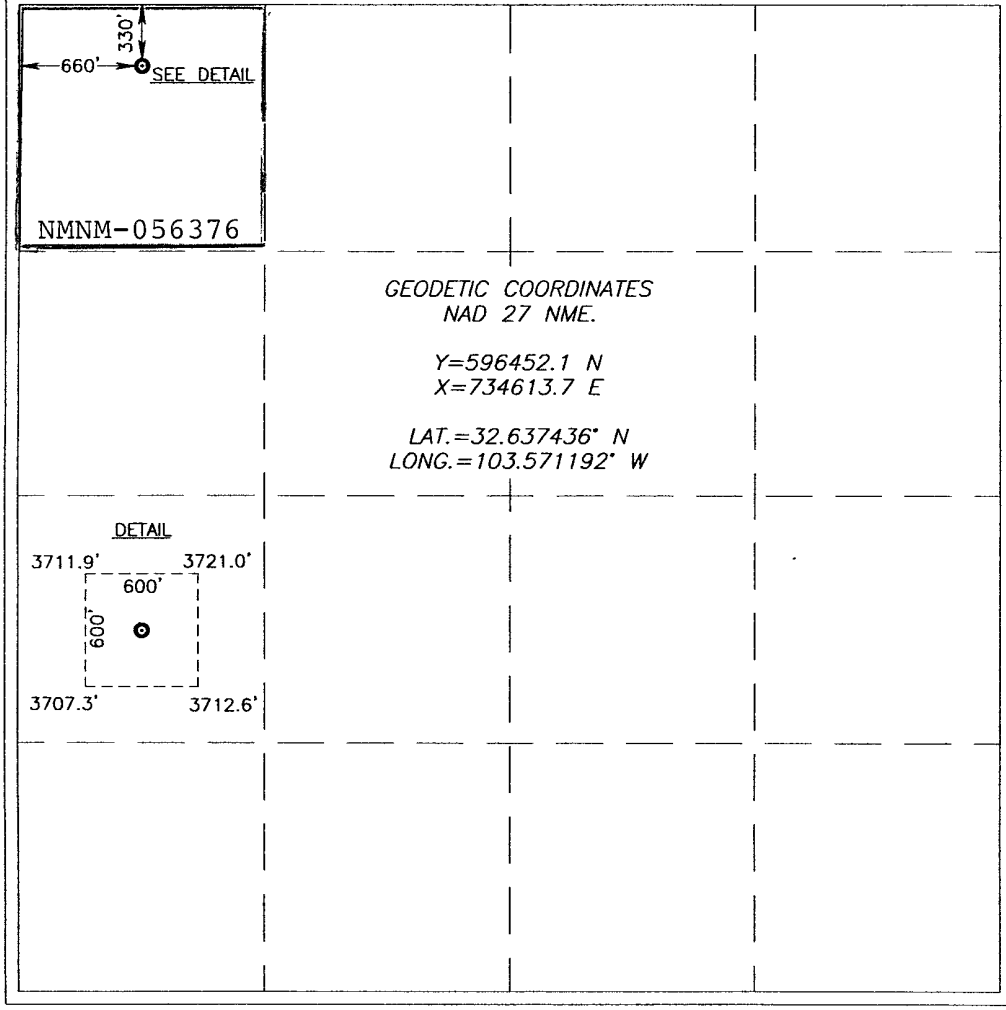
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	28	19-S	34-E		330	NORTH	660	WEST	LEA

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
D	28	19-S	34-E		330	NORTH	660	WEST	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 10-9-08 Date

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.

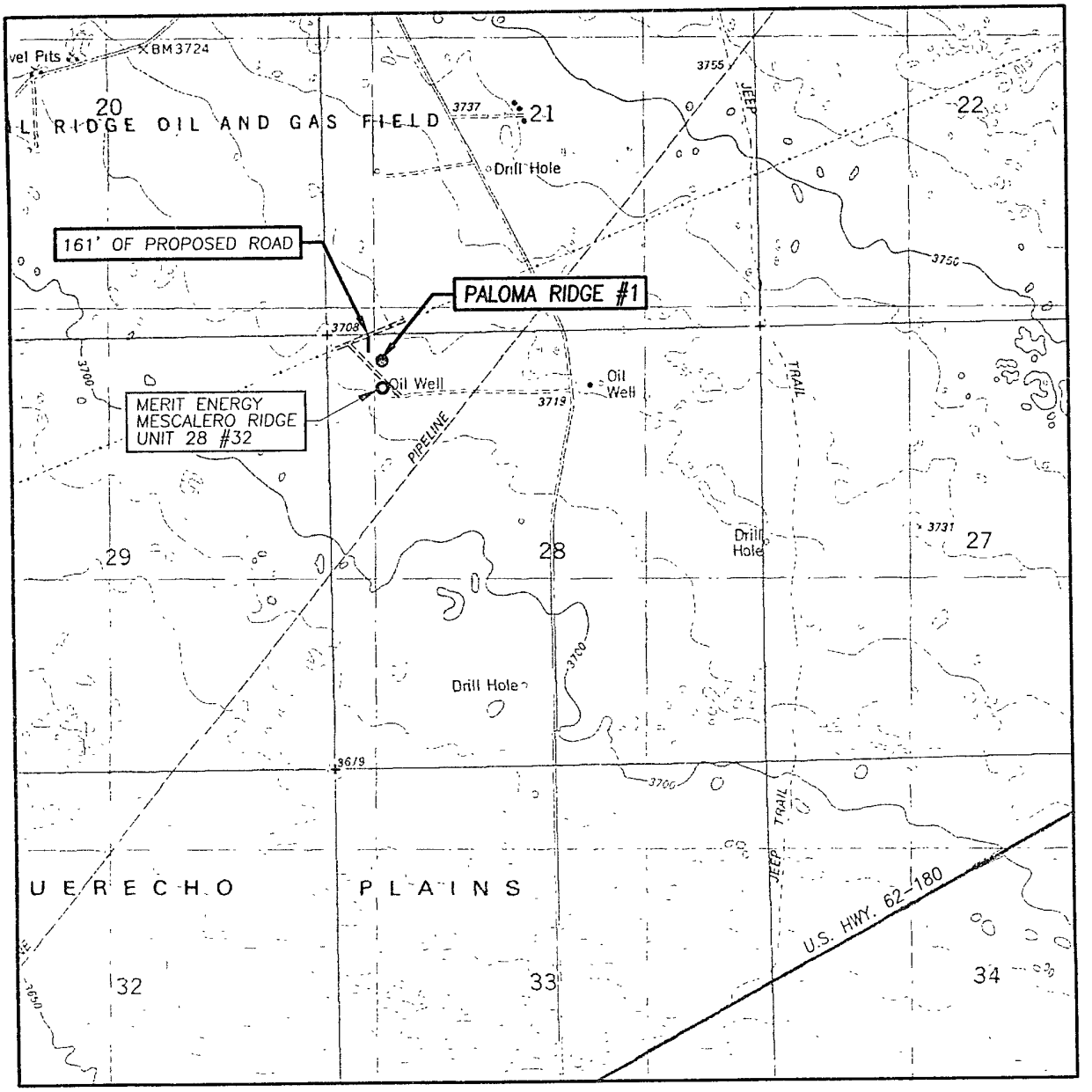
GARY G. EIDSON NEW MEXICO 12641 REGISTERED PROFESSIONAL SURVEYOR 08.11.1586

SEPTEMBER 29, 2008
Date Surveyed DSS

Signature & Seal of Professional Surveyor

Certificate No. GARY G. EIDSON 12641
RONALD J. EIDSON 3239

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
IRONHOUSE WELL, N.M. – 10'
LEA, N.M. – 10'

SEC. 28 TWP. 19-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 330' FNL & 660' FWL

ELEVATION 3711'

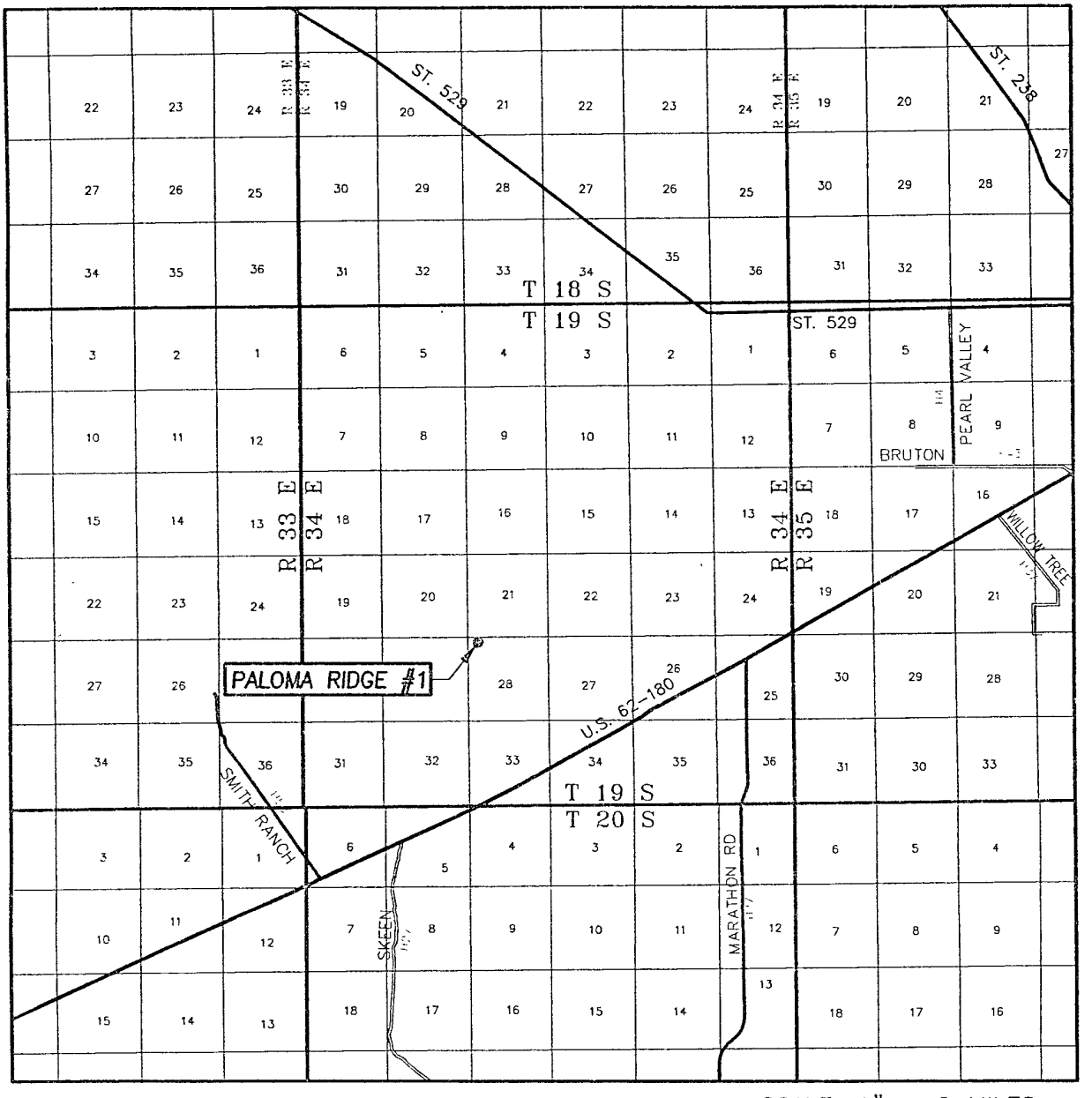
OPERATOR NADEL AND GUSSMAN HEYCO, LLC

LEASE PALOMA RIDGE

U.S.G.S. TOPOGRAPHIC MAP
IRONHOUSE WELL, 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. 28 TWP. 19-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 330' FNL & 660' FWL

ELEVATION 3711'

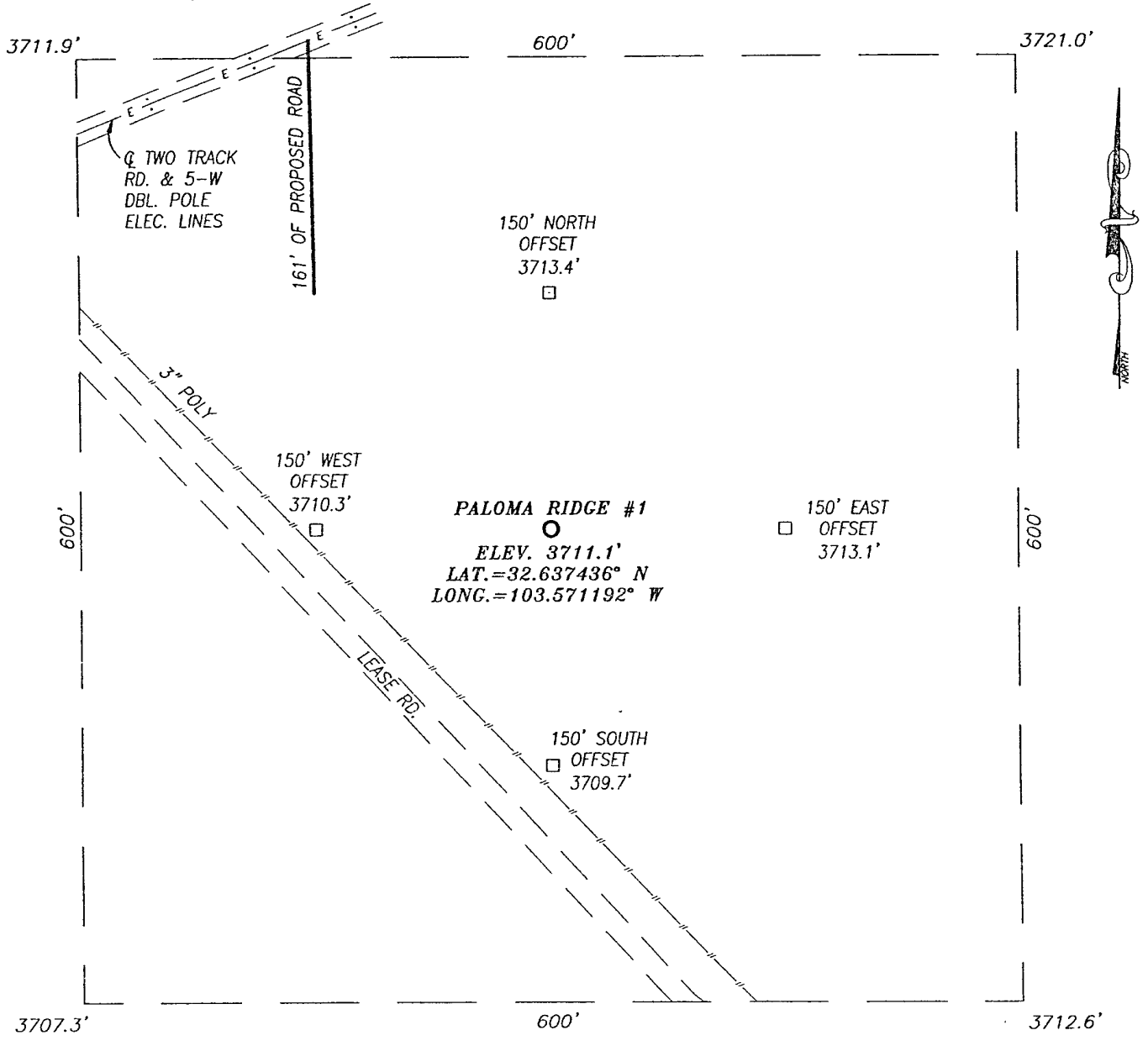
OPERATOR NADEL AND GUSSMAN HEYCO, LLC

LEASE PALOMA RIDGE

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

SECTION 28, TOWNSHIP 19 SOUTH, RANGE 34 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF HWY. 62-180 AND CO. RD. H27 (MARATHON RD.), GO SOUTHWEST ON HWY. 62-180 APPROX. 3.1 MILES. TURN RIGHT AND GO NORTH APPROX. 1.6 MILES. TURN LEFT AT INTERSECTION AND GO WEST APPROX. 0.4 MILES. VEER RIGHT AND GO NORTHWEST AT MERIT ENERGY MESCALERO RIDGE UNIT 28 #32 APPROX. 430 FEET. THIS LOCATION IS NORTHWEST APPROX. 140 FEET.

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

PALOMA RIDGE #1 WELL
LOCATED 330 FEET FROM THE NORTH LINE
AND 660 FEET FROM THE WEST LINE OF SECTION 28,
TOWNSHIP 19 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 9/29/08	Sheet 1 of 1 Sheets		
W.O. Number: 08.11.1586	Dr By: DSS	Rev. 1:N/A	
Date: 10/2/08		08111586	Scale:1"=100'

Application
Nadel and Gussman Heyco, LLC

PALOMA RIDGE #1

Sec 28, T19S, R34E
330' FNL & 660' FWL
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:
   Quaternary Allunium

2. Estimated Tops of Significant Geologic Markers:

Formation	Depth	
Rustler	1690'	Water
Yates	3435'	
Seven Rivers	3895'	Oil
Queen	4582'	Oil
Penrose	4741'	Oil
2nd Penrose Sd	4786'	Oil
Grayburg	4931'	Oil
PTD	5200'	

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 8 5/8" casing at 500' and circulating Cement back to surface. All other intervals will be isolation by setting 4 ½"
Casing to total depth and circulating cement up into the 8 5/8" casing.

3. Proposed Casing Program:

Hole size	Depth	OD Csg	Weight	Collar	Grade	New/Used
12 1/4"	0' – 500'	8 5/8"	24#	ST&C	J-55	NEW
7 7/8"	0' – 5200'	4 1/2"	10.5#	ST&C	J-55	NEW

See COA

Safety Factors: Burst 1.0 Collapse 1.125 Tension 1.8

4. Cement Program: (Note yields; and DV tool depths if multiple stages)

a. 8 5/8 " Surface — Cement to surface with:

See COA → 200 sx C, 2% CaCl and 0.125 pps Celloflake, 14.8 ppg 1.34 cu.ft./sk yield

b. 4 1/2" " Production — Cement to surface with:
Lead - 400 sx 35:65 Poz C, 1% Salt, 2 pps Kolite LCM, 0.2% antifoamer 0.2% Uniflac, 0.2% TIC, Dispersant and 0.1% Retarder, 12.7ppg 1.99 cu Ft./ sk Yield.
Tail - 400sx Tic Lightweight, 1.33% salt, 0.2% AntiFoamer, 0.3% Uniflac, 0.2% TIC Dispersant and 0.55% Retarder, 13.0 ppg cu. Ft./ sk yield, TOC @ 3,000'

See COA

(No yield)

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 8 5/8" casing shoe.

5. Pressure Control Equipment:

The blowout preventor equipment (BOPE) shown in Exhibit #1 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 drilling head will be installed on the 8 5/8" surface casing and ntilized continuously unit depth is reached. All BOP's and associated equipment will be tested Prior to drilling out the 8 5/8" shoe, the 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' – 500'	8.4 - 8.8	80 - 55	NC	Fresh Water
500' – 5200'	9.0 – 9.5	28 - 38	NC	Cut Brine Water

See C&P

The necessary mud products for weight addition and fluid loss control will be on Location at all times. Mud Program Sudject 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 8 5/8" casing shoe unit the 4 ½" casing is cemented. Breathing Equipment will be on location upon drilling the 8 5/8" shoe unit total Depth is reached.

8. Testing, Logging, & Coring Program:

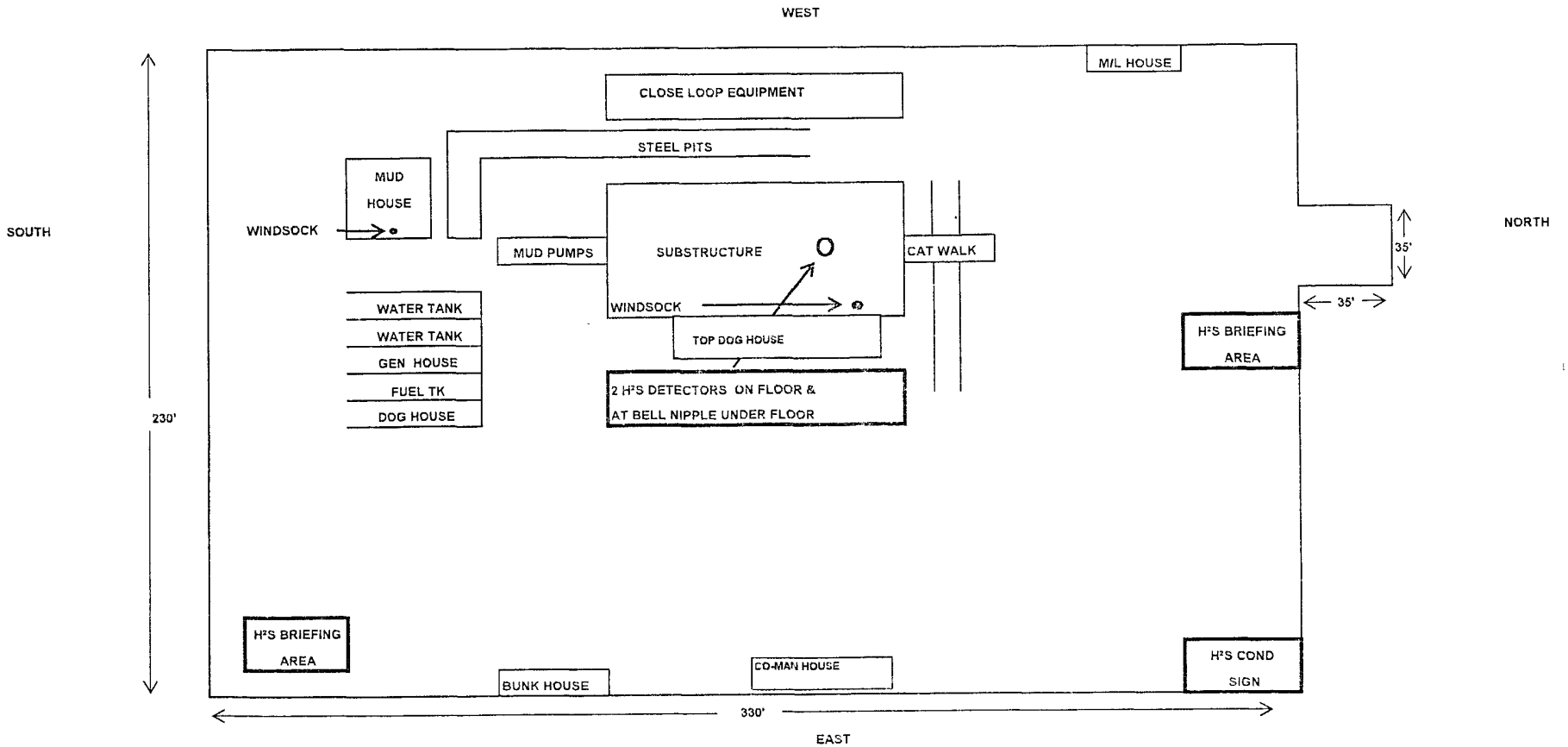
   a. Mud logging unit from the base intermediate casing to depth 10' samples will be caught by loggers
   b. Possible rotary sidewall cores
   c. Platform express (GR / LDT – CNL – PE / DLL – MCFL / NGT)

9. Abnormal Conditions, Pressures, Temperature, or Potential Hazards:
No abnormal conditions are expected. There is H2S present in this area but source is unknow. 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 . 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. H2S gas is present in the area but source is unknow.

9. Anticipated Starting Date & Duration of Operation:
The anticipated starting date is set for as soon as possible after examination and approval of all drilling requirements. Duration of this project will be approximately 50 days from start of Construction of drilling pad until finish of completion operations

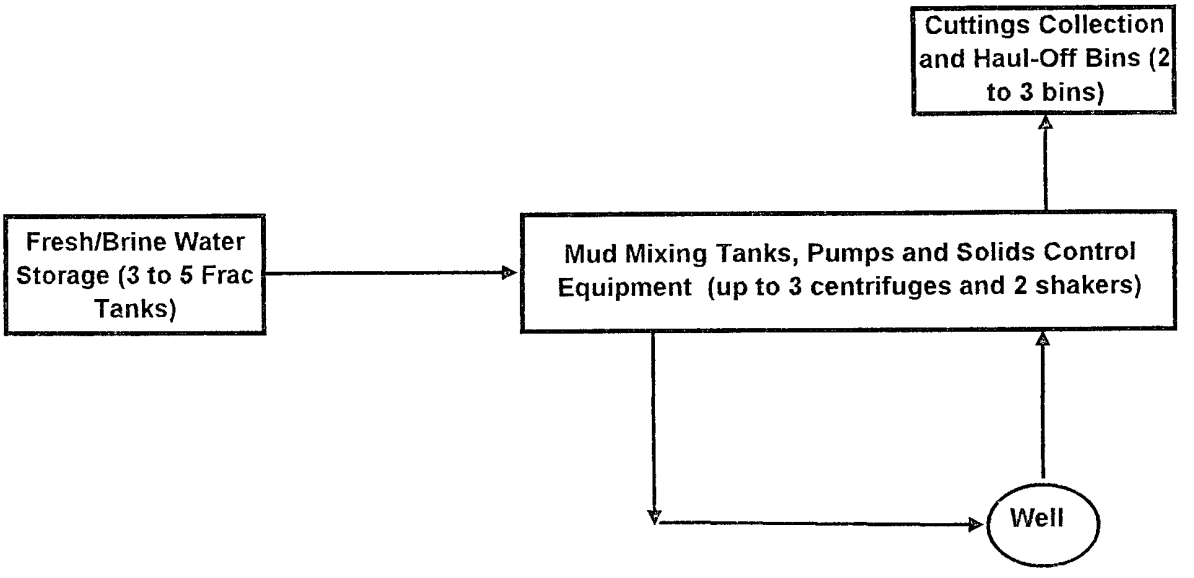
EXHIBIT "D" LOCATION DIAGRAM

PALOMA RIDGE #1
330' FNL & 660' FWL
SEC 28, T19S, R34E
LEA COUNTY, NM



CLOSED-LOOP SYSTEM

Design Plan:



Operating and Maintenance Plan:

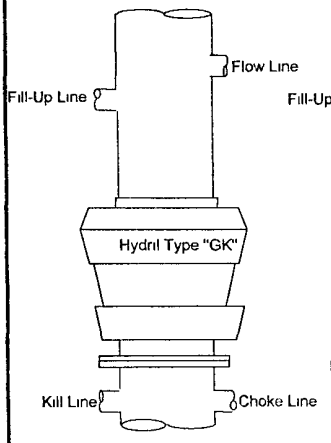
During drilling operations, third party service companies will utilize solids control equipment to remove cuttings from the drilling fluid and collect it in haul-off bins. Equipment will be closely monitored at all times while drilling by the derrick man and the service company employees.

Closure Plan:

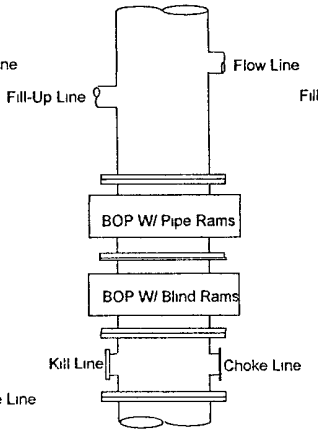
During drilling operations, third party service companies will haul-off drill solids and fluids to an approved disposal facility as noted on the C-144 form. At the end of the well, all closed loop equipment will be removed from the location.

PALOMA RIDGE #1
SEC 28, T19S, R34E
SL: 330' FNL & 660' FWL
LEA CO. N.M.

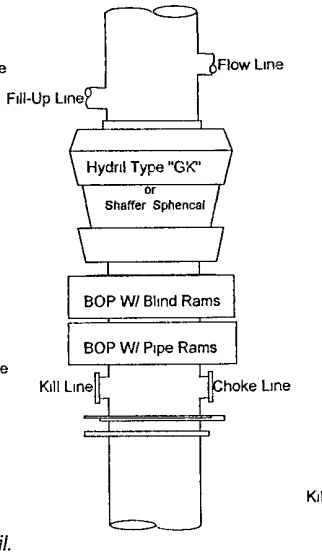
Nadel and Gussman Heyco, LLC
MINIMUM BLOWOUT PREVENTER REQUIREMENTS



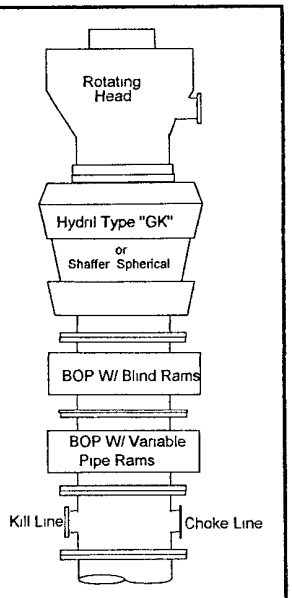
CASE I



CASE II



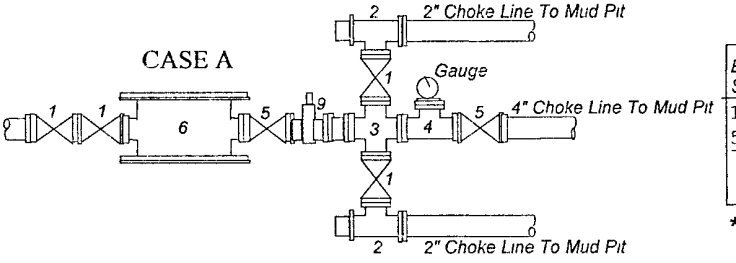
CASE III



CASE IV

A1" 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.

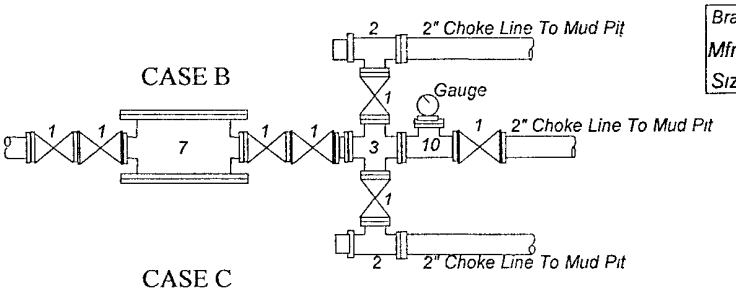
CASE A



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

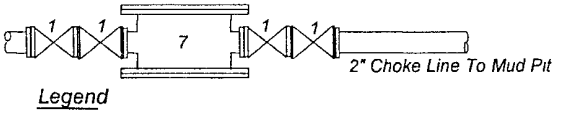
**Rotating head required*

CASE B



Bradenhead
Mfr: _____
Size: _____ Type: _____

CASE C



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

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

Re: Paloma Ridge #1
330' FNL & 660' FWL
Unit Letter D, Sec. 28-T19S-R34E
Lea, NM
Rule 118 H2S Exposure

Dear Mr. Peterson,

Nadel and Gussman Heyco 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

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Nadel and Gussman Heyco, LLC
LEASE NO.:	NMNM0056376
WELL NAME & NO.:	Paloma Ridge #1
SURFACE HOLE FOOTAGE:	330' FNL & 660' FWL
BOTTOM HOLE FOOTAGE	Same
LOCATION:	Section 28, T. 19 S., R 34 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.

☐ **General Provisions**
☐ **Permit Expiration**
☐ **Archaeology, Paleontology, and Historical Sites**
☐ **Noxious Weeds**
☒ **Special Requirements**
Lesser Prairie Chicken

☒ **Construction**
Notification
Topsoil
Closed Loop System
Federal Mineral Material Pits
Well Pads
Roads
☒ **Road Section Diagram**
☒ **Drilling**
Surface casing depth
☐ **Production (Post Drilling)**
Well Structures & Facilities
Pipelines
Electric Lines
☒ **Closed Loop System/Interim Reclamation**
☐ **Final Abandonment/Reclamation**

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

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

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.

Paloma Ridge # 1: Closed Loop System; V-Door North

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 (505) 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

Paloma Ridge # 1: Closed Loop System; V-Door North

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the
Carlsbad Field Office at (505) 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.

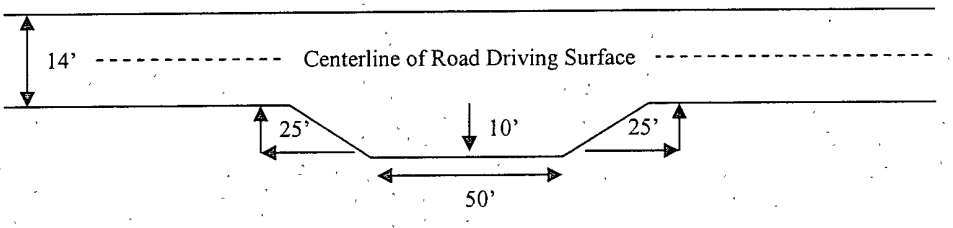
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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:

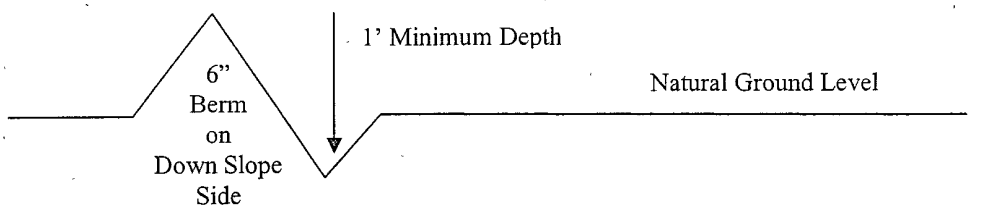
Standard Turnout – Plan View



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.

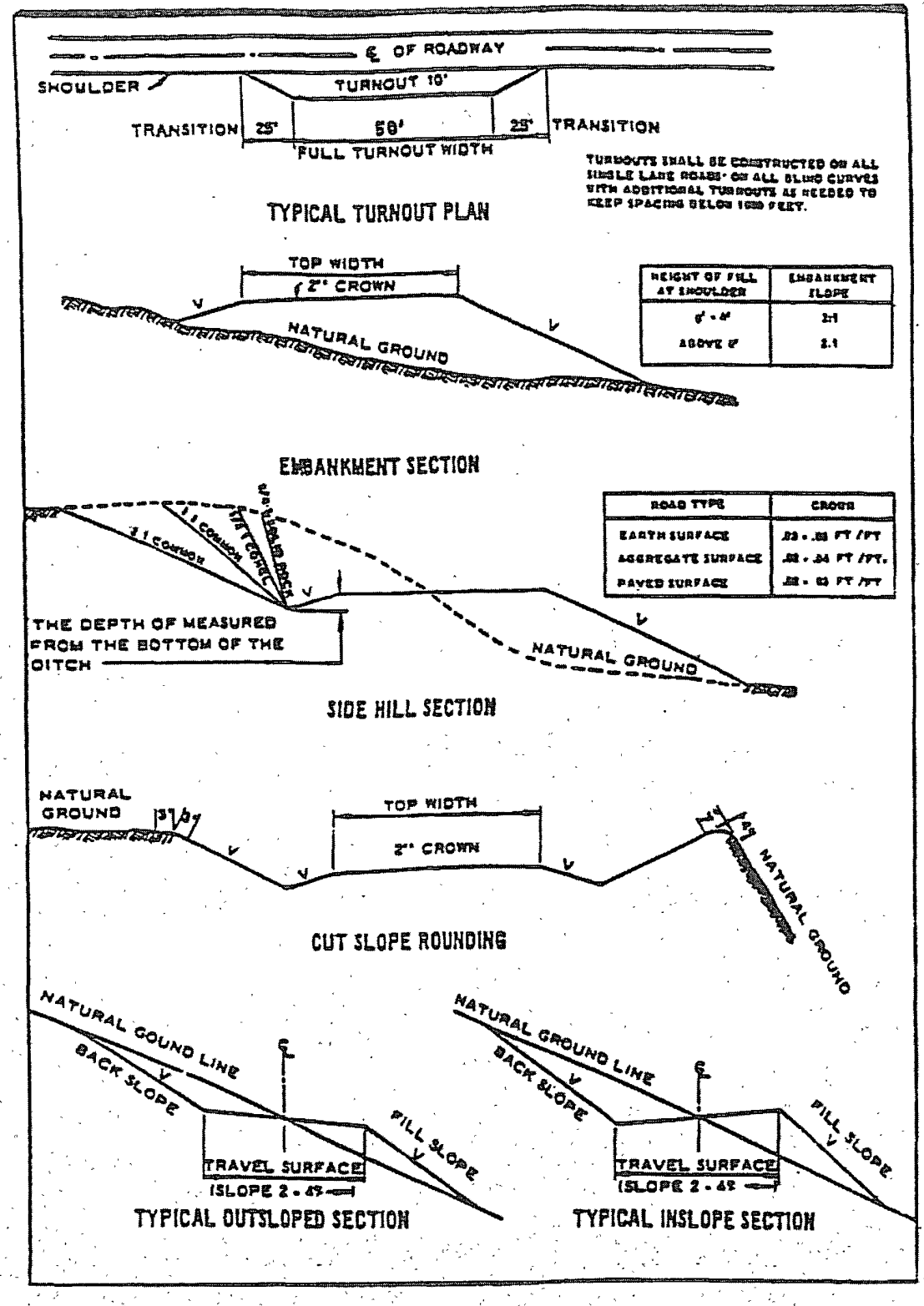
A gate shall be constructed and fastened securely to H-braces.

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 **Queen** 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.

1. The **8-5/8** inch surface casing shall be set **at approximately 1750 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. Additional cement will be required.**

Onshore Order II requires casing to be set across a competent bed and the Rustler Anhydrite is the first formation that meets that criteria.

   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 **4-1/2** inch production casing is:

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

3. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

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

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

    c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

    d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILLING MUD

Fresh water mud to be used to setting depth of surface casing in the Rustler Anhydrite.

Saturated brine mud should be used to drill the thick salt section from approximately 1900-3350'.

E. DRILL STEM TEST

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

WWI 112608

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.

BLM SERIAL #:
COMPANY REFERENCE:
WELL # & NAME:

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
(Insert Seed Mixture Here)

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.