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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-89879	
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. Mesquite 3 Federal # 8
2 Name of Operator: Nadel and Gussman HEYCO, LLC	9 API Well No. 30-015-37449
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: Shugart: Bone Spring North
4 Location of Well (Report location clearly and in accordance with any State requirements *): At surface 330' FSL & 2130' FWL; At proposed prod. zone Same	11 Sec., T. R. M. or Blk and Survey or Area: UL- N, Sec 3, T18S, R31E
14 Distance in miles and direction from nearest town or post office*: 10 miles South East Loco Hills, N M	12. County or Parish: Eddy / 13 State: NM
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: 320 / 17 Spacing Unit dedicated to this well: 40
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 1470'	19 Proposed Depth: 9075' / 20 BLM/BIA Bond No. on file: NMB000520
21 Elevations (Show whether DF, KDB, RT, GL, etc.): 3726' GL	22 Approximate date work will start*: 12/26/2009 / 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: Keith Cannon	Name (Printed/Typed): Keith Cannon	Date: 10/26/2009
Title: Drilling Superintendent		
Approved by (Signature): /s/ Don Peterson	Name (Printed/Typed):	Date: DEC 14 2009
Title:	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 USC Section 1001 and Title 43 USC 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 AND 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 - 89879

Lease Name: Mesquite 3 Federal # 8
Legal description of land: UL- N, Sec 3, T18S, R31E, Eddy 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: 10/26/2009

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
30-015-37449	56405	Shugart'Bone Spring North, North

Property Code	Property Name	Well Number
~~12965~~ 305045	MESQUITE 3 FEDERAL	8

OGRID No.	Operator Name	Elevation
258462	NADEL AND GUSSMAN HEYCO, LLC	3726'

Surface Location

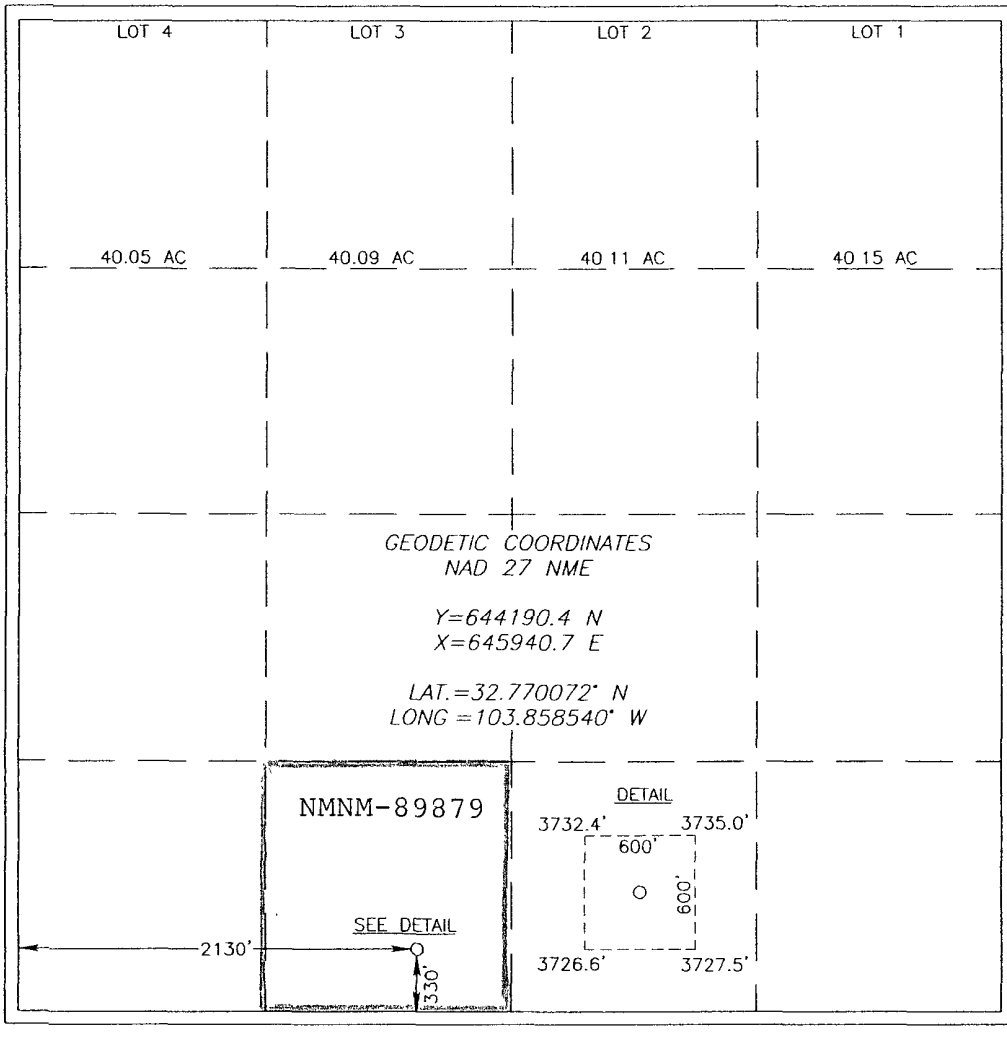
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	3	18-S	31-E		330	SOUTH	2130	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
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 10/26/09 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.

RONALD J. EIDSON
NEW MEXICO
3239

OCTOBER 8, 2009
Date Surveyed

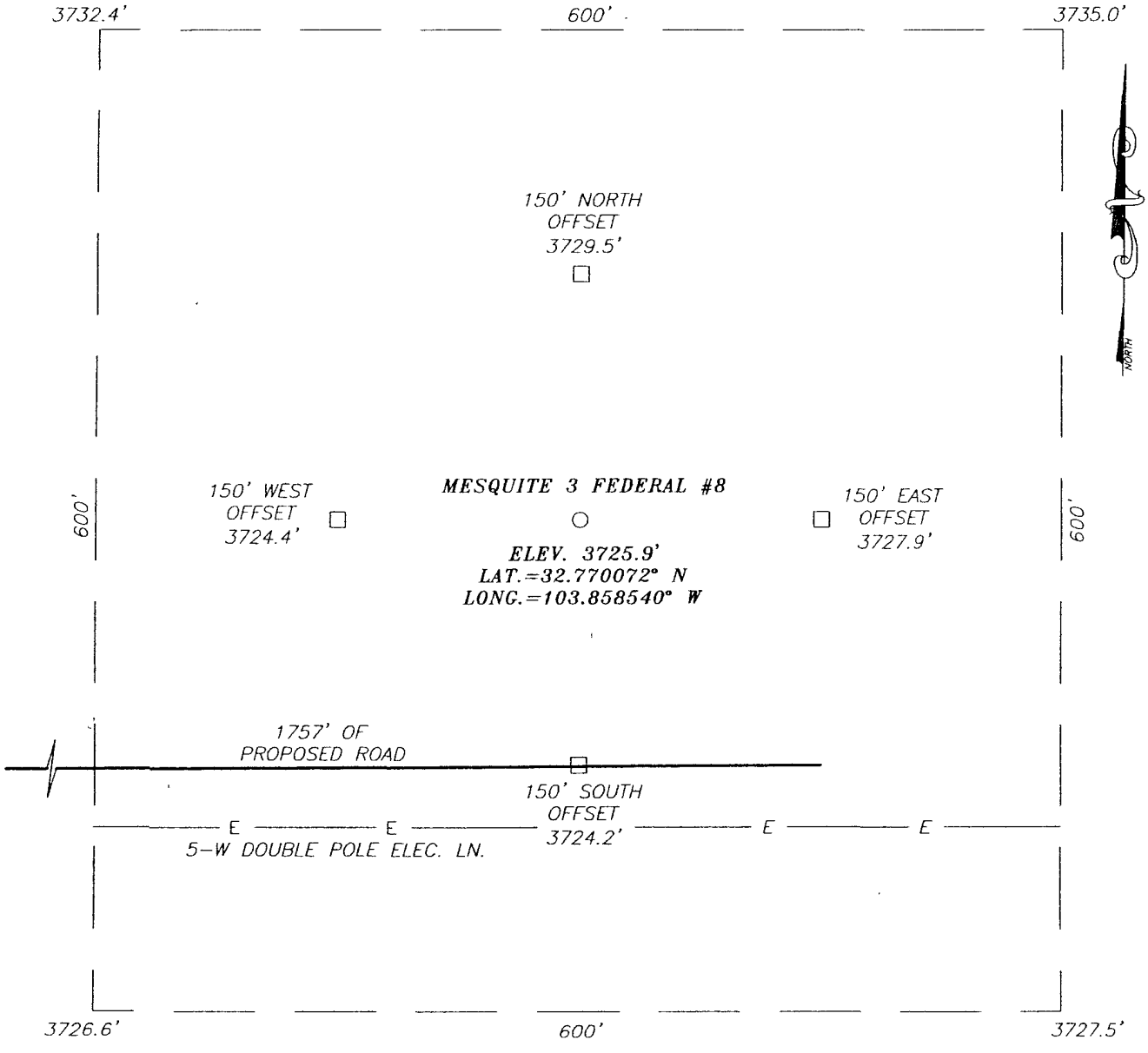
Signature & Seal of Professional Surveyor

Ronald J. Eidson 10-14-09
09.11.0907

Certificate No. RONALD EIDSON 3239
GARY EIDSON 12641

SECTION 3, TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HWY. #82 AND CO. RD. #222 GO SOUTH ON SHURGART ROAD APPROX. 3.0 MILES. TURN LEFT AND GO NORTHEAST-EAST APPROX. 1.2 MILES. TURN RIGHT AND GO SOUTH APRPOX. 0.2 MILES TO THE MESQUITE 3 FEDERAL #4 WELL PAD AND PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY APPROX. 1756 FEET EAST TO THIS LOCATION.

100 0 100 200 Feet

Scale. 1"=100'

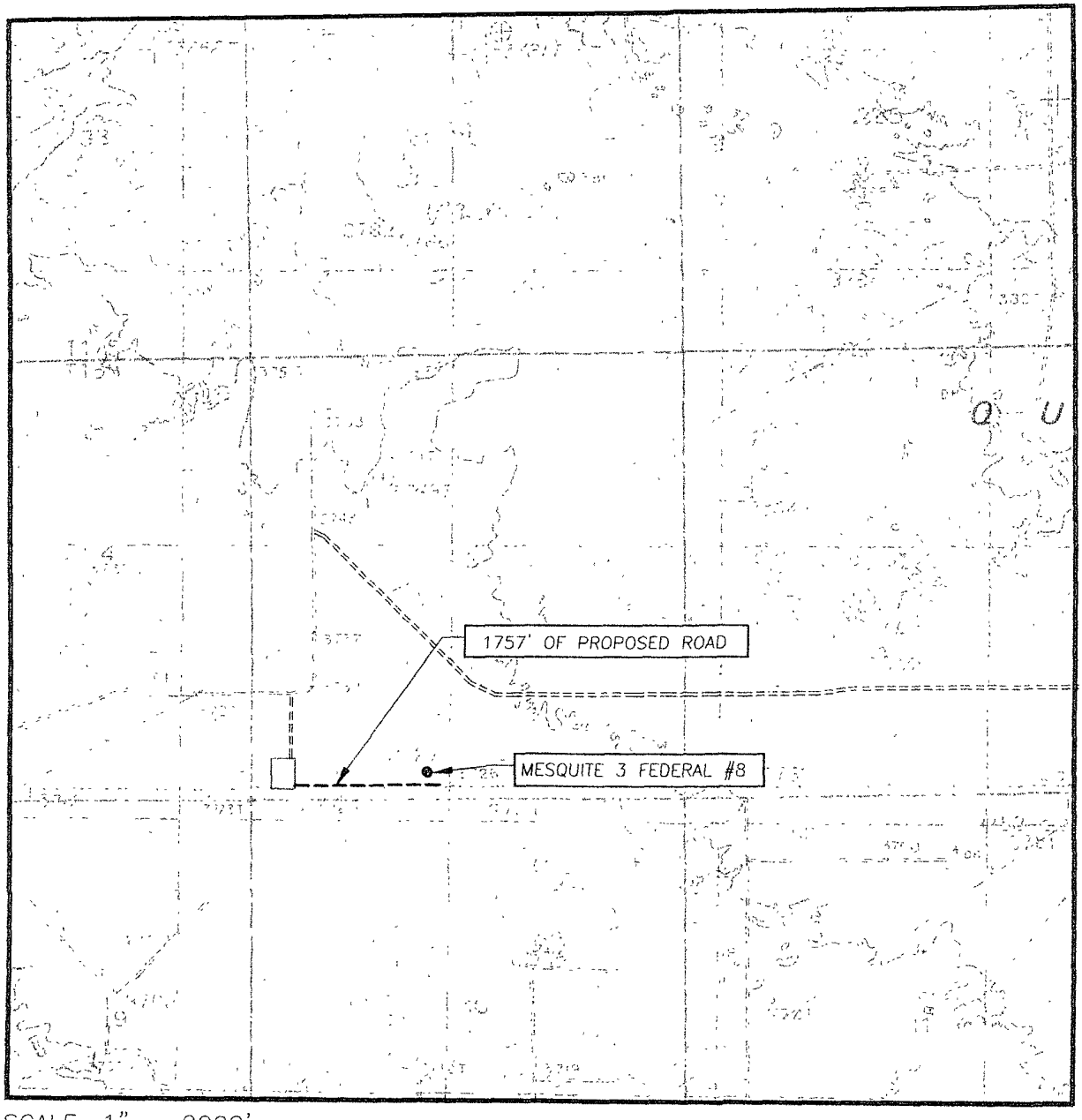
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117

NADEL AND GUSSMAN HEYCO, LLC

MESQUITE 3 FEDERAL #8 WELL
LOCATED 330 FEET FROM THE SOUTH LINE
AND 2130 FEET FROM THE WEST LINE OF SECTION 3,
TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Survey Date: 10/8/09	Sheet 1 of 1 Sheets		
W.O Number: 09.11.0907	Dr By. LA	Rev 1:N/A	
Date: 10/13/09		09110907	Scale:1"=100'

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
MALJAMAR, N.M. – 10'

SEC. 3 TWP. 18-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 330' FSL & 2130' FWL

ELEVATION 3726'

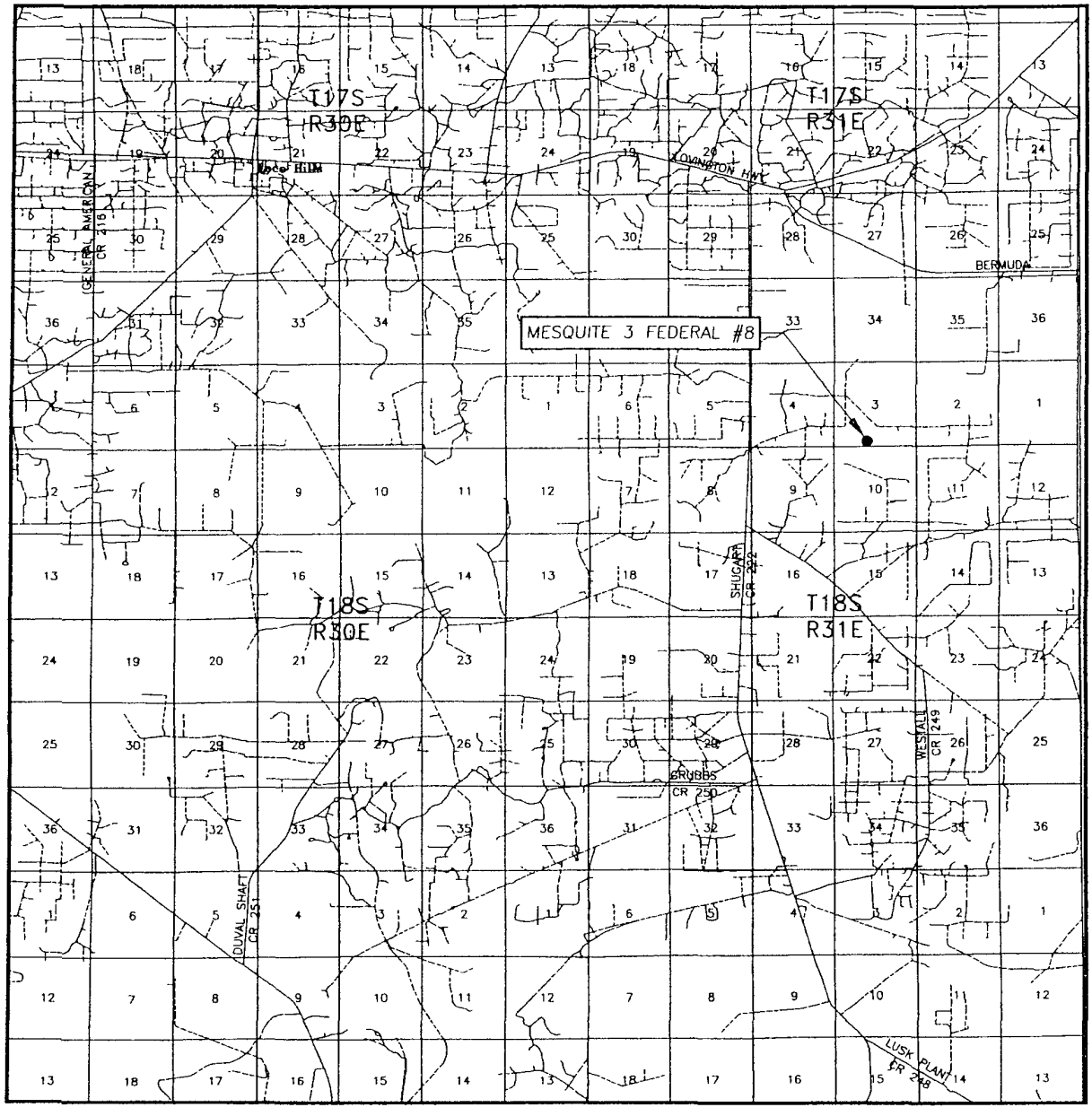
OPERATOR NADEL AND GUSSMAN HEYCO, LLC

LEASE MESQUITE 3 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. 3 TWP. 18-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 330' FSL & 2130' FWL

ELEVATION 3726'

OPERATOR NADEL AND GUSSMAN HEYCO, LLC

LEASE MESQUITE 3 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
Mesquite 3 Federal # 8
Sec 3, T18S, R31E
330 FSL' & 2130' FWL
Eddy 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	Formation	Depth
Rustler	695' Water	San Andres	4270' Oil
Salado	850'	Delaware (CRCN Tongue)	4570' Oil
BX (base of Salt	1940'	Brushy Canyon	4775' Oil
Yates	2100' Oil	L. San Andres Dol. Equiv.	5330' Oil
Seven River	2555' Oil	Bone Spring Ls.	5545' Oil
Bowers	2990' Oil	A-Zone Carb	7360' Oil
Queen	3245' Oil	BSPG 1st Sand	7430' Oil
Penrose	3470' Oil	B-Zone Carb	7735' Oil
Grayburg	3740' Oil	BSPG 2nd Sand	7975' Oil
Loco Hills Sand	3875' Oil	B&C Bench Pay	8290' Oil
Metex	3995' Oil	C-Zone Carb	8715' Oil
Premier Sand	4135' Oil	BSPG 3rd Sand	8935' Oil
		PTD	9075'

3. Casing Program:

	Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used
	17 1/2"	0' – 720'	13 3/8"	48#	ST&C	H-40	New
See COA	11"	0'– 2040'	8 5/8"	28#	ST&C	H-40	New
	7 7/8"	0' – 9075'	5 1/2"	17#	LT&C	L-80	New

Safety factors: Burst 1.0 Collapse 1.125 Tension 1.8

4. Cement Program: (Note yields; and dv tool depths if multiple stages) ← See COA

a. 13 3/8" Surface — Cement to surface with:
Lead - 431 sx 35:65 Poz C, 5% Salt, 0.25# Celloflake , 6% Bentonite, 12.8 ppg and 0.25% Defoamer, 1.89 cu.ft./sk yield, TOC @ surface.
Tail – 200 sx C and 0.25% Defoamer, 14.8 ppg, 1.32 cu.ft./sk yield, TOC @ 587'.

b. 8 5/8" Intermediate — Cement to surface with:
Lead – 445sx 35:65 Poz C, 5% Salt, 0.25# Celloflake, 6% Bentonite and 0.25% Defoamer, 12.4 ppg, 2.09 cu.ft./sk yield, TOC @ surface.
Tail – 200 sx C and 0.25% Defoamer, 14.8 ppg, 1.32 cu.ft./sk yield, TOC @ 1624'.

c. 5 1/2" Production Cement to ~~2050~~ 1840' with:
Lead - 349sx 50:50 Poz H, 5% Salt, 10% Bentonite, 0.25% Celloflake, 0.2% Fluid Loss Agent and 0.25% Defoamer, 11.9 ppg, 2.37 cu.ft./sk yield, TOC @ 1840'.
Tail – 513 sx H, 0.6% Fluid Loss Agent, 0.25% Suspension Aid, 03% Gilsonite, 3% Salt and 0.25% Defoamer, 13.22 ppg, 1.60 cu.ft./sk yield, TOC @ 5500'.

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. Proposed Mud Circulation System

Depth	Mud Wt.	Visc	Fluid Loss	Type System
0' – 720'	8.4 – 8.8	80 - 55	NC	Fresh Water
720' – 2040'	9.8 – 10.0	28 - 30	NC	Brine Water
2040' – 9075'	8.8 – 9.4	28 - 32	NC	Cut Brine Water

The necessary mud products for weight addition and fluid loss control will be on location at all times.

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 720' and circulating Cement back to surface. All other intervals will be isolation by setting 8 5/8"Casing at 2040' 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 8 5/8" casing.

6. Pressure Control Equipment:

The blowout preventor equipment (BOPE) shown in Exhibit #1 will consist of a (2m system) for the intermediate 11" hole w/ Double ram type (3000psi WP) preventor. A (3m system) w/ double ram type 3000psi preventor for the 7 7/8" production hole, and a bag type (hydril) preventor (3000psi WP)
This 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. See COA
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 flex hose will be use from BOP to choke manifold, (see specification attached), 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.

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 5 ½" casing is cemented. Breathing Equipment will be on location upon drilling the 8 5/8" shoe unit total Depth is reached.
d. A flex hose from the BOPE to the manifold (specification attached)

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) — See COA

9. **Abnormal Conditions, Pressures, Temperature, or Potential Hazards:** — See COA

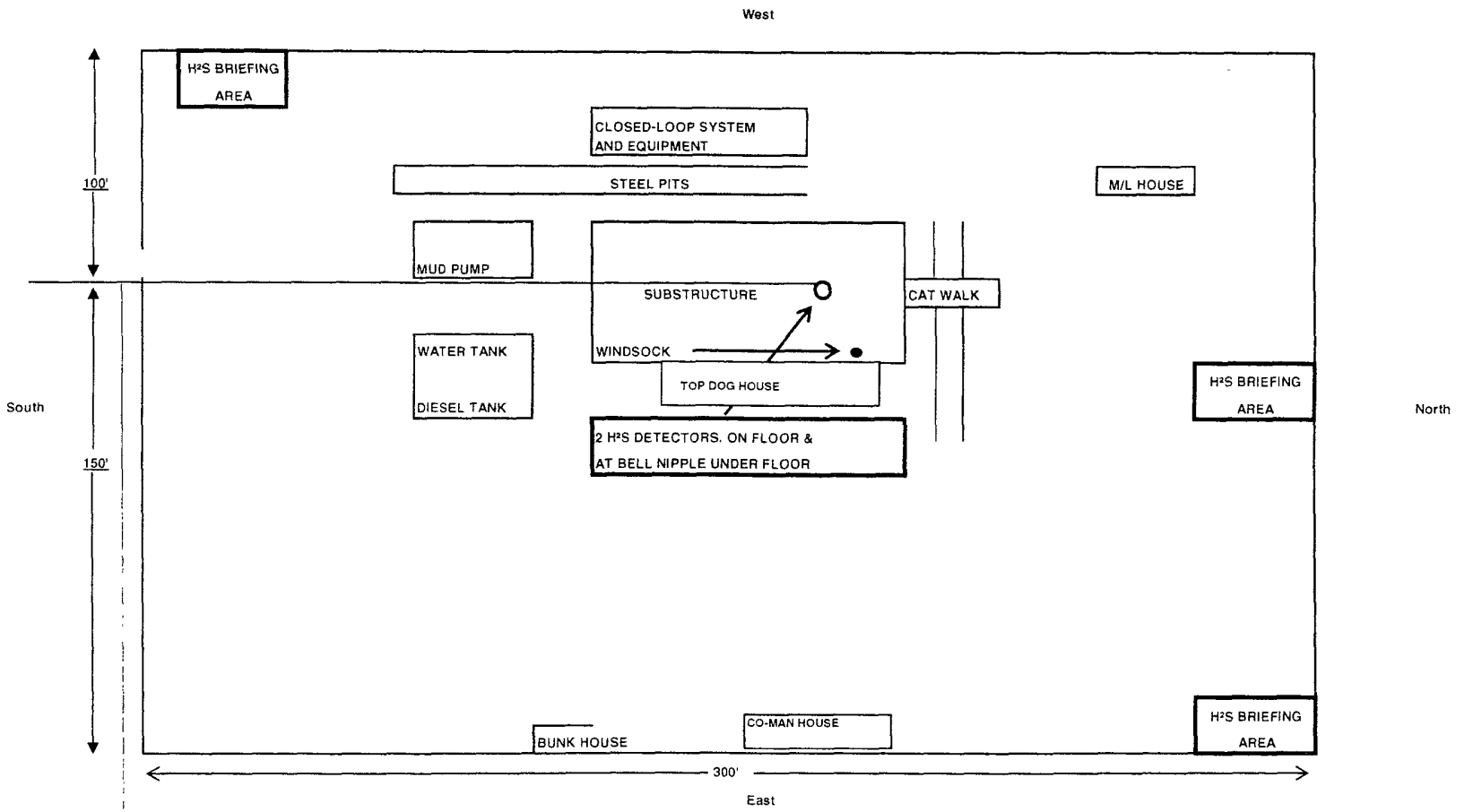
No abnormal conditions are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No 6. Lost circulation might occur in the Capitan Reef. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 2500 psi and estimated BHT 140 F. No H2S is anticipated to be encountered.

10. **Anticipated Starting Date & Duration of Operation:**

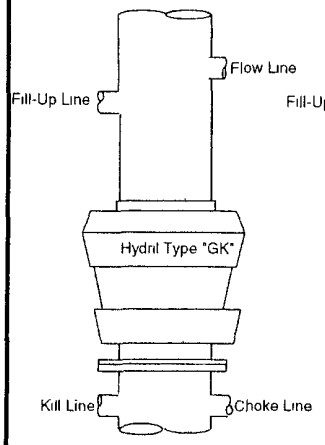
Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days. If production casing is run then an additional 15 days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

LOCATION DIAGRAM

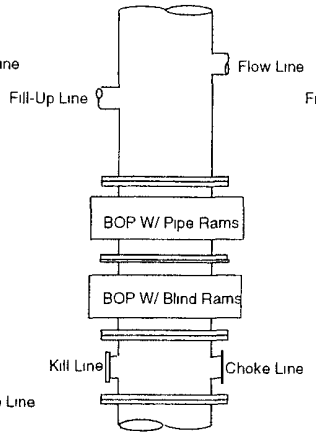
Mesquite 3 Federal #8
330' FSL & 2130' FSL
SEC 3, T18S, R31E
Eddy Co, NM



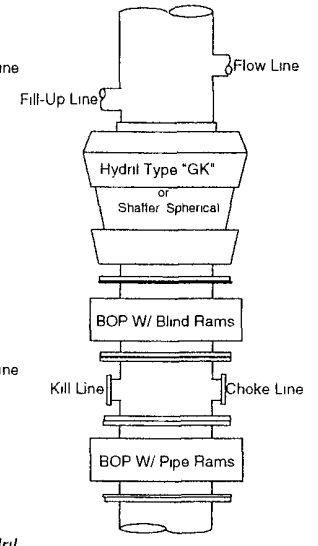
Nadel and Gussman Heyco, LLC
MINIMUM BLOWOUT PREVENTER REQUIREMENTS



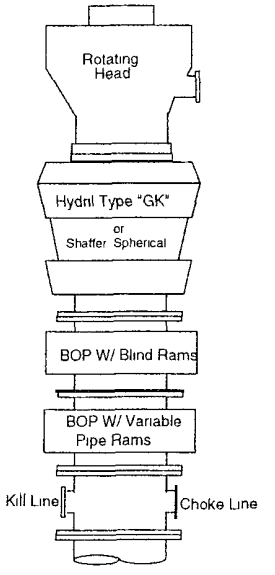
CASE I



CASE II



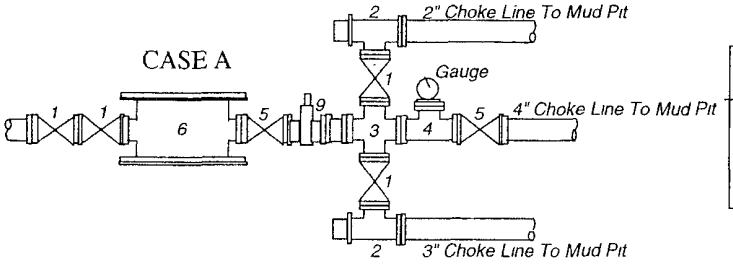
CASE III



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

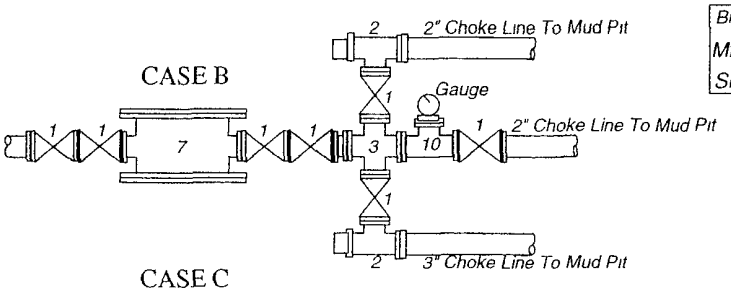


BOP SIZE	BOP CASE	WORKING PRESSURE	CHOKE CASE
13-5/8"	II	2000 psi	B
9"	III	3000 psi	B

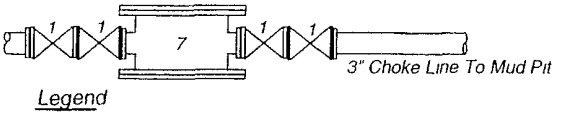
**Rotating head required*

Bradenhead
Mfr: _____
Size: _____ Type: _____

CASE B



CASE C



Legend

1 3" flanged all steel valve must be either Cameron "F", Halliburton Low Torque or Shaffer Flo-Seal.
2. 3" 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

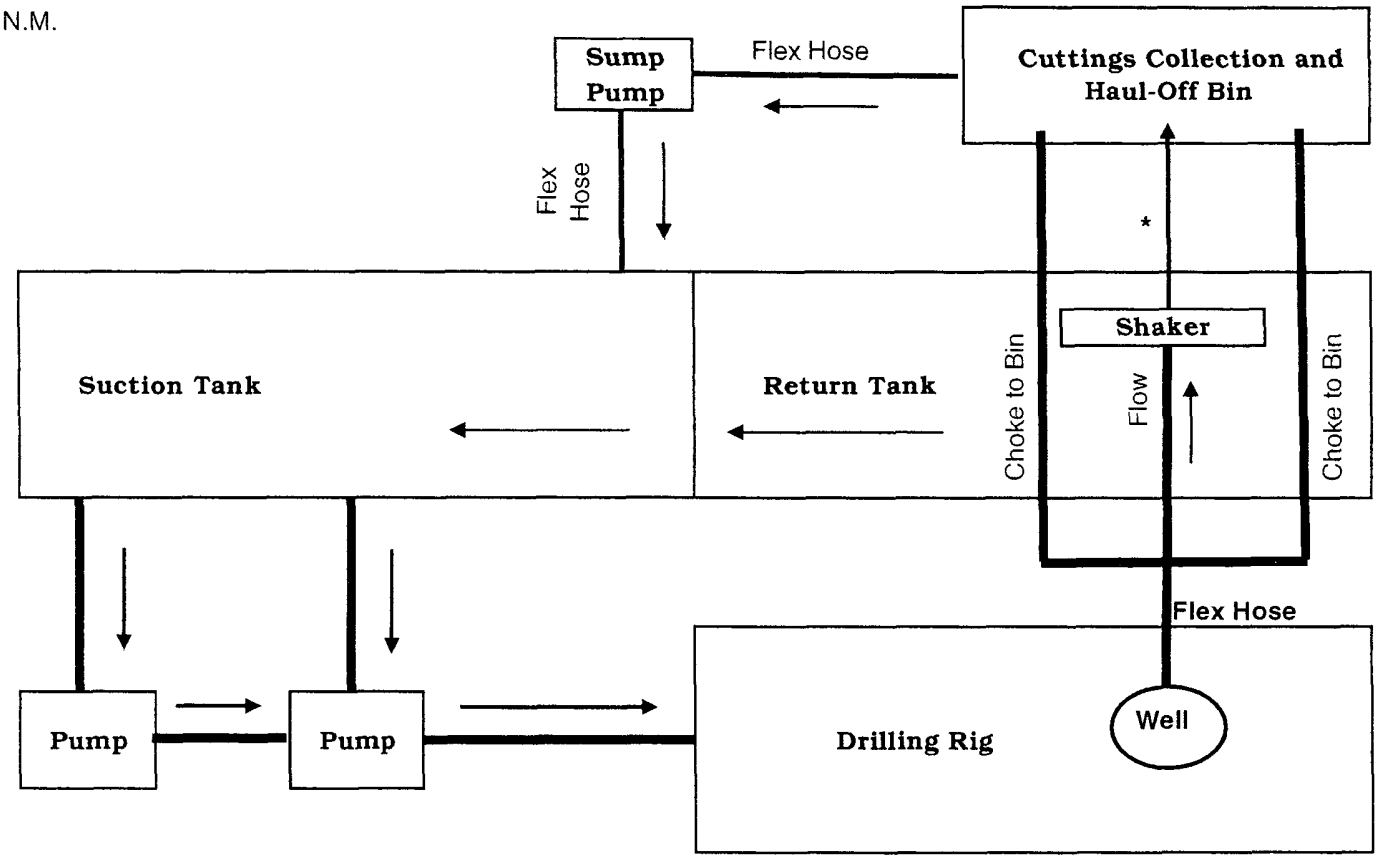
Notes

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

Mesquite 3 Federal # 8
Sec 3, T18S, R31E
330' FSL & 2130' FWL
Eddy Co. N.M.



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

MIDWEST

HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT

Customer:	P.O. Number:
BURNSCO BOP/CAMERON	11189

HOSE SPECIFICATIONS

Type:	Length:
CHOKE & KILL	15'

I.D.	O.A.
3" INCHES	5"

WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE
5,000 PSI	10,000	

COUPLINGS

Item Part No.	Ferrule No.
03.0648BW	03.0648BW
Type of Coupling: 3-1/8 5K FLANGE (R/RX)	**Die Size:**

PROCEDURE

Hose internally pressured to the below pressure and held.

TIME HELD AT TEST PRESSURE	ACTUAL BURST PRESSURE:
1 MIN.	0 PSI

COMMENTS:
INV#99038

Date:	Tested By:	Approved:
10/21/2008	BOBBY FINK	BRENT BURNETT

Eagle Rock

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

Re: Mesquite 3 Federal # 8
330' FSL & 2130' FWL
Unit N, Sec. 3, T18S, R31E
Eddy, 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
Mesquite 3 Federal #8
Sec 3, T18S, R31E
330' FSL & 2130' FWL
Eddy 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

ROSWELL N.M.	
Ambulance	911
State Police	575-622-7200
City Police	575-624-6770
Sheriff's Office	575-624-6500
Fire Department	575-624-6800
Roswell BLM	575-627-0272

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

PUBLIC PROTECTION PLAN FOR EMERGENCY CONTACTS

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

Surface Use Plan
Nadel and Gussman Heyco. LLc
Mesquite 3 Federal # 8
Section 3, T18S, R31E
330' FSL & 2130' FWL
Eddy County, New Mexico

1. **Existing Roads:**
   Exhibit A is a portion of a New Mexico map showing the location of the proposed location. The location is approximately 10 miles South East of Loco Hills, NM.
   From the intersection of US 82 and Co road #222 (Shugart rd) Go South on 222, 3.3 miles. Turn left and go east 0.7 miles. Turn right and go 0.2 miles. Turn
   left and go 0.2 miles. Turn left into location.

2. **Planned Access Roads:**
   0.3 miles' of new road will be built to access this location come in from the west.

3. **Location of Existing Wells:**
   See EXHIBIT B From the surveying company / vicinity map

4. **Location of Tank Batteries, Electric Lines, Etc:**
   a. In the event the well is found productive, the tank battery would be utilized and the necessary production equipment
   b. Or a flow line will run beside the road to the Mesquite 3 Federal #4 tank battery.

5. **Location and Type of Water Supply:**
   This location will be drilled using a combination of water mud systems (out line in the drilling program). Water will be obtained from commercial water stations in the area
   and hauled in by transport truck using the existing and proposed roads shown in the C-102.

6. **Source of Construction Material:**
   All caliche utilized for the drilling pad and proposed access road will be odtained from an existing BLM / State approved pit
   Or from prevailing deposits found under the location. All roads will be constructed of 6" rolled and compacted caliche.

7. **Methods of Handling Waste Disposal:**
   a. All trash, junk, and other waste material will be contained in trash cages or trash bin to prevent scattering. When the job is completed, all contents will be removed and
   disposed of in an approved sanitary landfill. The wellsite will be cleaned of all waste within 30 days of final completion of the well.
   b. A porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling operations and will be removed when all
   operations are complete.
   c. Disposal of fluids to be transported by trucks to a nearby approved disposal.

8. **Ancillary Facilities:**
   N/A

9. **Wellsite Layout:**
   a. EXHIBIT D shows the relative location and dimensions of the well pad, reserve pits, and major rig components.

   b. The land is relatively flat with sandy soil

   c. The pad and pit area have been staked.

10. **Plan for Restoration of the Surface:**

a. After drilling and completion operations are completed, all equipment and other materials not needed for further operations will be removed. The location cleaned of all trash to leave the wellsite as pleasant in appearance as possible.

b. If the proposed operation is nonproductive, all restoration and/or vegetation requirements of the BLM will be complied with, and will be accomplished as quickly as possible. All pits will be filled and leveled within 90 days after abandonment.

c. Interim reclamation consists of minimizing the footprint of disturbance by reclaiming all portions of the well site not needed for production operations. Topsoil is respread over areas not needed for production operations and recontoured to the surrounding area and reseeded

11. **Other Information:**

a. The mineral and surface owner is the Federal Government, Land and Grazing leasing Caviness Cattle co. has been contacted

b. The topography consists of sandy soil with native grasses. No wildlife was observed, but the usual inhabitants of this region are Jackrabbits, Reptiles, Coyotes, etc.

c. There are no ponds, lakes, or rivers in this area.

d. An Archaeological Survey has been made and a copy has been sent to the Carlsbad BLM office. There is no evidence of any significant archaeological, historical, or cultural sites in the area. Further, there are no occupied dwellings or windmills in the area.

e. Should any incidental oil be recovered during testing of this well, this oil will be considered waste oil and not sellable due to contamination by drilling and/or completion fluids.

12. **Operator's Representative:**

The Nadel and Gussman HEYCO, LLC Company representatives reponsible for ensuring compliance of the surface

Use plan are listed below.

Keith Cannon, Drilling Superintendent
Nadel and Gussman Heyco, LLC
P.O. Box 1936
Roswell, NM 88202
(575) 623-6601

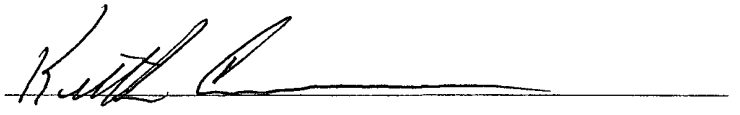
Terry West, Drilling Engineer
Nadel and Gussman Permian
601 N. Marienfild Suite 508
Midland, Tx 79701
(432) 682-4429

October 26, 2009

OPERATOR CERTIFICATION

I certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal Laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true, and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 26 day of October 2009.

Name: Keith Cannon
Position: Drilling Superintendent
Address: P.O. Box 1936, Roswell, NM 88202
Telephone: 575-623-6601
Email: kcannon@heycoenergy.com

Signed: 

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Nadel and Gussman HEYCO, LLC
LEASE NO.:	NMNM89879
WELL NAME & NO.:	Mesquite 3 Federal # 8
SURFACE HOLE FOOTAGE:	330' FSL & 2130' FWL
BOTTOM HOLE FOOTAGE	Same
LOCATION:	Section 3, T. 18 S., R 31 E., NMPM
COUNTY:	Eddy County, New Mexico

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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
- Ground-level Abandoned Well Marker to avoid raptor perching

☒ **Construction**
- Notification
- Topsoil
- Closed Loop System
- Federal Mineral Material Pits
- Well Pads
- Roads

☐ **Road Section Diagram**
☒ **Drilling**
- H2S – Onshore Order 6 requirements
- Logging requirements

☒ **Production (Post Drilling)**
- Pipelines

☒ **Reseeding Procedure/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)

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 to be stripped is approximately 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Although this is a closed loop system and no reserve pits will be utilized, the v-door will be on the North side of the location.

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.

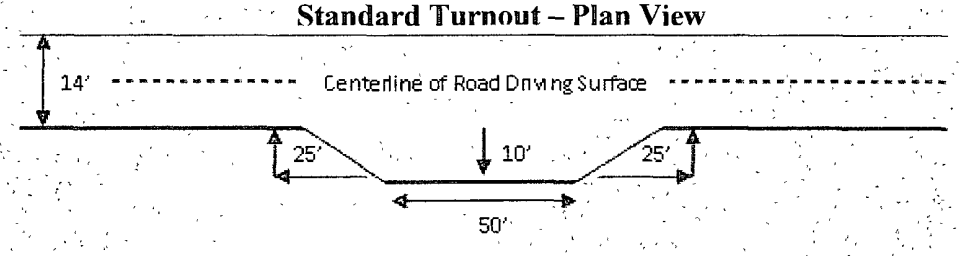
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

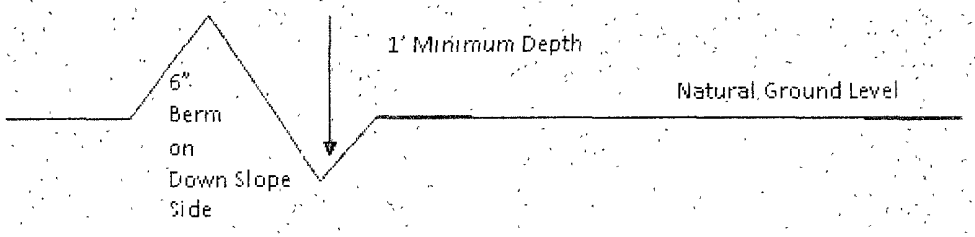
Standard Turnout – Plan View



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 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: 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.

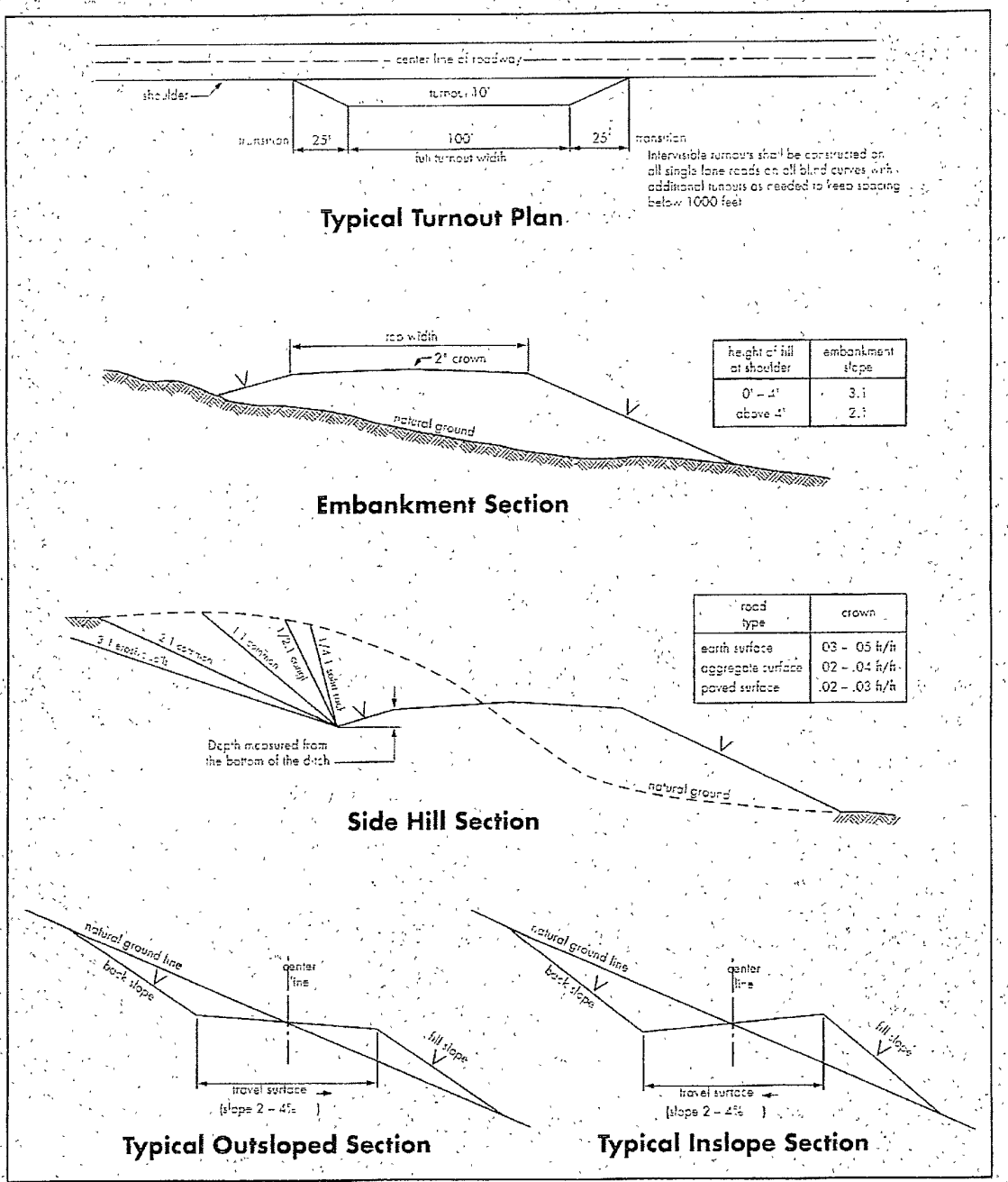
Fence Requirement

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

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

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. 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 is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

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

Possible brine and water flows in the Salado Group and the Grayburg formation.
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 720 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 surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

   b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

   c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

   d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is: **The casing should be set within the Tansill formation.**

   ☒ 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.

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. **Variance approved to use flex line from BOP to choke manifold. Check condition of 3" flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends.**

3. 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.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **8-5/8** inch intermediate casing shoe shall be **3000 (3M)** psi.

5. 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. DRILL STEM TEST

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

RGH 110909

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

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the APD 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 activity of 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. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.

b. Activities of other parties including, but not limited to:

(1) Land clearing.
(2) Earth-disturbing and earth-moving work.
(3) Blasting.
(4) Vandalism and sabotage.

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder.

Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **25** feet.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. 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 of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder.

The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. 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 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.

IX. INTERIM RECLAMATION & RESEEDING PROCEDURE

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.

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.

B. RESEEDING PROCEDURE

Once the well is drilled, all completion procedures have been accomplished, and all trash removed, reseed the location and all surrounding disturbed areas as follows:

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A
**Four-winged Saltbush	5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*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.