ATS-10-123 LM

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NMOCD ARTESIA

RESUBMITTAL
OCD-ARTESIA

R-111-POTASH

Form 3160-3
(August 2008)

FORM APPROVED
OMB NO. 1004-0137
Expires: July 31, 2010

EA-10-204

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No
NM-80645

6 If Indian, Allottee or Tribe Name
N/A

7 If Unit or CA Agreement, Name and No.
N/A

1a Type of Work. [X] DRILL [ ] REENTER

8. Lease Name and Well No.
Lily ALY Federal #10

1b. Type of Well [X] Oil Well [ ] Gas Well [ ] Other [ ] Single Zone [ ] Multiple Zone

2. Name of Operator
Yates Petroleum Corporation 025575

9. API Well No.
30-015-37655

3a Address
105 South Fourth Street, Artesia, NM 88210

3b Phone No *(include area code)*
505-748-1471

10. Field and Pool, or Exploratory
Ingle Wells; ~~Undesignated~~ Delaware

4. Location of well *(Report location clearly and In accordance with any State requirements.*)*
At surface
1650' FSL and 1650' FEL
At proposed prod zone
same as above

11. Sec., T , R , M , or Blk. And Survey or Area
Section 3, T24S-R31E

14 Distance in miles and direction from the nearest town or post office*
Approximately 24 miles east of Loving, New Mexico

12. County or Parish
Eddy

13 State
NM

15 Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg unit line, if any)	16 No of acres in lease	17 Spacing Unit dedicated to this well
1650'	**320.11**	**NW/SE**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19. Proposed Depth	20 BLM/ BIA Bond No. on file
1000'	**8500'**	**NATIONWIDE BOND #NMB000434**
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22 Aproximate date work will start*	23. Estimated duration
3456'	**ASAP**	**45 days**

24 Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1 shall be attached to this form.

1 Well plat certified by a registered surveyor
2 A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)
4 Bond to cover the operations unless covered by 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	Cy Cowan	Date
		12/3/2009

Title
Land Regulatory Agent

Approved By *(Signature)*	Name *(Printed/ Typed)*	Date
/s/ Jesse J. Juen		FEB 12 2010
Title **STATE DIRECTOR**	Office **NM STATE 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 cc operations thereon
APPROVAL FOR TWO YEARS
Conditions of approval, if any, are attached.

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

APD Previously Approved

Carlsbad Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
811 South First, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Revised March 17, 1999
Instruction on back
Submit to Appropriate District Office
State Lease – 4 Copies
Fee Lease – 3 Copies

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-37655	33745	Ingle Wells ~~Undesignated~~ Delaware

Property Code	Property Name	Well Number
15209	LILY "ALY" FEDERAL	10

OGRID No.	Operator Name	Elevation
025575	YATES PETROLEUM CORPORATION	3456

Surface Location

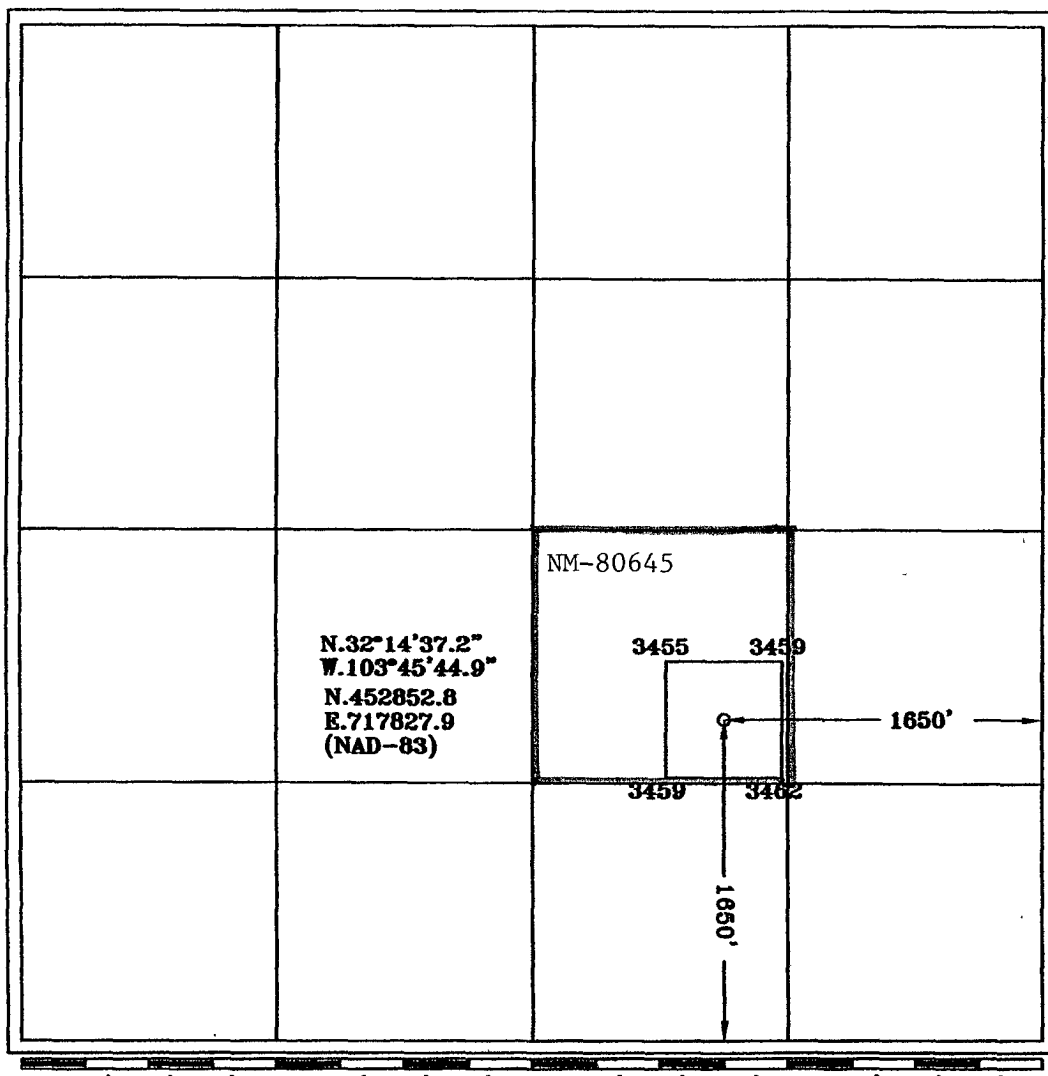
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	3	24S	31E		1650	SOUTH	1650	EAST	EDDY

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 the the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Cy Cowan
Printed Name

Land Regulatory Agent
Title

12/3/09
Date

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 supervison, and that the same is true and correct to the best of my belief.

8/01/2006
Date Surveyed

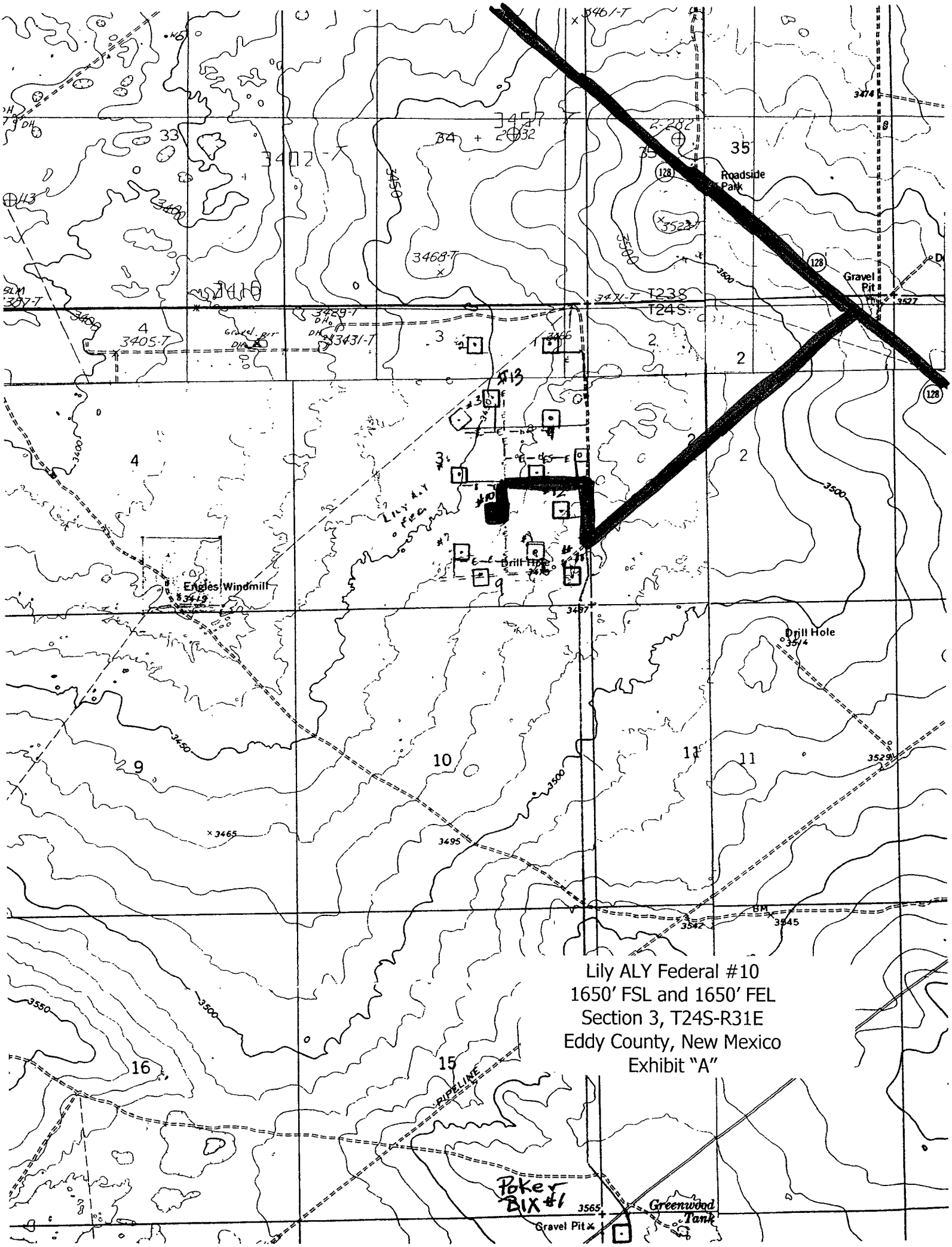
Signature & Seal of Professional Surveyor

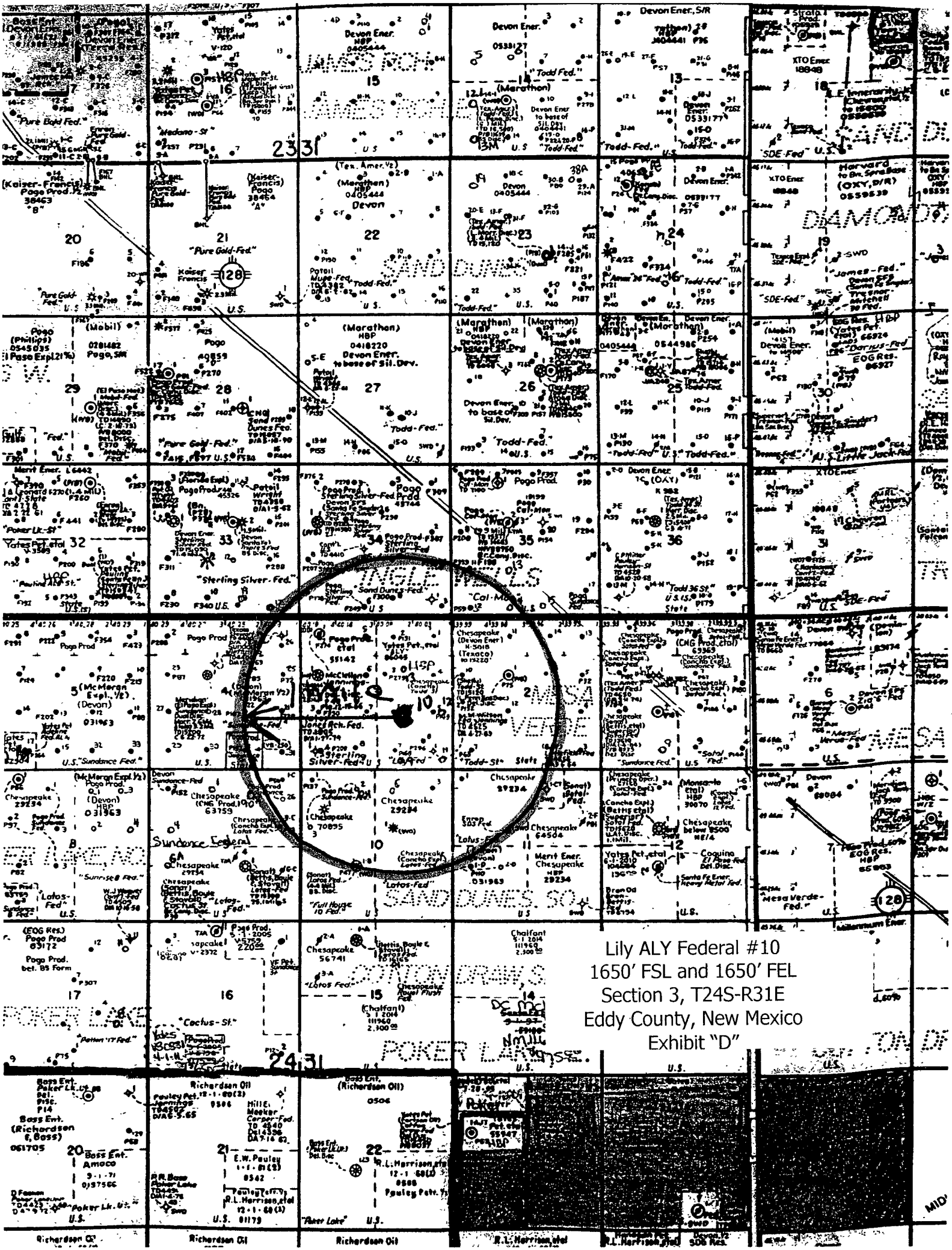
HERSCHEL E. JONES
NEW MEXICO
3640
REGISTERED PROFESSIONAL SURVEYOR

Certificate No. Herschel E. Jones RLS 3640

LILY FEDERAL 10

GENERAL SURVEYING COMPANY


Roadside Park
Gravel Pit
Drill Hole
Engles Windmill
Lily ALY Fed
PIPELINE
Poker BIX #1
Greenwood Tank
Gravel Pit
T24S
R31E
Lily ALY Federal #10
1650' FSL and 1650' FEL
Section 3, T24S-R31E
Eddy County, New Mexico
Exhibit "A"


Lily ALY Federal #10
1650' FSL and 1650' FEL
Section 3, T24S-R31E
Eddy County, New Mexico
Exhibit "D"

YATES PETROLEUM CORPORATION
Lily ALY Federal #10
1650' FSL and 1650' FEL
Section 3-T24S-R31E
Eddy County, New Mexico

1. The estimated tops of geologic markers are as follows:

Rustler	650'	Brushy Canyon	7050' Oil
Top of Salt	990'	Brushy Canyon Marker	8100'
Base of Salt	4140'	Bone Spring	8240'
Bell Canyon	4410' Oil	TD	8500'
Cherry Canyon	5320' Oil		

2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:

   Water: Approximately 192'
   Oil or Gas: Bell Canyon, Cherry Canyon and Brushy Canyon

3. Pressure Control Equipment: BOPE will be installed on the 8 5/8" casing and rated for 3000 BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout Preventor controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventors will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibit B.

   Auxiliary Equipment:

   A. Auxiliary Equipment: Kelly cock, pit level indicators, flow sensor equipment and a sub with full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

4. THE PROPOSED CASING AND CEMENTING PROGRAM:

   A. Casing Program: (All New)

Hole Size	Casing Size	Wt./Ft	Grade	Coupling	Interval	Length
17 1/2"	13 3/8"	48#	H-40	ST&C	0-650'	650'
11"	8 5/8"	32#	J-55	ST&C	0-100'	100'
11"	8 5/8"	24#	J-55	ST&C	100'-2100'	2000'
11"	8 5/8"	32#	J-55	ST&C	2100'-4300'	2200'
7 7/8"	5 1/2"	17#	J-55	LT&C	0-100'	100'
7 7/8"	5 1/2"	15.5#	J-55	LT&C	100'-7300'	7200'
7 7/8"	5 1/2"	17#	J-55	LT&C	7300'-8500'	1200'

Yates Petroleum Corporation requests a variance to install a rotating head on the surface casing strings when intermediate casing will be set. If a BOP system is required thenwe wish to install a 2M system and receive a variance to test the system to 1000# using the rig pumps. The test will be held for 30 minutes on each system component. Components to be tested include pipe rams, blind rams, and annular preventer.

Minimum Casing Design Factors: Burst 1.0, Tensile 1.8, Collapse 1.125

B. CEMENTING PROGRAM: SEE COA

Surface casing: 325 sx Hal LtPrC (WT 12.5 YLD 1.97), Tail in w/200 sx Premium Pl+CaC12 (WT 14.8 YLD 1.35). TOC-Surface.

Intermediate Casing: 1000 sx Hal LtPr+C (WT 12.5 YLD 1.97) and tail in with 200 Premium Pl (WT 14.8 TLD 1.35). TOC-Surface.

Production Casing: Stage 1: 400 sx Super H (WT 13.0 YLD 1.66). TOC 6550'. Stage 2: 775 sx LiteCrete (WT 9.9 YLD 2.78). Tail in with 100 sx PecosVILt (WT 13.00 YLD 1.41). TOC-Surface. DV Tool at 6550'.

5. MUD PROGRAM AND AUXILIARY EQUIPMENT:

Interval	Type	Weight	Viscosity	Fluid Loss
0-650' 730	Fresh Water	8.4-8.6	32	N/C
650'-4300'	Brine Water	10.0-10.2	28	N/C
4300'-8400'	Fresh Water	8.7-9.0	28	N/C
8400'-8500'	Cut Brine	9.0-9.2	28-30	<20.0

See COA

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. Mud will be checked hourly by rig personnel.

6. EVALUATION PROGRAM: See COA

Samples: 10' samples 30' to 4500', 10' samples 4500' to TD.
Logging: Platform HALS; CMR.
Coring: None Anticipated.
DST's: As warranted.

7. ABNORMAL CONDITIONS, BOTTOM HOLE PRESSURE, AND POTENTIAL HAZARDS:

Anticipated BHP:

From: 0	TO: 650' TVD	Anticipated Max BHP: 290 PSI
From: 650'	TO: 4300' TVD	Anticipated Max. BHP: 2280 PSI
From: 4300'	TO: 8500' TVD	Anticipated Max. BHP: 4065 PSI

No abnormal pressures or temperatures are anticipated.
Lost Circulation Zones Anticipated: None
H2S Zones Anticipated: None Anticipated
Maximum Bottom Hole Temperature: 168 F

8. ANTICIPATED STARTING DATE:

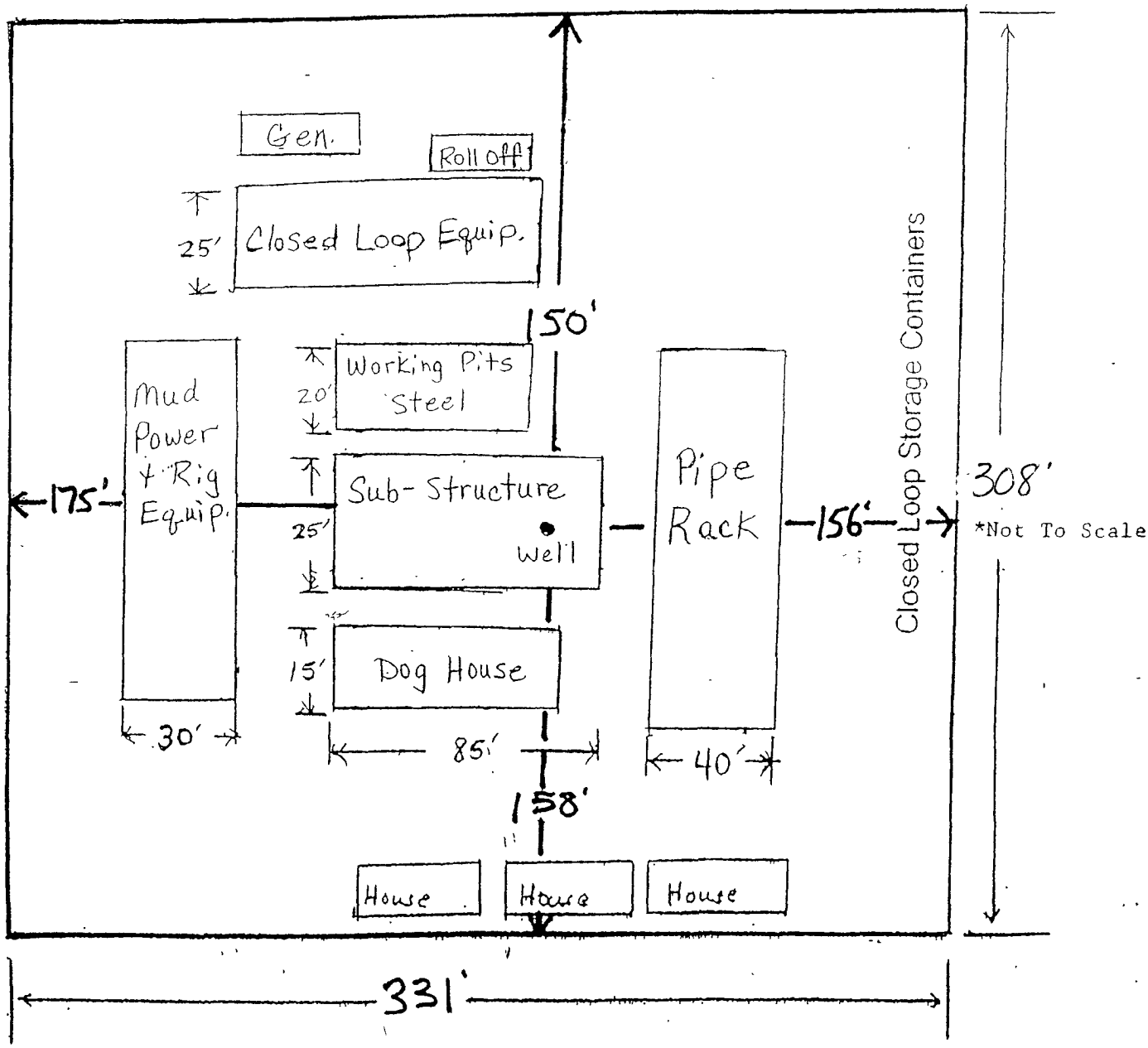
Plans are to drill this well as soon as possible after receiving approval. It should take approximately 30 days to drill the well with completion taking another 15 days.

Yates Petroleum Corporation

Location Layout for Permian Basin

Closed Loop Design Plan

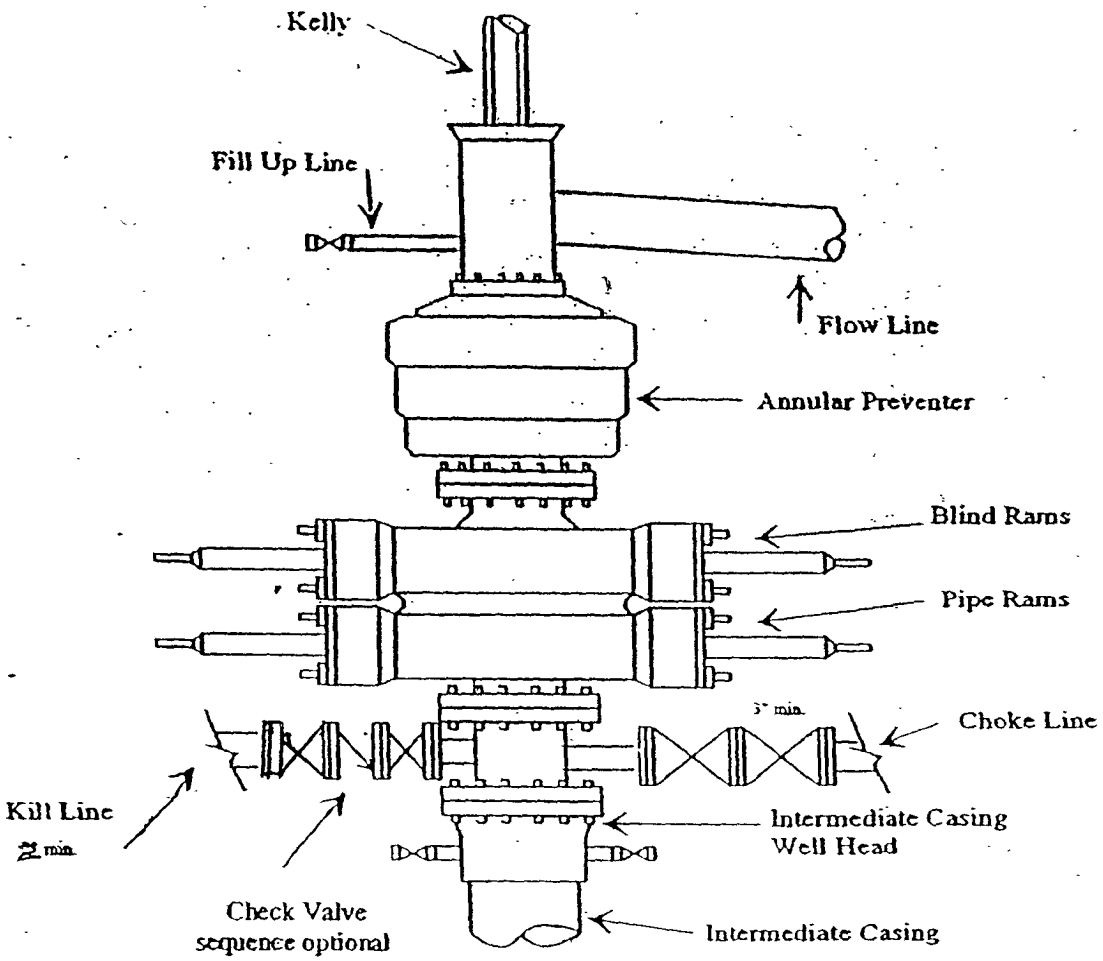
Lily ALY Federal #10
1650' FSL and 1650' FEL
Section 3, T24S-R31E
Eddy County, New Mexico
Exhibit "C"



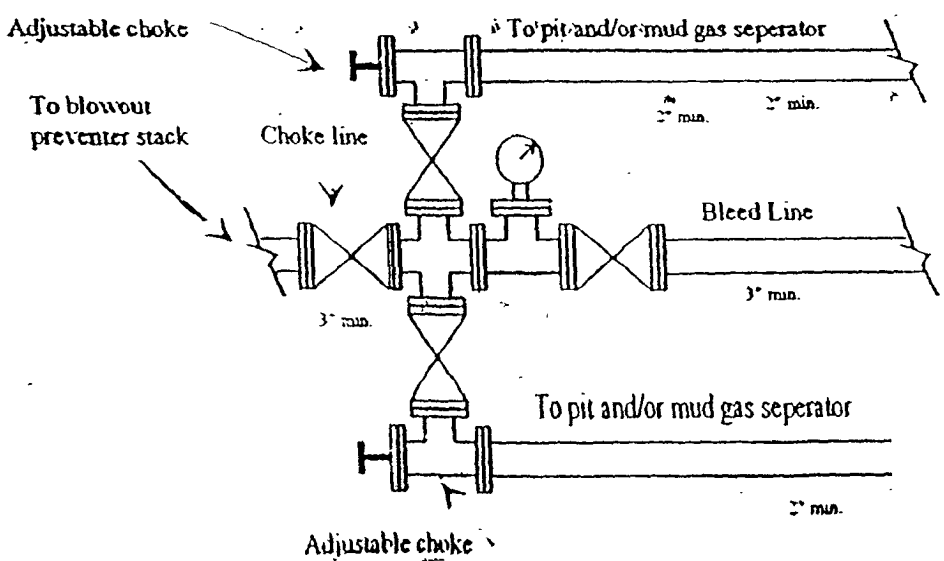
Yates Petroleum Corporation

BOP-3

Typical 3,000 psi Pressure System
Schematic
Annular with Double Ram Preventer Stack

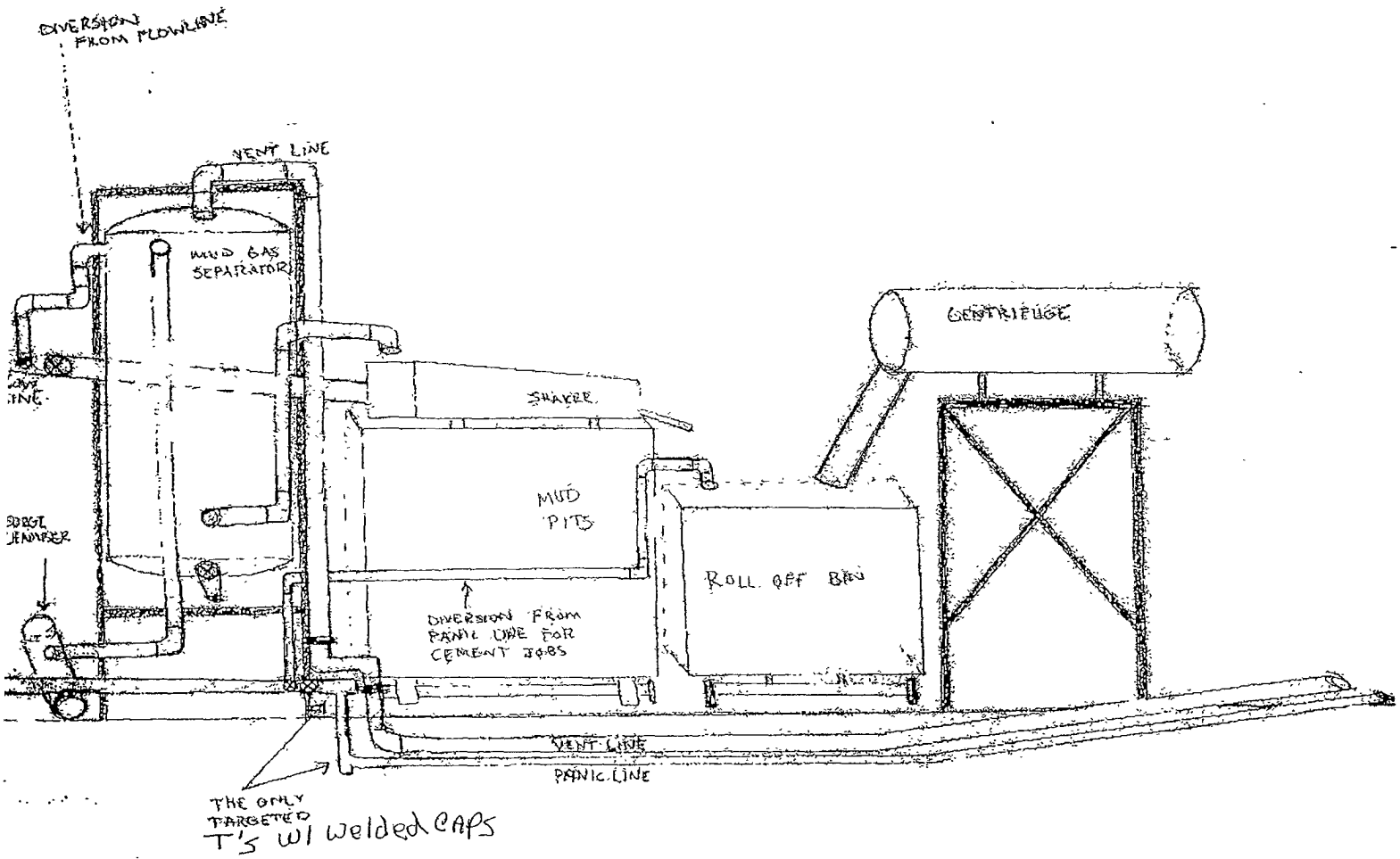


Typical 3,000 psi choke manifold assembly with at least these minimun features



Lily ALY Federal #10
1650' FSL and 1650' FEL
Section 3, T24S-R31E
Eddy County, New Mexico
Exhibit "B"

YATES PETROLEUM CORPORATION
Piping from Choke Manifold
to the Closed-Loop Drilling Mud System



Lily ALY Federal #10
1650' FSL and 1650' FEL
Section 3, T24S-R31E
Eddy County, New Mexico
Exhibit "C-1"

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
YATES PETROLEUM CORPORATION
Lily ALY Federal #10
1650' FSL and 1650' FEL
Section 3-T24S-R31E
Eddy County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

Exhibit A is a portion of the BLM map showing the well and roads in the vicinity of the proposed location. The proposed well site is located approximately 24 miles west of Loving, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

DIRECTIONS:

Go east of Carlsbad on Highway 62-180 to State Road 31. Turn south on 31 and go to Highway 128 (Jal Highway). Turn left on Highway 128 and go approximately 16.3 miles to just before Red Road (CR-798). Turn right here on lease road with a cattleguard going south and go approximately 1 mile. Turn right here and go approximately .1 of a mile. Turn left here on existing lease road and go approximately .2 of a mile. The new road will start here going south for approximately .2 of a mile to the southeast corner of the proposed well location.

2. PLANNED ACCESS ROAD:

A. The proposed new access will be approximately .2 mile in length from the point of origin to the southeast corner of the drilling pad. The road will lie in a north to south direction.
B. The new lease road will be 14 feet in width (driving surface) and will be adequately drained to control runoff and soil erosion.
C. The new road will be bladed with drainage on one side. Traffic turnouts may be built.
D The route of the road is visible.
E The existing road will be maintained in the same or better condition.

3. LOCATION OF EXISTING WELL:

A. There is drilling activity within a one-mile radius of the wellsite.
B. Exhibit D shows existing wells within a one-mile radius of the proposed wellsite.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

A. There are production facilities on this lease at the present time.
B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power until an electric line can be built, if needed.

5. LOCATION AND TYPE OF WATER SUPPLY:

   A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit A.

6. SOURCE OF CONSTRUCTION MATERIALS:

   Dirt contractor will locate nearest pit and obtain any permits and materials needed for construction.

7. METHODS OF HANDLING WASTE DISPOSAL:

   A. A closed loop system will be used to drill this well.
   B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
   C. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
   D. Oil produced during operations will be stored in tanks until sold.
   E. Current laws and regulations pertaining to the disposal of human waste will be complied with.
   F. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary land fill. Burial on site is not approved.

8. ANCILLARY FACILITIES:

   None

9. WELLSITE LAYOUT:

   A. Exhibit C shows the relative location and dimensions of the well pad, the reserve pits, the location of the drilling equipment, rig orientation and access road approach.
   B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
   C. A 600' x 600' area has been staked and flagged.

10. PLANS FOR RESTORATION:

   A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the wellsite in as aesthetically pleasing a condition as possible.
   B. Unguarded pits, if any, containing fluids will be fenced until they have dried and been leveled.
   C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. All pits will be filled level after they have evaporated and dried.

11. SURFACE OWNERSHIP: Federal Lands, Administered by Bureau of Land Management Carlsbad, New Mexico

12. OTHER INFORMATION:

A. Topography: Refer to the existing archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.
B. The primary surface use is for grazing.

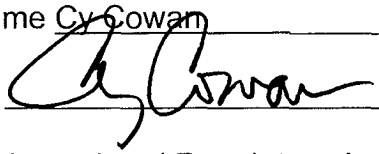
(Exhibits Attached)
Exhibit A Topographic Map and Road Plat
Exhibit B BOP Schematic
Exhibit C Location Layout
Exhibit C-1 Closed Loop System Diagram
Exhibit D One Mile Radius

CERTIFICATION
YATES PETROLEUM CORPORATION
Lily ALY Federal #10

I hereby certify that I or the company I represent, have inspected the drill site and access route proposed herein; that the company I represent is familiar with the conditions which currently exist; that 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 the company I represent is 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 3rd day of December, 2009

Printed Name Cy Cowan

Signature 

Position Title Land Regulatory Agent

Address 105 South Fourth Street, Artesia, NM 88210

Telephone 575-748-4372

E-mail (optional) cy@yatespetroleum.com

Field Representative (if not above signatory) Tim Bussell

Address (if different from above) Same

Telephone (if different from above) 575-748-4221

E-mail (optional)

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	YATES PETROLEUM
LEASE NO.:	NM80645
WELL NAME & NO.:	10-LILY ALY FEDERAL
SURFACE HOLE FOOTAGE:	1650' FSL & 1650' FEL
BOTTOM HOLE FOOTAGE	Same
LOCATION:	Section 3, T. 24 S., R 25 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, 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 feet 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. V-DOOR DIRECTION: Not Stipulated. Approved pad size is 308 X 331.

C. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately inches in depth. The topsoil will be used for interim and final reclamation.

D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

E. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call theCarlsbad Field Office at (575) 234-5972.

F. 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.

G. 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.

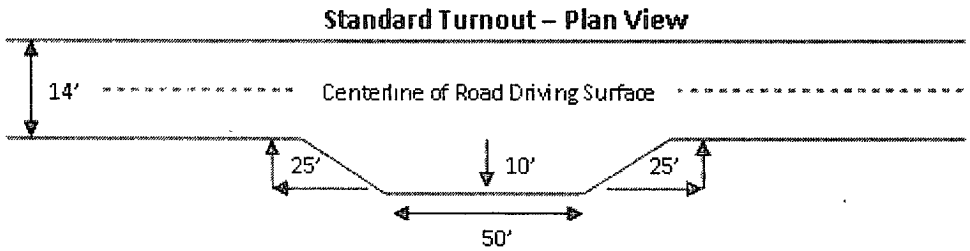
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

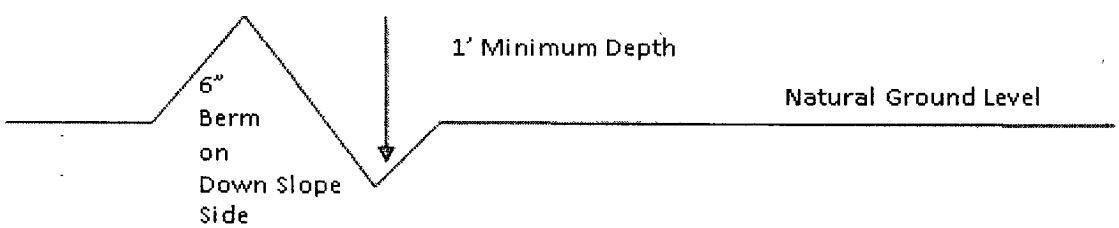
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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.

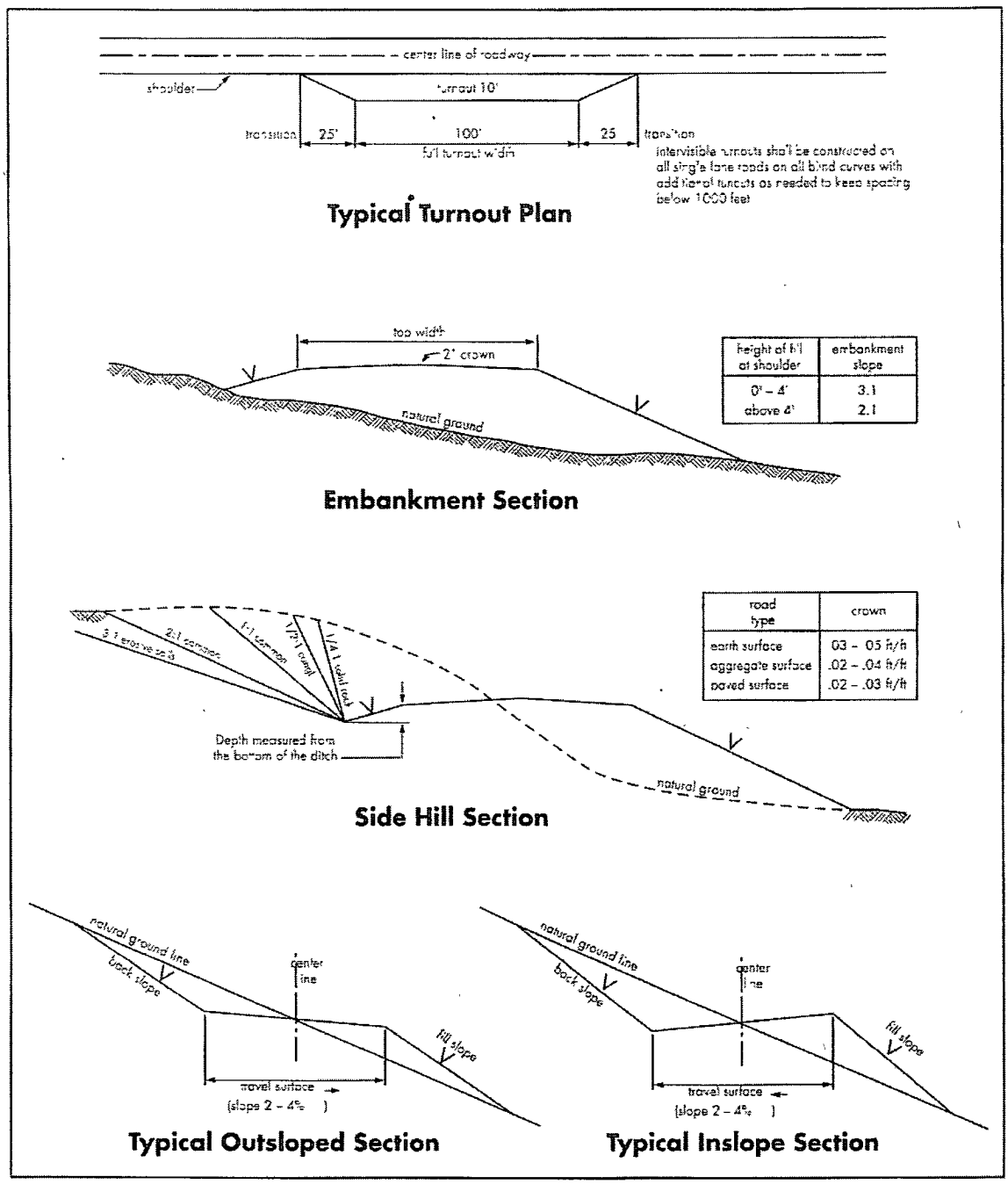
A gate shall be constructed and fastened securely to H-braces.

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

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

1. **Due to recent H2S encounters in the salt formation, it is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide prior to drilling out the surface shoe. If Hydrogen Sulfide is encountered, please report measurements 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.

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.

R-111-P Potash
Possible water and brine flows in the Salado, Castile, Delaware, and Bone Spring. Possible lost circulation in the Salado, Delaware and Bone Spring Formations.

1. The **13-3/8** inch surface casing shall be set at **approximately 730 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **Fresh water mud to be used to setting depth.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    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.

Casing is to be kept fluid filled while running into hole.

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
    Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.

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

   a. First stage to DV tool, cement shall:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job.

   b. Second stage above DV tool, cement shall:

   ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

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.

5. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

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. **Piping from choke manifold to flare to be as straight as possible.**

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

   a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

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

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

   a. Casing cut-off and BOP installation will not be initiated until the cement has had 4-6 hours of setup time in a water basin and 12 hours in the potash areas. This time will start after the cement plug is bumped. Testing the BOP/BOPE

against a plug can commence after meeting the above conditions plus the BOP installation time.

b. The tests shall be done by an independent service company utilizing a test plug.

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

d. 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.**

e. 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.

f. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

1. **DRILL STEM TEST**

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

CRW 123009

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 (Not Applied for in APD)

C. ELECTRIC LINES (Not Applied for in APD)

IX. 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.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation 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 that is free of contaminants 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.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

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.

Reseeding Procedure:

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