

RESUBMITTAL

ATS-10-166
R-111-POTASH Rm

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NMOCD ARTESIA

OCD-ARTESIA

Form 3160-3
(August 2008)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTEREA 10-247
FORM APPROVED
OMB NO. 1004-0137
Expires. July 31, 20101a. Type of Work ☒ DRILL ☐ REENTER
1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone
2. Name of Operator

Yates Petroleum Corporation 025575

3a. Address

105 South Fourth Street, Artesia, NM 88210

3b. Phone No. (include area code)

505-748-1471

4. Location of well (Report location clearly and in accordance with any State requirements *)

At surface 330' FSL and 2000' FEL Surface Location

1650' FEL Bottom Location

At proposed prod zone

same as above

14. Distance in miles and direction from the nearest town or post office*

Approximately 24 miles east of Loving, New Mexico

15. Distance from proposed*
location to nearest
property or lease line, ft
(Also to nearest drlg unit line, if any)

1650'

16. No. of acres in lease

320.11

17. Spacing Unit dedicated to this well

W2E2

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

1600'

19. Proposed Depth

-8500'

20. BLM/ BIA Bond No. on file

NATIONWIDE BOND #NMB000434

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

3467'

22. Approximate date work will start*

8180 TVB
12609' MP
ASAP

23. Estimated duration

45 days

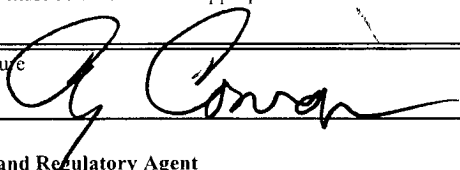
24. Attachments

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

12/16/2009

Title

Land Regulatory Agent

Approved By (Signature)

/s/ Jesse J. Juen

Name (Printed/ Typed)

Date

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 co operations thereon

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and wilfully 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

Carlsbad Controlled Water Basin

APD Previously Approved

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHEDSEE ATTACHED FOR
CONDITIONS OF APPROVAL

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 DepartmentForm C-102
Revised October 15, 2009Submit one copy to appropriate
District OfficeOIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-37653	Pool Code 33745	Pool Name Ingel Wells; Delaware
Property Code 15209	Property Name LILY "ALY" FEDERAL	Well Number 9H
OGRID No. 025575	Operator Name YATES PETROLEUM CORPORATION	Elevation 3467

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	3	24 S	31 E		330	SOUTH	2000	EAST	EDDY

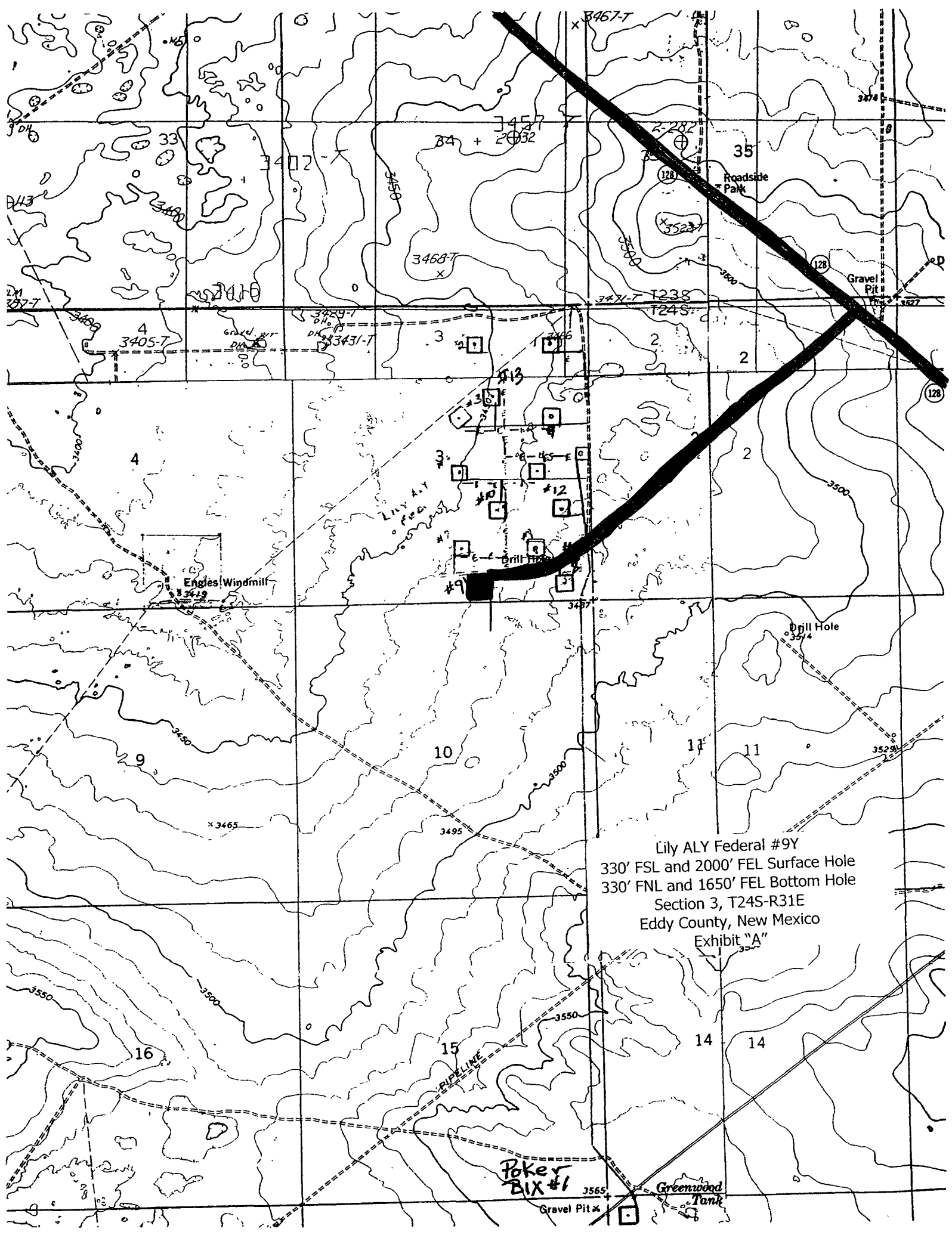
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	3	24 S	31 E		330	NORTH	1650	EAST	EDDY

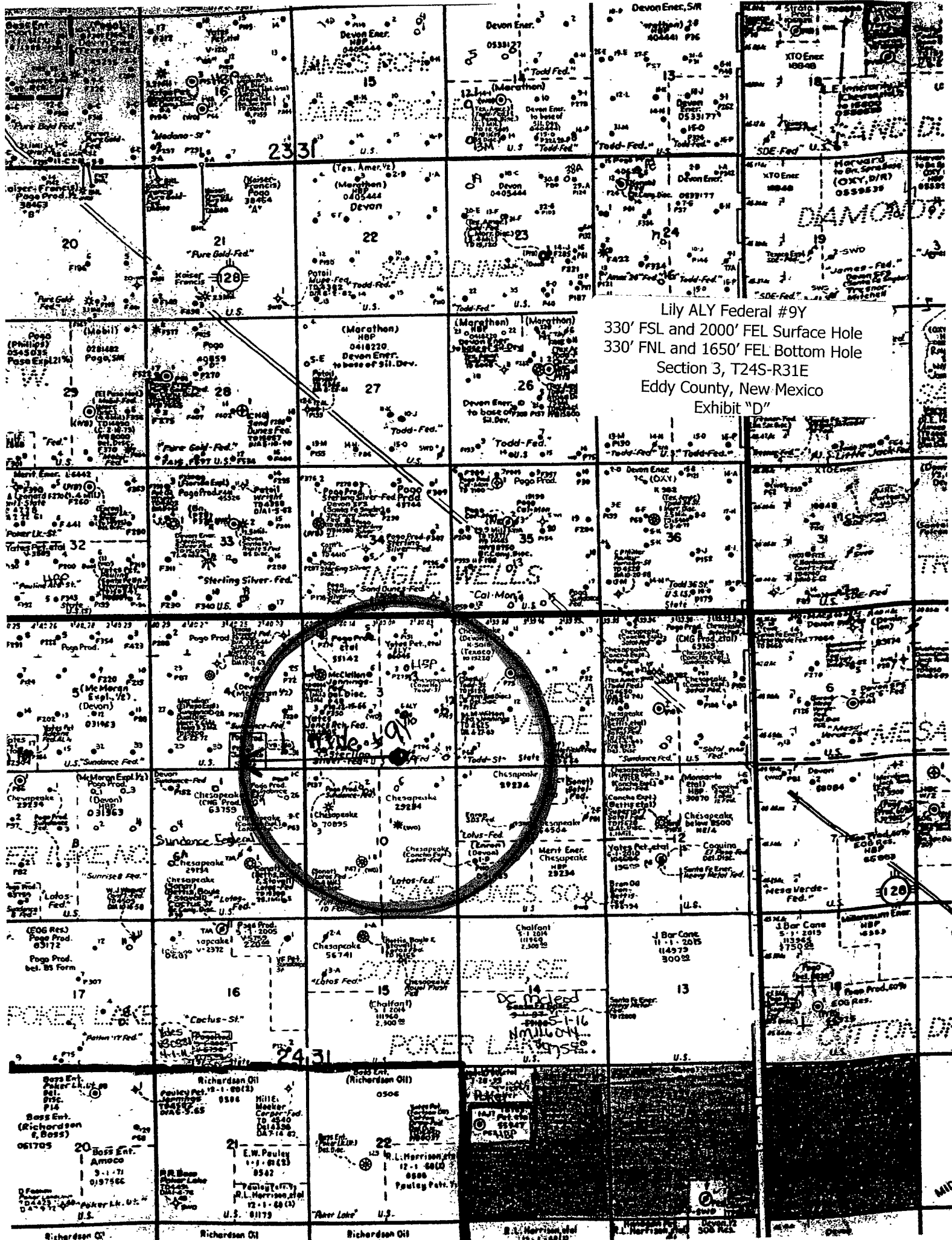
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160.08			

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

<p>BOTTOMHOLE LOCATION Lat - N 32°15'09.93" Long - W 103°45'44.87" NMSPC- N 456156.014 E 717814.586 (NAD-83)</p> <p>Project Area →</p> <p>Producing Area →</p> <p>Penetration Point 806' FSL and 1964' FEL</p> <p>SURFACE LOCATION Lat - N 32°14'24.17" Long - W 103°45'49.01" NMSPC- N 451530.131 E 717483.044 (NAD-83)</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Cy Cowan</i> Signature Date 12/16/09</p> <p>Cy Cowan Printed Name</p> <p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>DECEMBER 16, 2009 Date Surveyed Signature & Seal of Professional Surveyor 7977 Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>
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Lily ALY Federal #9Y
330' FSL and 2000' FEL Surface Hole
330' FNL and 1650' FEL Bottom Hole
Section 3, T24S-R31E
Eddy County, New Mexico
Exhibit "A"



YATES PETROLEUM CORPORATION
Lily ALY Federal #9H
 330' FSL and 2000' FEL Surface Hole
 330' FNL and 1650' FEL Bottom Hole
 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	8172'
Base of Salt	4140'	Target Formation	8453' Oil
Bell Canyon	4410' Oil	TD	12,609'
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, Brushy Canyon and Target Formation

3. Pressure Control Equipment: BOPE will be installed on the ^{See COA 13 3/8"}9 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'
12 1/4"	9 5/8"	40#	J-55	ST&C	0-100'	100'
12 1/4"	9 5/8"	36#	J-55	ST&C	100'-3300'	3200'
12 1/4"	9 5/8"	40#	J-55	ST&C	3300'-4300'	1000'
7 7/8"	5 1/2"	17#	HCP-110	LT&C	0-12609'	12609'

Per Operator
 12-23-09 *DW*

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 PI + CaCl₂(WT 14.8 YLD 1.35). TOC-Surface.

Intermediate Casing: 1240 sx Hal LtPr+C (WT 12.5 YLD 1.97) and tail in with 200 Premium PI (WT 14.8 TLD 1.35). TOC-Surface.

Production Casing: Stage 1: 1700 sx Pecos VILt (WT 13.0 YLD 1.41). DV Tool 6550'.

Stage 2: 1150 sx Lite Crete(WT 9.9 YLD 2.78) tail in with 100 sx Pecos VILt (WT 13.0 YLD 1.41). TOC-Surface

Well will be drilled vertically to 7703'. At 7703' well will be kicked off at 12 degrees per 100' with an 8 3/4" HOLE TO 8453 MD (8180' TVD). If hole conditions dictate, 7" casing will be set. A 6 1/8" hole will then be drilled to 12609' MD (8180' TVD) where 4 1/2" casing will be set and cemented. If 7" is not set, then hole will be reduced to 7 7/8" and drilled to 12609' MD (8180 TVD) where 5 1/2" casing will be set and cemented. Penetration point of producing zone will be encountered at 806" FSL and 1964' FEL, 3-24S-31E. Deepest TVD in the well is 8180' in the lateral.

5. MUD PROGRAM AND AUXILIARY EQUIPMENT:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0-650'	Fresh Water	8.6-9.2	35-40	N/C
650'-4300'	Brine Water	10.0-10.2	28	N/C
4300'-7703'	Cut Brine	8.7-9.0	28-29	N/C
7703'-12609'	Cut Brine (lateral)	8.7-9.0	28-32	<12

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:

Samples: Samples 30'-4500', 10' samples from 4500' to TD.

Logging: Platform HALS, CMR.

Coring: None Anticipated.

DST's: None Anticipated.

MUDLOGGING: Yes.

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: 8180' TVD	Anticipated Max. BHP:	3830	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.

M.D.	Inclination	Azimuth	T.V.D.	N+S	E+W	D.L.S	ToolFace	T.F. Ref. (HS/GN)	
0	0	0	0	0	0	0			
650	0	0	650	0	0	0			RUSTLER
990	0	0	990	0	0	0			TOP OF SALT
4,140	0	0	4,140	0	0	0			BASE OF SALT
4,410	0	0	4,410	0	0	0			BELL CANYON
5,320	0	0	5,320	0	0	0			CHERRY CANYON
7,050	0	0	7,050	0	0	0			BRUSHY CANYON
7703	0	0	7703	0	0	12	4	GN	KOP
7725	2.64	4.33	7724.99	0.51	0.04	12	0	HS	
7750	5.64	4.33	7749.92	2.3	0.17	12	0	HS	
7775	8.64	4.33	7774.73	5.4	0.41	12	360	HS	
7800	11.64	4.33	7799.33	9.79	0.74	12	360	HS	
7825	14.64	4.33	7823.68	15.46	1.17	12	0	HS	
7850	17.64	4.33	7847.69	22.39	1.7	12	0	HS	
7875	20.64	4.33	7871.3	30.56	2.32	12	0	HS	
7900	23.64	4.33	7894.46	39.95	3.03	12	0	HS	
7925	26.64	4.33	7917.09	50.54	3.83	12	0	HS	
7950	29.64	4.33	7939.13	62.3	4.72	12	0	HS	
7975	32.64	4.33	7960.53	75.19	5.7	12	360	HS	
8000	35.64	4.33	7981.21	89.18	6.76	12	360	HS	
8025	38.64	4.33	8001.14	104.22	7.9	12	360	HS	
8050	41.64	4.33	8020.25	120.29	9.11	12	360	HS	
8075	44.64	4.33	8038.49	137.34	10.4	12	360	HS	
8100	47.64	4.33	8055.81	155.31	11.77	12	360	HS	
8125	50.64	4.33	8072.17	174.16	13.19	12	360	HS	
8150	53.64	4.33	8087.51	193.84	14.68	12	0	HS	
8172	56.28	4.33	8100.14	211.8	16.05	12	0	HS	BRUSHY CANYON MKR
8175	56.64	4.33	8101.79	214.29	16.23	12	360	HS	
8200	59.64	4.33	8114.99	235.46	17.84	12	0	HS	
8225	62.64	4.33	8127.06	257.29	19.49	12	360	HS	
8250	65.64	4.33	8137.96	279.72	21.19	12	0	HS	
8275	68.64	4.33	8147.67	302.69	22.93	12	0	HS	
8300	71.64	4.33	8156.16	326.13	24.71	12	0	HS	
8325	74.64	4.33	8163.41	349.99	26.51	12	0	HS	
8350	77.64	4.33	8169.4	374.19	28.35	12	0	HS	
8375	80.64	4.33	8174.11	398.67	30.2	12	0	HS	
8400	83.64	4.33	8177.53	423.36	32.07	12	360	HS	
8425	86.64	4.33	8179.65	448.19	33.95	12	0	HS	
8450	89.64	4.33	8180.46	473.11	35.84	12	360	HS	
8453.05	90.01	4.33	8180.47	476.15	36.07	12	0	HS	TARGET FORMATION
12608.78	90.01	4.33	8180	4620	350	0			LATERAL TD

Well will be drilled vertically to 7703'. At 7703' well will be kicked off at 12 degrees per 100' with a 8 3/4" hole to 8453' MD (8,180' TVD). If hole conditions dictate, 7" casing will be set. A 6 1/8" hole will then be drilled to 12,609' MD (8,180' TVD) where 4 1/2" casing will be set and cemented. If 7" is not set, then hole will be reduced to 7 7/8" and drilled to 12,609' MD (8,180' TVD) where 5 1/2" casing will be set and cemented. Penetration point of producing zone will be encountered at 806' FSL and 1964' FEL, 3-24S-31E. Deepest TVD in the well is 8180' in the lateral.

Lily ALY Federal #9H

Contingency Casing Design

If hole conditions dictate, 7" casing will be set at 8,453' MD (8,180' TVD). A 6 1/8" hole will then be drilled to 12,609' MD (8,180' TVD) where 4 1/2" casing will be set and cemented with one stage up to dv tool. After completion procedures, the 4 1/2" casing will be cut and pulled at 7600'.

2nd Intermediate

0 ft to 100 ft				Make up Torque ft-lbs			Total ft =
O.D.	Weight	Grade	Threads	opt.	min.	mx.	100
7 inches	26 #/ft	J-55	LT&C	3670	2750	4590	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
4,320 psi	4,980 psi	367,000 #		415,000 #		6.151	

100 ft to 5,800 ft				Make up Torque ft-lbs			Total ft =
O.D.	Weight	Grade	Threads	opt.	min.	mx.	5,700
7 inches	23 #/ft	J-55	LT&C	3130	2350	3910	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
3,270 psi	4,360 psi	313,000 #		366,000 #		6.25	

5,800 ft to 8,453 ft				Make up Torque ft-lbs			Total ft =
O.D.	Weight	Grade	Threads	opt.	min.	mx.	2,653
7 inches	26 #/ft	J-55	LT&C	3670	2750	4590	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
4,320 psi	4,980 psi	367,000 #		415,000 #		6.151	

DV tool placed at 6550'.

Stage I: Cemented w/400sx PVL (YLD 1.41 Wt 13) TOC= 6550'

Stage II: Cemented w/1400sx PVL (YLD 1.41 Wt 13) TOC= Surface

Production

0 ft to 12,609 ft				Make up Torque ft-lbs			Total ft =
O.D.	Weight	Grade	Threads	opt.	min.	mx.	12,609
4.5 inches	11.6 #/ft	HCP-110	LT&C	3020	2270	3780	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
8,660 psi	10,690 psi	279,000 #		367,000 #		3.875	

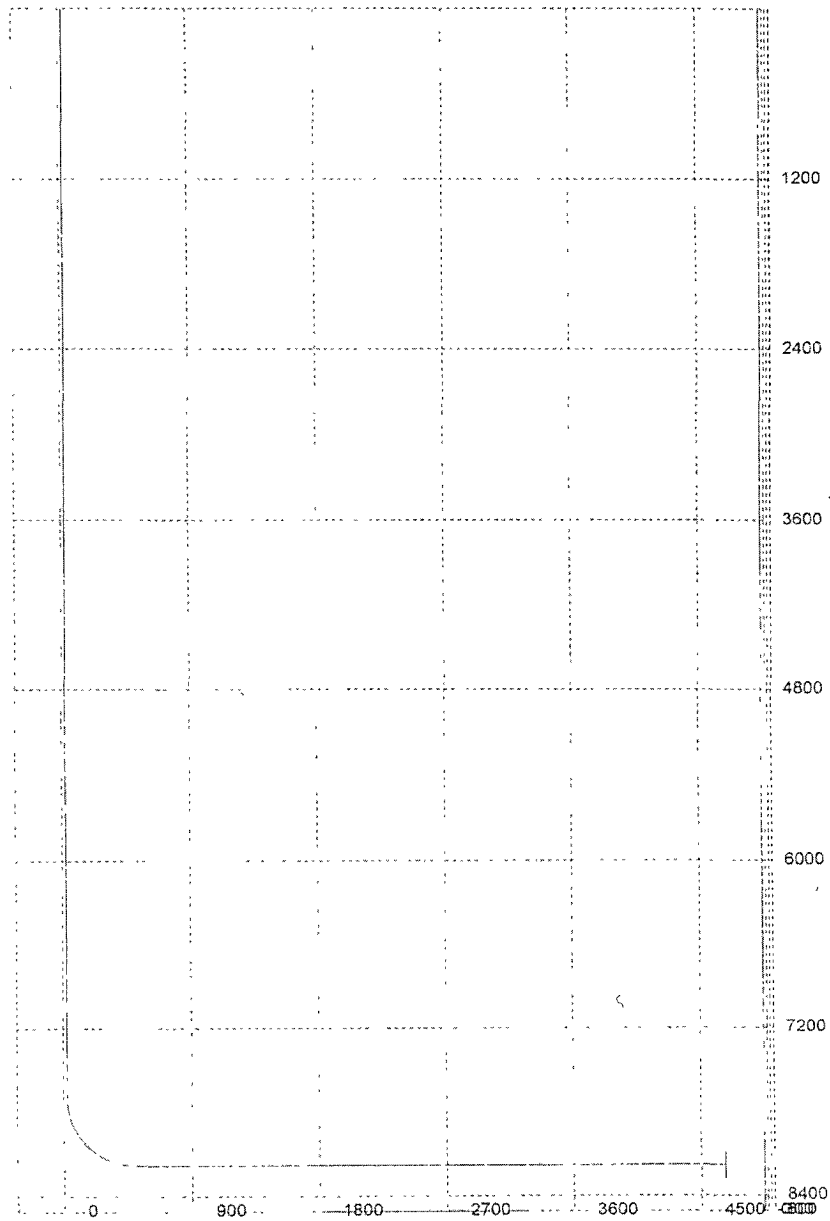
DV tool placed at approx. 7600' and cemented with one stage up to dv tool. After completion procedures, the 4 1/2" casing will be cut and pulled at 7600'.

Cemented w/675sx PVL (YLD 1.41 Wt 13) TOC= 7600'

3D³ Directional Drilling Planner - 3D View

Company: Yates Petroleum Corporation

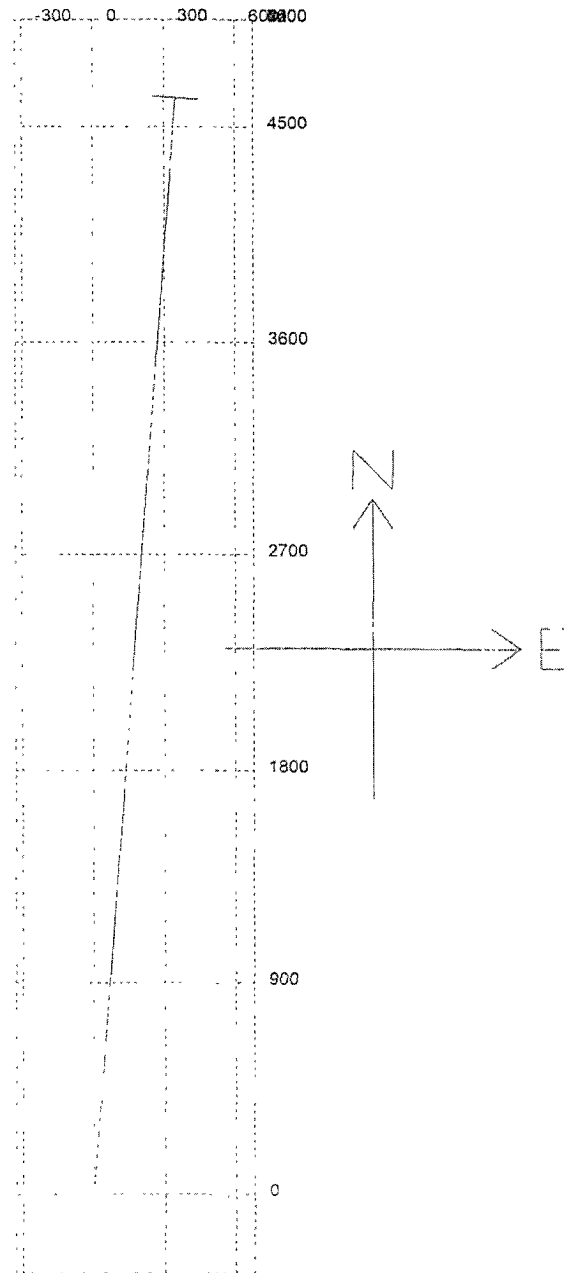
Well: Lily ALY Federal #9H

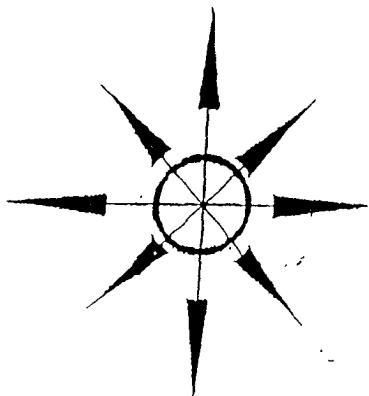


3D³ Directional Drilling Planner - 3D View

Company: Yates Petroleum Corporation

Well: Lily ALY Federal #9H



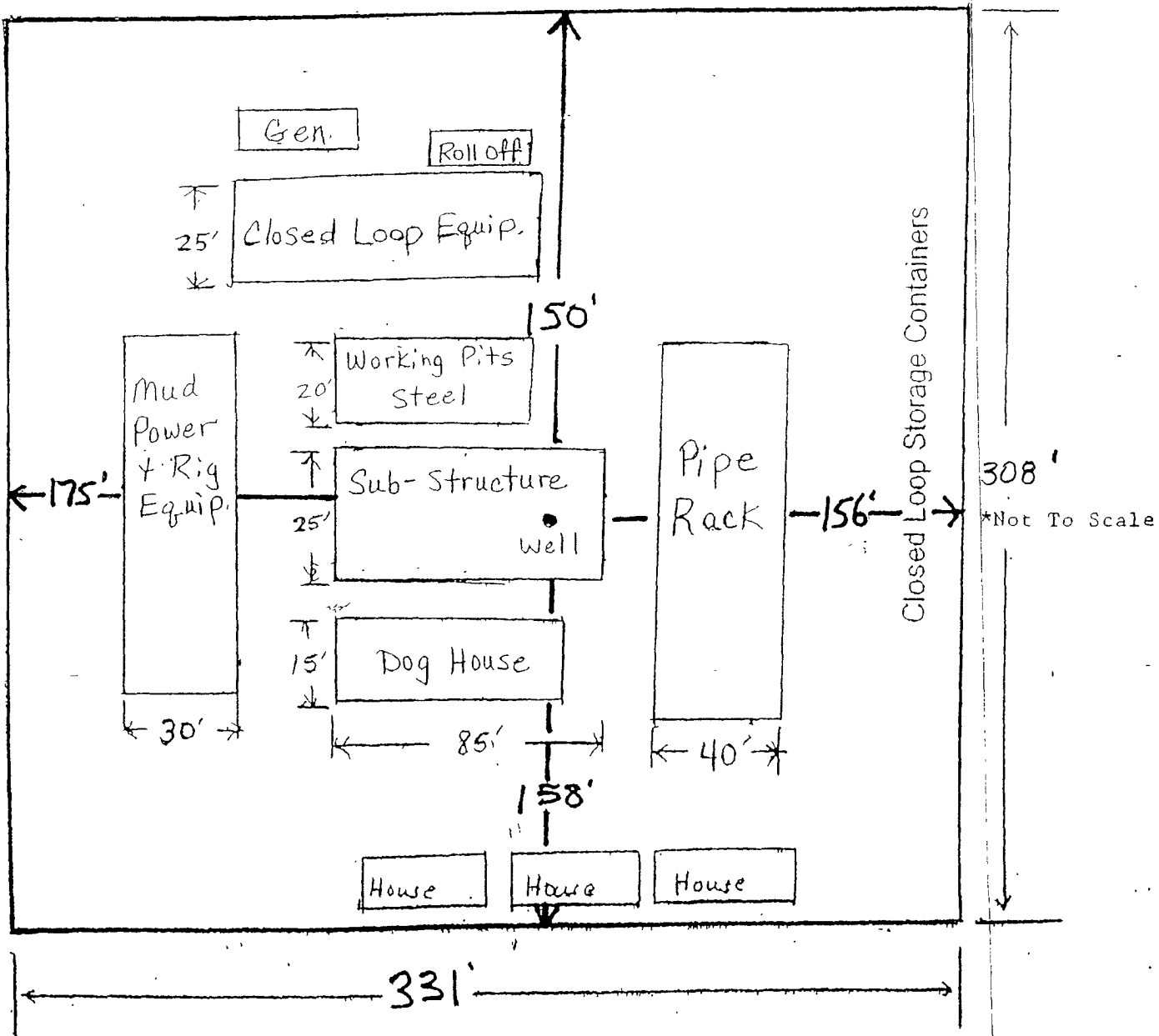


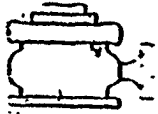
Yates Petroleum Corporation

Location Layout for Permian Basin

Closed Loop Design Plan

Lily ALY Federal #9Y
330' FSL and 2000' FEL Surface Hole
330' FNL and 1650' FEL Bottom Hole
Section 3, T24S-R31E
Eddy County, New Mexico
Exhibit "C"

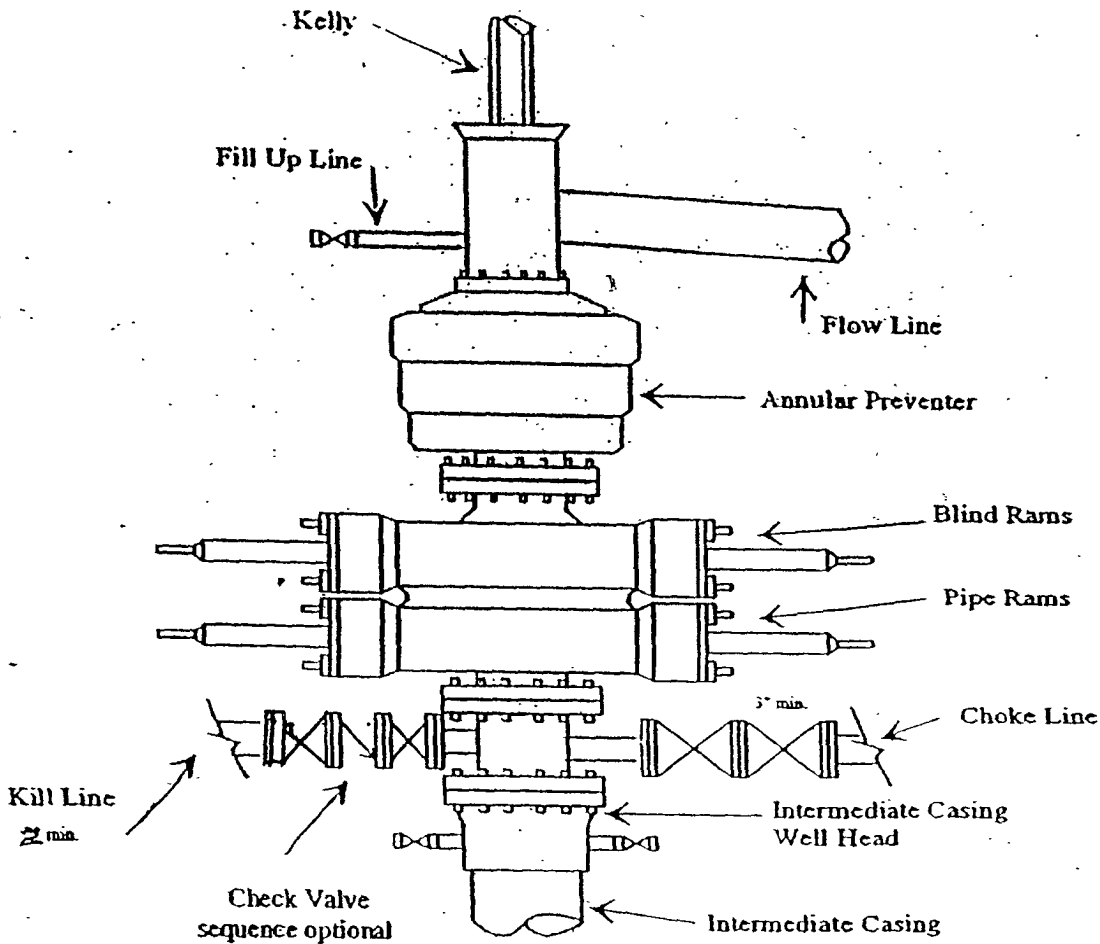




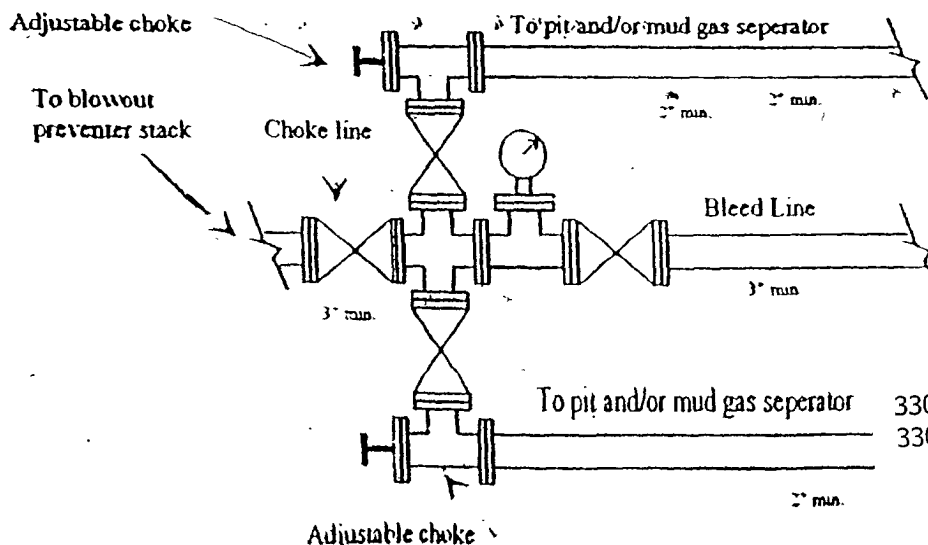
Yates Petroleum Corporation

BOP-3

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

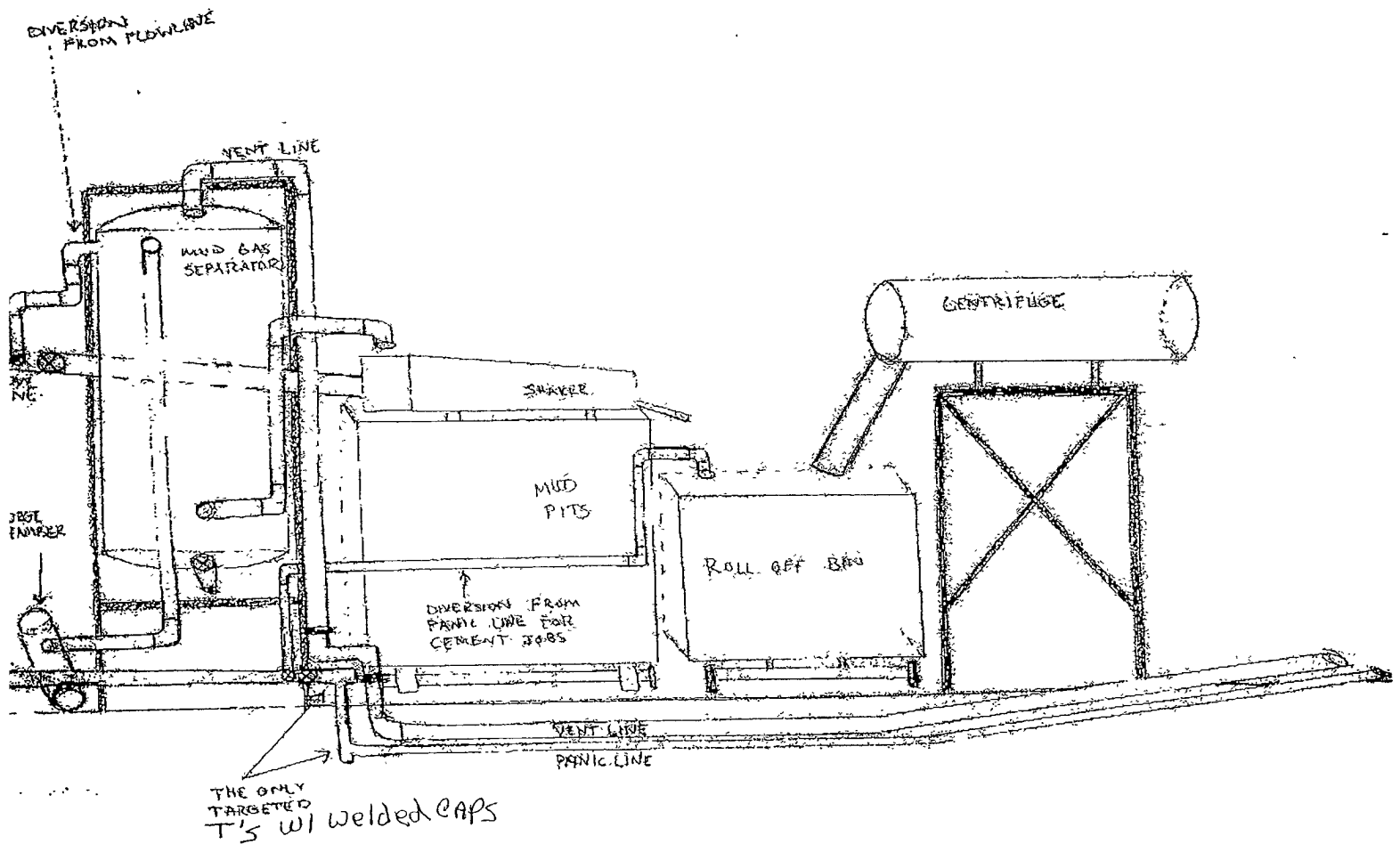


Typical 3,000 psi choke manifold assembly with at least these minimum features



Lily ALY Federal #9Y
330' FSL and 2000' FEL Surface Hole
330' FNL and 1650' FEL Bottom Hole
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 #9Y
330' FSL and 2000' FEL Surface Hole
330' FNL and 1650' FEL Bottom Hole
Section 3, T24S-R31E
Eddy County, New Mexico
Exhibit "C-1"

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
YATES PETROLEUM CORPORATION
Lily ALY Federal #9H
330' FSL and 2000' FEL Surface Hole
660' FNL and 1650' FEL Bottom Hole
~~330~~ 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 east 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 and go approximately 1.2 miles. No new road will be needed as the existing road will go to the northeast corner of proposed well location.

2. PLANNED ACCESS ROAD:

- A. No new access road will be needed for the well location.
- B. The existing lease road is 14 feet in width (driving surface) and will be adequately drained to control runoff and soil erosion.
- C. The existing road is bladed with and has drainage on one side. Some traffic turnouts have been 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.

Lily ALY Federal #9H

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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 #9Y

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 16th 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) cyc@ypcnm.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 CORPORATION
LEASE NO.:	NM80645
WELL NAME & NO.:	LILY ALY FEDERAL #9H
SURFACE HOLE FOOTAGE:	330' FSL & 2000' FEL
BOTTOM HOLE FOOTAGE:	330' FNL & 1650' FEL
LOCATION:	Section 03, T. 24 S., R 31 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.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Lesser Prairie-Chicken Timing Stipulations
 - Ground-level Abandoned Well Marker
- ☒ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - R-111-P Potash
 - H2S Requirements
 - Logging Requirements
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **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, 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 of any type authorized.

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 the Carlsbad 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

No Access Road was applied for in the permit – Road construction is not authorized. The following information is for existing lease-road maintenance purposes:

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

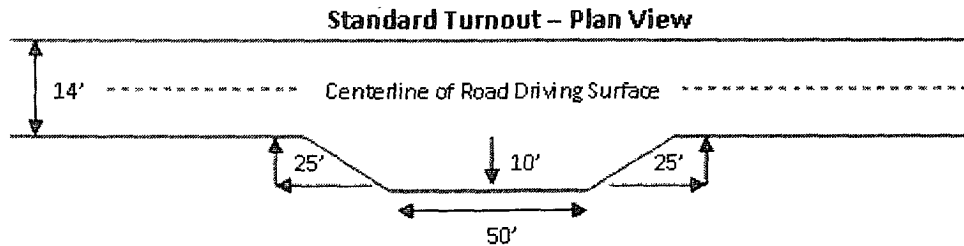
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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:

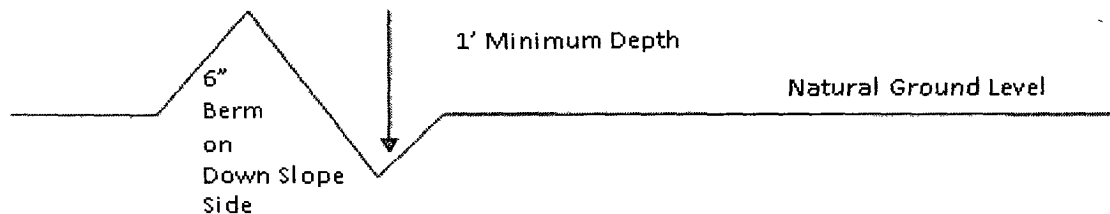


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing 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:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

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

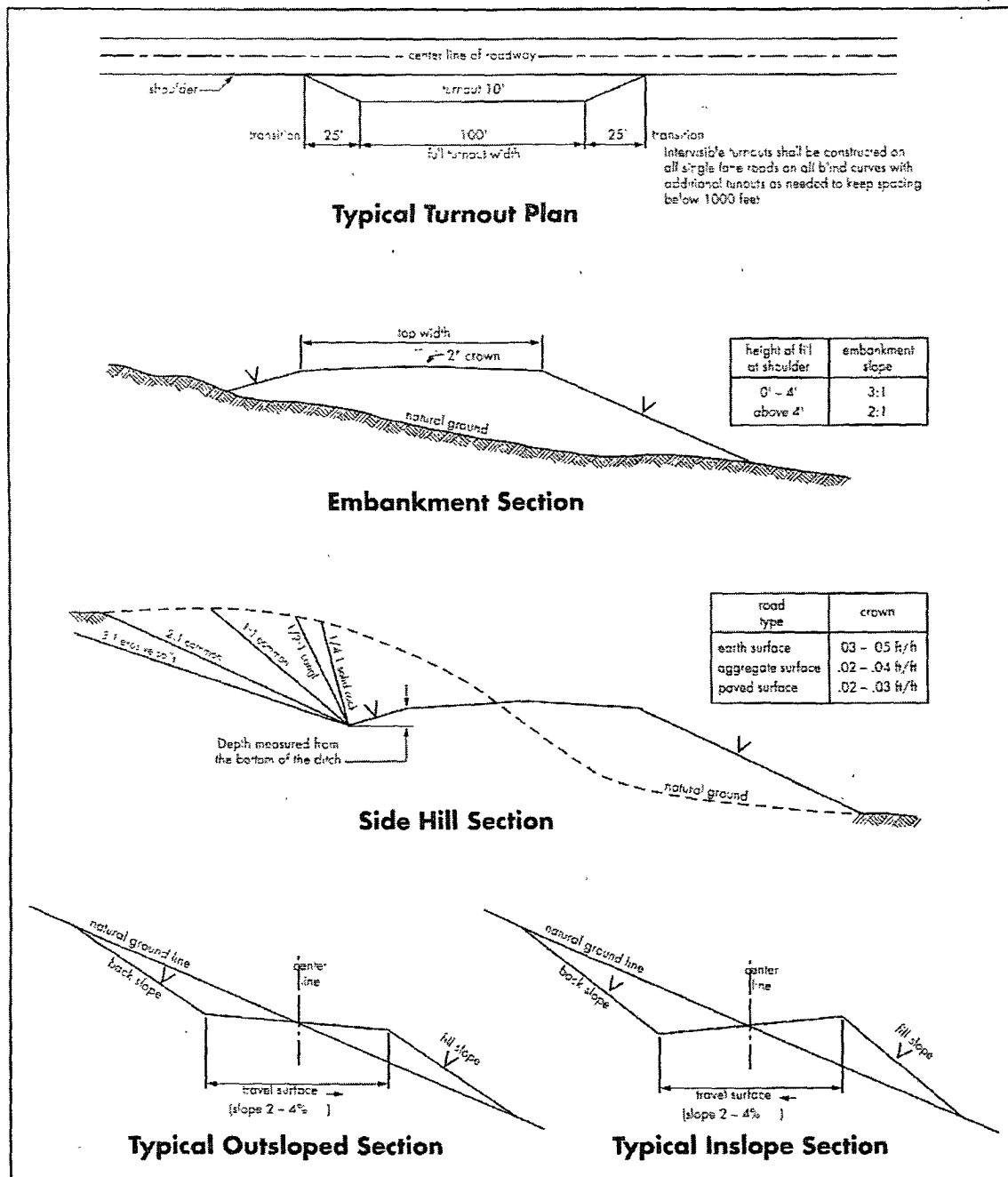
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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 650 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement. 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.
2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
 - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

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.

Contingency Casing

4. The minimum required fill of cement behind the **7** inch second 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.**

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

5. The minimum required fill of cement behind the **4-1/2** 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.

6. 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.

7. 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 **3000 (3M)** 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. 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.

D. DRILL STEM TEST

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

CRW 010810

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:

<u>Species</u>	<u>lb/acre</u>
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