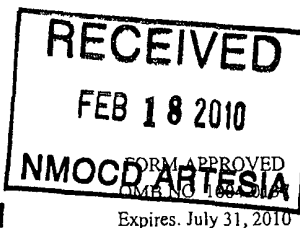


OPERATOR'S COPY

SECRETARY'S POTASH



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-103879
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator Yates Petroleum Corporation 025575		7. If Unit or CA Agreement, Name and No. N/A
3a. Address 105 South Fourth Street, Artesia, NM 88210		8. Lease Name and Well No. Culebra "BLV" Federal #1H
3b. Phone No. (include area code) 505-748-1471		9. API Well No. 30-015-37615
4. Location of well (Report location clearly and in accordance with any State requirements. *) At surface 660' FNL & 330' FWL, Ut. D, 7-23S-29E At proposed prod. zone 660' FNL & 330' FEL, Ut. A		10. Field and Pool, or Exploratory Bone Springs
14. Distance in miles and direction from the nearest town or post office* The well is about 14 miles southeast of Carlsbad, NM.		11. Sec., T, R, M, or Bk. And Survey or Area Section 7-T23E-R29E
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drlg unit line, if any) 330'		12. County or Parish Eddy
16. No. of acres in lease 314.11		13. State NM
17. Spacing Unit dedicated to this well N2N2 of Section 7-23S-29E		
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.		20. BLM/ BIA Bond No. on file NATIONWIDE BOND #NMB000434
19. Proposed Depth 7850' VD; 11995' MD		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 2944' GL		22. Approximate date work will start* ASAP
23. Estimated duration		
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.   | 4. Bond to cover the operations unless covered by existing bond on file (see item 20 above) |
| 2. A Drilling Plan.  | 5. Operator certification   |
| 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). | 6. Such other site specific information and/ or plans as may be required by the BLM         |

25. Signature 	Name (Printed/ Typed) Cy Cowan	Date 8/18/2009
Title Land Regulatory Agent		
Approved By (Signature) 	Name (Printed/ Typed) Jesse J. Juen	Date 2/12/2010
Title Acting 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 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.

\*(Instructions on page 2)

CARLSBAD CONTROLLED WATER BASIN  
SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

DISTRICT I  
1825 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

Form C-102  
Revised October 12, 2005

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-37615	Pool Code 15011	Pool Name Culebra Bluff, Bone Springs, South
Property Code 38043	Property Name CULEBRA "BLV" FEDERAL	Well Number 1H
OGRID No. 025575	Operator Name YATES PETROLEUM CORP.	Elevation 2944'

Surface Location

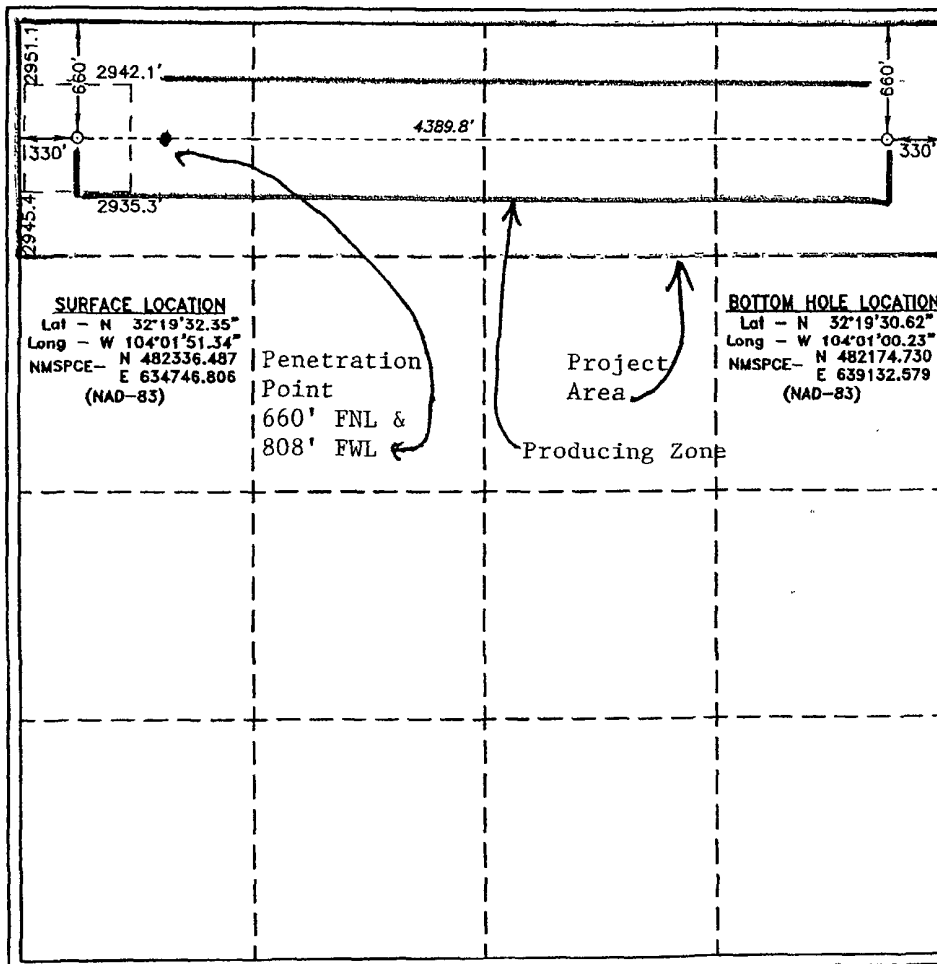
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	7	23 S	29 E	1	660	NORTH	330	WEST	EDDY

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
A	7	23 S	29 E		660	NORTH	330	EAST	EDDY

Dedicated Acres 156.988	Joint or Infill	Consolidation Code	Order No.
----------------------------	-----------------	--------------------	-----------

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 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 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.

*Cy Cowan* 8/19/09  
Signature Date

CY COWAN  
Printed Name

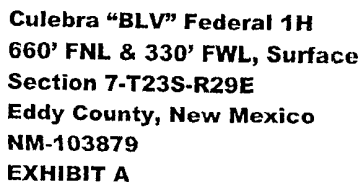
SURVEYOR CERTIFICATION

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.

JULY 2009  
Date Surveyed  
Signature & Seal of Professional Surveyor  
W.O. Jones  
7977

Certificate No. Gary L. Jones 7977

Basin Surveys

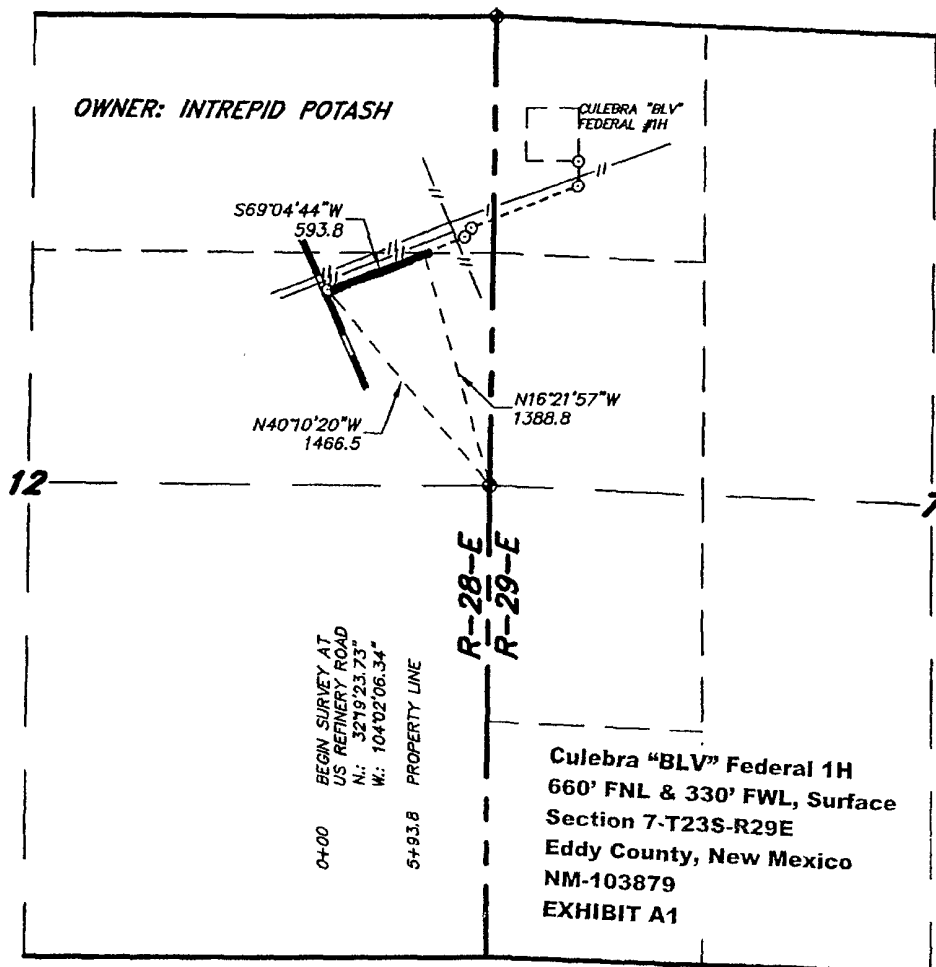


**basin**  
**surveys**  
focused on excellence  
in the oilfield

Date 08-14-2009

YATES  
PETROLEUM  
CORP.

SECTION 12, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 12, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY.

BEGINNING AT A POINT WHICH LIES N.40°10'20"W., 1466.5 FEET FROM THE EAST QUARTER CORNER OF SAID SECTION 12; THENCE N.69°04'44"W., 593.8 FEET TO A POINT ON THE NORTH PROPERTY LINE WHICH LIES N.16°21'57"W., 1388.8 FEET FROM THE EAST QUARTER CORNER OF SAID SECTION 12. SAID STRIP OF LAND BEING 593.8 FEET OR 35.99 RODS IN LENGTH.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED FROM FIELD NOTES OF AN AERIAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES, P.S. No. 7977  
REGISTERED LAND SURVEYOR  
No. 5074

**BASIN SURVEYS** P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 21640

Drawn By: J. M. SMALL

Date: 08-14-2009 Disk: JMS 21640

1000 0 1000 2000 FEET

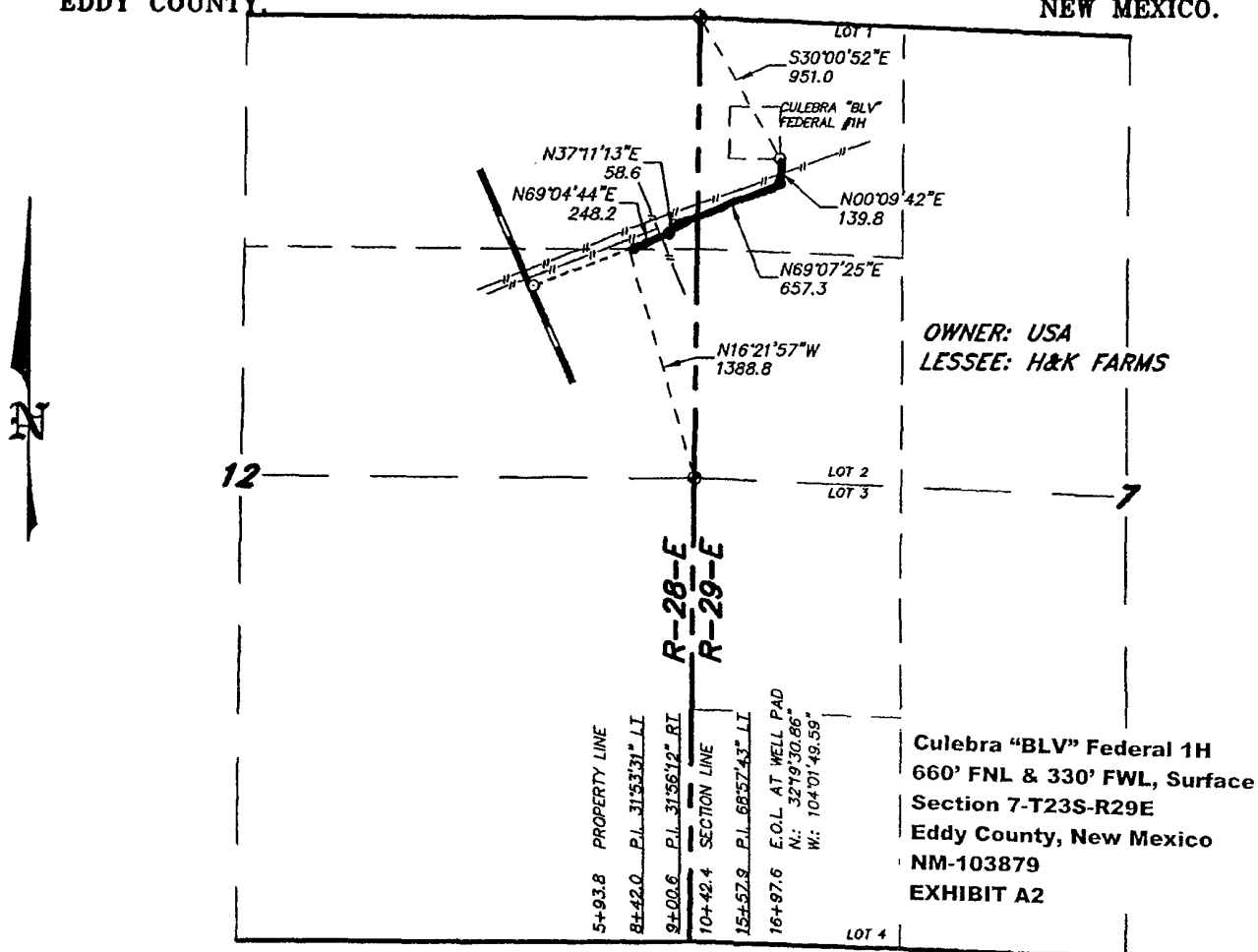
**YATES PETROLEUM CORP.**

REF: PROPOSED LEASE ROAD TO THE CULEBRA "BJV" FEDERAL #1H

A LEASE ROAD CROSSING FEE LAND IN  
SECTION 7, TOWNSHIP 23 SOUTH, RANGE 29 EAST,  
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 08-13-2009 Sheet 1 of 2 Sheets

SECTION 7, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M.,  
SECTION 12, TOWNSHIP 23 SOUTH, RANGE 28 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 7, TOWNSHIP 23 SOUTH, RANGE 29 EAST, AND SECTION 12, TOWNSHIP 23 SOUTH, RANGE 28 EAST N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

SECTION 7 = 797.0 FEET = 48.31 RODS = 0.15 MILES = 0.55 ACRES  
SECTION 12 = 306.8 FEET = 18.59 RODS = 0.06 MILES = 0.21 ACRES

TOTAL = 1103.8 FEET = 66.90 RODS = 0.21 MILES = 0.76 ACRES

I HEREBY CERTIFY THAT THIS MAP WAS PREPARED FROM FIELD NOTES OF AN ASTERIAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES, M.V. P.S. No. 7977  
No. 5074

**BASIN SURVEYS** P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 21640 Drawn By: J. M. SMALL

Date: 08-14-2009 Disk: JMS 21640

1000 0 1000 2000 FEET

**YATES PETROLEUM CORP.**

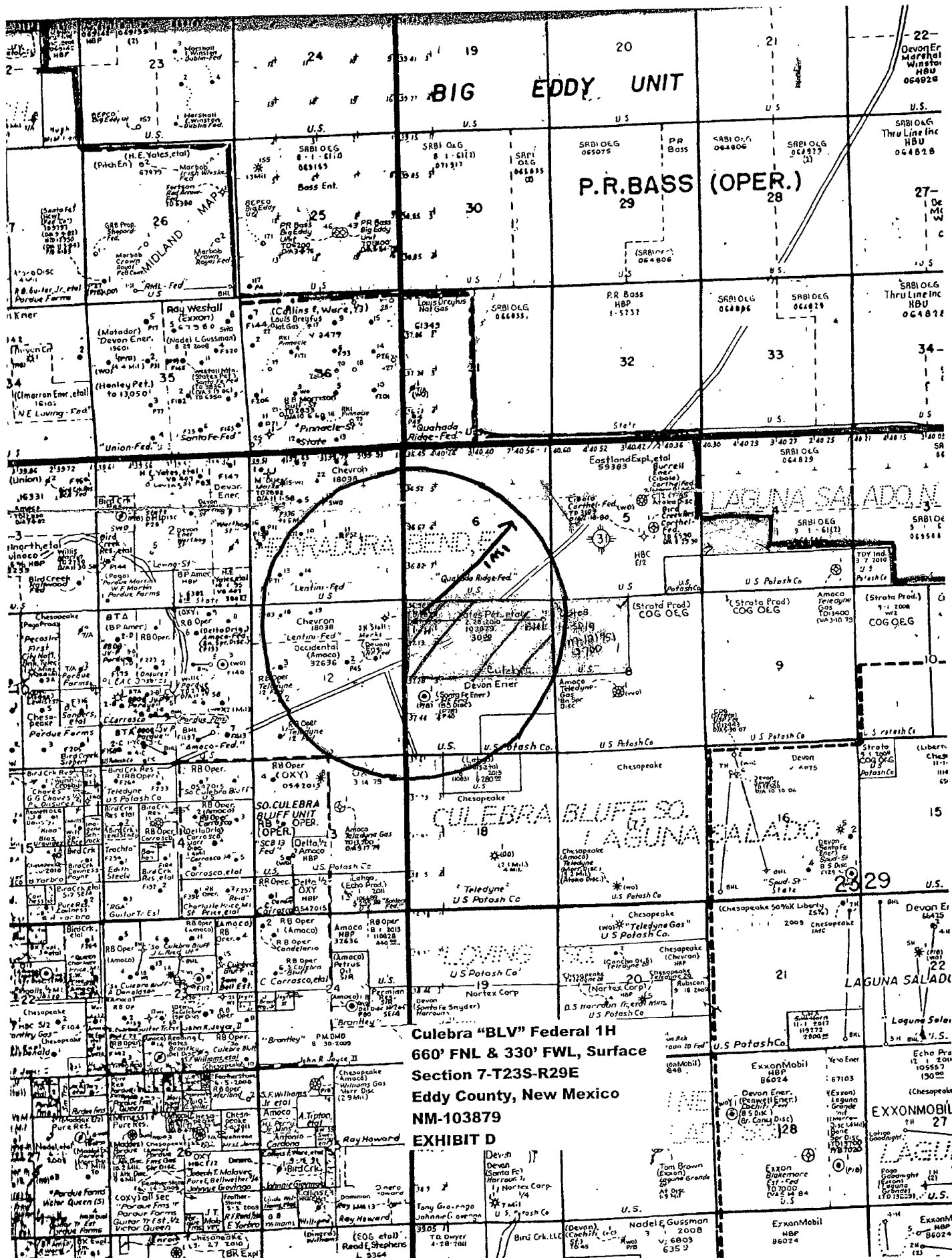
REF: PROPOSED LEASE ROAD TO THE CULEBRA "BJV" FEDERAL #1H

A LEASE ROAD CROSSING USA LAND IN

SECTION 7, TOWNSHIP 23 SOUTH, RANGE 29 EAST,  
SECTION 12, TOWNSHIP 23 SOUTH, RANGE 28 EAST,

N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 08-13-2009 Sheet 2 of 2 Sheets



YATES PETROLEUM CORPORATION  
Culebra "BLV" Federal #1H  
660' FNL and 330' FWL, Surface Hole  
660' FNL & 330' FEL, Bottom Hole  
Section 7-T23S-R29E  
Eddy County, New Mexico

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

Rustler	185'	Brushy Canyon Mkr	6100'-oil
Top of Salt	300'	Bone Springs	6320'-oil
Base of Salt	2500'	Avalon Sand	6520'-oil
Bell Canyon	2780'	First Bone Springs	7450'-oil
Cherry Canyon	3600'-oil	Pilot Hole VD	7850'
Brushy Canyon	4830'-oil	Lateral TMD	11995'

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

Water: 160'

Oil or Gas: Oil Zones: 3600', 4830', 6100', 6300', 6520' and 7450'.

3. Pressure Control Equipment: BOPE will be installed on the 13 3/8" casing and on the 9 5/8" casing and rated for 3000# BOP System. Pressure tests will be conducted before drilling out from under all casing strings, which are set and cemented in place. Blowout Preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers 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.
4. 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.
5. THE PROPOSED CASING AND CEMENTING PROGRAM:

A. Casing Program: All new casing to be used

<u>Hole Size</u>	<u>Casing Size</u>	<u>Wt./Ft</u>	<u>Grade</u>	<u>Coupling</u>	<u>Interval</u>	<u>Length</u>
17 1/2"	13 3/8"	48#	H-40	ST&C	0-250'	250' 900'
12 1/4"	9 5/8"	36#	J-55	ST&C	0-2600'	2600'
**8 3/4"	5 1/2"	17#	HCP-110	LT&C	0'-11995'	11995'

See COA { \*\*This well will drill a pilot hole vertically to 7850'. Well will be plugged back with 180' plug on bottom and 400'-500' kick-off plug set at approx. 7103'. At 7103' well will be kicked off and directionally drilled at 12 degrees per 100' with a 8 3/4" hole to 7853' MD (7580' TVD). If hole conditions dictate, 7" casing will be set and cemented. A 6 1/8" hole will then be drilled to 121995' MD where 4 1/2" casing will be set and cemented.

If 7" casing is not set then the hole will be reduced to 7 7/8" and drilled to 11995' MD (7580'TVD) where 5 1/2" casing will be set and cemented. Penetration point of producing zone will be encountered at 660' FNL and 808' FWL of Section 7, T23S-R29E. Deepest TVD in the well is 7850' in the pilot hole. Deepest TVD in the lateral will be 7580'.

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

B. CEMENTING PROGRAM:

Surface Casing: Lead with 275 sacks class C +2%CaCl<sub>2</sub> (YLD 1.34 WT. 14.80 ). TOC surface.

Intermediate Casing: 700 sacks of C Lite (YLD 2.00 WT 12.60) Tail in with 200 sacks C (YLD 1.34 WT 14.80). TOC surface

Production Casing: DV Tool at 7000' Stage One: 1325 sacks Pecos Valley Lite (YLD 1.41 WT 13.00). Top of Cement approx. 7800'. TOC 7000'

Second Stage: DV Tool at 4000'. Cement with 1075 sacks Pecos Valley Lite (YLD 1.41 WT 13.00). Top of Cement at 4000'.

Third Stage: Lead in with 300 sacks LiteCrete (YLD 2.66 WT 9.90). Tail in with 100 sacks Pecos Valley Lite (YLD 1.41 WT 13.00). TOC about 2100'.

6. MUD PROGRAM AND AUXILIARY EQUIPMENT:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0-250	Fresh Water	8.60-9.20	35-40	N/C
250-2600	Brine Water	10.00-10.20	28-28	N/C
2800-7850	Cut Brine	8.70-9.20	28-29	N/C
7103-11995	Cut Brine(Lateral Section)	9.00-9.20	28-32	10-12

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. Rig personnel will check mud hourly.

7. EVALUATION PROGRAM:

Samples: Thirty foot samples to 3000'. Every 10' from 3000' to TD

Logging: Platform Hals; CMR - *See POA*

Coring: None anticipated

DST's: None Anticipated

Mudlogging: Yes: From out of surface casing.

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

Maximum Anticipated BHP:

0'-250' 120 PSI

250'-2600' 1379 PSI

2600'-7850' 3755 PSI

Abnormal Pressures Anticipated: None

Lost Circulation Zones Anticipated: None.

H<sub>2</sub>S Zones Anticipated: None Anticipated

Maximum Bottom Hole Temperature: 150 F

9. ANTICIPATED STARTING DATE:

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 45 days to drill the well with completion taking another 20 days.

### Contingency Casing Design

If hole conditions dictate, 7" casing will be set at 7,853' MD (7,580' TVD). A 6 1/8" hole will then be drilled to 11,995' MD (7,580' 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 7000'.

#### 2nd Intermediate

0 ft to 100 ft				Make up Torque ft-lbs			Total ft =
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
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.	
7 inches	23 #/ft	J-55	LT&C	3130	2380	3940	
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 7,853 ft				Make up Torque ft-lbs			Total ft =
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
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 tools placed at 7000' & 4000'.

Stage I: Cemented w/200sx PVL (YLD 1.41 Wt 13) TOC= 7000'

Stage II: Cemented w/640sx PVL (YLD 1.41 Wt 13) TOC= 4000'

Stage III: Cemented w/175sx Lite Crete (YLD 2.66 Wt 9.9), tail w/100sx PVL (YLD 1.41 Wt 13) TOC= 2100'

#### Production

0 ft to 11,995 ft				Make up Torque ft-lbs			Total ft =
O.D.	Weight	Grade	Threads	opt.	min.	mx.	
4.5 inches	11.6 #/ft	HCP-110	LT&C	3020	2270	3780	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
8,650 psi	10,690 psi	279,000 #		387,000 #		3.875	

DV tool placed at approx. 7000' and cemented with one stage up to dv tool. After completion procedures, the 4 1/2" casing will be cut and pulled at 7000'.

Cemented w/675sx PVL (YLD 1.41 Wt 13) TOC= 7000'

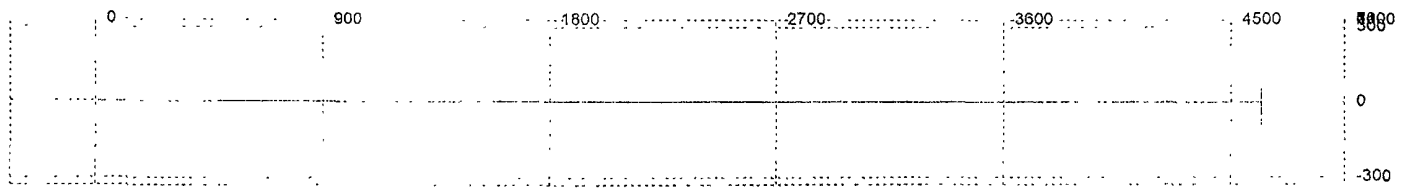
M.D.	Inclination	Azimuth	TVD	N/S	E/W	D/S	Tool Face	F. Ref. (HS/GN)	
0	0	0	0	0	0	0			
185	0	0	185	0	0	0			RUSTLER
300	0	0	300	0	0	0			TOP OF SALT
2,500	0	0	2,500	0	0	0			BASE OF SALT
2,780	0	0	2,780	0	0	0			BELL CANYON
3,600	0	0	3,600	0	0	0			CHERRY CANYON
4,830	0	0	4,830	0	0	0			BRUSHY CANYON
6,100	0	0	6,100	0	0	0			BRUSHY CANYON MKR
6,320	0	0	6,320	0	0	0			BONE SPRINGS
6,520	0	0	6,520	0	0	0			AVALON SAND
7103	0	0	7103	0	0	12	90	GN	KOP
7125	2.64	90	7124.99	0	0.51	12	0	HS	
7150	5.64	90	7149.92	0	2.31	12	0	HS	
7175	8.64	90	7174.73	0	5.42	12	0	HS	
7200	11.64	90	7199.33	0	9.82	12	0	HS	
7225	14.64	90	7223.68	0	15.5	12	0	HS	
7250	17.64	90	7247.69	0	22.45	12	0	HS	
7275	20.64	90	7271.3	0	30.65	12	0	HS	
7300	23.64	90	7294.46	0	40.07	12	0	HS	
7325	26.64	90	7317.09	0	50.69	12	0	HS	
7350	29.64	90	7339.13	0	62.48	12	0	HS	
7375	32.64	90	7360.52	0	75.4	12	0	HS	
7400	35.64	90	7381.21	0	89.43	12	0	HS	
7425	38.64	90	7401.14	0	104.53	12	0	HS	
7450	41.64	90	7420.25	0	120.64	12	0	HS	
7475	44.64	90	7438.49	0	137.73	12	0	HS	
7492	46.64	90	7450.37	0	149.89	12	0	HS	FIRST BONE SPRINGS
7500	47.64	90	7455.81	0	155.76	12	0	HS	
7525	50.64	90	7472.16	0	174.66	12	0	HS	
7550	53.64	90	7487.51	0	194.4	12	0	HS	
7575	56.64	90	7501.79	0	214.91	12	0	HS	
7600	59.64	90	7514.99	0	236.14	12	0	HS	
7625	62.64	90	7527.05	0	258.03	12	0	HS	
7650	65.64	90	7537.96	0	280.53	12	0	HS	
7675	68.64	90	7547.67	0	303.56	12	0	HS	
7700	71.64	90	7556.16	0	327.07	12	0	HS	
7725	74.64	90	7563.41	0	350.99	12	0	HS	
7750	77.64	90	7569.4	0	375.26	12	0	HS	
7775	80.64	90	7574.11	0	399.81	12	0	HS	
7800	83.64	90	7577.53	0	424.58	12	0	HS	
7825	86.64	90	7579.64	0	449.48	12	0	HS	
7850	89.64	90	7580.45	0	474.47	12	0	HS	
7853.06	90.01	90	7580.46	0	477.52	0			TARGET ZONE
11995.53	90.01	90	7580	0	4620	0			LATERAL TO

Pilot hole drilled vertically to 7850'. Well will be plugged back with 180' plug on bottom and 400'-500' kick off plug at approx. 7103' and directionally drilled at 12 degrees per 100' with a 8 3/4" hole to 7853' MD (7,580' TVD) If hole conditions dictate, 7" casing will be set. A 6 1/8" hole will then be drilled to 11,995' MD (7,580' TVD) where 4 1/2" casing will be set and cemented. If 7" is not set, then hole size will be reduced to 7 7/8" and drilled to 11,995' MD (7,580' TVD) where 5 1/2" casing will be set and cemented. Penetration point of producing zone will be encountered at 660' FNL and 808' FWL, 7-23S-29E. Deepest TVD in the well is 7850' in the pilot hole Deepest TVD in the lateral will be 7580'

# 3D<sup>3</sup> Directional Drilling Planner - 3D View

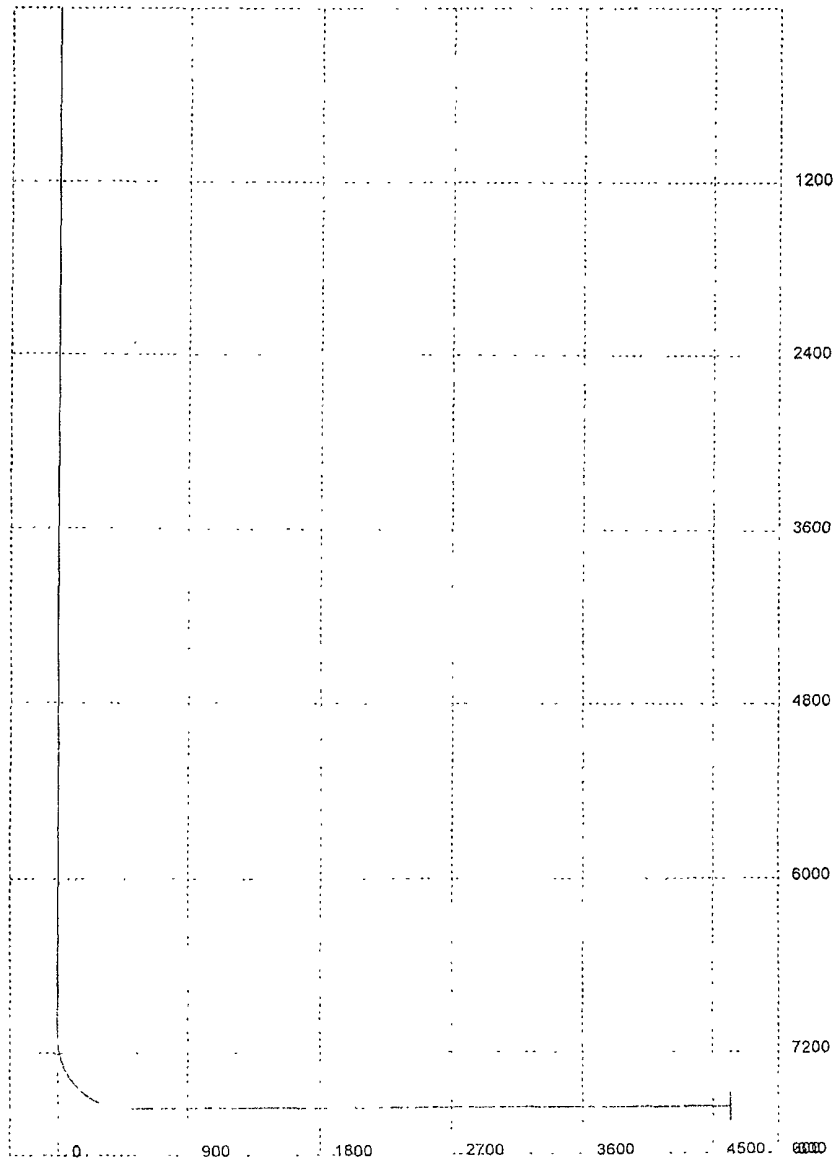
Company: Yates Petroleum Corporation

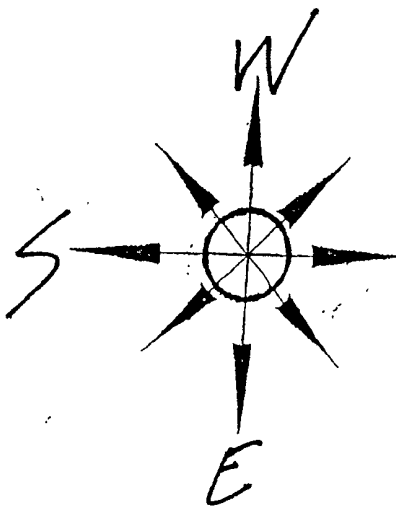
Well: Culebra BLV Federal #1H



### 3D<sup>3</sup> Directional Drilling Planner - 3D View

Company: Yates Petroleum Corporation  
Well: Culebra BLV Federal #1H

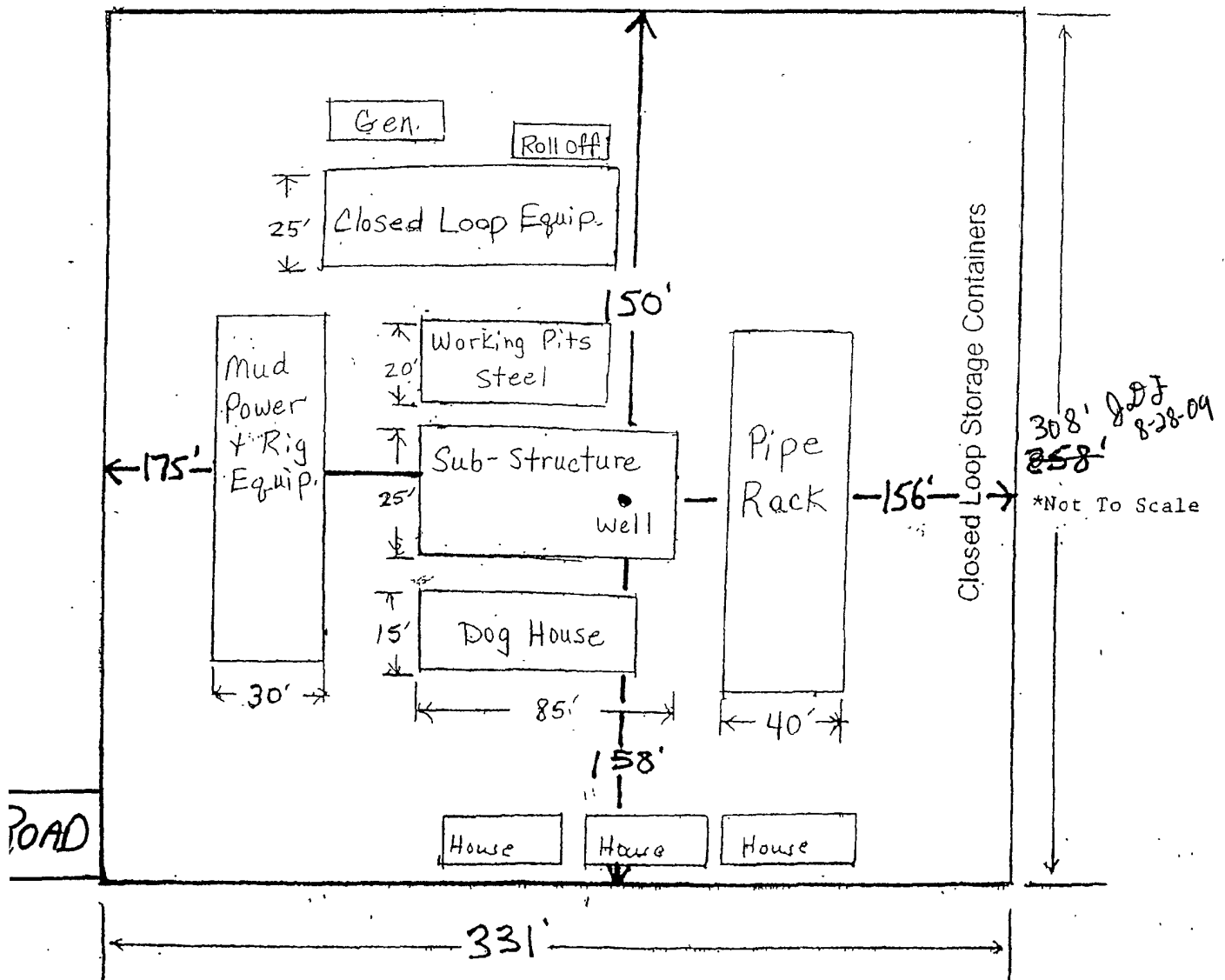




**Yates Petroleum Corporation**  
Location Layout for Permian Basin

**Closed Loop Design Plan**

Culebra "BLV" Federal 1H  
660' FNL & 330' FWL, Surface  
Section 7-T23S-R29E  
Eddy County, New Mexico  
NM-103879  
EXHIBIT C



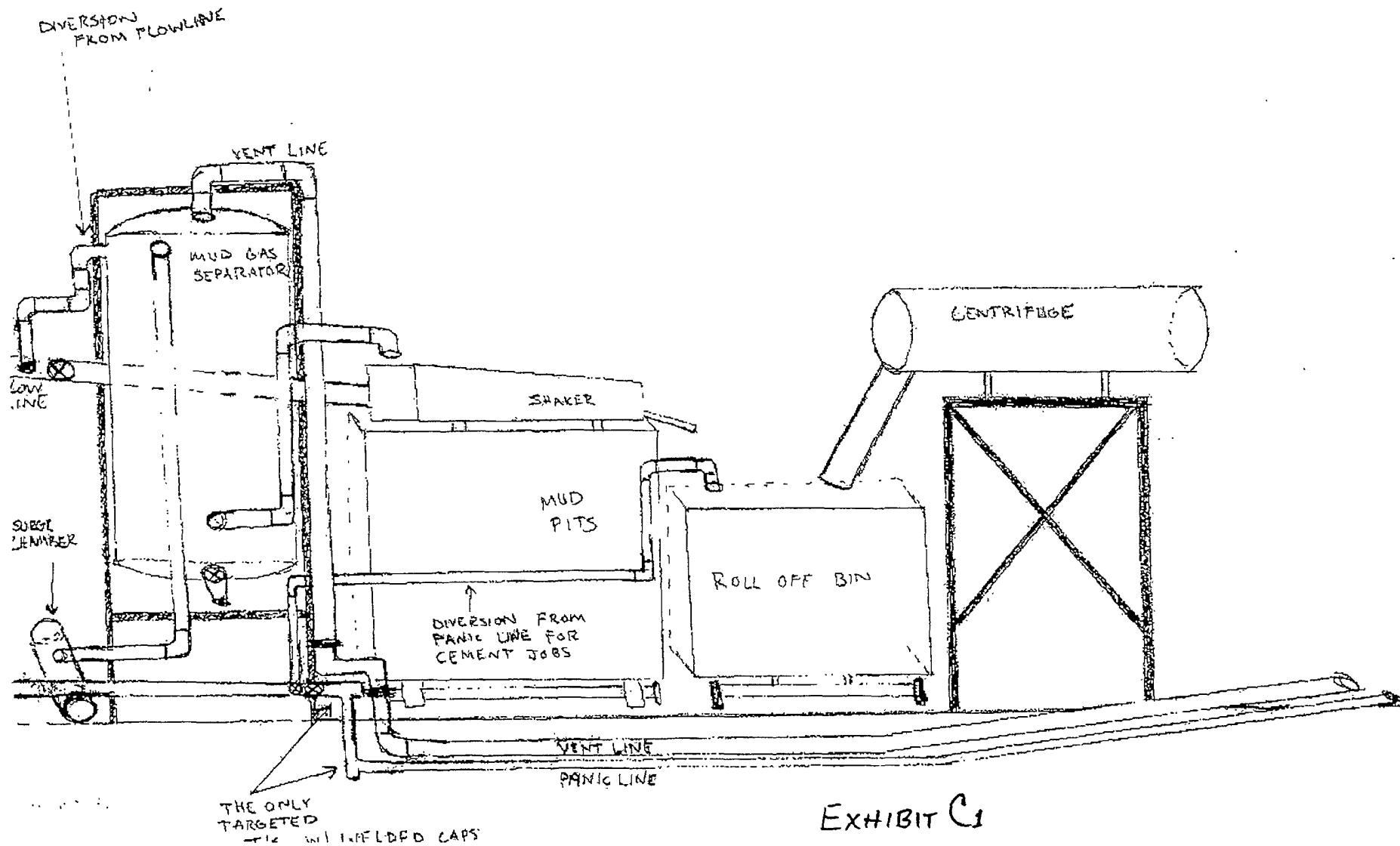


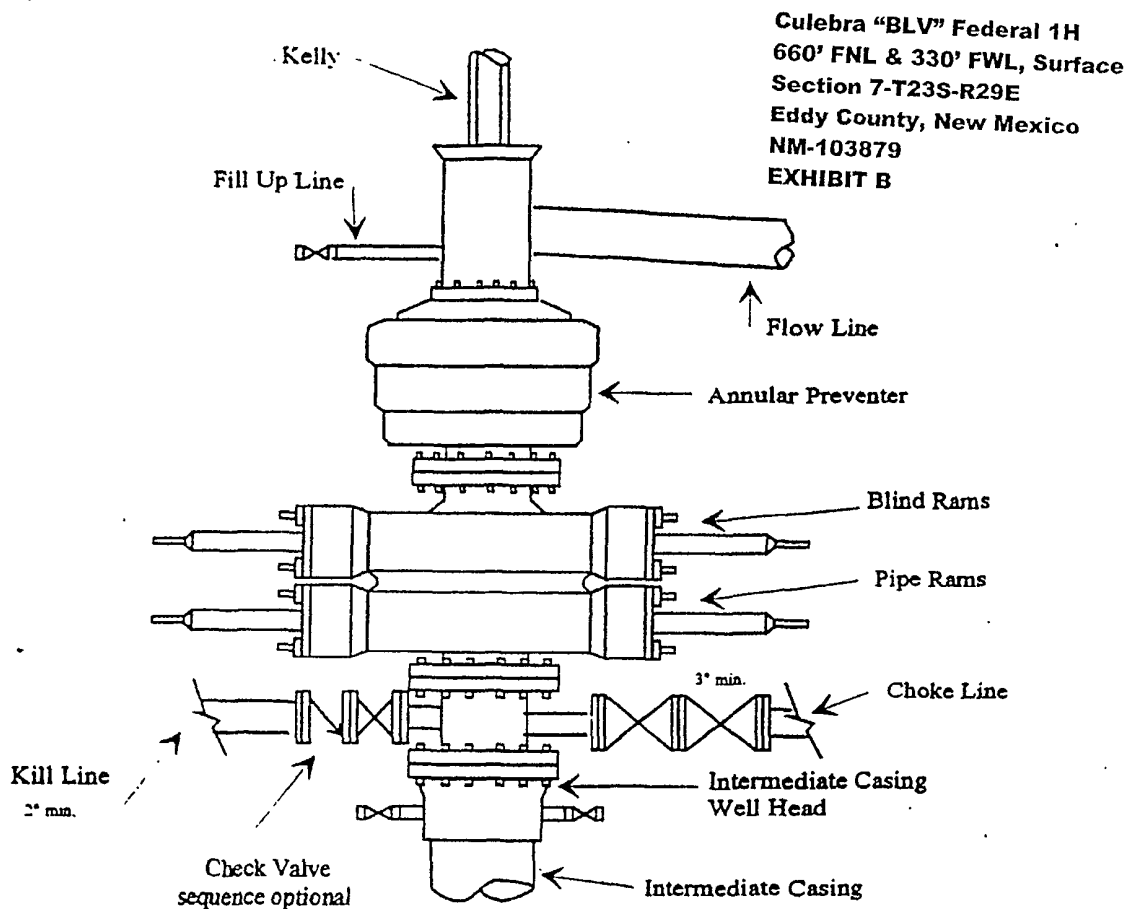
EXHIBIT C1



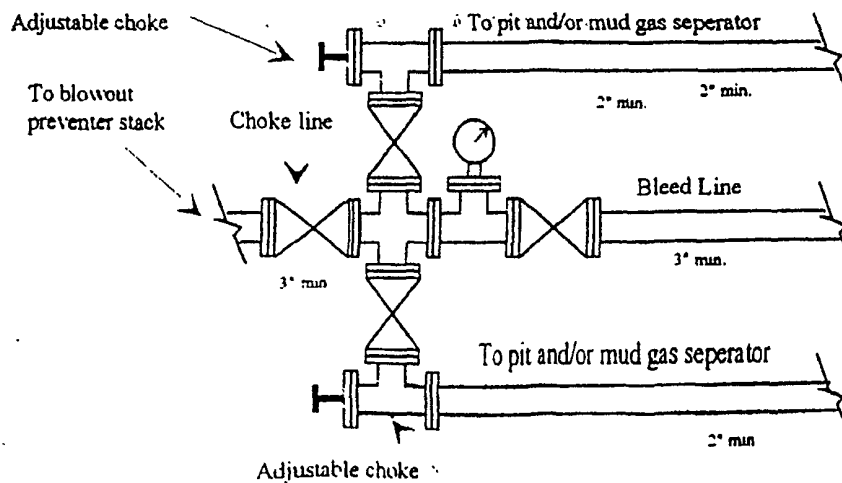
# Yates Petroleum Corporation

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



YATES PETROLEUM CORPORATION  
Culebra "BLV" Federal #1H  
660' FNL & 330' FWL, Surface Hole8  
660' FNL & 330' FEL, Bottom Hole  
Section 7-T23S-R29E  
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 wellsite is located approximately 16 miles southeast of Carlsbad, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

DIRECTIONS:

Starting at the BLM Office in Carlsbad, go east on highway 62/180 for approximately 2 miles to U.S. Refinery Road. Turn right on U.S. Refinery Road and go approximately 12.8 miles, which is approximately 0.2 of a mile north of the intersection of U.S. Refinery Road and Hwy 31. The new road will start here going left off U.S. Refinery Road. The new road will go in a northwesterly direction along the south side of a pipeline right-of-way for approximately 0.3 of a mile. The access road will then turn left crossing the pipeline right-of-way for a short distance to the southeast corner of the proposed well location.

2. PLANNED ACCESS ROAD.

- A. The proposed new access will be approximately .3 of a mile in length from the point of origin to the southeast corner of the well location.
- B. The new 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. Existing roads 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 well site.
- B. Exhibit D shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. There are no 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 brine 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:

The dirt contractor will be responsible for finding a source of material for construction of road and pad and will obtain any permits that may be required.

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 landfill. Burial on site is not approved.

8. ANCILLARY FACILITIES: None

9. WELLSITE LAYOUT:

- A. Exhibit B shows the relative location and dimensions of the well pad, the closed loop mud system, location of the drilling equipment, rig orientation and access road approach. The proposed well location will be approximately 350' x 300'. All of the location will be constructed within the 600' x. 600' staked area.
- 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.

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 well site 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 plugged and abandoned, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible.

11. SURFACE OWNERSHIP:

Federal Surface and Federal Minerals managed by the supervision of the Carlsbad BLM.

12 OTHER INFORMATION:

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

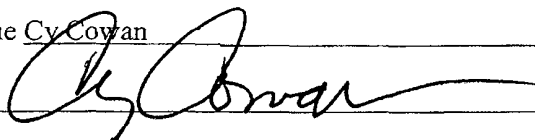
CERTIFICATION  
YATES PETROLEUM CORPORATION  
Culebra "BLV" Federal #1H

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 18th day of August, 2009.

Printed Name Cy Cowan

Signature



Position Title 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 CORPORATION
LEASE NO.:	NM103879
WELL NAME & NO.:	CULEBRA BLV FEDERAL 1H
SURFACE HOLE FOOTAGE:	660' FNL & 330' FWL
BOTTOM HOLE FOOTAGE:	660' FNL & 330' FEL
LOCATION:	Section 7, T. 23 S., R 29 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**
  - Berming
  - Pad restriction
- ☒ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
  - Secretary's Potash
  - Medium cave/karst
  - Logging requirements
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- ☒ **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)**

1. A berm and trench will be constructed on the west side of the well pad in order to divert water around the well location.
2. Disturbance shall be limited to 150 feet to the south of the center hole

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### **B. TOPSOIL**

The operator shall stockpile the topsoil of the well pad. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

### **C. CLOSED LOOP SYSTEM**

Closed Loop System: v-door north

Tanks are required for drilling operations: No Pits.

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

### **D. FEDERAL MINERAL MATERIALS PIT**

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

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

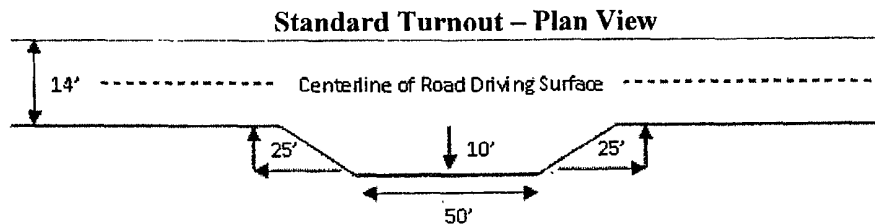
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### **Ditching**

Ditching shall be required on both sides of the road.

### **Turnouts**

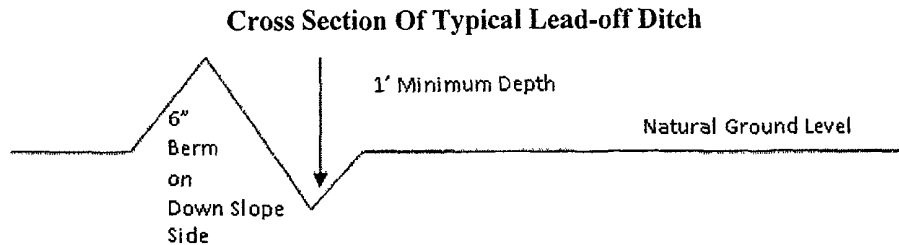
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



### **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.



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:

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

#### **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**

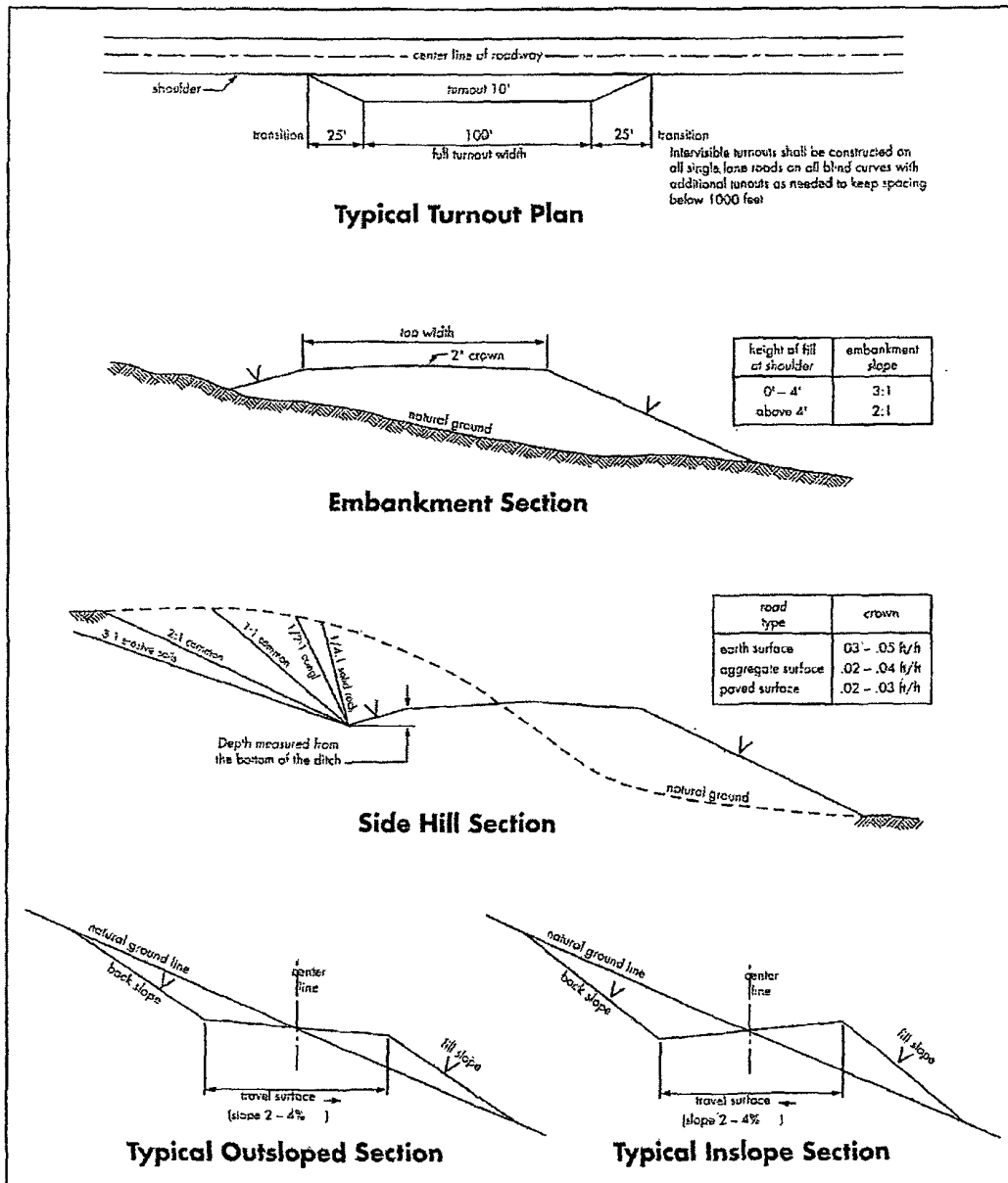
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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. **Although Hydrogen Sulfide has not been reported as a hazard in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts 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. The Rustler top and top and bottom of Salt is 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.

**Secretary's Potash.**

**Medium cave/karst.**

**Possible lost circulation in the Delaware and Bone Springs formations.**

1. The 13-3/8 inch surface casing shall be set at approximately 250 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If the salt is encountered at a shallower depth, the casing must be set 25' above the top of the salt.
  - 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 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 cave/karst and Secretary's Potash.**

**If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.**

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

**Pilot hole plugging procedure approved as written with the additional requirement that the bottom plug be tagged. The BLM is to be contacted (575-361-2822) prior to tag of bottom plug. Tag depth to be reported on subsequent sundry with spud/casing details.**

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 to second DV tool, cement shall:
    - ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with third stage cement job.
  - c. Third stage above DV tool, cement shall:
    - ☒ Cement should tie-back at least **500** feet into previous casing string. Operator shall provide method of verification.

**Contingency casing program:**

4. The minimum required fill of cement behind the 7 inch intermediate 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 to second DV tool, cement shall:
    - ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with third stage cement job.
  - c. Third stage above DV tool, cement shall:
    - ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst and Secretary's Potash.**

**If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the 7" casing must come to surface.**

**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:

☒ Cement to come to DV tool depth. Operator shall provide method of verification.

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.

**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 and to flare to be as straight as possible.**
2. 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 092209**

## **VIII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color  
Shale Green, Munsell Soil Color Chart # 5Y 4/2

### **B. PIPELINES**

### **C. ELECTRIC LINES**

## **IX. INTERIM RECLAMATION & 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.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

### **B. RESEEDING PROCEDURE**

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

### Seed Mixture 1, for Loamy 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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/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 lovegrass ( <i>Eragrostis intermedia</i> )	0.5
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sideoats grama ( <i>Bouteloua curtipendula</i> )	5.0

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

## **X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS**

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.