

S 8083
OCD-ARTESIA

1233

ATS-07-696
COPY

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NOV 09 2007

OCD-ARTESIA

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM 115403	
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator RUBICON OIL & GAS, LLC (OGRID NO 194266)		7. If Unit or CA Agreement, Name and No.	
3a. Address 508 W. WALL ST STE 500 MIDLAND, TX 79701		8. Lease Name and Well No. DARK CANYON 19 FEDERAL #1 36842	
3b. Phone No. (include area code) (432) 638-8475 <i>Bandana Point</i>		9. API Well No. 30-015-35921	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface SECTION 24, 370' FNL & 100' FEL, UT LTR A At proposed prod. zone SECTION 19, 990' FNL & 990' FWL, LOT 1		10. Field and Pool, or Exploratory MORROW	
11. Sec., T. R. M. or Blk. and Survey or Area SURFACE: SEC 24, T-23-S, R-24-E BTM HOLE: SEC 19, T-23-S, R-25-E		12. County or Parish EDDY	
13. State NM		14. Distance in miles and direction from nearest town or post office* 8 MILES NORTHWEST OF WHITE CITY	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) SURFACE: 100' BTM HOLE: 990'		16. No. of acres in lease 320	
17. Spacing Unit dedicated to this well 320		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 0'	
19. Proposed Depth 11,000		20. BLM/BIA Bond No. on file BLM # 2922 STATEWIDE # B32644643	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3781' GR		22. Approximate date work will start* 10/01/2007	
23. Estimated duration 40 DAYS		24. Attachments <i>Carlsbad Controlled Water Basin</i>	

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

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office)
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

25. Signature <i>Kay Maddox</i>		Name (Printed/Typed) KAY MADDOX kay.maddox@yahoo.com		Date 09/03/2007
Title REGULATORY AGENT				
Approved by (Signature) <i>James A. Ames</i>		Name (Printed/Typed) James A. Ames		Date NOV 7 2007
Title FIELD MANAGER		Office CARLSBAD FIELD OFFICE		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

*(Instructions on page 2)

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico

Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 71450	Pool Name Bandana Point; MORROW
Property Code 36842	Property Name DARK CANYON 19 FEDERAL	Well Number 1
OGRID No. 194266	Operator Name RUBICON OIL AND GAS, LLC	Elevation 3781'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	24	23-S	24-E		370	NORTH	100	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
18	19	23-S	25-E		990	NORTH	990	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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>LOT 1</p> <p>82.3'</p> <p>100'</p> <p>S.L.</p> <p>SEE DETAIL</p> <p>GRID. AZ = 115°25'41"</p> <p>HORZ. DIST = 1007.0'</p> <p>990'</p> <p>B.H.</p> <p>39.66 AC</p> <p>LOT 2</p> <p>DETAIL</p> <p>3779.4'</p> <p>3755.3'</p> <p>600'</p> <p>600'</p> <p>3777.7'</p> <p>3764.2'</p> <p>39.71 AC</p> <p>LOT 3</p> <p>39.83 AC</p> <p>LOT 4</p> <p>39.94 AC</p> <p>SECTION 24</p> <p>SECTION 19</p> <p>R24E</p> <p>R25E</p> <p>GEODETIC COORDINATES NAD 27 NME SURFACE HOLE LOCATION Y=471333.8 N X=465991.9 E</p> <p>LAT. = 32.295765° N LONG. = 104.443393° W</p> <p>Project Area</p> <p>Producing Area</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>Signature: Kay Maddox Date: 08/30/07</p> <p>Printed Name: KAY MADDOX</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>Signature: RONALD J. EIDSON Date: 10/17/07</p> <p>Professional Surveyor Seal of New Mexico, No. 3239</p> <p>Certificate No. GARY EIDSON 12641 RONALD J. EIDSON 3239</p>
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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 & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code	³ Pool Name UNDESIGNATED MORROW
⁴ Property Code	⁵ Property Name DARK CANYON 19 FEDERAL		⁶ Well Number 1
⁷ OGRID No. 194266	⁸ Operator Name RUBICON OIL AND GAS, LLC		⁹ Elevation 3781'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	24	23-S	24-E		370	NORTH	100	EAST	EDDY

¹¹ 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
8	19	23-S	25-E		990	NORTH	990	WEST	EDDY

¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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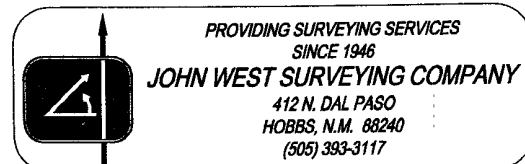
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

8	990'	7	6	5	¹⁷ 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 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. <i>Kay Maddox</i> 08/30/2007 Signature Date KAY MADDOX Printed Name
9	990' BHL	10	11	12	
					¹⁸ 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. Date of Survey Signature and Seal of Professional Surveyor Certificate Number

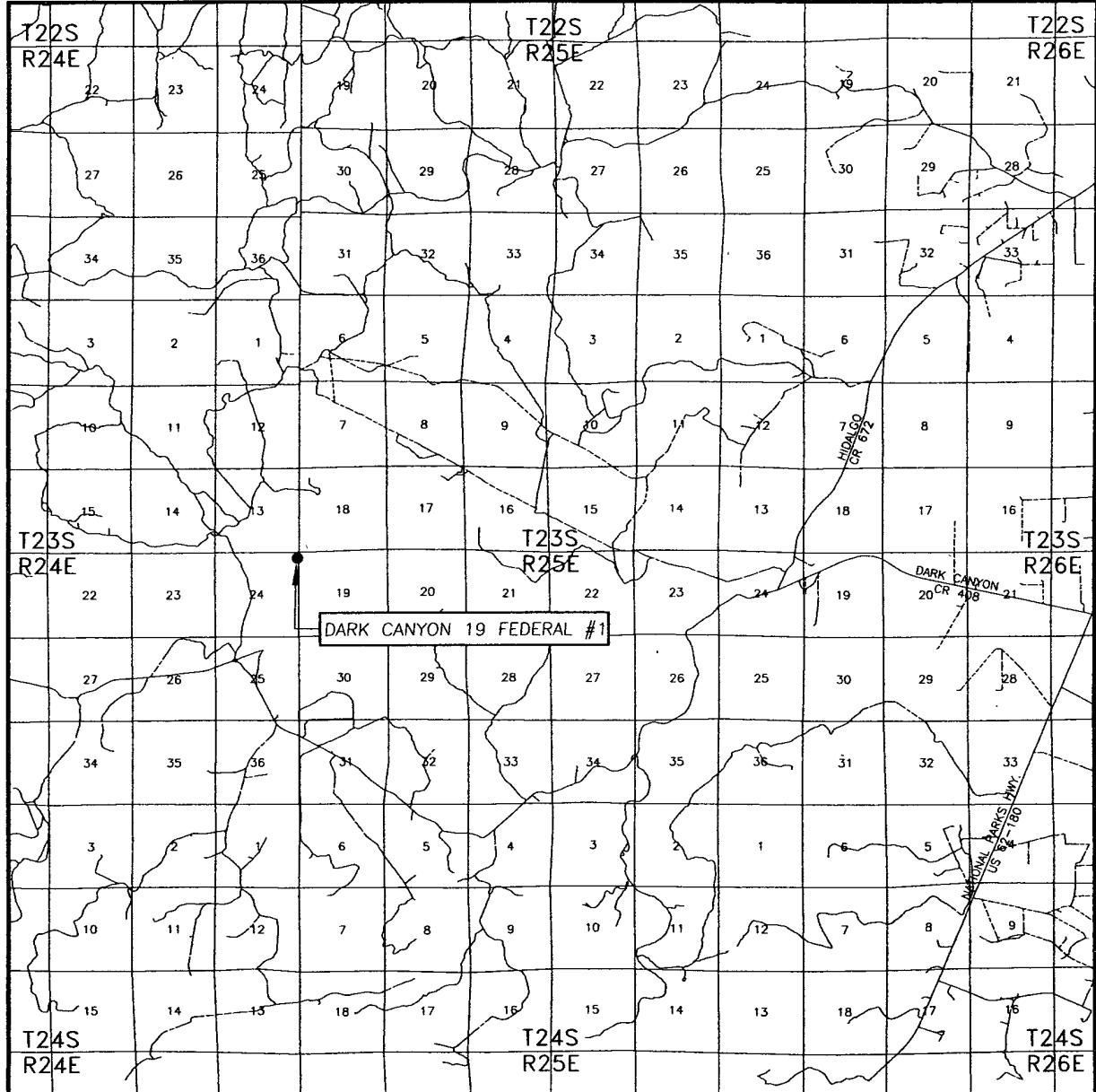
[illegible]

CONTOUR INTERVAL:
CARNERO PEAK, N.M. - 20'

U.S.G.S. TOPOGRAPHIC MAP
CARNERO PEAK, N.M.



VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 24 TWP. 23-S RGE. 24-E

SURVEY N.M.P.M.

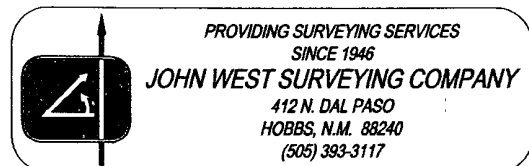
COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 370' FNL & 100' FEL

ELEVATION 3781'

OPERATOR RUBICON OIL AND GAS, LLC

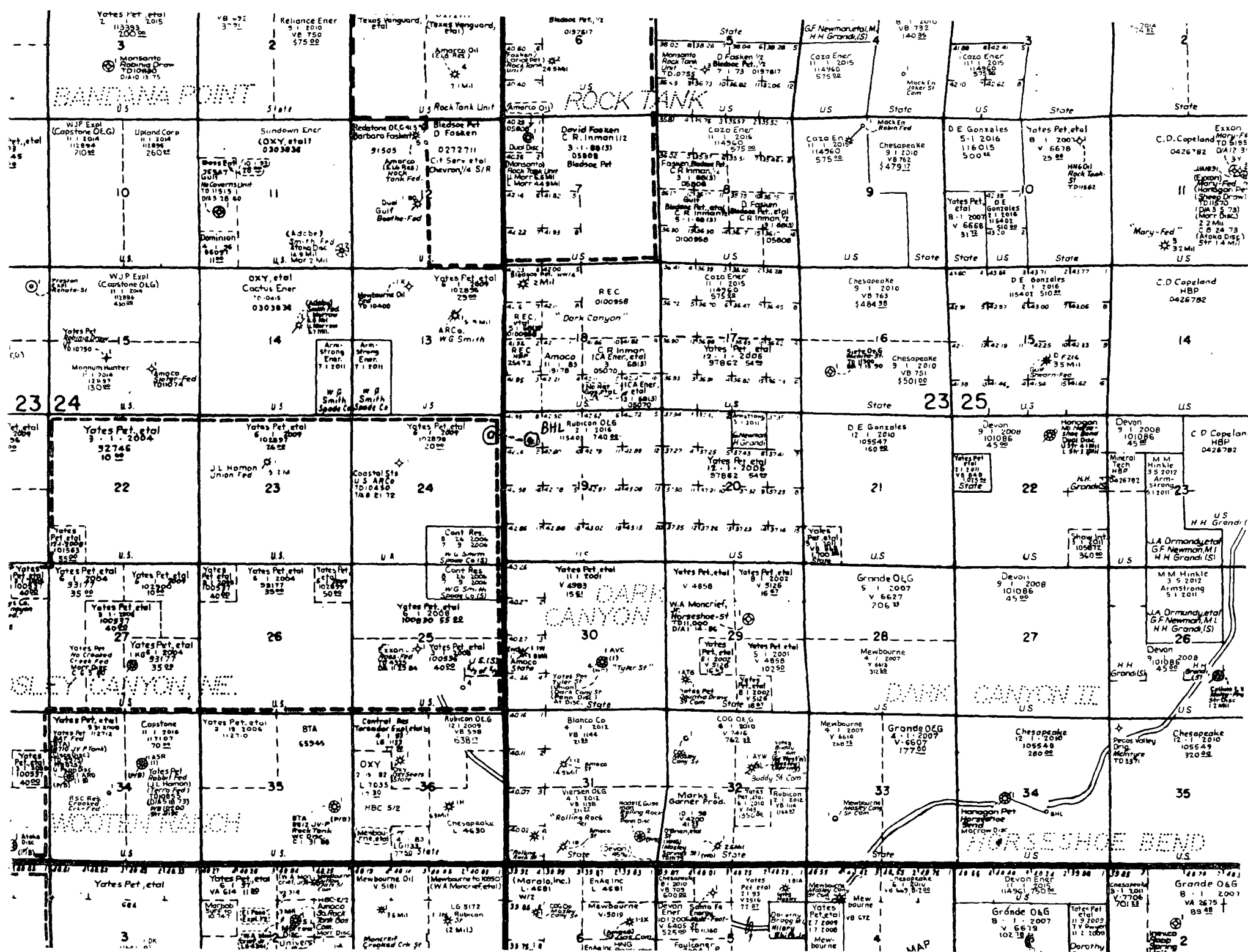
LEASE DARK CANYON 19 FEDERAL



PROVIDING SURVEYING SERVICES
SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117



Nine Point Drilling Plan
(Supplement to BLM 3160-3)

Rubicon Oil & Gas, LLC

Dark Canyon 19 Federal #1

Surface Location: Section 24, T-23-S, R-24-E, 370' FNL & 100' FEL

Bottomhole Location: Section 19, T-23-S, R-25-E, 990' FNL & 990' FWL

See attached directional plan.

Field: Undesignated Morrow

Eddy Co., NM

1. Name and estimated tops of geologic horizons:

Surface formation is the Quarternary Alluvium.

Queen ~500', Capitan~675', San Andres ~825, Delaware Sand~1700, Brushy Canyon~2400', Bone Springs~4200', Wolfcamp~8000', Penn Lime~8800', Strawn~9200', Atoka~9700', Morrow~10000'

2. Protection of possible useable water will be achieved by setting 13-3/8" surface casing @ 400' +/- and cementing it to surface. Isolation of any evaporate/ anhydrite section will be achieved by setting 9-5/8" casing @ 2600' +/- and cementing back to surface. Isolation of the productive horizons will be achieved by setting 4-1/2" casing @ 11000' and cementing back to a depth of 6000'.

3. The well control equipment to be employed during the drilling of this well is illustrated on attached EXHIBIT A. This equipment includes a 13-5/8"- 2 ram BOP, annular BOP and choke manifold of comparable pressure rating. Equipment (except annular which is rated to 3000 psi) will be rated for 5000 PSI and will be tested to 5000 psi (except Annular which will be tested to 70% of rated working pressure – 2100 psi) prior to drilling out of the 9-5/8" intermediate casing. Prior to drilling out of the 13-3/8" surface casing the same equipment and casing shall be tested to 1211 PSI or 70% of the burst rating of the casing utilizing the rig pumps. A hydraulic closing unit will be a part of this equipment and will be function tested daily.

See
COA →

4. The casing strings will consist of the following:

Conductor 20" set @ 40'

Surface 13-3/8" OD, 48 #/ft, H40, STC, new pipe @ 400' +/- in 17-1/2" hole.

Intermediate: 9-5/8" OD, 36 #/ft, K55, STC, new pipe @ 2600' +/- in 12-1/4" hole.

Production: 4-1/2" OD, 11.6 #/ft, P110HC, LTC, new pipe @ 11,000' +/- in 8-3/4" hole.

Minimum Casing Design Factors: Collapse 1.1, Burst 1.2, and Tensile Strength 1.8

See
COA →

5. Cementing programs for the above casing strings are:

Conductor @ 40' cemented to surface utilizing redi-mix cement

Surface @ 400': **Slurry:** 440 sks Class C with 2% Bentonite, 0.125% Cello Flake, yld ~ 1.35 cu ft/ sk, mixed @ 14.8 ppg

The above volume represents 100% excess over calculated hole volume, and will be adjusted to actual setting depth of casing. The slurries will be preceded by a fresh water spacer, and displaced with fresh water.

Intermediate 1 @ 2600':

Lead Slurry: 525 sks Class C 50/50 Poz w/ additives, yld ~ 2.45 cu ft/sk

Tail Slurry: 200 sks Class C w/ 2% CaCl, yld ~ 1.34 cu ft/sk

The above volume represents 15% excess over calculated hole volume - actual volumes will be adjusted to a fluid caliper run at TD of this hole section with 20% excess added. . The cement slurries will be preceded by 20 bbls cement wash for mud removal and displaced with fresh water.

Production 1: 11000 to ~6000' *See COA*

Slurry: 1475 sks Class C Poz with additives, yld ~ 1.57 cu ft/sk

Actual cement type and additives will be determined from hole conditions encountered and prospective zones determined from e-logs. Actual volumes pumped will be determined from an open hole caliper recorded over this interval.

6. It is anticipated that this well will be drilled to TD utilizing the fluids shown below:

0-400': Gel/Lime "spud mud" 8.4-9.4 PPG. Utilize native solids to maintain sufficient viscosity to clean hole. Mix paper as required to control seepage loss.

400-2600': Fresh Water 8.4 – 8.6 PPG. Circulate thru steel pits utilizing solids control. Add paper as required to control seepage loss while maintaining pH at 9.0 – 11.0 using Lime.

2600-9100': Fresh Water / Cut brine 8.4 – 9.4 Circulate thru steel pits utilizing solids control.; sweeps for hole cleaning and LCM as needed for seepage.

9100-11,000': Polymer/Brine 10.0 – 10.1 PPG Utilize polymers and starch to maintain fluid loss 15 to 8 cc range and sufficient mud weights to stabilize shales and minimize any hydrocarbon influx. Utilize sweeps for hole cleaning and LCM as needed for seepage.

7. Auxiliary equipment will include an upper kelly cock valve, safety valve to fit drill pipe and pressure gauges.

8. No drill stem testing or coring is planned for this wellbore. Mudlogging will commence at 6000' under the current plan. A Schlumberger Platform Express Triple Combo electric log suite or equivalent will be run at TD.

9. The estimated BHP at TD is not expected to exceed 5500 psi, and a BHT of 175 F is anticipated. There is no H₂S present in the hydrocarbons being produced in this area. Should such unexpected circumstances be encountered the operator and drilling contractor are prepared to take necessary steps to ensure safety of all personnel, and environment. Lost circulation could occur but is not expected to be a serious problem in this area, and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid.

10. It is estimated that this well will be drilled and cased in 40 days. Drilling will commence as soon approval is received and services can be contracted.

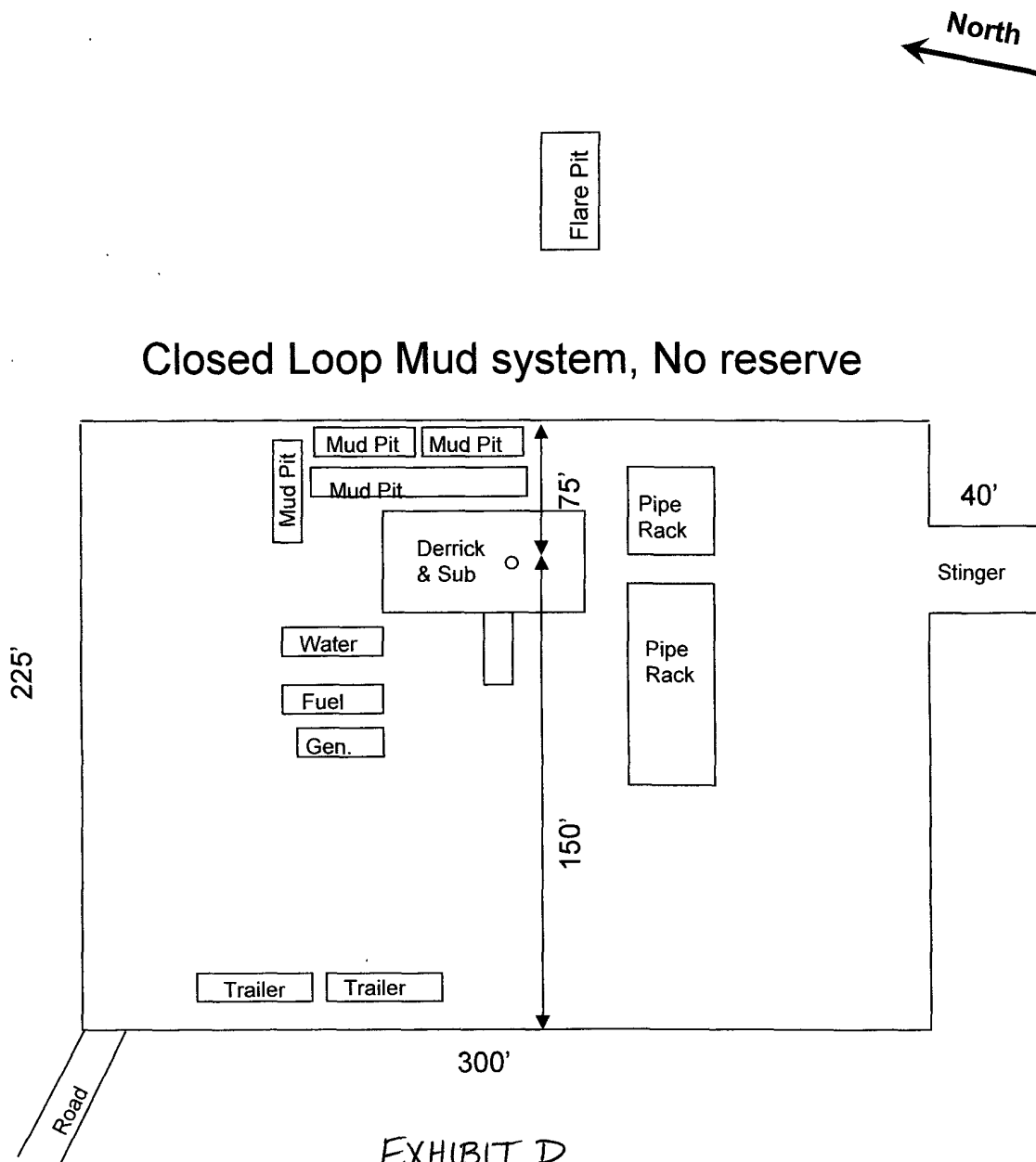
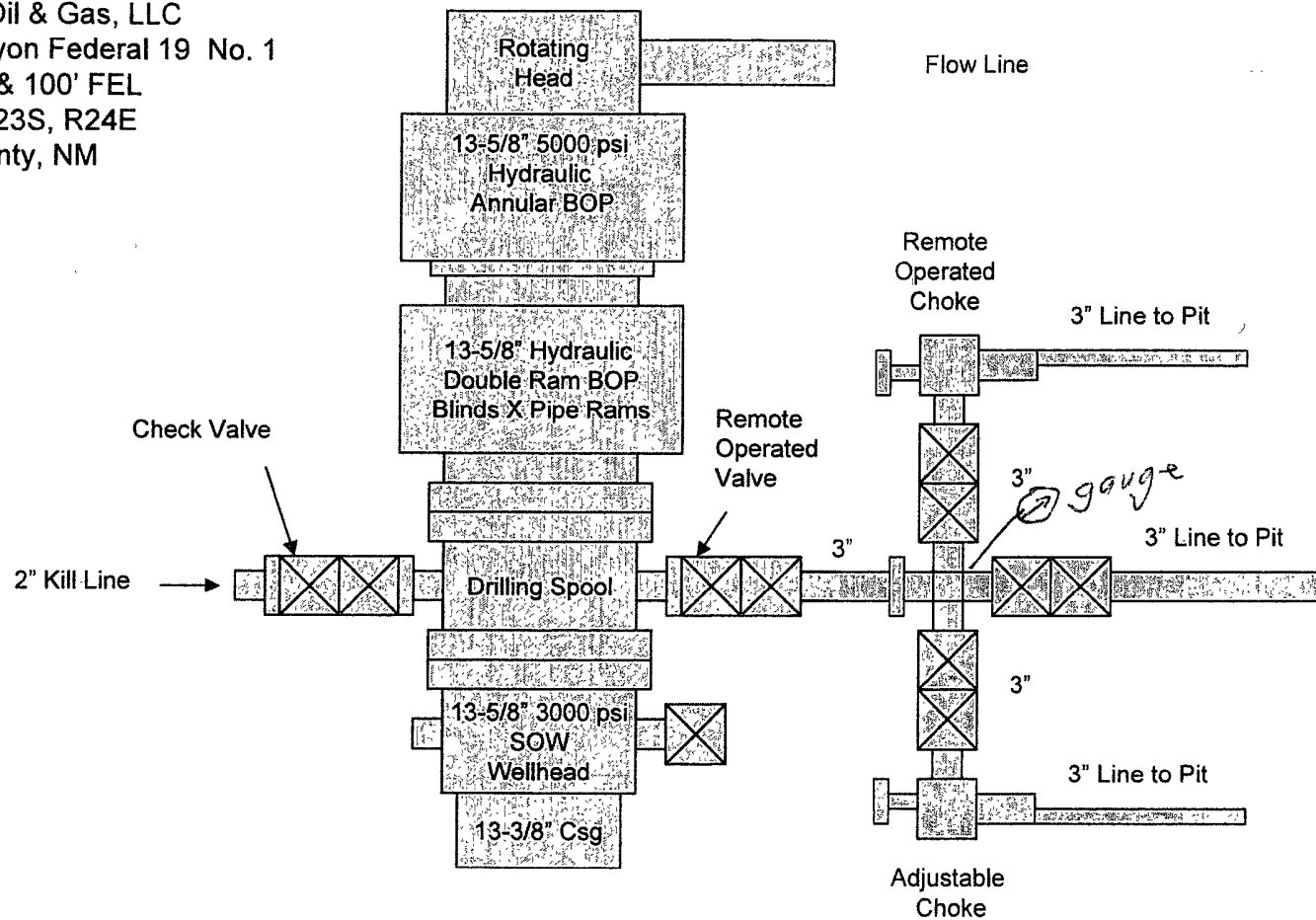


EXHIBIT D

Rig & Well Site Plat
 Rubicon Oil & Gas, LLC
 Dark Canyon 19 Federal #1
 Section 24, T23S, R24E
 Eddy County, NM

Rubicon Oil & Gas, LLC
Dark Canyon Federal 19 No. 1
370' FNL & 100' FEL
Sec 24, T23S, R24E
Eddy County, NM



5000 psi Working Pressure
BOPE Configuration
And Choke Manifold

Exhibit "A"



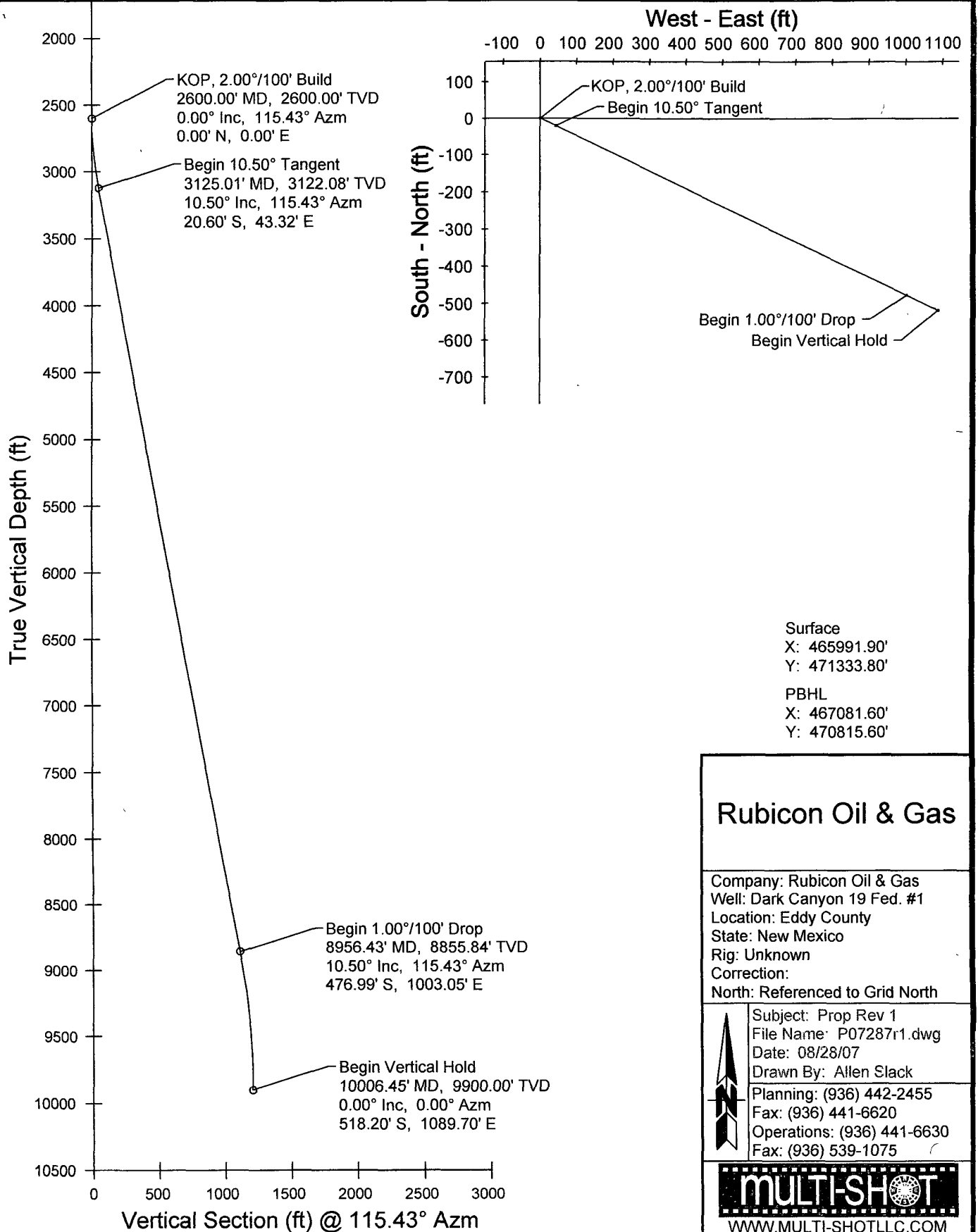
Job Number: P07-287
 Company: Rubicon Oil & Gas
 Lease/Well: Dark Canyon 19 Fed. #1
 Location: Eddy County
 Rig Name: Unknown
 RKB:
 G.L. or M.S.L.:

State/Country: New Mexico
 Declination:
 Grid: Referenced to Grid North
 File name: F:\WELLPL-1\2007\1P07280\S\1P07287\07287.SVY
 Date/Time: 28-Aug-07 / 09:17
 Curve Name: Prop Rev 1

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 115.43
 Vertical Section Referenced to offset from Wellhead: EW = .00 Ft, NS = .00 Ft
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Grid X FT	Grid Y FT	Dogleg Severity Deg/100
KOP, 2.00°/100' Build											
2600.00	.00	115.43	2600.00	.00	.00	.00	.00	.00	465991.90	471333.80	.00
2700.00	2.00	115.43	2699.98	-.75	1.58	1.75	1.75	115.43	465993.48	471333.05	2.00
2800.00	4.00	115.43	2799.84	-3.00	6.30	6.98	6.98	115.43	465998.20	471330.80	2.00
2900.00	6.00	115.43	2899.45	-6.74	14.17	15.69	15.69	115.43	466006.07	471327.06	2.00
3000.00	8.00	115.43	2998.70	-11.97	25.18	27.88	27.88	115.43	466017.08	471321.83	2.00
3100.00	10.00	115.43	3097.47	-18.69	39.30	43.52	43.52	115.43	466031.20	471315.11	2.00
Begin 10.50° Tangent											
3125.01	10.50	115.43	3122.08	-20.60	43.32	47.97	47.97	115.43	466035.22	471313.20	2.00

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Grid X FT	Grid Y FT	Dogleg Severity Deg/100
Begin 1.00°/100' Drop											
8956.43	10.50	115.43	8855.84	-476.99	1003.05	1110.69	1110.69	115.43	466994.95	470856.81	.00
9056.43	9.50	115.43	8954.32	-484.45	1018.73	1128.06	1128.06	115.43	467010.63	470849.35	1.00
9156.43	8.50	115.43	9053.09	-491.17	1032.86	1143.70	1143.70	115.43	467024.76	470842.63	1.00
9256.43	7.50	115.43	9152.11	-497.15	1045.43	1157.62	1157.62	115.43	467037.33	470836.65	1.00
9356.43	6.50	115.43	9251.37	-502.38	1056.44	1169.81	1169.81	115.43	467048.34	470831.42	1.00
9456.43	5.50	115.43	9350.82	-506.87	1065.88	1180.26	1180.26	115.43	467057.78	470826.93	1.00
9556.43	4.50	115.43	9450.44	-510.61	1073.75	1188.97	1188.97	115.43	467065.65	470823.19	1.00
9656.43	3.50	115.43	9550.19	-513.61	1080.05	1195.95	1195.95	115.43	467071.95	470820.19	1.00
9756.43	2.50	115.43	9650.05	-515.86	1084.77	1201.18	1201.18	115.43	467076.67	470817.94	1.00
9856.43	1.50	115.43	9749.99	-517.36	1087.93	1204.67	1204.67	115.43	467079.83	470816.44	1.00
9956.43	.50	115.43	9849.97	-518.11	1089.50	1206.42	1206.42	115.43	467081.40	470815.69	1.00
Begin Vertical Hold											
10006.45	.00	.00	9900.00	-518.20	1089.70	1206.64	1206.64	115.43	467081.60	470815.60	1.00



The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by Multi-Shot, LLC are at the sole risk and responsibility of the customer. Multi-Shot, LLC is not responsible for the accuracy of this schematic or the information contained herein.

Thirteen Point Plan for Surface Use
(Additional data for form 3160-3)

Rubicon Oil & Gas, LLC
Dark Canyon 19 Federal #1
Section 24, T-23-S, R-24-E
370 FNL & 100 FEL, Unit Ltr A
Field: Undesignated Morrow
Eddy County, NM

1. EXISTING ROADS - A "VICINITY MAP" and a "LOCATION VERIFICATION MAP" by John West Surveying are attached which show the location of existing roads and the area topography.

The road log to the location is as follows:
 - a) From intersection of U.S. Hwy. #62-180 and Co. Rd. #408 (Dark Canyon Rd.). Go west-northwest on Co. Rd. #408 approx. 17.0 miles to Co. Rd. #408A.
 - b) Veer right and go north approx. 1.3 miles.
 - c) Turn right and go northeast approx. 0.55 miles to a proposed road survey.
 - d) Follow road survey southeast approx. 2100 feet to this location.
2. PLANNED ACCESS ROAD —Build approximately 1900' of new NW-SE access road to location as depicted on John West survey.
3. LOCATION OF EXISTING WELLS - EXHIBIT B shows the location of other wells within a mile radius of the proposed location.
4. LOCATION OF PROPOSED FACILITIES – This production well will be tied new facilities built on location.
5. LOCATION AND TYPE OF WATER SUPPLY - All water (fresh or otherwise) needed for the drilling and completion of this well will be purchased from a commercial source and trucked to the location via the existing and proposed access road. No water source wells will be drilled, and no surface water will be utilized.
6. SOURCE OF CONSTRUCTION MATERIALS - Construction material (caliche) required for the preparation of the drill site is available from a local source. It is not anticipated that a significant amount of material will be required as the terrain is relatively flat. Transportation will be over the existing roads.
7. METHODS FOR HANDLING WASTE DISPOSAL -
 - A closed system will be utilized for drilling (no reserve pits). Steel pits will be utilized to catch cuttings and drill fluids. All drill cuttings and drill fluids will be removed from the site and disposed at an approved facility.

- Receptacles for solid wastes (paper, plastic, etc) will be provided and equipped to prevent scattering by wind, animals, etc. This waste will be hauled to an approved landfill site.

- Any other waste generated by the drilling, completion, testing of this well will be removed from the site within 30 days of the completion of drilling or testing operations.

- A Porta-John will be provided for the crews. This will be properly maintained during the drilling operations and removed upon completion of the well.

8. ANCILLARY FACILITIES - The drilling, completion, and/or testing of this well will require no ancillary facilities.
9. WELLSITE LAYOUT - Attached, as EXHIBITS C & D are plats showing the anticipated orientation of the drilling rig and the pad.
10. PLANS FOR SURFACE RESTORATION - Reclamation of the surface location will be in accordance with the requirements set forth by the BLM. As stated earlier all waste generated by this operation will be disposed of in an approved manner, and the site restored as closely as possible to its pre-operation appearance. Due to the topography of the area no problems are anticipated in achieving this status and no erosion or other detrimental effects are expected as a result of this operation.
11. OTHER INFORMATION - The surface ownership of the drill site and the access routes are under the control/ownership of:

Bureau of Land Management

P. O. Box 1778

Carlsbad, New Mexico 88221-1778

505-234-5972

The BLM representative for this area is Barry Hunt who can be reached at the above number, or 505-361-4078.

The site was archaeologically surveyed in 2007. Danny Boone, the registered archeological surveyor, should forward a copy of that report to the BLM.

12. OPERATORS REPRESENTATIVE – Rubicon Oil & Gas, LLC is covered by Statewide Bond No. B32644643, BLM Bond # 2922, Oil & Gas State of New Mexico Blanket Plugging Bond B32644641.

Rubicon is represented by:

Brett Smith

Rubicon Oil & Gas, LLC

(432) 687-5100

Agent / Operations Manager:

David Wantuck

Cell (432) 528-2596

Office (432) 683-6565

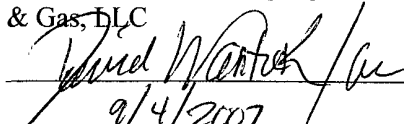
I hereby certify that I, David Wantuck -Operations Manager, have inspected the proposed drill site and access route and that I am familiar with the conditions that currently exist; that the statements made in the APD package are to the best of my knowledge true and correct; and that the work associated with operations herein will be performed by Rubicon Oil & Gas, LLC and it's contractors and subcontractors in conformity with the terms and conditions of this APD package. I also certify responsibility for the operations conducted on that portion of the leased lands associated with this application with bond coverage being provided under a BLM nationwide bond.

This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

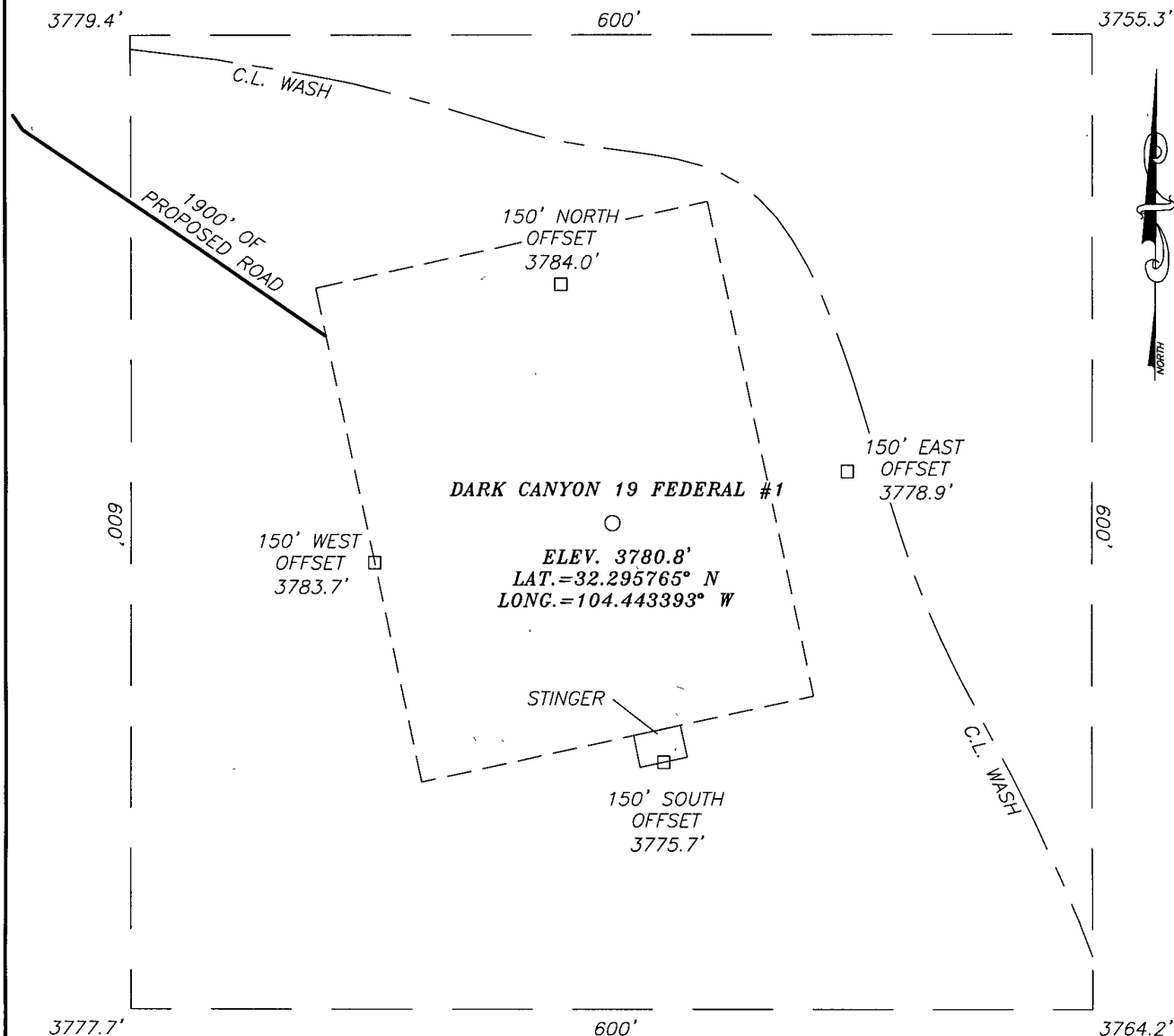
Name and title: David Wantuck, Acting Agent and Operations Manager for Rubicon Oil & Gas, LLC

Signature:

Date:

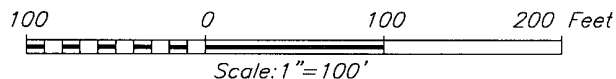

9/4/2007

SECTION 24, TOWNSHIP 23 SOUTH, RANGE 24 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HWY. #62-180 AND CO. RD. #408 (DARK CANYON RD.), GO WEST-NORTHWEST ON CO. RD. #408 APPROX. 17.0 MILES TO CO. RD. #408A. VEER RIGHT AND GO NORTH APPROX. 1.3 MILES TURN RIGHT AND GO NORTHEAST APPROX. 0.55 MILES TO A PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY SOUTHEAST APPROX. 2100 FEET TO THIS LOCATION.



RUBICON OIL AND GAS, LLC

DARK CANYON 19 FEDERAL #1
 LOCATED 370 FEET FROM THE NORTH LINE
 AND 100 FEET FROM THE EAST LINE OF SECTION 24,
 TOWNSHIP 23 SOUTH, RANGE 24 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO.

Survey Date: 8/9/07	Sheet 1 of 1 Sheets
W.O. Number: 07.11.1063	Dr By: LA
Date: 8/16/07	Disk: CD#6
07111063	Scale: 1"=100'



PROVIDING SURVEYING SERVICES
 SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 383-3117

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	RUBICON OIL & GAS LLC
LEASE NO.:	NM115403
WELL NAME & NO.:	1-DARK CANYON 19 FEDERAL
SURFACE HOLE FOOTAGE:	0370' FNL & 0100' FWL / 24-23S-24E
BOTTOM HOLE FOOTAGE:	0990' FNL & 0990' FWL / 19-23S-25E
LOCATION:	Section 19, T. 23 S., R 25 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Cave/Karst
 - VRM
- ☒ **Construction**
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 - Well Pads
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- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☐ **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)

Cave and Karst

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Berming:

Any tank batteries will be constructed and bermed large enough to contain any spills that may occur.

Bermed areas will be lined with rip-stop padding to prevent tears or punctures in liners and lined with a permanent 20 mil plastic liner.

Closed Mud System Using Steel Tanks with All Fluids and Cuttings Hauled Off.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Rotary drilling techniques in cave or karst areas will include the use of fresh water as a circulating medium in zones where caves or karst features are expected. Use depth to the deepest expected fresh water as listed in the geologist report.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone as identified in the geologic report.

Casing:

All casing will meet or exceed National Association of Corrosion Engineers specifications pertaining to the geology of the location and be run to American Petroleum Institute and BLM standards.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported.

Regardless of the type of drilling machinery used, if a void (bit drops) of four feet or more and circulation losses greater than 75 percent occur simultaneously while drilling in any cave-bearing zone, drilling operations will immediately stop and the BLM will be notified by the operator. The BLM will assess the consequences of the situation and work with operator on corrective actions to resolve the problem.

Delayed Blasting:

Any blasting will be a phased and time delayed.

Abandonment Cementing:

Upon well abandonment the well bore will be cemented completely from 100 feet below the bottom of the cave bearing zone to the surface.

Record Keeping:

The Operator will track customary drilling activities, including the rate of penetration, pump pressure, weight on bit, bit drops, percent of mud returns, and presence or absence of cuttings returning to the surface. As part of customary record keeping, each detectable void or sudden increase in the rate of penetration not attributable to a change in the formation type should be documented and evaluated as it is encountered.

Visual Resource Management

1. PAINTING REQUIREMENT- IN ACCORDANCE WITH NOTICE TO LESSEES (NTL) 87-1 NEW MEXICO, "Painting of Oil Field Facilities to Minimize Visual Impacts": ALL permanent surface production facilities, including the well-drive control system, treatment, storage, power (except specifically approved electrical transmission lines and poles, or other permanent above-ground facilities not otherwise specifically subject to safety coloring requirements), shall be painted by the holder to blend with the dominant natural color of the surrounding landscape. The paint used shall be one of the "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee, and shall be a flat, non-reflective finish. The color specified for this location is:

Standard Environmental Color: Shale Green
Munsell Soil Color Chart Number: 5Y 4/2 (# 657)

Any exception to this Painting Requirement must be approved by the BLM Authorized Officer in writing prior to implementation.

2. LOW PROFILE FACILITIES - All permanent surface production facilities, including the well-drive control system, treatment, storage, power (except specifically approved electrical transmission lines and poles), or other permanent above-ground facilities shall be "low profile", not to exceed 10 feet in height. Any exception to on, Low Profile Facilities must be approved in writing by the BLM Authorized Officer prior to implementation.

3. OTHER - The proposed project is located within a Class Three Visual Resource Area. The project will be built in a manner to minimize visibility. The proposed project will be a linear feature for the life of the project, impacting visual resources.

1. The proposed construction and scenic impacts will be limited to the approved pad size.
2. All above ground facilities, structures, appurtenances, and pipelines will be painted with the non-reflective (flat) paint color Shale Green.
3. Any existing tanks will be replaced or painted non-reflective (flat) paint color Shale Green.
4. Facilities will be placed away from the fill portions of the pad (into the cut portions) so that fill portions of the pad's edge can be recontoured and seeded during the early reclamation process.
5. Upon completion of the well and installation of the production facilities (if the well is a producer) the pad will be reclaimed back to a minimal size needed for production operations. The pads edges will be recontoured and the extra caliche and pad material will be hauled off-site. After one year, the BLM may require additional site reclamation.
6. The reclaimed areas will be grid rolled and reseeded with seed mix as indicated in the Special Drilling Stipulations.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

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

B. TOPSOIL

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

C. RESERVE PITS

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

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

Crowning

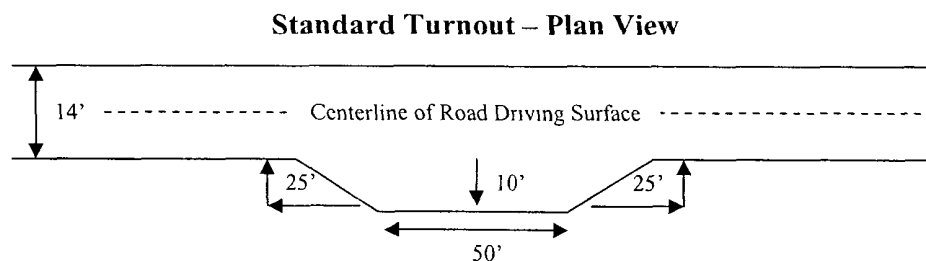
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

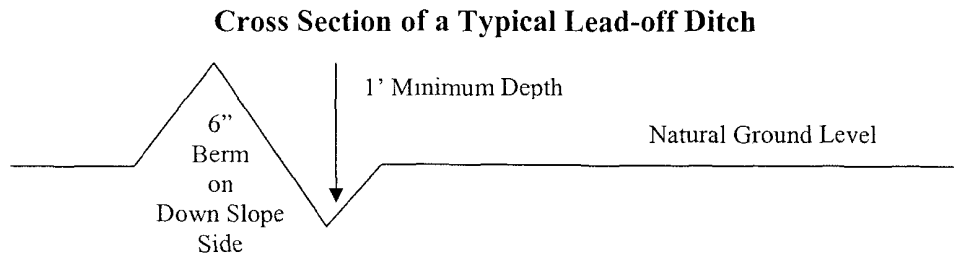
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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:

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

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

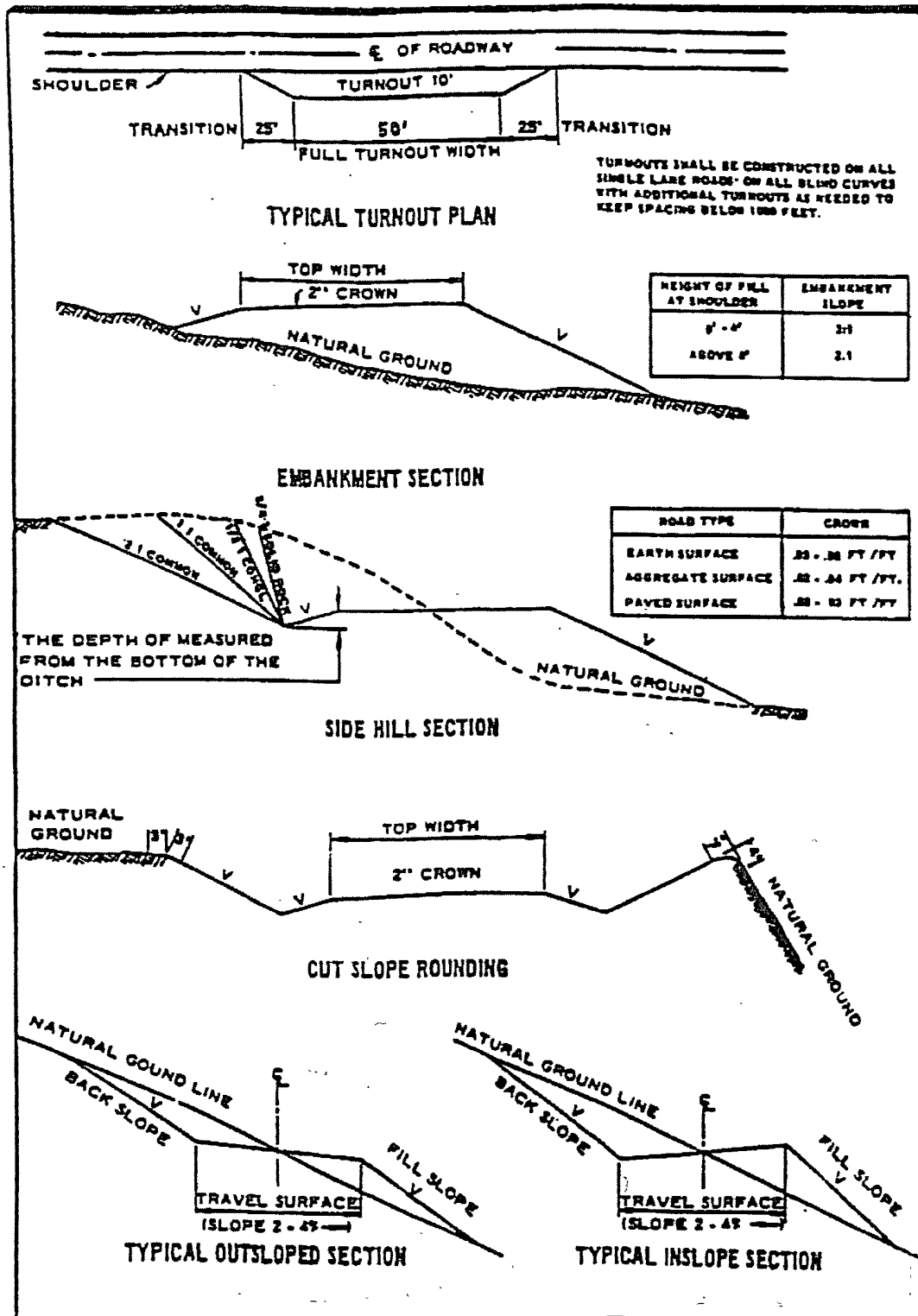
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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 2 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,
(505) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please send measurements 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. When floor controls are required, (3M or Greater) controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

1. The **13-3/8** inch surface casing shall be set at **approximately 400** feet 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.
 - b. 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. (This is to include the lead cement).

- 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 action will be done prior to drilling out that string.

High cave/karst.

Possible lost circulation in the San Andres and Wolfcamp.

Possible high pressure gas bursts from the Wolfcamp and the Pennsylvanian Section is probably over pressured.

- 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-d above.

Intermediate casing to be set at approximately 2100 feet within the Lamar Limestone above the Delaware sands to separate the Capitan from the hydrocarbon bearing Delaware.

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

- 3. The minimum required fill of cement behind the 4-1/2 inch production casing is:

☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement will be required.**

Class H cement to be used below 8000'.

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

C. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi.**

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8"** intermediate casing shoe shall be **5000 (5M)** psi.
4. The appropriate BLM office shall be notified a minimum of 2 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.
 - e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation **if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days**. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.
 - f. A variance to test the surface casing and BOP/BOPE to the reduced pressure of **1000** psi with the rig pumps is approved.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Engineer on call phone (after hours): Carlsbad: (505) 706-2779

WWI 102207

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

VRM Facility Requirement

Low-profile tanks not greater than ten-feet-high shall be used.

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

At the time reserve pits are to be reclaimed, 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.

Seed Mixture 3, for Shallow 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 authorised 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 (<i>Setaria magrostachya</i>)	1.0
Green Spangletop (<i>Leptochloa dubia</i>)	2.0
Side oats 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.