

APR 13 2009 ATS-09-242 RM

## OCD-ARTESIA

Form 3160-3  
(April 2004)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT


## APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM 54856 ; (SL NM 12110)	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input 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 RSC Resources Limited Partnership		7. If Unit or CA Agreement, Name and No.	
3a. Address 6824 Island Cir., Midland, Tx 79707		8. Lease Name and Well No. 37505 Lucky Wolf 30 Fed. Com. No. 2H	
3b. Phone No. (include area code) 432-553-1849		9. API Well No. 30-015-37039	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 2,310' FSL & 100' FWL, Unit L At proposed prod. zone 2,310 FSL & 330'FWL to 1,980' FSL & 330' FEL Bottom Hole		10. Field and Pool, or Exploratory Dog Canyon ; Wolfcamp	
11. Sec., T. R. M. or Blk. and Survey or Area 30-T16S-R28E		12. County or Parish Eddy	
13. State NM		14. Distance in miles and direction from nearest town or post office* Approx. 15 Miles NW of Loco Hills, NM	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 100' at Surface 330' at Producing Zone		16. No. of acres in lease 1120 (40 to this Unit)	
17. Spacing Unit dedicated to this well 160		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1,320'	
19. Proposed Depth 2,350' TVD, 1,200' MD 1,500' 1,200'		20. BLM/BIA Bond No. on file NMB 000437	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3,515.5' GL		22. Approximate date work will start* 05/01/2009	
23. Estimated duration 30 Days		24. Attachments	

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

- 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 shall 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 authorized officer.

25. Signature 		Name (Printed/Typed) Randall Cate	Date 02/09/2009
Title President			
Approved by (Signature) /s/ Don Peterson		Name (Printed/Typed) /s/ Don Peterson	Date APR 09 2009
Title FOR 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.

\*(Instructions on page 2)

Vertical well bore is unorthodox

ROSWELL CONTROLLED WATER BASIN

Subject to  
Like Approval  
By State

possible DH commingle

SEE ATTACHED FOR  
CONDITIONS OF APPROVALAPPROVAL 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 & 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

API Number <b>30-015-37039</b>	Pool Code <b>17970</b>	Pool Name <b>Dog Canyon Wolfcamp</b>
Property Code <b>37505</b>	Property Name <b>LUCKY WOLF 30 FED. COM</b>	Well Number <b>2H</b>
OGRID No. <b>245801</b>	Operator Name <b>RSC RESOURCES, L.P. ✓</b>	Elevation <b>3515.5'</b>

Surface Location

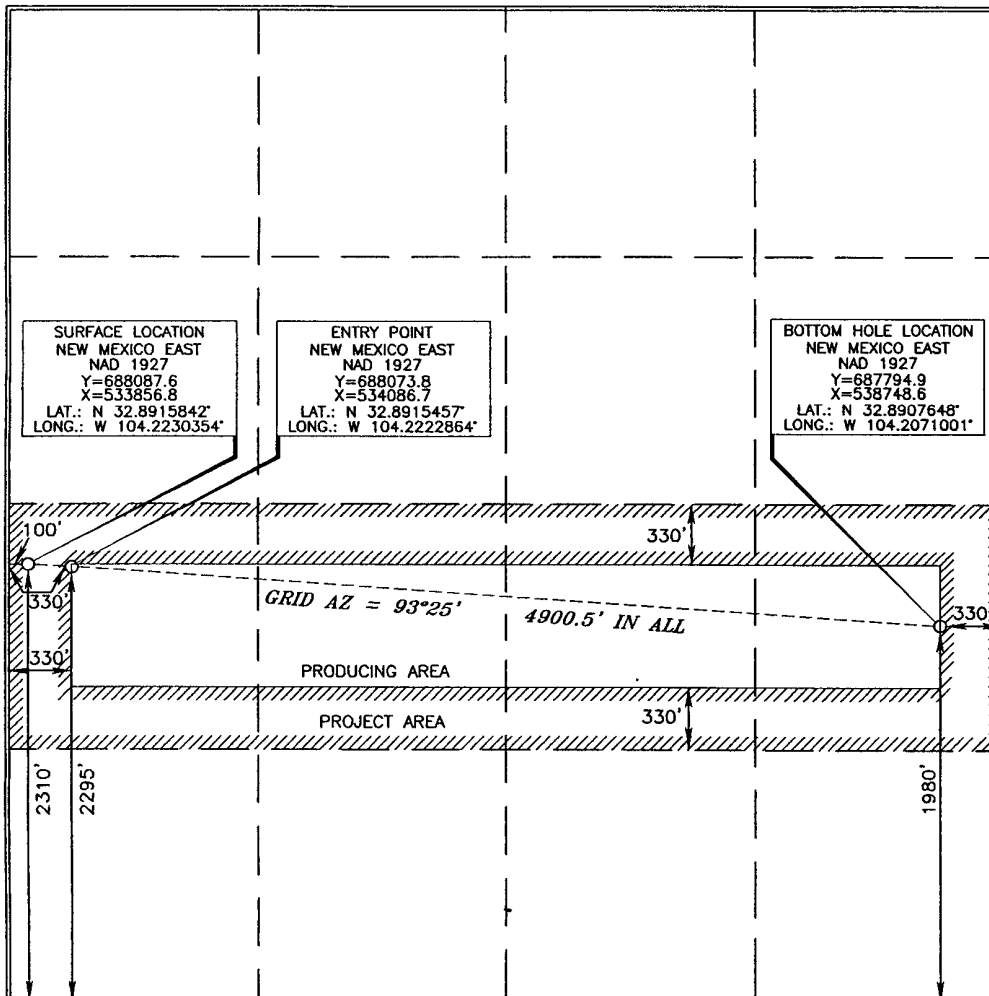
UL or lot no. <b>L</b>	Section <b>30</b>	Township <b>16 SOUTH</b>	Range <b>28 EAST, N.M.P.M.</b>	Lot Idn	Feet from the <b>2310'</b>	North/South line <b>SOUTH</b>	Feet from the <b>100'</b>	East/West line <b>WEST</b>	County <b>EDDY</b>
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Bottom Hole Location If Different From Surface

UL or lot no. <b>I</b>	Section <b>30</b>	Township <b>16 SOUTH</b>	Range <b>28 EAST, N.M.P.M.</b>	Lot Idn	Feet from the <b>1980'</b>	North/South line <b>SOUTH</b>	Feet from the <b>330'</b>	East/West line <b>EAST</b>	County <b>EDDY</b>
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Dedicated Acres <b>160</b>	Joint or Infill	Consolidation Code	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.



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.

*[Signature]* 2/9/09  
Signature Date

**RANDALL CATE**  
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.

**15079**  
JANUARY 6, 2009  
Date of Survey

*[Signature]*  
Signature and Seal of Professional Surveyor

**15079**  
Certificate Number

WO# 081229WL-b (KA)

## Statement Accepting Responsibility For Operations

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Date: February 09, 2009

Lease #: NM <sup>01</sup>054856 Well: Lucky Wolf "30" Federal Com # 2H

Legal Description: NWSW Sec. 30-T16S-R28E  
Eddy County, NM

Formations: Permian (through Wolfcamp)

Bond Coverage: Statewide

BLM Bond File #: NMB 000437

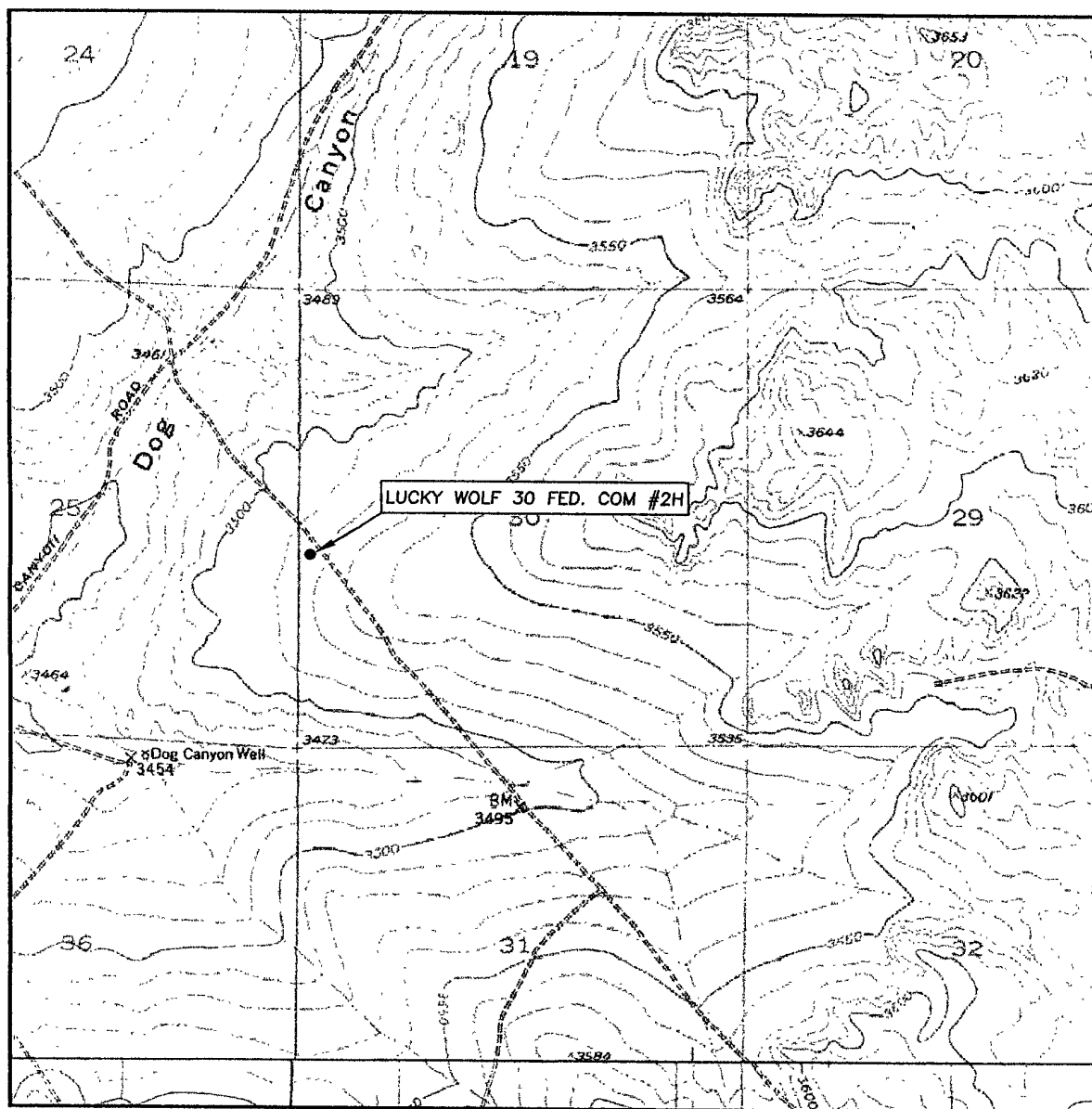
RSC Resources Limited Partnership



Randall Cate, President

Survey Date: 01/06/09	Sheet 1 of 1 Sheets	
W.O. Number: 081229WL-b	Drawn By: KA	Rev:
Date: 01/12/09	081229WL-b	Scale: 1" = 1000'

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 30 TWP. 16-S RGE. 28-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2310' FSL & 100' FWL

ELEVATION 3515.5'

OPERATOR RSC RESOURCES, L.P.

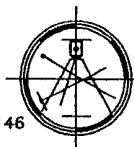
LEASE LUCKY WOLF 30 FED. COM #2H

U.S.G.S. TOPOGRAPHIC MAP

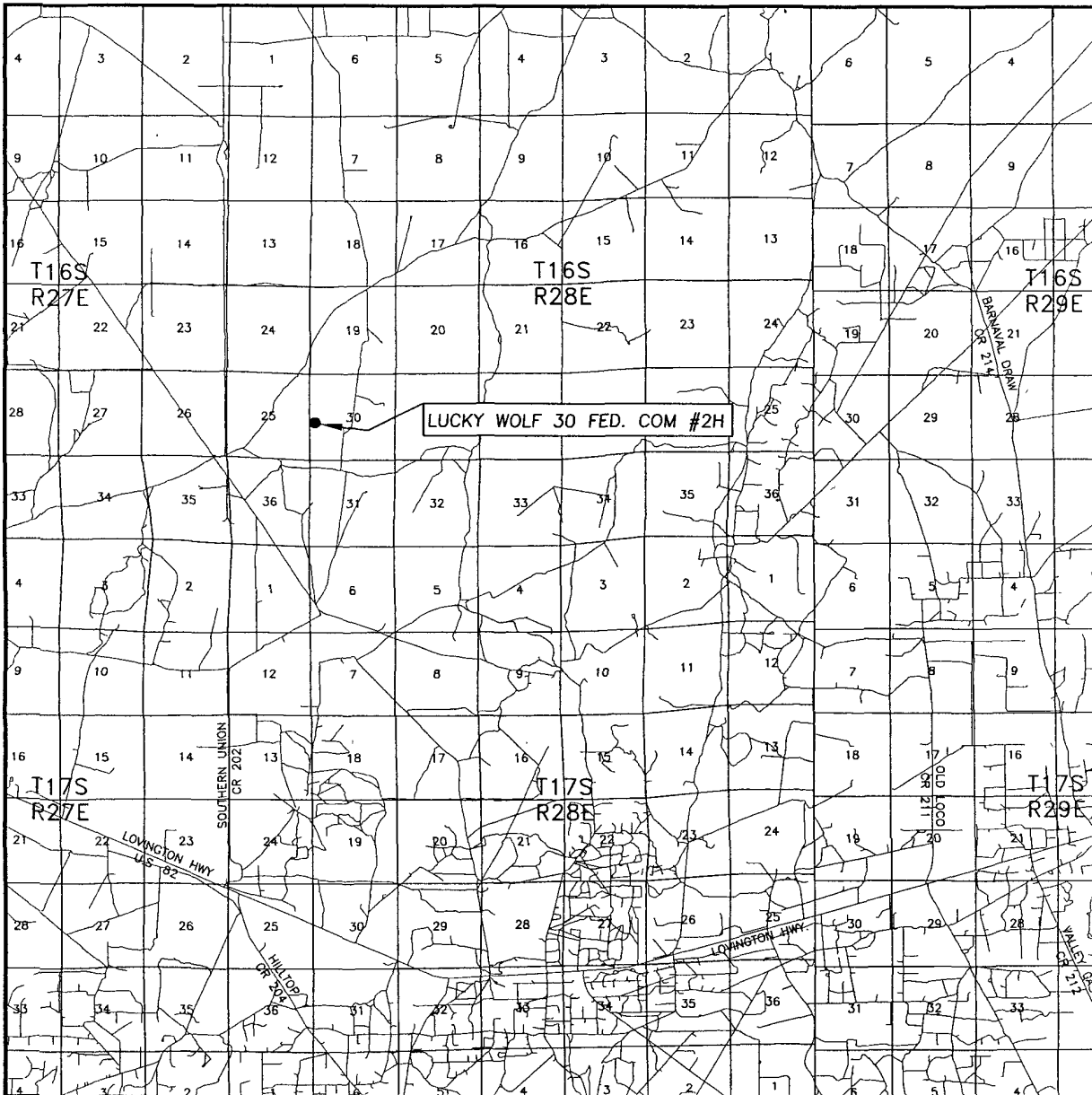
DIAMOND MOUND, N.M.

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR  
HOBBS, NEW MEXICO - 575-393-9146



# VICINITY MAP

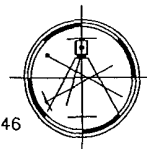


SEC. 30 TWP. 16-S RGE. 28-E  
 SURVEY N.M.P.M.  
 COUNTY EDDY  
 DESCRIPTION 2310' FSL & 100' FWL  
 ELEVATION 3515.5'  
 OPERATOR RSC RESOURCES, L.P.  
 LEASE LUCKY WOLF 30 FED. COM #2H

SCALE: 1" = 2 MILES

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR  
 HOBBS, NEW MEXICO - 575-393-9146



DIRECTIONS BEGINNING IN ARTESIA AT THE INTERSECTION OF U.S. HWY. #285 AND U.S. HWY. #82, GO EAST ON U.S. HWY. #82 FOR APPX. 9.5 MILES, TURN NORTH ON EDDY COUNTY ROAD #202 (SOUTHERN UNION ROAD) FOR 2.8 MILES, TURN NORTHEAST ON EDDY COUNTY ROAD #202 FOR 1.3 MILES, TURN NORTHWEST FOR 0.1 MILES, TURN NORTH ON LEASE ROAD FOR 2.0 MILES, TURN WEST ON CALICHE ROAD FOR 0.4 MILES, TURN NORTH ON PROPOSED ROAD FOR 0.1 MILES TO LOCATION.

RSC Resources Limited Partnership

Drilling and Operations Program

Lucky Wolf "30" Federal Com # 2H  
2310' FSL & 100' FWL  
Sec. 30, T16S, R28E, Eddy Co., NM

In accordance with Part 24 of Form 3160-3, Application For Permit To Drill, RSC Resources submits the following:

1. The geologic surface formation is Permian.
2. The estimated tops of geologic markers are as follows:

Quaternary	Surface	Glorietta *	3,300'
Yates *	550'	Tubb *	4,500'
Queen *	1,100'	Abo *	5,200'
San Andres *	1,800'	Wolfcamp*	6,350'

3. Estimated depths of anticipated fresh water, oil, and gas:

Fresh Water	150'
Oil/Gas	Denoted above with *

4. Proposed Casing Program: All Casing Will Be New

<u>Hole Size</u>	<u>Casing</u>	<u>Wt/Ft/Grade</u>	<u>Depth</u>	<u>Jt Type</u>
17.5"	13.375" -or-	48# H40 54.5# J 55	0-500'	ST&C
8.75"	7.0"	26# HCP110	0-5,800' **	LT&C
6.125"	4.5"	11.6# P110	5,600-11,200'	LT&C

Minimum casing design : Collapse 1.125, Burst 1.0, Tensile 1.8.

If wellbore integrity cannot be maintained, then the 8.75" hole will be reamed out to 12.25" and new 9.625" casing contingency string will be run as follows:

12.25"	9.625"	40# J55	0-1,800'	LT&C
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\*\* Setting depth subject to possible commingling approval of the State of New Mexico.

## 5. Cementing Program

13.375" Circ to Surface w/ ~500 Sx Class "C" w/ 2% CaCl, 1.35 yld.

9.625' Circ to Surface w/ ~600 Sx Class "C" Light w/ 2% CaCl, 1.34 yld.

See CCA [ 7.0" Cmt tie back no deeper than 1,600' w/350 Sx Class H Light, 1.98 yld  
Tail w/ 350 Sx Class H with additives, 1.28 yld. In the event the 9.625"  
contingency casing string is not run, then will cmt w/ 850 Sx Class "H" Light,  
2.05 yld. & tail w/ 400 Sx Class "H" Neat, 1.18 yld.

4.5" Liner w/ Packers will not be cemented.

All cnt volumes subject to results of fluid calipers

## 6. Pressure Control Equipment:

A 3000# WP Double Ram BOP and annular BOP will be installed after setting the 13.375" casing. BOP and manifold will be tested by an independent tester to 3000# and annular to 1500# or .22 psi per foot, whichever is greater, not to exceed 70 percent of the minimum internal yield. Pressure tests to the above specifications will be conducted prior to drill out under all casing strings. BOP controls will be installed prior to drilling out and will remain the duration of drilling operations. BOP's will be inspected and rams operationally checked each 24 hour period and results recorded on the daily tour sheets. A Kelly cock and sub with full opening valve in open position will be available on the rig floor when the Kelly is not in use. Pit level indicators will be used.

7. **Mud Program – Closed Loop System to be Used. See Attached Schematic of the Piping from the Choke Manifold to the CLS.** The two 2" choke lines from the manifold will go to a valved "H" with lines to the mud gas separator/shakers and the mud tanks. . In the case of needing to circulate on chokes, the mud flow can be directed to either or both lines to optimize control of the well. The 3" "panic" line crosses underneath the "H" and directly to the burn pit.

<u>Interval</u>	<u>Mud Wt.</u>	<u>Visc.</u>	<u>FL</u>	<u>Type of System</u>
0'-500'	8.5-9.0	28-32	NC	Native, fresh
500'-1,800'	9.2-10.0	28-30	NC	Brine, cut-brine ← See CCA
1,800'-5,600'	8.5-9.1	20-30	NC	Cut brine
5,600'-TD	9.2-9.5	34-38	10-15	Brine, starch, polymer

Will use paper to minimize seepage, lime for PH control.



**8. Evaluation Program:**

Samples: 10' from intermediate casing to TD  
Logging: Density/Neutron, Dual Laterolog. Gamma Ray to surface.  
No cores or DSTs anticipated.

**9. Downhole Conditions:**

No abnormal conditions, pressures, temperatures, or H<sub>2</sub>S are expected. An H<sub>2</sub>S contingency plan is included in this Application as a precaution. The expected bottom hole temperature and pressure are 115 F and 2400 psi, respectively.

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**RSC Resources, L.P.**

**Eddy County, NM**

**Lucky Wolf 30 Fed Com #2H**

**Lucky Wolf 30 Fed Com #2H**

**Lateral #1**

**Plan: Plan #1**

**Standard Planning Report**

**05 February, 2009**

# Planning Report

**Database:** EDM 5000.1 Black Viper  
**Company:** RSC Resources, L.P.  
**Project:** Eddy County, NM  
**Site:** Lucky Wolf 30 Fed Com #2H  
**Well:** Lucky Wolf 30 Fed Com #2H  
**Wellbore:** Lateral #1  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well Lucky Wolf 30 Fed Com #2H  
**TVD Reference:** WELL @ 3515.50ft (Original Well Elev)  
**MD Reference:** WELL @ 3515.50ft (Original Well Elev)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	Eddy County, NM		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site</b>	Lucky Wolf 30 Fed Com #2H		
<b>Site Position:</b>		<b>Northing:</b>	688,087.60 ft
<b>From:</b>	Map	<b>Easting:</b>	533,856.80 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	0 "
		<b>Latitude:</b>	32° 53' 29.690 N
		<b>Longitude:</b>	104° 13' 22.940 W
		<b>Grid Convergence:</b>	0.06 °

<b>Well</b>	Lucky Wolf 30 Fed Com #2H		
<b>Well Position</b>	+N/-S	0.00 ft	<b>Northing:</b> 688,087.60 ft
	+E/-W	0.00 ft	<b>Easting:</b> 533,856.80 ft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	<b>Latitude:</b> 32° 53' 29.690 N
			<b>Longitude:</b> 104° 13' 22.940 W
			<b>Ground Level:</b> 0.00 ft

<b>Wellbore</b>	Lateral #1		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>
	IGRF200510	2/5/2009	(°)
			8.21
			<b>Dip Angle</b>
			(°)
			60.76
			<b>Field Strength</b>
			(nT)
			49,207

<b>Design</b>	Plan #1		
<b>Audit Notes:</b>			
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b> 6,000.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			<b>Direction</b>
			(°)
			93.42

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,133.56	0.00	0.00	6,133.56	0.00	0.00	0.00	0.00	0.00	0.00	
6,578.61	89.01	90.00	6,420.00	0.00	281.53	20.00	20.00	0.00	90.00	TP#1[LW30FedCom#
8,837.42	89.01	90.00	6,459.02	0.00	2,540.00	0.00	0.00	0.00	0.00	TP#1[LW30FedCom#
9,223.48	89.01	97.72	6,465.70	-25.97	2,924.84	2.00	0.00	2.00	90.07	
11,208.74	89.01	97.72	6,500.00	-292.70	4,891.80	0.00	0.00	0.00	0.00	PBHL#1[LW30FedCo

# Planning Report

Database: EDM 5000.1 Black Viper  
 Company: RSC Resources, L.P.  
 Project: Eddy County, NM  
 Site: Lucky Wolf 30 Fed Com #2H  
 Well: Lucky Wolf 30 Fed Com #2H  
 Wellbore: Lateral #1  
 Design: Plan #1

Local Co-ordinate Reference: Well Lucky Wolf 30 Fed Com #2H  
 TVD Reference: WELL @ 3515.50ft (Original Well Elev)  
 MD Reference: WELL @ 3515.50ft (Original Well Elev)  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,030.00	0.00	0.00	6,030.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,060.00	0.00	0.00	6,060.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,090.00	0.00	0.00	6,090.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,120.00	0.00	0.00	6,120.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,133.56	0.00	0.00	6,133.56	0.00	0.00	0.00	0.00	0.00	0.00	
6,150.00	3.29	90.00	6,149.99	0.00	0.47	0.47	20.00	20.00	0.00	
6,180.00	9.29	90.00	6,179.80	0.00	3.76	3.75	20.00	20.00	0.00	
6,210.00	15.29	90.00	6,209.10	0.00	10.14	10.12	20.00	20.00	0.00	
6,240.00	21.29	90.00	6,237.57	0.00	19.55	19.51	20.00	20.00	0.00	
6,270.00	27.29	90.00	6,264.90	0.00	31.88	31.82	20.00	20.00	0.00	
6,300.00	33.29	90.00	6,290.79	0.00	47.00	46.92	20.00	20.00	0.00	
6,330.00	39.29	90.00	6,314.96	0.00	64.75	64.64	20.00	20.00	0.00	
6,360.00	45.29	90.00	6,337.15	0.00	84.93	84.78	20.00	20.00	0.00	
6,390.00	51.29	90.00	6,357.10	0.00	107.31	107.12	20.00	20.00	0.00	
6,420.00	57.29	90.00	6,374.60	0.00	131.66	131.43	20.00	20.00	0.00	
6,450.00	63.29	90.00	6,389.47	0.00	157.70	157.42	20.00	20.00	0.00	
6,480.00	69.29	90.00	6,401.52	0.00	185.16	184.83	20.00	20.00	0.00	
6,510.00	75.29	90.00	6,410.65	0.00	213.72	213.34	20.00	20.00	0.00	
6,540.00	81.29	90.00	6,416.73	0.00	243.09	242.65	20.00	20.00	0.00	
6,570.00	87.29	90.00	6,419.72	0.00	272.92	272.44	20.00	20.00	0.00	
6,578.61	89.01	90.00	6,420.00	0.00	281.53	281.03	20.00	20.00	0.00	
6,600.00	89.01	90.00	6,420.37	0.00	302.92	302.37	0.00	0.00	0.00	
6,630.00	89.01	90.00	6,420.88	0.00	332.91	332.32	0.00	0.00	0.00	
6,660.00	89.01	90.00	6,421.40	0.00	362.91	362.26	0.00	0.00	0.00	
6,690.00	89.01	90.00	6,421.92	0.00	392.90	392.20	0.00	0.00	0.00	
6,720.00	89.01	90.00	6,422.44	0.00	422.90	422.14	0.00	0.00	0.00	
6,750.00	89.01	90.00	6,422.96	0.00	452.89	452.08	0.00	0.00	0.00	
6,780.00	89.01	90.00	6,423.48	0.00	482.89	482.03	0.00	0.00	0.00	
6,810.00	89.01	90.00	6,423.99	0.00	512.88	511.97	0.00	0.00	0.00	
6,840.00	89.01	90.00	6,424.51	0.00	542.88	541.91	0.00	0.00	0.00	
6,870.00	89.01	90.00	6,425.03	0.00	572.88	571.85	0.00	0.00	0.00	
6,900.00	89.01	90.00	6,425.55	0.00	602.87	601.79	0.00	0.00	0.00	
6,930.00	89.01	90.00	6,426.07	0.00	632.87	631.74	0.00	0.00	0.00	
6,960.00	89.01	90.00	6,426.59	0.00	662.86	661.68	0.00	0.00	0.00	
6,990.00	89.01	90.00	6,427.10	0.00	692.86	691.62	0.00	0.00	0.00	
7,020.00	89.01	90.00	6,427.62	0.00	722.85	721.56	0.00	0.00	0.00	
7,050.00	89.01	90.00	6,428.14	0.00	752.85	751.50	0.00	0.00	0.00	
7,080.00	89.01	90.00	6,428.66	0.00	782.84	781.45	0.00	0.00	0.00	
7,110.00	89.01	90.00	6,429.18	0.00	812.84	811.39	0.00	0.00	0.00	
7,140.00	89.01	90.00	6,429.70	0.00	842.84	841.33	0.00	0.00	0.00	
7,170.00	89.01	90.00	6,430.21	0.00	872.83	871.27	0.00	0.00	0.00	
7,200.00	89.01	90.00	6,430.73	0.00	902.83	901.21	0.00	0.00	0.00	
7,230.00	89.01	90.00	6,431.25	0.00	932.82	931.16	0.00	0.00	0.00	
7,260.00	89.01	90.00	6,431.77	0.00	962.82	961.10	0.00	0.00	0.00	
7,290.00	89.01	90.00	6,432.29	0.00	992.81	991.04	0.00	0.00	0.00	
7,320.00	89.01	90.00	6,432.81	0.00	1,022.81	1,020.98	0.00	0.00	0.00	
7,350.00	89.01	90.00	6,433.32	0.00	1,052.80	1,050.92	0.00	0.00	0.00	
7,380.00	89.01	90.00	6,433.84	0.00	1,082.80	1,080.87	0.00	0.00	0.00	
7,410.00	89.01	90.00	6,434.36	0.00	1,112.79	1,110.81	0.00	0.00	0.00	
7,440.00	89.01	90.00	6,434.88	0.00	1,142.79	1,140.75	0.00	0.00	0.00	
7,470.00	89.01	90.00	6,435.40	0.00	1,172.79	1,170.69	0.00	0.00	0.00	
7,500.00	89.01	90.00	6,435.92	0.00	1,202.78	1,200.63	0.00	0.00	0.00	
7,530.00	89.01	90.00	6,436.43	0.00	1,232.78	1,230.58	0.00	0.00	0.00	

# Planning Report

<b>Database:</b>	EDM 5000.1 Black Viper	<b>Local Co-ordinate Reference:</b>	Well Lucky Wolf 30 Fed Com #2H
<b>Company:</b>	RSC Resources, L.P.	<b>TVD Reference:</b>	WELL @ 3515.50ft (Original Well Elev)
<b>Project:</b>	Eddy County, NM	<b>MD Reference:</b>	WELL @ 3515.50ft (Original Well Elev)
<b>Site:</b>	Lucky Wolf 30 Fed Com #2H	<b>North Reference:</b>	Grid
<b>Well:</b>	Lucky Wolf 30 Fed Com #2H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral #1		
<b>Design:</b>	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
7,560.00	89.01	90.00	6,436.95	0.00	1,262.77	1,260.52	0.00	0.00	0.00	
7,590.00	89.01	90.00	6,437.47	0.00	1,292.77	1,290.46	0.00	0.00	0.00	
7,620.00	89.01	90.00	6,437.99	0.00	1,322.76	1,320.40	0.00	0.00	0.00	
7,650.00	89.01	90.00	6,438.51	0.00	1,352.76	1,350.34	0.00	0.00	0.00	
7,680.00	89.01	90.00	6,439.03	0.00	1,382.75	1,380.29	0.00	0.00	0.00	
7,710.00	89.01	90.00	6,439.54	0.00	1,412.75	1,410.23	0.00	0.00	0.00	
7,740.00	89.01	90.00	6,440.06	0.00	1,442.75	1,440.17	0.00	0.00	0.00	
7,770.00	89.01	90.00	6,440.58	0.00	1,472.74	1,470.11	0.00	0.00	0.00	
7,800.00	89.01	90.00	6,441.10	0.00	1,502.74	1,500.05	0.00	0.00	0.00	
7,830.00	89.01	90.00	6,441.62	0.00	1,532.73	1,530.00	0.00	0.00	0.00	
7,860.00	89.01	90.00	6,442.14	0.00	1,562.73	1,559.94	0.00	0.00	0.00	
7,890.00	89.01	90.00	6,442.65	0.00	1,592.72	1,589.88	0.00	0.00	0.00	
7,920.00	89.01	90.00	6,443.17	0.00	1,622.72	1,619.82	0.00	0.00	0.00	
7,950.00	89.01	90.00	6,443.69	0.00	1,652.71	1,649.76	0.00	0.00	0.00	
7,980.00	89.01	90.00	6,444.21	0.00	1,682.71	1,679.71	0.00	0.00	0.00	
8,010.00	89.01	90.00	6,444.73	0.00	1,712.71	1,709.65	0.00	0.00	0.00	
8,040.00	89.01	90.00	6,445.25	0.00	1,742.70	1,739.59	0.00	0.00	0.00	
8,070.00	89.01	90.00	6,445.76	0.00	1,772.70	1,769.53	0.00	0.00	0.00	
8,100.00	89.01	90.00	6,446.28	0.00	1,802.69	1,799.47	0.00	0.00	0.00	
8,130.00	89.01	90.00	6,446.80	0.00	1,832.69	1,829.42	0.00	0.00	0.00	
8,160.00	89.01	90.00	6,447.32	0.00	1,862.68	1,859.36	0.00	0.00	0.00	
8,190.00	89.01	90.00	6,447.84	0.00	1,892.68	1,889.30	0.00	0.00	0.00	
8,220.00	89.01	90.00	6,448.36	0.00	1,922.67	1,919.24	0.00	0.00	0.00	
8,250.00	89.01	90.00	6,448.87	0.00	1,952.67	1,949.18	0.00	0.00	0.00	
8,280.00	89.01	90.00	6,449.39	0.00	1,982.66	1,979.13	0.00	0.00	0.00	
8,310.00	89.01	90.00	6,449.91	0.00	2,012.66	2,009.07	0.00	0.00	0.00	
8,340.00	89.01	90.00	6,450.43	0.00	2,042.66	2,039.01	0.00	0.00	0.00	
8,370.00	89.01	90.00	6,450.95	0.00	2,072.65	2,068.95	0.00	0.00	0.00	
8,400.00	89.01	90.00	6,451.47	0.00	2,102.65	2,098.89	0.00	0.00	0.00	
8,430.00	89.01	90.00	6,451.98	0.00	2,132.64	2,128.84	0.00	0.00	0.00	
8,460.00	89.01	90.00	6,452.50	0.00	2,162.64	2,158.78	0.00	0.00	0.00	
8,490.00	89.01	90.00	6,453.02	0.00	2,192.63	2,188.72	0.00	0.00	0.00	
8,520.00	89.01	90.00	6,453.54	0.00	2,222.63	2,218.66	0.00	0.00	0.00	
8,550.00	89.01	90.00	6,454.06	0.00	2,252.62	2,248.60	0.00	0.00	0.00	
8,580.00	89.01	90.00	6,454.58	0.00	2,282.62	2,278.54	0.00	0.00	0.00	
8,610.00	89.01	90.00	6,455.09	0.00	2,312.62	2,308.49	0.00	0.00	0.00	
8,640.00	89.01	90.00	6,455.61	0.00	2,342.61	2,338.43	0.00	0.00	0.00	
8,670.00	89.01	90.00	6,456.13	0.00	2,372.61	2,368.37	0.00	0.00	0.00	
8,700.00	89.01	90.00	6,456.65	0.00	2,402.60	2,398.31	0.00	0.00	0.00	
8,730.00	89.01	90.00	6,457.17	0.00	2,432.60	2,428.25	0.00	0.00	0.00	
8,760.00	89.01	90.00	6,457.69	0.00	2,462.59	2,458.20	0.00	0.00	0.00	
8,790.00	89.01	90.00	6,458.21	0.00	2,492.59	2,488.14	0.00	0.00	0.00	
8,820.00	89.01	90.00	6,458.72	0.00	2,522.58	2,518.08	0.00	0.00	0.00	
8,837.42	89.01	90.00	6,459.02	0.00	2,540.00	2,535.47	0.00	0.00	0.00	
8,850.00	89.01	90.25	6,459.24	-0.03	2,552.58	2,548.02	2.00	0.00	2.00	
8,880.00	89.01	90.85	6,459.76	-0.32	2,582.57	2,577.98	2.00	0.00	2.00	
8,910.00	89.01	91.45	6,460.28	-0.92	2,612.56	2,607.95	2.00	0.00	2.00	
8,940.00	89.01	92.05	6,460.80	-1.84	2,642.54	2,637.94	2.00	0.00	2.00	
8,970.00	89.01	92.65	6,461.32	-3.07	2,672.51	2,667.93	2.00	0.00	2.00	
9,000.00	89.01	93.25	6,461.84	-4.61	2,702.47	2,697.92	2.00	0.00	2.00	
9,030.00	89.01	93.85	6,462.36	-6.47	2,732.41	2,727.92	2.00	0.00	2.00	
9,060.00	89.01	94.45	6,462.88	-8.64	2,762.32	2,757.91	2.00	0.00	2.00	
9,090.00	89.01	95.05	6,463.40	-11.13	2,792.22	2,787.90	2.00	0.00	2.00	
9,120.00	89.01	95.65	6,463.91	-13.93	2,822.08	2,817.87	2.00	0.00	2.00	

# Planning Report

<b>Database:</b>	EDM 5000.1 Black Viper	<b>Local Co-ordinate Reference:</b>	Well Lucky Wolf 30 Fed Com #2H
<b>Company:</b>	RSC Resources, L.P.	<b>TVD Reference:</b>	WELL @ 3515.50ft (Original Well Elev)
<b>Project:</b>	Eddy County, NM	<b>MD Reference:</b>	WELL @ 3515.50ft (Original Well Elev)
<b>Site:</b>	Lucky Wolf 30 Fed Com #2H	<b>North Reference:</b>	Grid
<b>Well:</b>	Lucky Wolf 30 Fed Com #2H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral #1		
<b>Design:</b>	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,150.00	89.01	96.25	6,464.43	-17.04	2,851.91	2,847.84	2.00	0.00	2.00	
9,180.00	89.01	96.85	6,464.95	-20.46	2,881.71	2,877.79	2.00	0.00	2.00	
9,210.00	89.01	97.45	6,465.47	-24.19	2,911.48	2,907.72	2.00	0.00	2.00	
9,223.48	89.01	97.72	6,465.70	-25.97	2,924.84	2,921.17	2.00	0.00	2.00	
9,240.00	89.01	97.72	6,465.99	-28.19	2,941.20	2,937.64	0.00	0.00	0.00	
9,270.00	89.01	97.72	6,466.51	-32.22	2,970.93	2,967.55	0.00	0.00	0.00	
9,300.00	89.01	97.72	6,467.03	-36.25	3,000.65	2,997.46	0.00	0.00	0.00	
9,330.00	89.01	97.72	6,467.54	-40.28	3,030.37	3,027.37	0.00	0.00	0.00	
9,360.00	89.01	97.72	6,468.06	-44.32	3,060.10	3,057.28	0.00	0.00	0.00	
9,390.00	89.01	97.72	6,468.58	-48.35	3,089.82	3,087.19	0.00	0.00	0.00	
9,420.00	89.01	97.72	6,469.10	-52.38	3,119.54	3,117.10	0.00	0.00	0.00	
9,450.00	89.01	97.72	6,469.62	-56.41	3,149.27	3,147.02	0.00	0.00	0.00	
9,480.00	89.01	97.72	6,470.14	-60.44	3,178.99	3,176.93	0.00	0.00	0.00	
9,510.00	89.01	97.72	6,470.65	-64.47	3,208.72	3,206.84	0.00	0.00	0.00	
9,540.00	89.01	97.72	6,471.17	-68.50	3,238.44	3,236.75	0.00	0.00	0.00	
9,570.00	89.01	97.72	6,471.69	-72.53	3,268.16	3,266.66	0.00	0.00	0.00	
9,600.00	89.01	97.72	6,472.21	-76.56	3,297.89	3,296.57	0.00	0.00	0.00	
9,630.00	89.01	97.72	6,472.73	-80.59	3,327.61	3,326.48	0.00	0.00	0.00	
9,660.00	89.01	97.72	6,473.25	-84.62	3,357.33	3,356.39	0.00	0.00	0.00	
9,690.00	89.01	97.72	6,473.76	-88.65	3,387.06	3,386.30	0.00	0.00	0.00	
9,720.00	89.01	97.72	6,474.28	-92.68	3,416.78	3,416.22	0.00	0.00	0.00	
9,750.00	89.01	97.72	6,474.80	-96.71	3,446.50	3,446.13	0.00	0.00	0.00	
9,780.00	89.01	97.72	6,475.32	-100.74	3,476.23	3,476.04	0.00	0.00	0.00	
9,810.00	89.01	97.72	6,475.84	-104.77	3,505.95	3,505.95	0.00	0.00	0.00	
9,840.00	89.01	97.72	6,476.35	-108.81	3,535.67	3,535.86	0.00	0.00	0.00	
9,870.00	89.01	97.72	6,476.87	-112.84	3,565.40	3,565.77	0.00	0.00	0.00	
9,900.00	89.01	97.72	6,477.39	-116.87	3,595.12	3,595.68	0.00	0.00	0.00	
9,930.00	89.01	97.72	6,477.91	-120.90	3,624.84	3,625.59	0.00	0.00	0.00	
9,960.00	89.01	97.72	6,478.43	-124.93	3,654.57	3,655.50	0.00	0.00	0.00	
9,990.00	89.01	97.72	6,478.95	-128.96	3,684.29	3,685.42	0.00	0.00	0.00	
10,020.00	89.01	97.72	6,479.46	-132.99	3,714.01	3,715.33	0.00	0.00	0.00	
10,050.00	89.01	97.72	6,479.98	-137.02	3,743.74	3,745.24	0.00	0.00	0.00	
10,080.00	89.01	97.72	6,480.50	-141.05	3,773.46	3,775.15	0.00	0.00	0.00	
10,110.00	89.01	97.72	6,481.02	-145.08	3,803.19	3,805.06	0.00	0.00	0.00	
10,140.00	89.01	97.72	6,481.54	-149.11	3,832.91	3,834.97	0.00	0.00	0.00	
10,170.00	89.01	97.72	6,482.06	-153.14	3,862.63	3,864.88	0.00	0.00	0.00	
10,200.00	89.01	97.72	6,482.57	-157.17	3,892.36	3,894.79	0.00	0.00	0.00	
10,230.00	89.01	97.72	6,483.09	-161.20	3,922.08	3,924.71	0.00	0.00	0.00	
10,260.00	89.01	97.72	6,483.61	-165.23	3,951.80	3,954.62	0.00	0.00	0.00	
10,290.00	89.01	97.72	6,484.13	-169.26	3,981.53	3,984.53	0.00	0.00	0.00	
10,320.00	89.01	97.72	6,484.65	-173.29	4,011.25	4,014.44	0.00	0.00	0.00	
10,350.00	89.01	97.72	6,485.17	-177.33	4,040.97	4,044.35	0.00	0.00	0.00	
10,380.00	89.01	97.72	6,485.68	-181.36	4,070.70	4,074.26	0.00	0.00	0.00	
10,410.00	89.01	97.72	6,486.20	-185.39	4,100.42	4,104.17	0.00	0.00	0.00	
10,440.00	89.01	97.72	6,486.72	-189.42	4,130.14	4,134.08	0.00	0.00	0.00	
10,470.00	89.01	97.72	6,487.24	-193.45	4,159.87	4,163.99	0.00	0.00	0.00	
10,500.00	89.01	97.72	6,487.76	-197.48	4,189.59	4,193.91	0.00	0.00	0.00	
10,530.00	89.01	97.72	6,488.27	-201.51	4,219.31	4,223.82	0.00	0.00	0.00	
10,560.00	89.01	97.72	6,488.79	-205.54	4,249.04	4,253.73	0.00	0.00	0.00	
10,590.00	89.01	97.72	6,489.31	-209.57	4,278.76	4,283.64	0.00	0.00	0.00	
10,620.00	89.01	97.72	6,489.83	-213.60	4,308.48	4,313.55	0.00	0.00	0.00	
10,650.00	89.01	97.72	6,490.35	-217.63	4,338.21	4,343.46	0.00	0.00	0.00	
10,680.00	89.01	97.72	6,490.87	-221.66	4,367.93	4,373.37	0.00	0.00	0.00	
10,710.00	89.01	97.72	6,491.38	-225.69	4,397.65	4,403.28	0.00	0.00	0.00	

# Planning Report

<b>Database:</b>	EDM 5000.1 Black Viper	<b>Local Co-ordinate Reference:</b>	Well Lucky Wolf 30 Fed Com #2H
<b>Company:</b>	RSC Resources, L.P.	<b>TVD Reference:</b>	WELL @ 3515.50ft (Original Well Elev)
<b>Project:</b>	Eddy County, NM	<b>MD Reference:</b>	WELL @ 3515.50ft (Original Well Elev)
<b>Site:</b>	Lucky Wolf 30 Fed Com #2H	<b>North Reference:</b>	Grid
<b>Well:</b>	Lucky Wolf 30 Fed Com #2H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral #1		
<b>Design:</b>	Plan #1		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,740.00	89.01	97.72	6,491.90	-229.72	4,427.38	4,433.20	0.00	0.00	0.00
10,770.00	89.01	97.72	6,492.42	-233.75	4,457.10	4,463.11	0.00	0.00	0.00
10,800.00	89.01	97.72	6,492.94	-237.78	4,486.83	4,493.02	0.00	0.00	0.00
10,830.00	89.01	97.72	6,493.46	-241.81	4,516.55	4,522.93	0.00	0.00	0.00
10,860.00	89.01	97.72	6,493.98	-245.85	4,546.27	4,552.84	0.00	0.00	0.00
10,890.00	89.01	97.72	6,494.49	-249.88	4,576.00	4,582.75	0.00	0.00	0.00
10,920.00	89.01	97.72	6,495.01	-253.91	4,605.72	4,612.66	0.00	0.00	0.00
10,950.00	89.01	97.72	6,495.53	-257.94	4,635.44	4,642.57	0.00	0.00	0.00
10,980.00	89.01	97.72	6,496.05	-261.97	4,665.17	4,672.48	0.00	0.00	0.00
11,010.00	89.01	97.72	6,496.57	-266.00	4,694.89	4,702.40	0.00	0.00	0.00
11,040.00	89.01	97.72	6,497.09	-270.03	4,724.61	4,732.31	0.00	0.00	0.00
11,070.00	89.01	97.72	6,497.60	-274.06	4,754.34	4,762.22	0.00	0.00	0.00
11,100.00	89.01	97.72	6,498.12	-278.09	4,784.06	4,792.13	0.00	0.00	0.00
11,130.00	89.01	97.72	6,498.64	-282.12	4,813.78	4,822.04	0.00	0.00	0.00
11,160.00	89.01	97.72	6,499.16	-286.15	4,843.51	4,851.95	0.00	0.00	0.00
11,190.00	89.01	97.72	6,499.68	-290.18	4,873.23	4,881.86	0.00	0.00	0.00
11,208.74	89.01	97.72	6,500.00	-292.70	4,891.80	4,900.55	0.00	0.00	0.00

## Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TP#1[LW30FedCom#2H		0.00	0.00	0.00	0.00	2,540.00	688,087.60	536,396.80	32° 53' 29.663 N	104° 12' 53.151 W
- plan misses target center by 6458.06ft at 8725.82ft MD (6457.10 TVD, 0.00 N, 2428.42 E)										
- Point										
PBHL#1[LW30FedCom#		0.00	0.00	6,500.00	-292.70	4,891.80	687,794.90	538,748.60	32° 53' 26.739 N	104° 12' 25.573 W
- plan hits target center										
- Point										

## Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
6,133.56	6,133.56	0.00	0.00	KOP Build 20.00°/100, TFO 90
8,578.61	6,420.00	0.00	0.00	EOC Hold 89.01° :: 90° AZI
8,837.42	6,459.02	0.00	281.53	Turn 2.00°/100° :: TFO 90.07
9,223.48	6,465.70	0.00	2,540.00	EOT Hold 89.01° INC :: 97.72° AZI

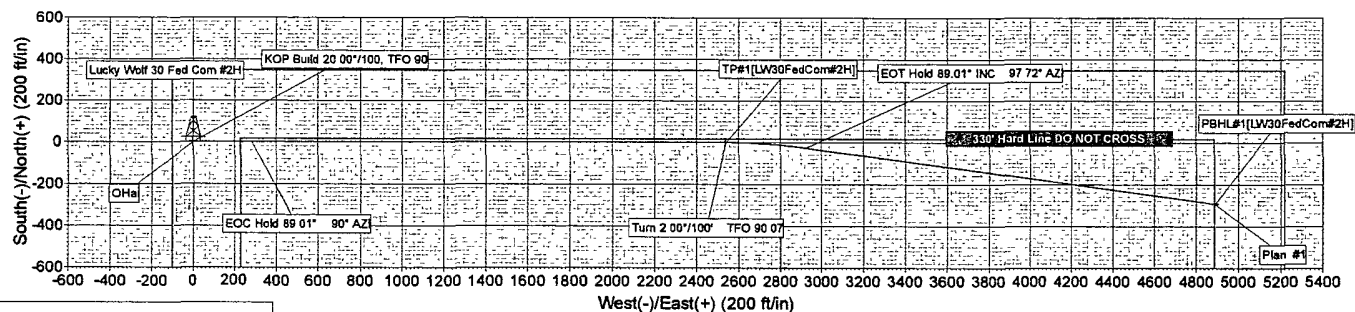
# RCS Resources, L.P.

Project Eddy County, NM  
Site Lucky Wolf 30 Fed Com #2H  
Well Lucky Wolf 30 Fed Com #2H  
Wellbore Lateral #1  
Plan Plan #1 (Lucky Wolf 30 Fed Com #2H/Lateral #1)



## PROJECT DETAILS Eddy County, NM

Geodetic System US State Plane 1927 (Exact solution)  
Datum NAD 1927 (NADCON CONUS)  
Ellipsoid Clarke 1866  
Zone New Mexico East 3001  
System Datum Mean Sea Level

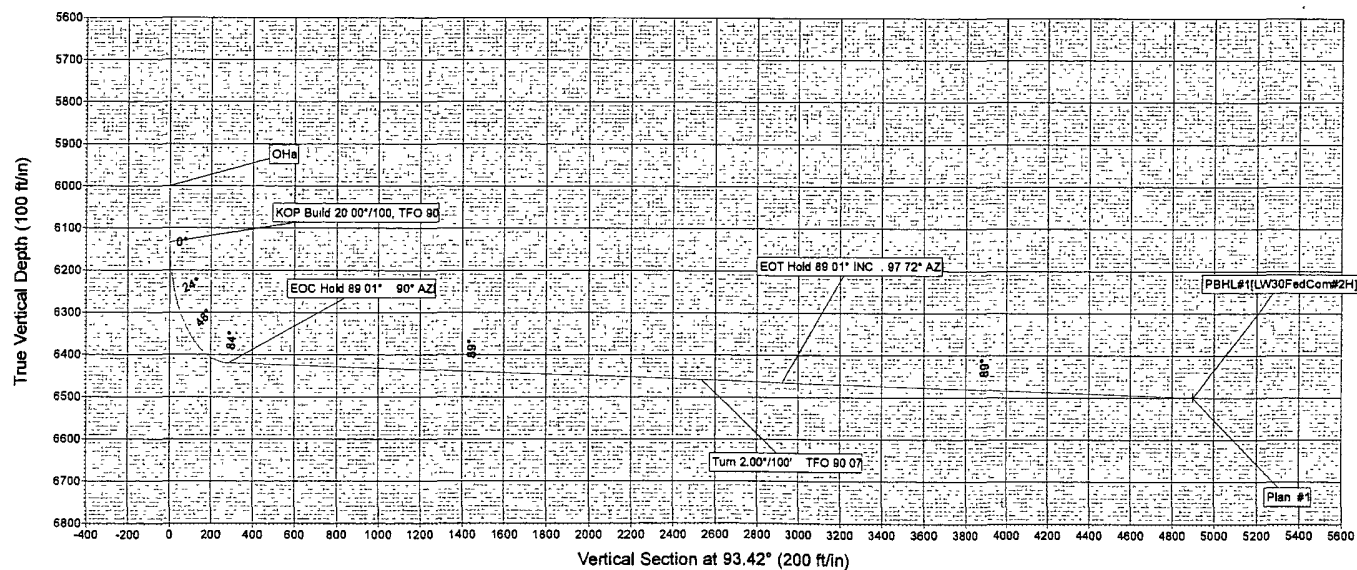
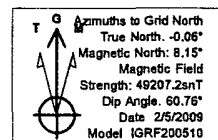


## ANNOTATIONS

TVD	MD	Annotation
6133.56	6133.56	KOP Build 20.00°/100, TFO 90
6420.00	6578.61	EOC Hold 89.01° 90° AZ
6459.02	8837.42	Turn 2.00°/100° TFO 90.07
6465.70	9223.46	EOT Hold 89.01° INC 97.72° AZ

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	6000.00	0.00	0.00	6000.00	0.00	0.00	0.00	0.00	0.00	
2	6133.56	0.00	0.00	6133.56	0.00	0.00	0.00	0.00	0.00	
3	6578.61	89.01	90.00	6420.00	0.00	281.53	28.00	90.00	281.03	TP#1[LW30FedCom#2H]
4	8837.42	89.01	90.00	6459.02	0.00	2540.00	0.00	0.00	2535.47	TP#1[LW30FedCom#2H]
5	9223.46	89.01	97.72	6465.70	-25.97	2924.84	2.00	90.07	2921.17	
6	11208.74	89.01	97.72	6500.00	-282.70	4891.60	0.00	0.00	4900.55	PBHL#1[LW30FedCom#2H]





## **RSC Resources Limited Partnership**

Lucky Wolf "30" Federal Com # 2H  
2310' FSL & 100' FWL, Unit L  
Sec. 30, T16S, R28E, Eddy Co., NM

### **Status of Wells in Section 30**

Operator: Three Span Oil and Gas  
Well Name: Crow Flat Fed Com Unit 1  
Unit Letter: K  
Status: Pumping  
Pool: Dog Canyon; Wolfcamp

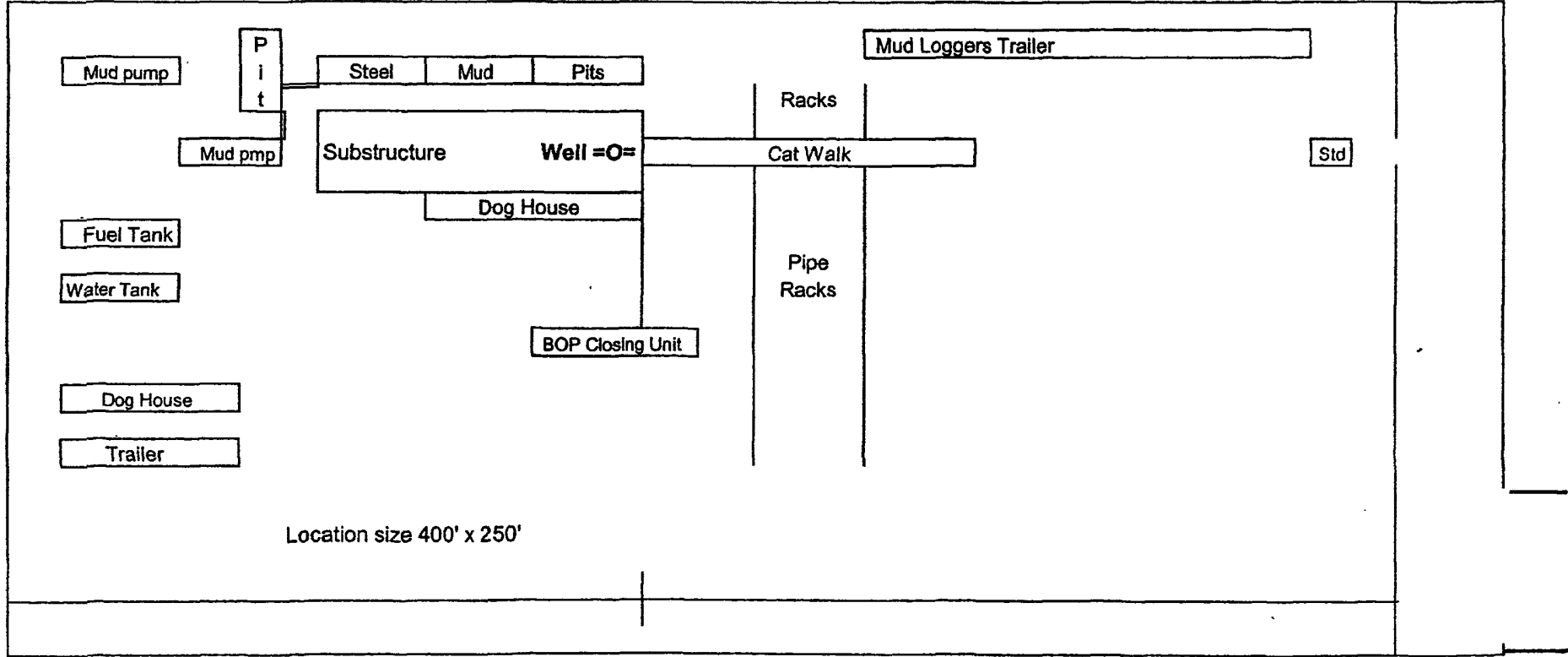
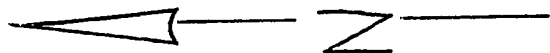
Operator: Three Span Oil and Gas  
Well Name: Crow Flat "A" Fed Com 1  
Unit Letter: H  
Status: Pumping  
Pool: Dog Canyon; Wolfcamp

Operator: COG Operating, LLC  
Well Name: Donner Federal 2  
Unit Letter: G  
Status: Pumping  
Pool: Dog Canyon; Wolfcamp

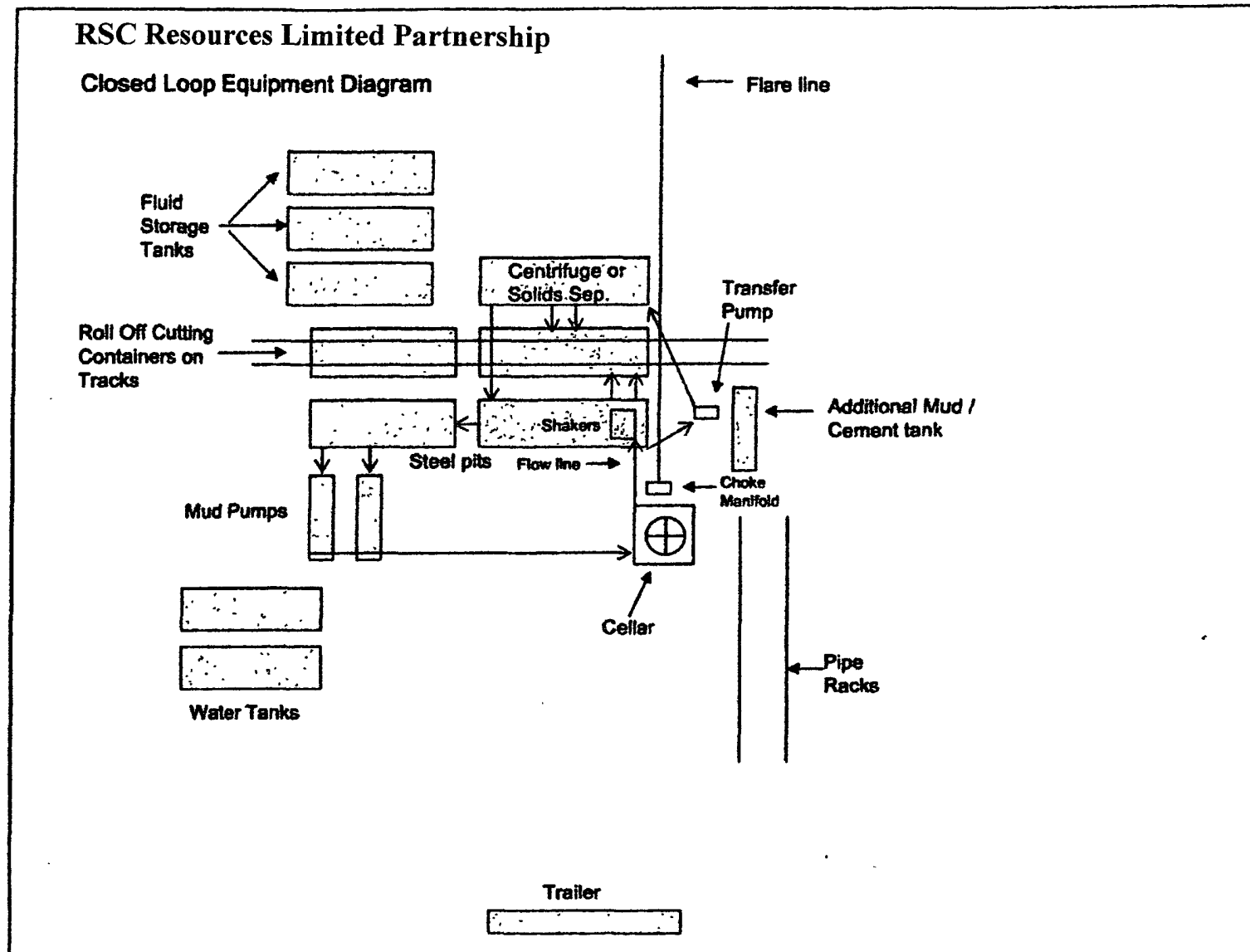
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**RSC Resources Limited Partnership**

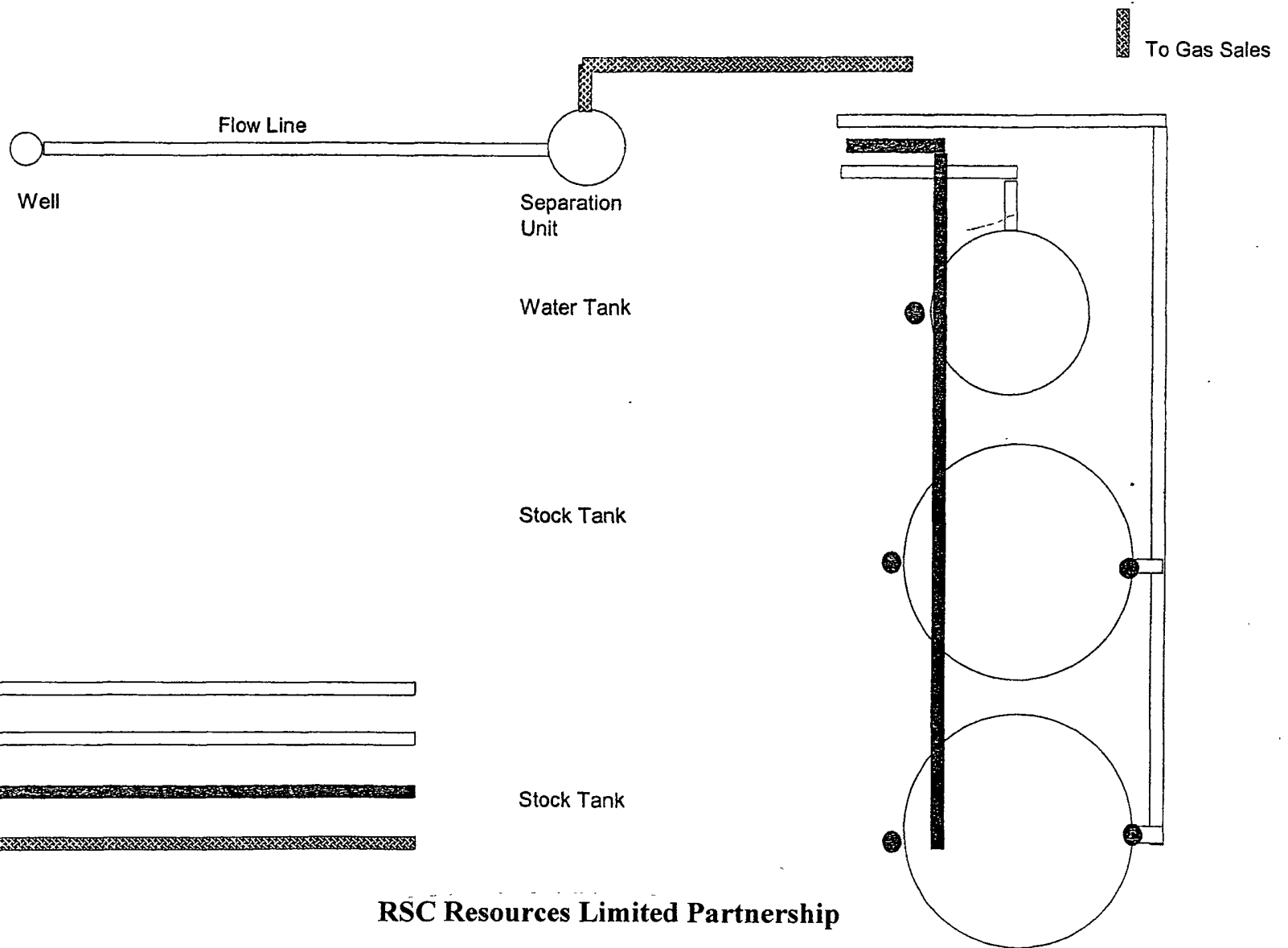
Lucky Wolf "30" Federal Com # 2H  
2310' FSL & 100' FWL  
Sec. 30, T16S, R28E, Eddy Co., NM



Rig Location Schematic



# Proposed Production Facilities Schematic



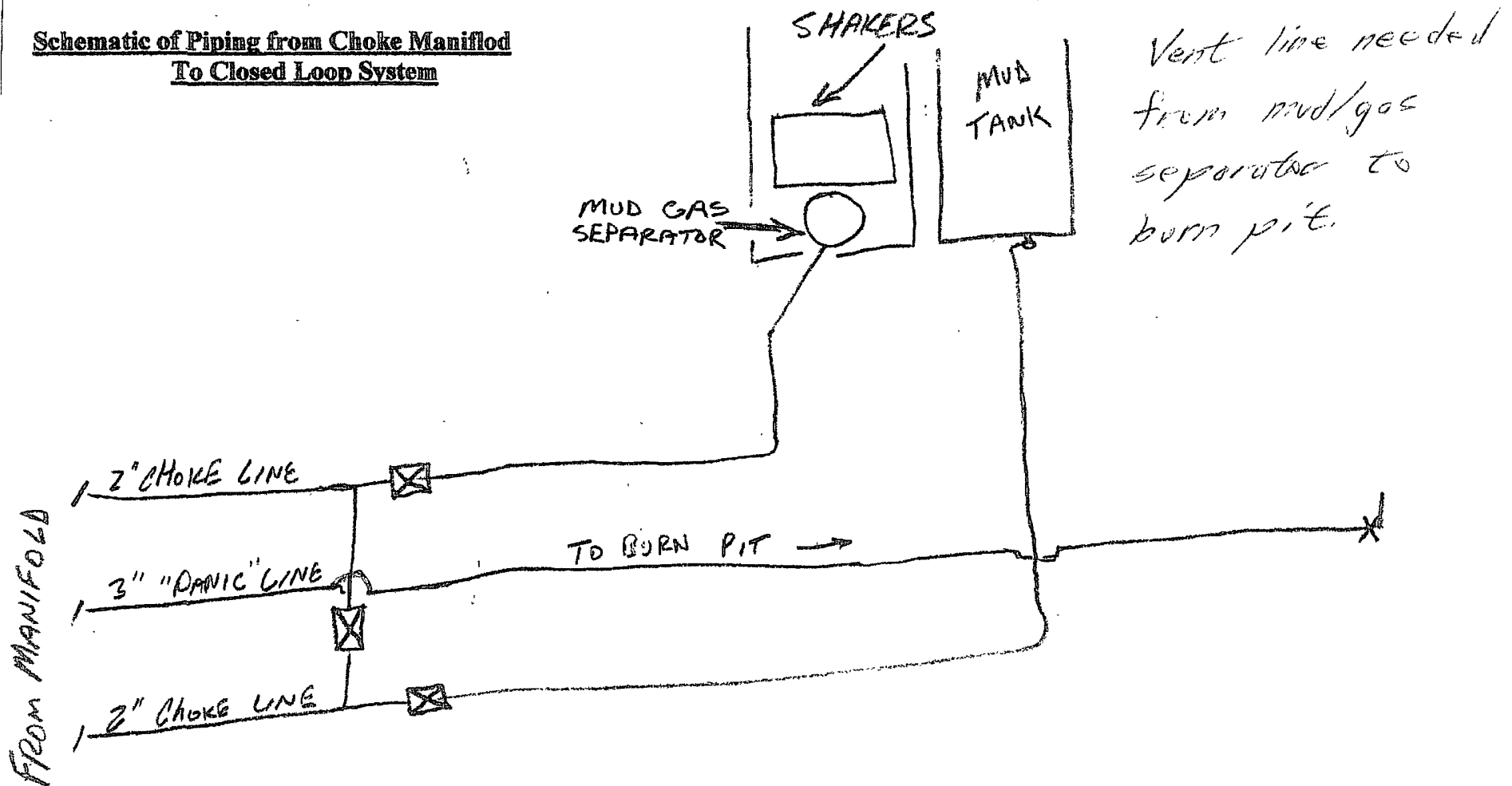
## RSC Resources Limited Partnership

Lucky Wolf "30" Federal Com # 2H  
 2310' FSL & 100' FWL  
 Sec. 30, T16S, R28E, Eddy Co., NM

RSC Resources Limited Partnership

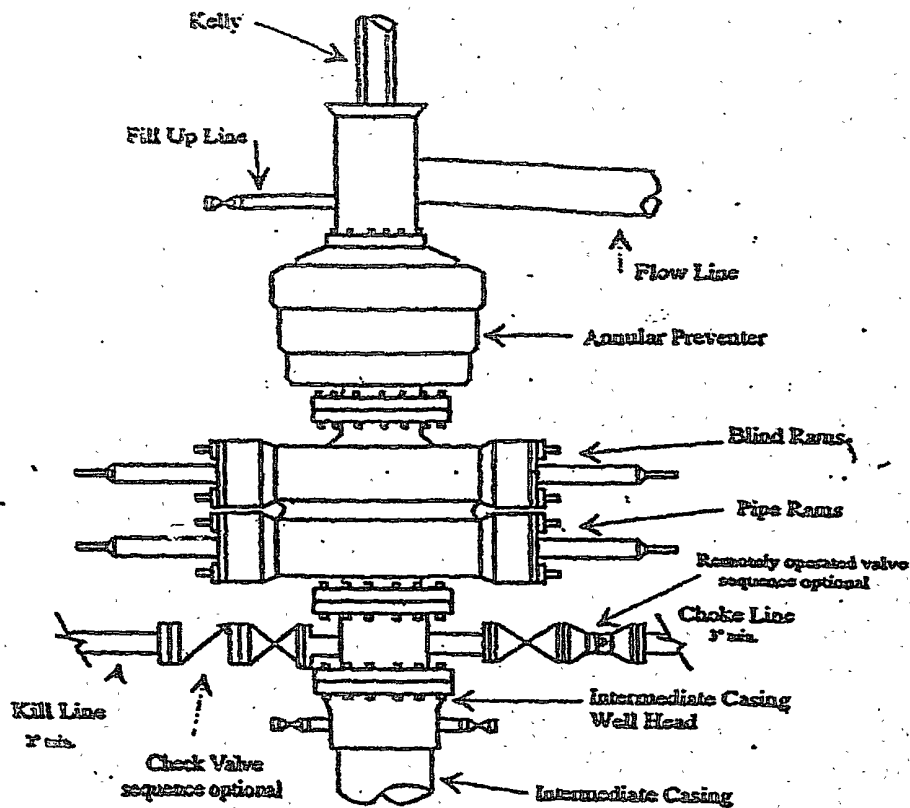
Lucky Wolf "30" Federal Com # 2H  
2310' FSL & 100' FWL, Unit L  
Sec. 30, T16S, R28E, Eddy Co., NM

Schematic of Piping from Choke Manifold  
To Closed Loop System

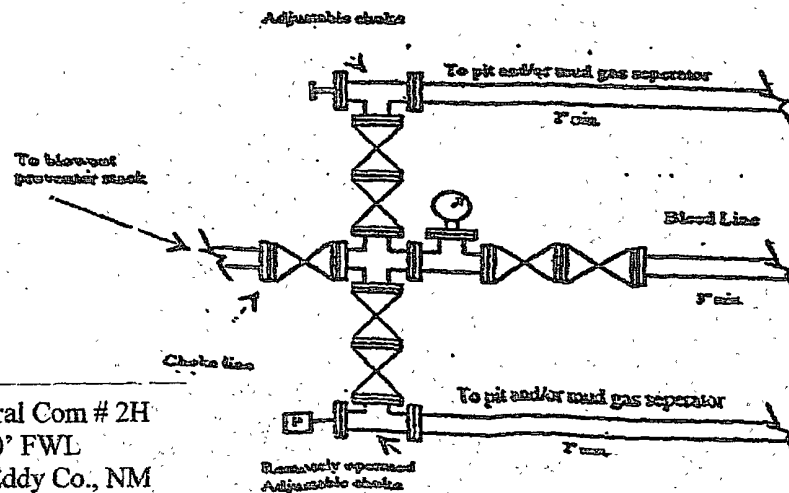




Typical 3,000 psi Pressure System  
Schematic  
Annular with Double Ram Preventer Stack



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



Lucky Wolf "30" Federal Com # 2H  
2310' FSL & 100' FWL  
Sec. 30, T16S, R28E, Eddy Co., NM

### **Notes Regarding Blowout Preventer**

Lucky Wolf "30" Federal Com # 2H  
2310' FSL & 100' FWL  
Sec. 30, T16S, R28E, Eddy Co., NM

- I. Drilling nipple (bell nipple) to be constructed so that it can be removed without the use of a welder through the opening of the rotary table, with minimum internal diameter equal to blowout preventer bore.
- II. Blowout preventer and all fittings must be in good condition with a minimum 5000 PSI working pressure.
- III. Safety valve must be available on the rig floor at all times with proper connections to install in the drill string. Valve must be full bore with minimum 5000 PSI working pressure.
- IV. Equipment through which bit must pass shall be at least as large as internal diameter of the casing.
- V. A kelly cock shall be installed on the kelly at all times.

Blowout preventer closing equipment to include and accumulator of at least 40 gallon capacity, two independent sources of pressure on closing unit, and meet all other API specifications.

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**RSC Resources Limited Partnership**

**HYDROGEN SULFIDE DRILLING OPERATIONS PLAN**

**I. HYDROGEN SULFIDE TRAINING**

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- A. The hazards and characteristics of hydrogen sulfide (H<sub>2</sub>S).
- B. The proper use and maintenance of personal protective equipment and life support systems.
- C. The proper use of H<sub>2</sub>S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- D. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- A. The effects of H<sub>2</sub>S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- B. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- C. The contents and requirements of the H<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.



## **II. H<sub>2</sub>S SAFETY EQUIPMENT AND SYSTEMS**

Note: All H<sub>2</sub>S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H<sub>2</sub>S.

### **A. Well Control Equipment:**

Flare line.

Choke manifold.

Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

### **B. Protective equipment for essential personnel:**

Mark II Surviveair 30-minute units located in the dog house and at briefing areas.

### **C. H<sub>2</sub>S detection and monitoring equipment:**

2 - portable H<sub>2</sub>S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H<sub>2</sub>S levels of 20 ppm are reached.

### **D. Visual warning systems:**

Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

E. Mud Program:

The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to the surface.

F. Metallurgy:

All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H<sub>2</sub>S service.

G. Communication:

Company vehicles equipped with cellular telephone and 2-way radio.

# **W A R N I N G**

**YOU ARE ENTERING AN H<sub>2</sub>S AREA  
AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED**
- 2. HARD HATS REQUIRED**
- 3. SMOKING IN DESIGNATED AREAS ONLY**
- 4. BE WIND CONSCIOUS AT ALL TIMES**
- 5. CK WITH RSC RESOURCES, L.P. MAIN OFFICE**

**RSC Resources Limited Partnership**

**1-432-553-1849**

## **Emergency Phone Numbers**

<b>Eddy County Sheriff's Office</b>	<b>575-746-9888</b>
<b>Ambulance Service</b>	<b>911 or 575-746-5051</b>
<b>Artesia Fire Dept</b>	<b>911 or 575-746-5051</b>
<b>Loco Hills Volunteer Fire Dept.</b>	<b>911 or 575-677-3266</b>
<b>Closest Medical Facility</b>	<b>Artesia General Hospital 575-748-3333</b>
<b>New Mexico State Police</b>	<b>575-746-2703</b>

## **Surface Use and Operations Plan**

**RSC Resources Limited Partnership**

**Lucky Wolf "30" Federal Com # 2H**

**2310' FSL & 100' FWL**

**Sec. 30, T16s, R28E, Eddy Co., NM**

### **Located**

**Approximately 12 miles NE of Artesia, New Mexico.**

### **Oil & Gas Lease**

**NMMN 054856 Bottom Hole, (NM 012110 Surface)**

### **Bond Coverage**

**NM 437**

### **Pool**

**Dog Canyon: Wolfcamp**

### **Oil & Gas Record Lessee & Operating Rights**

**Various**

### **Surface & Mineral Owner**

**Bureau of Land Management**

### **Grazing Tenant**

**Bogle Ltd Co. LLC, P.O. Box 460, Dexter, NM 88230 (575) 433-3500**

### **Exhibits Included**

**C-102 Well Location & Acreage Dedication Plat**

**Detailed Survey of Location, pad, and Access Road**

**Topographic & Location Verification Map**

**Vicinity Oil & Gas Map**

**Drilling Rig Layout**

**Production Facilities Layout**

**BOP& Choke Manifold Schematic**

**List of Wells in Section 30-16S-28E**

## **Existing Roads**

**The Survey Plat exhibits show the location of the proposed well as staked and existing roads in the vicinity of the proposed well site.**

**From Artesia, go east on U.S. Hwy 285 for 9.5 miles, turn north on County Rd #202(Southern Union Rd) for 2.8 miles, northeast on CR #202 for 1.3 miles, turn northwest for 0.1 mile, turn north on lease road for 2.0 miles, turn west on lease road for 0.4 miles, turn north on proposed road 0.1 mile to location. The lease road will require some conditioning.**

**Mr. Barry Hunt has done a field inspection on 1/6/09.**

## **Access Roads**

### **Length and Width**

**Proposed access road is 637' long and 20' wide.**

### **Surface Material**

**Six inches of caliche and water, compacted and graded.**

### **Maximum Grade**

**Less than three percent**

### **Turnouts**

**None needed**

### **Drainage Design**

**N/A**

### **Culverts**

**None needed**

### **Gates and Cattle Guards**

**None required**

## **Location of Existing Wells**

**The locations of existing wells in Section 30 are shown as an exhibit.**

## **Location of Existing and/or Proposed Facilities**

**Necessary production facilities for this well will be located on the well pad.**

## **Location and Type of Water Supply**

**It is planned to drill the proposed well with a cut-brine water system or with produced water. The water will be obtained from either a private water well owner or a commercial source and will either be piped to location from a nearby water well or will be hauled to location by truck over existing and proposed lease roads.**

## **Source of Construction Materials**

**Caliche required for the construction of the location pad and access road will be obtained from caliche on the location or from the nearest BLM-approved pit.**

## **Methods of Handling Waste Disposal**

**All drilling fluid will be circulated over shaker(s) with cuttings discharged into roll off container.**

**Fluid and fines below shaker(s) will be circulated with transfer pump through centrifuge(s) or solids separator with cuttings and fines discharged into roll off container.**

**Fluid will be continuously re-circulated through equipment with polymer added to aid separation of cutting fines.**

**Roll-off containers will be lined and de-watered with fluids re-circulated into system.**

**Additional tank will be used to capture unused drilling fluid or cement returns from casing jobs.**

**This equipment will be maintained 24 hours/day by solids control personnel and/or rig crews that stay on location.**

**Cutting will be hauled to one of the following, depending on which rig is available to drill well:**

**CRI (permit number R9166)  
or  
GMI (permit number 711-019-001)**

## **Ancillary Facilities**

**None Required**

## **Well Site Layout**

**A well site plat shows the relative location and dimensions of the well pad, mud pits, and trash pit, and the location of major rig components. The Vee-door will be to the south and the steel pits located to the east.**

**The ground surface at the drilling location will require up to 4' cut and fill.**

**A Closed-Loop Mud System will be used.**

**The pad area has been staked and flagged.**

## **Plans for Restoration of the Surface**

**After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleared of all trash and junk to leave the site in an as aesthetically pleasing condition as possible.**

**Any unguarded pits containing fluids will be fenced until they are filled.**

**If the proposed well is non productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management and the United States Geological Survey will be complied with and will be accomplished as expeditiously as possible.**

## **Other Information**

### **Topography**

**The land surface at the well site is small rolling hills, foamy soil shallow to caliche and raw Gypsum.**

### **Soil**

**The topsoil at the well site is caliche.**

## **Flora and Fauna**

**The vegetation consists of creosote, mesquite, acacia, yucca, prickly pear, Mormon tea, pencil cholla and various grasses. Wildlife in the area is sparse, consisting of coyotes, rabbits, rodents, reptiles, dove and quail.**

## **Ponds and Streams**

**There are no rivers, lakes, ponds, or streams in the area.**

## **Residences and Other Structures**

**There are no residences within one mile of the proposed well site.**

## **Archaeological, Historical, and Cultural sites**

**An Archaeological Survey has not been done.**

## **Land Use**

**Grazing**

## **Operator's Representatives**

**Randall Cate**

**6824 Island Circle**

**Midland, TX 79707**

**Cell Phone: (432) 553-1849**

### **CERTIFICATION:**

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions which presently exist: that the statements made in this plan are to the best of my knowledge, true and correct: and that the work associated with the operations proposed herein will be performed by RSC Resources Limited Partnership and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

RSC Resources Limited Partnership

  
\_\_\_\_\_  
Randall Cate, President

Date: 2/9/09



# PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	RSC Resources Limited Partnership
LEASE NO.:	NM54856
WELL NAME & NO.:	2H Lucky Wolf 30 Fed Com
SURFACE HOLE FOOTAGE:	2310' FSL & 100' FWL
BOTTOM HOLE FOOTAGE	1980' FSL & 330' FEL
LOCATION:	Section 30, T. 16 S., R28 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
  - Communitization Agreement
- ☐ **Construction**
  - Notification
  - Topsoil
  - Reserve Pit
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
  - High cave/karst requirements
  - Contingency casing program
  - Manifold piping diagram changes
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
- ☐ **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**

- \*\* Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

#### **Cave/Karst Surface Mitigation**

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

##### **Construction:**

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

##### **No Blasting:**

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

##### **Pad Berming:**

The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. Due to cave entrances located downslope from the project location, the North, West, and South sides of the pad will be bermed.

##### **Tank Battery Liners and Berms:**

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

##### **Leak Detection System:**

A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating valves and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

##### **Automatic Shut-off Systems:**

Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

#### **Cave/Karst Subsurface Mitigation**

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

##### **Rotary Drilling with Fresh Water:**

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

**Lost Circulation:**

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

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

**Abandonment Cementing:**

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

**Pressure Testing:**

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

**Communitization Agreement**

**A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales. Operator to supply NMOCD order or description of pool which details the vertical and horizontal extent of pool to verify that requested communitization is within an approved and established pool.**

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

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

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

### **B. TOPSOIL**

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 4 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

### **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 (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**

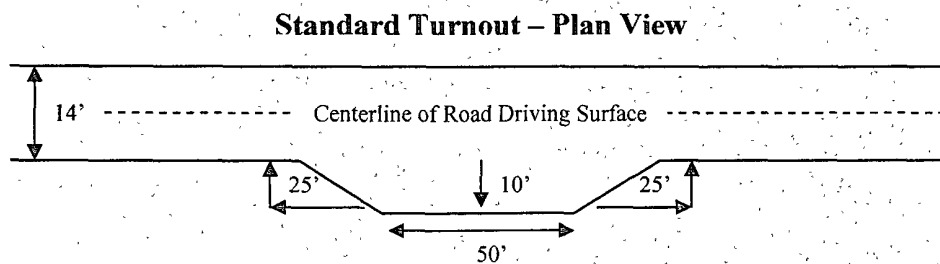
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### **Ditching**

Ditching shall be required on both sides of the road.

### **Turnouts**

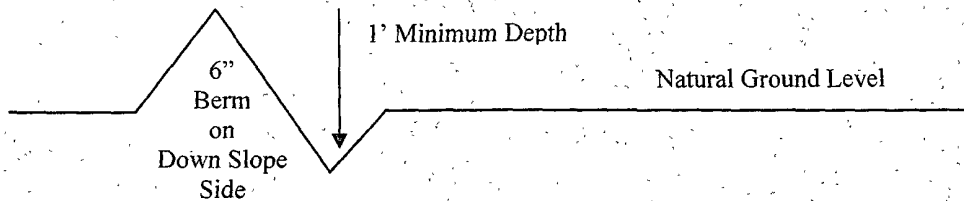
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



**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.

**Cross Section of a Typical Lead-off Ditch**

All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

**Formula for Spacing Interval of Lead-off Ditches**

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

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

**Culvert Installations**

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

**Cattleguards**

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

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

**Fence Requirement**

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

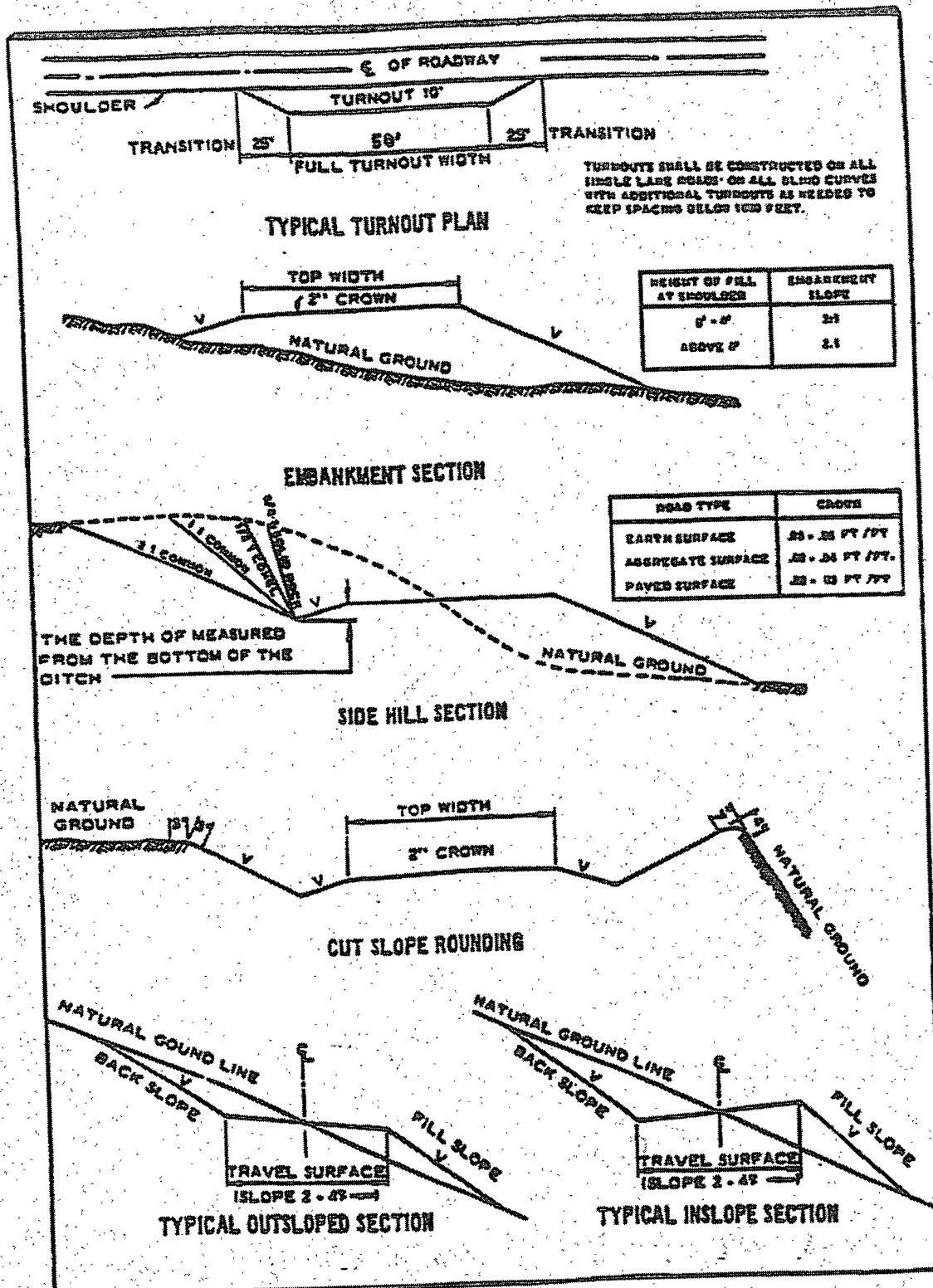
The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

**Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.



Figure 1 – Cross Sections and Plans For Typical Road Sections



## VII. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

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(575) 361-2822

1. **Although there are no measured amounts of Hydrogen Sulfide reported, it is always a potential hazard. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

### 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.**

**High cave/karst.**

**Possible lost circulation in the Grayburg and San Andres formations.**

**Possible high pressure gas bursts in the Wolfcamp formation.**

1. The 13-3/8 inch surface casing shall be set at approximately 500 feet in the Tansill formation 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 is to include the lead cement slurry. This will not be applicable if the proposed cement program is used.**
  - 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.

**NOTE: Fresh water mud to be used to a depth of 1800 feet.**

2. The minimum required fill of cement behind the 7 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 concerns. If lost circulation occurs while drilling the wellbore for this segment, the BLM is to be contacted prior to running the 7" casing as high cave/karst area requires two casing strings with cement across the cave segment. This cement sheath should be solid, which could require installing a DV tool.**
3. The minimum required fill of cement behind the 4-1/2 inch production liner is:
  - ☒ Cement not required. Operator using packer assembly.

## CONTINGENCY CASING PROGRAM

**Fresh water mud to be used to setting of 9-5/8" casing.**

4. 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 concerns.**

**If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface. Wait on cement (WOC) time for a primary cement job on the production casing will then include the lead cement slurry due to cave/karst concerns.**

5. The minimum required fill of cement behind the 7 inch production casing is:

- ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

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

- ☒ Cement not required. Operator using packer assembly.

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

#### **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.

#### **E. DRILL STEM TEST**

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

**WWI 040409**

## **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

## **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.

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.

#### Seed Mixture 4, for Gypsum Sites

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

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

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

<u>Species</u>	<u>lb/acre</u>
Alkali Sacaton ( <i>Sporobolus airoides</i> )	1.0
DWS Four-wing saltbush ( <i>Atriplex canescens</i> )	5.0

DWS: DeWinged Seed

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed  
(Insert Seed Mixture Here)



## **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.