11-1043

Re operator

BH NM02952B; SH NM89057

JN 9/20

OCD Artesia

R-111-POTASH

Form 3160-3
(April 2004)

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007 12-3

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☑ DRILL ☐ REENTER	5 Lease Serial No. ~~02952, 02953~~
	6 If Indian, Allotee or Tribe Name
	7 If Unit or CA Agreement, Name and No. **James Ranch NMNM 70965X**
1b. Type of Well. ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. **James Ranch Unit #139H** [306467]
2 Name of Operator **BOPCO, L. P.** 260737	9 API Well No. 30-015-39793
3a Address **P. O. Box 2760 Midland, TX 79702** / 3b Phone No. (include area code) **432-683-2277**	10 Field and Pool, or Exploratory **Quahada Ridge, SE (Delaware)** [50443]
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface NESW ~~SWNE~~, UL K, 2365' FSL, 2050' FWL, Lat:N32.362247, Long:W103.835789 At proposed prod. zone **660' FSL, 330' FWL, Sec 27,T22S,R30E,Lat:N32.357636,Lg:W103.876042**	11 Sec ,T R M or Blk and Survey or Area **Sec 25, T22S, R30E Mer NMP**
14 Distance in miles and direction from nearest town or post office* **22 miles southeast of Malaga**	12 County or Parish **Eddy** / 13 State **NM**

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) **2050'**	16 No. of acres in lease **5121.84**	17 Spacing Unit dedicated to this well **320**
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft **70'**	19. Proposed Depth **20,323' MD, 7,300' TVD**	20 BLM/BIA Bond No. on file **COB 000050**
21 Elevations (Show whether DF, KDB, RT, GL, etc.) **3,343' GL**	22 Approximate date work will start* **11/01/2011**	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:

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

25 Signature /Jeremy Braden/	Name (Printed/Typed) **Jeremy Braden**	Date 9-19-11
Title **Engineering Assistant**		
Approved by (Signature) /s/ Timothy M. Murphy	Name (Printed/Typed) /s/ Timothy M. Murphy	Date **DEC 13 2011**
Title **STATE DIRECTOR**	Office **NM STATE OFFICE**	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to 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)

CARLSBAD CONTROLLED WATER BASIN

RECEIVED
DEC 20 2011
NMOCD ARTESIA

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 July 16, 2010

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-39793	50443	Quahada Ridge, SE (Delaware)

Property Code	Property Name	Well Number
306407	JAMES RANCH UNIT	139H

OGRID No.	Operator Name	Elevation
260737	BOPCO, L.P.	3343'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	25	22 S	30 E		2365	SOUTH	2050	WEST	EDDY

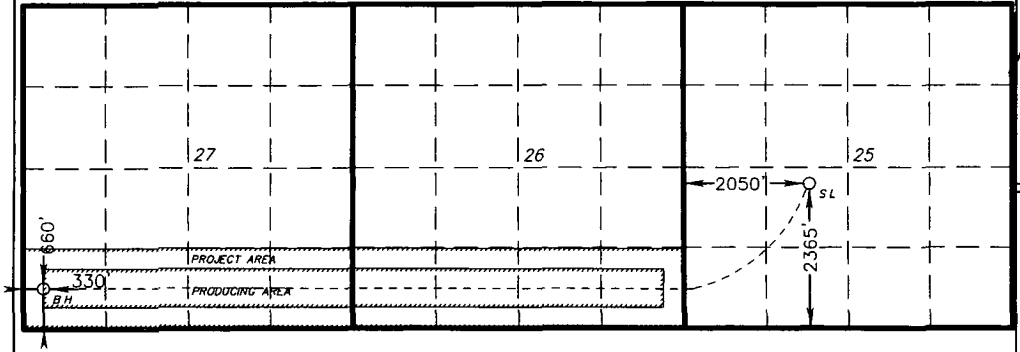
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	27	22 S	30 E		660	SOUTH	330	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

Delaware Entry Point
Lat-32° 21' 44.09"
Long-103° 50' 08.84"
NMSPCE - N 495858.060
E 653627.323
(NAD -27)



PROPOSED BOTTOM HOLE LOCATION
Lat - N 32°21'27.49"
Long - W 103°52'33.75"
NMSPCE- N 494125.092
E 641205.777
(NAD-27)

SURFACE LOCATION
DELAWARE PP
Lat - N 32°21'44.09"
Long - W 103°50'08.84"
NMSPCE- N 495858.060
E 653627.323
(NAD-27)

SCALE 1"-3000'

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.

Jeremy Braden 9-19-11
Signature Date

Jeremy Braden
Printed Name

JDBraden@basspet.com
Email Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

SEPTEMBER 15, 2011
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

NM PROFESSIONAL 25272

Certificate No. Gary L. Jones 7977

BASIN SURVEYS 25272

EIGHT POINT DRILLING PROGRAM
BOPCO, L.P.

NAME OF WELL: James Ranch Unit 139H
LEGAL DESCRIPTION - SURFACE: 2365' FSL, 2050' FWL, Section 25, T22S, R30E, Eddy County, NM.
BHL: 660' FSL, 330' FWL, Section 27, T22S, R30E, Eddy County, New Mexico.

POINT 1: ESTIMATED FORMATION TOPS(See No. 2 Below)

POINT 2: WATER, OIL, GAS AND/OR MINERAL BEARING FORMATIONS

Anticipated Formation Tops: KB 3365' (estimated)
GL 3343'

FORMATION	ESTIMATED TOP FROM KB TVD	MD	ESTIMATED SUB-SEA TOP	BEARING
T/Fresh Water	155'	155'	+ 3,210'	Fresh Water
T/Rustler	368'	368'	+ 2,997'	Barren
T/Salt	761'	761'	+ 2,604'	Barren
B/Salt	3,568'	3,568'	- 203'	Barren
T/Lamar	3,812'	3,812'	- 447'	Barren
T/Ramsey	3,848'	3,848'	- 483'	Oil/Gas
T/Lower Cherry Canyon	6,002'	6,002'	- 2,637'	Oil/Gas
KOP	6,863'	6,863'	- 3,498'	Oil/Gas
LBC Lo "U"	7,294'	7,401'	- 3,929'	Oil/Gas
EOC	7,340'	7,612'	- 3,975'	Oil/Gas
Target #1	7,340'	10,283'	- 3,975'	Oil/Gas
TD Horizontal Hole	7,300'	20,323'	- 3,935'	Oil/Gas

POINT 3: CASING PROGRAM

TYPE	INTERVALS (MD)	Hole Size	PURPOSE	CONDITION
20"	0'- 60'	24"	Conductor	Contractor Discretion
13-3/8", 48#, H-40, or 54.5#, J-55 8rd, ST&C*	0' - 751'	17-1/2"	Surface	New
9-5/8", 40#, N-80, 8rd, LT&C	0' - 3832'	12-1/4"	Intermediate	New
7", 26#, N-80, Buttress or 8rd LTC*	0' - 10,283'	8-3/4"	Production	New
Completion System				
4-1/2", 11.6#, HCP-110 8rd. LT&C*	10,233' – 20,323'	6-1/8"	Completion System	New
4-1/2", 11.6#, N-80, 8rd, LT&C*	10,233' – 20,323'	6-1/8"	Completion System	New

CASING DESIGN SAFETY FACTORS:

TYPE	TENSION	COLLAPSE	BURST
13-3/8", 48#, H-40, 8rd, ST&C*	10.33	1.99	4.13
13-3/8", 54.5#, J-55, 8rd, STC*	24.25	3.10	6.51
9-5/8", 40#, N-80, 8rd, LT&C	5.70	1.41	2.69
7", 26#, N-80, Buttress*	3.67	1.37	1.77
7", 26#, N-80, 8rd, LTC*	3.15	1.32	1.77
Completion System			
4-1/2", 11.6#, HCP-110 8rd. LT&C*	3.82	2.23	2.62
4-1/2", 11.6#, N-80, 8rd, LT&C*	3.05	1.54	1.91

*** Depending on availability.**

DESIGN CRITERIA AND CASING LOADING ASSUMPTIONS:

SURFACE CASING - (13-3/8")

Tension — A 1.6 design factor utilizing the effects of buoyancy (9.2 ppg).

Collapse — A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.

Burst — A 1.3 design factor with a surface pressure equal to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure a that depth. Backup pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient. The effects of tension on burst will not be utilized.

PROTECTIVE CASING - (9-5/8")

Tension — A 1.6 design factor utilizing the effects of buoyancy (10 ppg).

Collapse — A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered.

In the case of development drilling, collapse design should be analyzed using internal evacuation equal to 1/3 the proposed total depth of the well. This criterion will be used when there is absolutely no potential of the protective string being used as a production casing string.

Burst — A 1.0 surface design factor and a 1.3 downhole design factor with a surface pressure equivalent to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure at that depth. Back pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient.

Production - (7")

Tension — A 1.6 design factor utilizing the effects of buoyancy (9.0 ppg).

Collapse — A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.

Burst — A 1.25 design factor with anticipated maximum tubing pressure (5000 psig) on top of the maximum anticipated packer fluid gradient. (0.433 psi/ft) Backup on production strings will be formation pore pressure. (0.433 psi/ft) The effects of tension on burst will not be utilized.

Completion System - (4-1/2")

Tension — A 1.6 design factor utilizing the effects of buoyancy (9.0 ppg).

Collapse — A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.

Burst — A 1.25 design factor with anticipated maximum tubing pressure (5000 psig) on top of the maximum anticipated packer fluid gradient. (0.433 psi/ft) Backup on production strings will be formation pore pressure. (0.433 psi/ft) The effects of tension on burst will not be utilized.

POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED DIAGRAM 1)

The BOPE when rigged up on the 13-3/8" surface casing head (12-1/4" open hole) will consist of 13-5/8" X 5,000 psi dual ram BOP's with mud cross, choke manifold, chokes, and hydril per Diagram 1 (5,000 psi WP). The pipe and blind rams, choke, kill lines, kelly cocks, inside BOP, etc. when installed on the surface casing head will be hydro-tested to 250-300 psig and 2000 psig by independent tester. The hydril when installed on surface casing head will be tested to 1000 psi.

The BOPE when rigged up on the 9-5/8" intermediate casing spool (8-3/4" open hole) will consist of 13-5/8" x 5,000 psi annular, 13-5/8" x 5,000 psi pipe & blind rams with mud cross, choke manifold and chokes as in Diagram 1. The pipe and blind rams, choke, kill lines, kelly cocks inside BOP, etc. will be tested to 3000 psig by independent tester. In addition to the high pressure test, a low pressure (250-300 psig) test will be required. Hydril will be tested to 1500 psig.

The BOPE when rigged up on the 7" intermediate casing spool (6-1/8" open hole) will consist of 13-5/8" x 5,000 psi annular, 13-5/8" x 5,000 psi pipe & blind rams with mud cross choke manifold and chokes as in Diagram 1. The pipe and blind rams, choke, kelly lines, kelly cocks inside BOP, etc. will be tested to 3000 psig by independent tester. In addition to the high pressure test, a low pressure (250-300 psig) test will be required. Hydril will be tested to 1500 psig.

These tests will be performed:

a) Upon installation
b) After any component changes
c) Thirty days after a previous test
d) As required by well conditions

A function test to insure that the preventers are operating correctly will be performed on each trip.

POINT 5: MUD PROGRAM

DEPTH	MUD TYPE	WEIGHT	FV	PV	YP	FL	Ph
0' - 751'	FW Spud Mud	8.5 – 9 2	38-70	NC	NC	NC	10.0
751' - 3,832'	Brine Water	9.8 – 10.2	28-30	NC	NC	NC	9.5 – 10.5
3,832' - 10,283'	FW/Gel	8 7 – 9.0	28-36	NC	NC	NC	9.5 – 10.0
10,283' –20,323'	FW/Gel/Starch	8.7 – 9.0	28-36	NC	NC	<100	9.5 – 10 0

NOTE: May increase vis for logging purposes only.

POINT 6: TECHNICAL STAGES OF OPERATION

A) TESTING

None anticipated.

B) LOGGING See COA

Run #1: GR with MWD during drilling of build and horizontal portions of 8-3/4" and 6-1/8" hole.

Run #2: Shuttle log w/GR, PE, Density, Neutron, Resistivity in lateral leg open hole.

Mud Logger: Rigged up at 100'.

Planned Wellpath Report

Prelim_3

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**BOPCO, L.P.**	Slot	**JRU No.139H SHL**
Area	**Eddy County, NM**	Well	**JRU No.139H**
Field	**JRU NAD27**	Wellbore	**JRU No.139H PWB**
Facility	**(JRU) No.138 & No.139**		

REPORT SETUP INFORMATION			
Projection System	**NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet**	Software System	**WellArchitect® 3.0.0**
North Reference	**Grid**	User	**Gentbry**
Scale	**0.999936**	Report Generated	**9/14/2011 at 3:42:31 PM**
Convergence at slot	**0.27° East**	Database/Source file	**WA Midland/JRU_No.139H_PWB.xml**

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	**East[ft]**	**Easting[US ft]**	**Northing[US ft]**	**Latitude**	**Longitude**
Slot Location	953.20	1131.96	**653627.32**	**495858.06**	32°21'44.091"N	103°50'08.842"W
Facility Reference Pt			**652495.44**	**494904.92**	32°21'34.711"N	103°50'22.090"W
Field Reference Pt			**652495.44**	**494904.92**	32°21'34.711"N	103°50'22.090"W

WELLPATH DATUM			
Calculation method	**Minimum curvature**	Rig on JRU No.139H (KB) to Facility Vertical Datum	**3365.00ft**
Horizontal Reference Pt	**Slot**	Rig on JRU No.139H (KB) to Mean Sea Level	**3365.00ft**
Vertical Reference Pt	**Rig on JRU No.139H (KB)**	Rig on JRU No.139H (KB) to Mud Line at Slot (JRU No.139H SHL)	**3365.00ft**
MD Reference Pt	**Rig on JRU No.139H (KB)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**262.06°**

Planned Wellpath Report

Prelim_3

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	JRU No.139H SHL
Area	Eddy County, NM	Well	JRU No.139H
Field	JRU NAD27	Wellbore	JRU No.139H PWB
Facility	(JRU) No.138 & No.139		

WELLPATH DATA (219 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	210.000	0.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
22.00	0.000	210.000	22.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	Tie On
122.00†	0.000	210.000	122.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
222.00†	0.000	210.000	222.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
322.00†	0.000	210.000	322.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
368.00†	0.000	210.000	368.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	Rustler
422.00†	0.000	210.000	422.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
522.00†	0.000	210.000	522.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
622.00†	0.000	210.000	622.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
722.00†	0.000	210.000	722.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
761.00†	0.000	210.000	761.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	Salt
822.00†	0.000	210.000	822.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
922.00†	0.000	210.000	922.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
1022.00†	0.000	210.000	1022.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
1122.00†	0.000	210.000	1122.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
1222.00†	0.000	210.000	1222.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
1322.00†	0.000	210.000	1322.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
1422.00†	0.000	210.000	1422.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
1522.00†	0.000	210.000	1522.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
1622.00†	0.000	210.000	1622.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
1722.00†	0.000	210.000	1722.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
1822.00†	0.000	210.000	1822.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
1922.00†	0.000	210.000	1922.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
2022.00†	0.000	210.000	2022.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
2122.00†	0.000	210.000	2122.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
2222.00†	0.000	210.000	2222.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
2322.00†	0.000	210.000	2322.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
2422.00†	0.000	210.000	2422.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
2522.00†	0.000	210.000	2522.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
2622.00†	0.000	210.000	2622.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
2722.00†	0.000	210.000	2722.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
2822.00†	0.000	210.000	2822.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
2922.00†	0.000	210.000	2922.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
3022.00†	0.000	210.000	3022.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
3122.00†	0.000	210.000	3122.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
3222.00†	0.000	210.000	3222.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
3322.00†	0.000	210.000	3322.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
3422.00†	0.000	210.000	3422.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
3522.00†	0.000	210.000	3522.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
3568.00†	0.000	210.000	3568.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	Base/Salt
3622.00†	0.000	210.000	3622.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
3722.00†	0.000	210.000	3722.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
3812.00†	0.000	210.000	3812.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	Lamar Lime
3822.00†	0.000	210.000	3822.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
3848.00†	0.000	210.000	3848.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	Ramsey

Planned Wellpath Report

Prelim_3

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**BOPCO, L.P.**	Slot	**JRU No.139H SHL**
Area	**Eddy County, NM**	Well	**JRU No.139H**
Field	**JRU NAD27**	Wellbore	**JRU No.139H PWB**
Facility	**(JRU) No.138 & No.139**		

WELLPATH DATA (219 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3922.00†	0.000	210.000	3922.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
4022.00†	0.000	210.000	4022.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
4122.00†	0.000	210.000	4122.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
4222.00†	0.000	210.000	4222.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
4322.00†	0.000	210.000	4322.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
4422.00†	0.000	210.000	4422.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
4522.00†	0.000	210.000	4522.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
4622.00†	0.000	210.000	4622.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
4722.00†	0.000	210.000	4722.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
4822.00†	0.000	210.000	4822.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
4922.00†	0.000	210.000	4922.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
5022.00†	0.000	210.000	5022.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
5122.00†	0.000	210.000	5122.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
5222.00†	0.000	210.000	5222.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
5322.00†	0.000	210.000	5322.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
5422.00†	0.000	210.000	5422.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
5522.00†	0.000	210.000	5522.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
5622.00†	0.000	210.000	5622.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
5722.00†	0.000	210.000	5722.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
5822.00†	0.000	210.000	5822.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
5922.00†	0.000	210.000	5922.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
6002.00†	0.000	210.000	6002.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	Lower Cherry Canyon
6022.00†	0.000	210.000	6022.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
6122.00†	0.000	210.000	6122.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
6222.00†	0.000	210.000	6222.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
6322.00†	0.000	210.000	6322.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
6422.00†	0.000	210.000	6422.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
6522.00†	0.000	210.000	6522.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
6622.00†	0.000	210.000	6622.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
6722.00†	0.000	210.000	6722.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
6822.00†	0.000	210.000	6822.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	
6863.00	0.000	210.000	6863.00	0.00	0.00	0.00	653627.32	495858.06	32°21'44.091"N	103°50'08.842"W	0.00	Est KOP
6922.00†	7.087	210.000	6921.85	2.24	-3.16	-1.82	653625.50	495854.90	32°21'44.060"N	103°50'08.864"W	12.01	
7022.00†	19.099	210.000	7019.07	16.14	-22.74	-13.13	653614.20	495835.32	32°21'43.867"N	103°50'08.996"W	12.01	
7122.00†	31.110	210.000	7109.46	42.18	-59.41	-34.30	653593.02	495798.65	32°21'43.505"N	103°50'09.245"W	12.01	
7222.00†	43.122	210.000	7189.06	79.22	-111.58	-64.42	653562.91	495746.49	32°21'42.990"N	103°50'09.599"W	12.01	
7322.00†	55.134	210.000	7254.37	125.63	-176.94	-102.16	653525.17	495681.13	32°21'42.345"N	103°50'10.043"W	12.01	
7401.06†	64.631	210.000	7294.00	167.63	-236.10	-136.31	653491.02	495621.97	32°21'41.761"N	103°50'10.444"W	12.01	LBC Lo U
7422.00†	67.145	210.000	7302.55	179.38	-252.65	-145.87	653481.46	495605.43	32°21'41.598"N	103°50'10.556"W	12.01	
7522.00†	79.157	210.000	7331.48	238.12	-335.38	-193.63	653433.70	495522.70	32°21'40.782"N	103°50'11.118"W	12.01	
7612.27	90.000	210.000	7340.00	293.29	-413.09	-238.50	653388.84	495444.99	32°21'40.015"N	103°50'11.645"W	12.01	EOC
7622.00†	90.000	210.000	7340.00	299.27	-421.52	-243.37	653383.97	495436.57	32°21'39.932"N	103°50'11.702"W	0.00	
7722.00†	90.000	210.000	7340.00	360.76	-508.12	-293.37	653333.98	495349.97	32°21'39.077"N	103°50'12.290"W	0.00	
7822.00†	90.000	210.000	7340.00	422.25	-594.73	-343.37	653283.98	495263.37	32°21'38.222"N	103°50'12.877"W	0.00	
7922.00†	90.000	210.000	7340.00	483.73	-681.33	-393.37	653233.98	495176.78	32°21'37.368"N	103°50'13.465"W	0.00	

Planned Wellpath Report

Prelim_3

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**BOPCO, L.P.**	Slot	**JRU No.139H SHL**
Area	**Eddy County, NM**	Well	**JRU No.139H**
Field	**JRU NAD27**	Wellbore	**JRU No.139H PWB**
Facility	**(JRU) No.138 & No.139**		

WELLPATH DATA (219 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8022.00†	90.000	210.000	7340.00	545.22	-767.93	-443.37	653183.99	495090.18	32°21'36.513"N	103°50'14.052"W	0.00	
8112.27	90.000	210.000	7340.00	600.72	-846.11	-488.50	653138.86	495012.01	32°21'35.741"N	103°50'14.583"W	0.00	Hold
8122.00†	90.000	210.389	7340.00	606.73	-854.52	-493.39	653133.96	495003.60	32°21'35.658"N	103°50'14.640"W	4.00	
8222.00†	90.000	214.389	7340.00	671.44	-938.94	-546.95	653080.41	494919.18	32°21'34.826"N	103°50'15.269"W	4.00	
8322.00†	90.000	218.389	7340.00	741.31	-1019.43	-606.26	653021.10	494838.70	32°21'34.032"N	103°50'15.965"W	4.00	
8422.00†	90.000	222.389	7340.00	815.99	-1095.58	-671.05	652956.32	494762.55	32°21'33.281"N	103°50'16.724"W	4.00	
8522.00†	90.000	226.389	7340.00	895.13	-1167.02	-740.99	652886.38	494691.11	32°21'32.578"N	103°50'17.544"W	4.00	
8622.00†	90.000	230.389	7340.00	978.34	-1233.42	-815.74	652811.64	494624.72	32°21'31.924"N	103°50'18.419"W	4.00	
8722.00†	90.000	234.389	7340.00	1065.21	-1294.43	-894.94	652732.44	494563.71	32°21'31.324"N	103°50'19.345"W	4.00	
8822.00†	90.000	238.389	7340.00	1155.33	-1349.78	-978.21	652649.18	494508.37	32°21'30.780"N	103°50'20.319"W	4.00	
8922.00†	90.000	242.389	7340.00	1248.24	-1399.18	-1065.13	652562.26	494458.97	32°21'30.295"N	103°50'21.335"W	4.00	
9022.00†	90.000	246.389	7340.00	1343.51	-1442.39	-1155.28	652472.11	494415.76	32°21'29.872"N	103°50'22.388"W	4.00	
9122.00†	90.000	250.389	7340.00	1440.65	-1479.22	-1248.24	652379.17	494378.94	32°21'29.511"N	103°50'23.474"W	4.00	
9222.00†	90.000	254.389	7340.00	1539.21	-1509.47	-1343.53	652283.88	494348.69	32°21'29.217"N	103°50'24.586"W	4.00	
9322.00†	90.000	258.389	7340.00	1638.70	-1532.99	-1440.70	652186.72	494325.17	32°21'28.988"N	103°50'25.720"W	4.00	
9345.10	90.000	259.313	7340.00	1661.77	-1537.46	-1463.37	652164.05	494320.70	32°21'28.945"N	103°50'25.985"W	4.00	Build
9422.00†	90.000	259.313	7340.00	1738.58	-1551.72	-1538.93	652088.49	494306.44	32°21'28.807"N	103°50'26.866"W	0.00	
9522.00†	90.000	259.313	7340.00	1838.47	-1570.26	-1637.20	651990.23	494287.90	32°21'28.628"N	103°50'28.013"W	0.00	
9622.00†	90.000	259.313	7340.00	1938.35	-1588.81	-1735.46	651891.97	494269.36	32°21'28.449"N	103°50'29.159"W	0.00	
9722.00†	90.000	259.313	7340.00	2038.24	-1607.35	-1833.73	651793.71	494250.81	32°21'28.270"N	103°50'30.306"W	0.00	
9822.00†	90.000	259.313	7340.00	2138.12	-1625.90	-1932.00	651695.46	494232.27	32°21'28.091"N	103°50'31.452"W	0.00	
9922.00†	90.000	259.313	7340.00	2238.01	-1644.44	-2030.26	651597.20	494213.73	32°21'27.912"N	103°50'32.599"W	0.00	
10022.00†	90.000	259.313	7340.00	2337.89	-1662.98	-2128.53	651498.94	494195.19	32°21'27.733"N	103°50'33.745"W	0.00	
10122.00†	90.000	259.313	7340.00	2437.78	-1681.53	-2226.79	651400.68	494176.64	32°21'27.554"N	103°50'34.892"W	0.00	
10222.00†	90.000	259.313	7340.00	2537.66	-1700.07	-2325.06	651302.42	494158.10	32°21'27.375"N	103°50'36.038"W	0.00	
10283.49	90.000	259.313	7340.00	2599.08	-1711.47	-2385.48	651242.00	494146.70	32°21'27.265"N	103°50'36.743"W	0.00	Target #1 / 7" Casing
10322.00†	90.017	260.083	7339.99	2637.56	-1718.36	-2423.37	651204.11	494139.81	32°21'27.199"N	103°50'37.185"W	2.00	
10422.00†	90.060	262.083	7339.93	2737.54	-1733.86	-2522.16	651105.33	494124.32	32°21'27.050"N	103°50'38.338"W	2.00	
10522.00†	90.104	264.082	7339.78	2837.52	-1745.90	-2621.42	651006.07	494112.27	32°21'26.935"N	103°50'39.496"W	2.00	
10622.00†	90.147	266.082	7339.57	2937.37	-1754.47	-2721.05	650906.45	494103.70	32°21'26.855"N	103°50'40.658"W	2.00	
10722.00†	90.190	268.082	7339.27	3036.98	-1759.56	-2820.91	650806.59	494098.61	32°21'26.809"N	103°50'41.822"W	2.00	
10822.00†	90.233	270.081	7338.90	3136.23	-1761.17	-2920.90	650706.62	494097.01	32°21'26.797"N	103°50'42.988"W	2.00	
10826.42	90.235	270.169	7338.89	3140.60	-1761.16	-2925.31	650702.20	494097.02	32°21'26.798"N	103°50'43.039"W	2.00	Build
10922.00†	90.235	270.169	7338.49	3235.23	-1760.88	-3020.89	650606.63	494097.30	32°21'26.805"N	103°50'44.153"W	0.00	
11022.00†	90.235	270.169	7338.08	3334.23	-1760.58	-3120.89	650506.63	494097.60	32°21'26.812"N	103°50'45.319"W	0.00	
11122.00†	90.235	270.169	7337.67	3433.22	-1760.28	-3220.89	650406.64	494097.89	32°21'26.820"N	103°50'46.485"W	0.00	
11222.00†	90.235	270.169	7337.27	3532.22	-1759.99	-3320.89	650306.65	494098.19	32°21'26.827"N	103°50'47.650"W	0.00	
11322.00†	90.235	270.169	7336.86	3631.22	-1759.69	-3420.89	650206.66	494098.48	32°21'26.835"N	103°50'48.816"W	0.00	
11422.00†	90.235	270.169	7336.45	3730.22	-1759.40	-3520.89	650106.67	494098.78	32°21'26.842"N	103°50'49.982"W	0.00	
11522.00†	90.235	270.169	7336.04	3829.22	-1759.10	-3620.89	650006.67	494099.07	32°21'26.849"N	103°50'51.148"W	0.00	
11622.00†	90.235	270.169	7335.63	3928.22	-1758.81	-3720.89	649906.68	494099.37	32°21'26.857"N	103°50'52.313"W	0.00	
11722.00†	90.235	270.169	7335.22	4027.22	-1758.51	-3820.88	649806.69	494099.66	32°21'26.864"N	103°50'53.479"W	0.00	
11822.00†	90.235	270.169	7334.81	4126.21	-1758.22	-3920.88	649706.70	494099.96	32°21'26.872"N	103°50'54.645"W	0.00	
11922.00†	90.235	270.169	7334.40	4225.21	-1757.92	-4020.88	649606.71	494100.26	32°21'26.879"N	103°50'55.810"W	0.00	
12022.00†	90.235	270.169	7333.99	4324.21	-1757.62	-4120.88	649506.71	494100.55	32°21'26.886"N	103°50'56.976"W	0.00	

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	JRU No.139H SHL
Area	Eddy County, NM	Well	JRU No.139H
Field	JRU NAD27	Wellbore	JRU No.139H PWB
Facility	(JRU) No.138 & No.139		

WELLPATH DATA (219 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12122.00†	90.235	270.169	7333.58	4423.21	-1757.33	-4220.88	649406.72	494100.85	32°21'26.894"N	103°50'58.142"W	0.00	
12222.00†	90.235	270.169	7333.17	4522.21	-1757.03	-4320.88	649306.73	494101.14	32°21'26.901"N	103°50'59.307"W	0.00	
12322.00†	90.235	270.169	7332.76	4621.21	-1756.74	-4420.88	649206.74	494101.44	32°21'26.909"N	103°51'00.473"W	0.00	
12422.00†	90.235	270.169	7332.35	4720.21	-1756.44	-4520.88	649106.74	494101.73	32°21'26.916"N	103°51'01.639"W	0.00	
12522.00†	90.235	270.169	7331.94	4819.21	-1756.15	-4620.87	649006.75	494102.03	32°21'26.923"N	103°51'02.805"W	0.00	
12622.00†	90.235	270.169	7331.53	4918.20	-1755.85	-4720.87	648906.76	494102.33	32°21'26.931"N	103°51'03.970"W	0.00	
12722.00†	90.235	270.169	7331.12	5017.20	-1755.55	-4820.87	648806.77	494102.62	32°21'26.938"N	103°51'05.136"W	0.00	
12822.00†	90.235	270.169	7330.71	5116.20	-1755.26	-4920.87	648706.78	494102.92	32°21'26.946"N	103°51'06.302"W	0.00	
12922.00†	90.235	270.169	7330.31	5215.20	-1754.96	-5020.87	648606.78	494103.21	32°21'26.953"N	103°51'07.467"W	0.00	
13022.00†	90.235	270.169	7329.90	5314.20	-1754.67	-5120.87	648506.79	494103.51	32°21'26.960"N	103°51'08.633"W	0.00	
13122.00†	90.235	270.169	7329.49	5413.20	-1754.37	-5220.87	648406.80	494103.80	32°21'26.968"N	103°51'09.799"W	0.00	
13222.00†	90.235	270.169	7329.08	5512.20	-1754.08	-5320.87	648306.81	494104.10	32°21'26.975"N	103°51'10.965"W	0.00	
13322.00†	90.235	270.169	7328.67	5611.20	-1753.78	-5420.86	648206.82	494104.39	32°21'26.982"N	103°51'12.130"W	0.00	
13422.00†	90.235	270.169	7328.26	5710.19	-1753.49	-5520.86	648106.82	494104.69	32°21'26.990"N	103°51'13.296"W	0.00	
13522.00†	90.235	270.169	7327.85	5809.19	-1753.19	-5620.86	648006.83	494104.99	32°21'26.997"N	103°51'14.462"W	0.00	
13622.00†	90.235	270.169	7327.44	5908.19	-1752.89	-5720.86	647906.84	494105.28	32°21'27.004"N	103°51'15.627"W	0.00	
13722.00†	90.235	270.169	7327.03	6007.19	-1752.60	-5820.86	647806.85	494105.58	32°21'27.012"N	103°51'16.793"W	0.00	
13822.00†	90.235	270.169	7326.62	6106.19	-1752.30	-5920.86	647706.86	494105.87	32°21'27.019"N	103°51'17.959"W	0.00	
13922.00†	90.235	270.169	7326.21	6205.19	-1752.01	-6020.86	647606.86	494106.17	32°21'27.026"N	103°51'19.124"W	0.00	
14022.00†	90.235	270.169	7325.80	6304.19	-1751.71	-6120.86	647506.87	494106.46	32°21'27.034"N	103°51'20.290"W	0.00	
14122.00†	90.235	270.169	7325.39	6403.18	-1751.42	-6220.85	647406.88	494106.76	32°21'27.041"N	103°51'21.456"W	0.00	
14222.00†	90.235	270.169	7324.98	6502.18	-1751.12	-6320.85	647306.89	494107.06	32°21'27.048"N	103°51'22.622"W	0.00	
14322.00†	90.235	270.169	7324.57	6601.18	-1750.82	-6420.85	647206.89	494107.35	32°21'27.056"N	103°51'23.787"W	0.00	
14422.00†	90.235	270.169	7324.16	6700.18	-1750.53	-6520.85	647106.90	494107.65	32°21'27.063"N	103°51'24.953"W	0.00	
14522.00†	90.235	270.169	7323.75	6799.18	-1750.23	-6620.85	647006.91	494107.94	32°21'27.070"N	103°51'26.119"W	0.00	
14622.00†	90.235	270.169	7323.34	6898.18	-1749.94	-6720.85	646906.92	494108.24	32°21'27.078"N	103°51'27.284"W	0.00	
14722.00†	90.235	270.169	7322.94	6997.18	-1749.64	-6820.85	646806.93	494108.53	32°21'27.085"N	103°51'28.450"W	0.00	
14822.00†	90.235	270.169	7322.53	7096.18	-1749.35	-6920.85	646706.93	494108.83	32°21'27.092"N	103°51'29.616"W	0.00	
14922.00†	90.235	270.169	7322.12	7195.17	-1749.05	-7020.84	646606.94	494109.12	32°21'27.100"N	103°51'30.782"W	0.00	
15022.00†	90.235	270.169	7321.71	7294.17	-1748.76	-7120.84	646506.95	494109.42	32°21'27.107"N	103°51'31.947"W	0.00	
15122.00†	90.235	270.169	7321.30	7393.17	-1748.46	-7220.84	646406.96	494109.72	32°21'27.114"N	103°51'33.113"W	0.00	
15222.00†	90.235	270.169	7320.89	7492.17	-1748.16	-7320.84	646306.97	494110.01	32°21'27.122"N	103°51'34.279"W	0.00	
15322.00†	90.235	270.169	7320.48	7591.17	-1747.87	-7420.84	646206.97	494110.31	32°21'27.129"N	103°51'35.444"W	0.00	
15422.00†	90.235	270.169	7320.07	7690.17	-1747.57	-7520.84	646106.98	494110.60	32°21'27.136"N	103°51'36.610"W	0.00	
15522.00†	90.235	270.169	7319.66	7789.17	-1747.28	-7620.84	646006.99	494110.90	32°21'27.144"N	103°51'37.776"W	0.00	
15622.00†	90.235	270.169	7319.25	7888.16	-1746.98	-7720.84	645907.00	494111.19	32°21'27.151"N	103°51'38.942"W	0.00	
15722.00†	90.235	270.169	7318.84	7987.16	-1746.69	-7820.83	645807.00	494111.49	32°21'27.158"N	103°51'40.107"W	0.00	
15822.00†	90.235	270.169	7318.43	8086.16	-1746.39	-7920.83	645707.01	494111.78	32°21'27.165"N	103°51'41.273"W	0.00	
15922.00†	90.235	270.169	7318.02	8185.16	-1746.09	-8020.83	645607.02	494112.08	32°21'27.173"N	103°51'42.439"W	0.00	
16022.00†	90.235	270.169	7317.61	8284.16	-1745.80	-8120.83	645507.03	494112.38	32°21'27.180"N	103°51'43.604"W	0.00	
16122.00†	90.235	270.169	7317.20	8383.16	-1745.50	-8220.83	645407.04	494112.67	32°21'27.187"N	103°51'44.770"W	0.00	
16222.00†	90.235	270.169	7316.79	8482.16	-1745.21	-8320.83	645307.04	494112.97	32°21'27.195"N	103°51'45.936"W	0.00	
16322.00†	90.235	270.169	7316.38	8581.16	-1744.91	-8420.83	645207.05	494113.26	32°21'27.202"N	103°51'47.102"W	0.00	
16422.00†	90.235	270.169	7315.97	8680.15	-1744.62	-8520.82	645107.06	494113.56	32°21'27.209"N	103°51'48.267"W	0.00	
16522.00†	90.235	270.169	7315.57	8779.15	-1744.32	-8620.82	645007.07	494113.85	32°21'27.216"N	103°51'49.433"W	0.00	

Planned Wellpath Report

Prelim_3

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**BOPCO, L.P.**	Slot	**JRU No.139H SHL**
Area	**Eddy County, NM**	Well	**JRU No.139H**
Field	**JRU NAD27**	Wellbore	**JRU No.139H PWB**
Facility	**(JRU) No.138 & No.139**		

WELLPATH DATA (219 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16622.00†	90.235	270.169	7315.16	8878.15	-1744.03	-8720.82	644907.08	494114.15	32°21'27.224"N	103°51'50.599"W	0.00	
16722.00†	90.235	270.169	7314.75	8977.15	-1743.73	-8820.82	644807.08	494114.45	32°21'27.231"N	103°51'51.764"W	0.00	
16822.00†	90.235	270.169	7314.34	9076.15	-1743.43	-8920.82	644707.09	494114.74	32°21'27.238"N	103°51'52.930"W	0.00	
16922.00†	90.235	270.169	7313.93	9175.15	-1743.14	-9020.82	644607.10	494115.04	32°21'27.245"N	103°51'54.096"W	0.00	
17022.00†	90.235	270.169	7313.52	9274.15	-1742.84	-9120.82	644507.11	494115.33	32°21'27.253"N	103°51'55.262"W	0.00	
17122.00†	90.235	270.169	7313.11	9373.14	-1742.55	-9220.82	644407.11	494115.63	32°21'27.260"N	103°51'56.427"W	0.00	
17222.00†	90.235	270.169	7312.70	9472.14	-1742.25	-9320.81	644307.12	494115.92	32°21'27.267"N	103°51'57.593"W	0.00	
17322.00†	90.235	270.169	7312.29	9571.14	-1741.96	-9420.81	644207.13	494116.22	32°21'27.274"N	103°51'58.759"W	0.00	
17422.00†	90.235	270.169	7311.88	9670.14	-1741.66	-9520.81	644107.14	494116.51	32°21'27.282"N	103°51'59.924"W	0.00	
17522.00†	90.235	270.169	7311.47	9769.14	-1741.36	-9620.81	644007.15	494116.81	32°21'27.289"N	103°52'01.090"W	0.00	
17622.00†	90.235	270.169	7311.06	9868.14	-1741.07	-9720.81	643907.15	494117.11	32°21'27.296"N	103°52'02.256"W	0.00	
17722.00†	90.235	270.169	7310.65	9967.14	-1740.77	-9820.81	643807.16	494117.40	32°21'27.303"N	103°52'03.421"W	0.00	
17822.00†	90.235	270.169	7310.24	10066.14	-1740.48	-9920.81	643707.17	494117.70	32°21'27.311"N	103°52'04.587"W	0.00	
17922.00†	90.235	270.169	7309.83	10165.13	-1740.18	-10020.81	643607.18	494117.99	32°21'27.318"N	103°52'05.753"W	0.00	
18022.00†	90.235	270.169	7309.42	10264.13	-1739.89	-10120.80	643507.19	494118.29	32°21'27.325"N	103°52'06.919"W	0.00	
18122.00†	90.235	270.169	7309.01	10363.13	-1739.59	-10220.80	643407.19	494118.58	32°21'27.332"N	103°52'08.084"W	0.00	
18222.00†	90.235	270.169	7308.60	10462.13	-1739.30	-10320.80	643307.20	494118.88	32°21'27.339"N	103°52'09.250"W	0.00	
18322.00†	90.235	270.169	7308.20	10561.13	-1739.00	-10420.80	643207.21	494119.18	32°21'27.347"N	103°52'10.416"W	0.00	
18422.00†	90.235	270.169	7307.79	10660.13	-1738.70	-10520.80	643107.22	494119.47	32°21'27.354"N	103°52'11.581"W	0.00	
18522.00†	90.235	270.169	7307.38	10759.13	-1738.41	-10620.80	643007.22	494119.77	32°21'27.361"N	103°52'12.747"W	0.00	
18622.00†	90.235	270.169	7306.97	10858.12	-1738.11	-10720.80	642907.23	494120.06	32°21'27.368"N	103°52'13.913"W	0.00	
18722.00†	90.235	270.169	7306.56	10957.12	-1737.82	-10820.80	642807.24	494120.36	32°21'27.376"N	103°52'15.079"W	0.00	
18822.00†	90.235	270.169	7306.15	11056.12	-1737.52	-10920.79	642707.25	494120.65	32°21'27.383"N	103°52'16.244"W	0.00	
18922.00†	90.235	270.169	7305.74	11155.12	-1737.23	-11020.79	642607.26	494120.95	32°21'27.390"N	103°52'17.410"W	0.00	
19022.00†	90.235	270.169	7305.33	11254.12	-1736.93	-11120.79	642507.26	494121.24	32°21'27.397"N	103°52'18.576"W	0.00	
19122.00†	90.235	270.169	7304.92	11353.12	-1736.63	-11220.79	642407.27	494121.54	32°21'27.404"N	103°52'19.741"W	0.00	
19222.00†	90.235	270.169	7304.51	11452.12	-1736.34	-11320.79	642307.28	494121.84	32°21'27.411"N	103°52'20.907"W	0.00	
19322.00†	90.235	270.169	7304.10	11551.12	-1736.04	-11420.79	642207.29	494122.13	32°21'27.419"N	103°52'22.073"W	0.00	
19422.00†	90.235	270.169	7303.69	11650.11	-1735.75	-11520.79	642107.30	494122.43	32°21'27.426"N	103°52'23.239"W	0.00	
19522.00†	90.235	270.169	7303.28	11749.11	-1735.45	-11620.79	642007.30	494122.72	32°21'27.433"N	103°52'24.404"W	0.00	
19622.00†	90.235	270.169	7302.87	11848.11	-1735.16	-11720.78	641907.31	494123.02	32°21'27.440"N	103°52'25.570"W	0.00	
19722.00†	90.235	270.169	7302.46	11947.11	-1734.86	-11820.78	641807.32	494123.31	32°21'27.447"N	103°52'26.736"W	0.00	
19822.00†	90.235	270.169	7302.05	12046.11	-1734.57	-11920.78	641707.33	494123.61	32°21'27.455"N	103°52'27.901"W	0.00	
19922.00†	90.235	270.169	7301.64	12145.11	-1734.27	-12020.78	641607.33	494123.90	32°21'27.462"N	103°52'29.067"W	0.00	
20022.00†	90.235	270.169	7301.23	12244.11	-1733.97	-12120.78	641507.34	494124.20	32°21'27.469"N	103°52'30.233"W	0.00	
20122.00†	90.235	270.169	7300.83	12343.10	-1733.68	-12220.78	641407.35	494124.50	32°21'27.476"N	103°52'31.399"W	0.00	
20222.00†	90.235	270.169	7300.42	12442.10	-1733.38	-12320.78	641307.36	494124.79	32°21'27.483"N	103°52'32.564"W	0.00	
20322.00†	90.235	270.169	7300.01	12541.10	-1733.09	-12420.78	641207.37	494125.09	32°21'27.490"N	103°52'33.730"W	0.00	
20323.59	90.235	270.169	7300.00[2]	12542.68	-1733.08	-12422.36	641205.78	494125.09	32°21'27.490"N	103°52'33.749"W	0.00	No. 139H PBHL

Planned Wellpath Report

Prelim_3

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**BOPCO, L.P.**	Slot	**JRU No.139H SHL**
Area	**Eddy County, NM**	Well	**JRU No.139H**
Field	**JRU NAD27**	Wellbore	**JRU No.139H PWB**
Facility	**(JRU) No.138 & No.139**		

HOLE & CASING SECTIONS - **Ref Wellbore: JRU No.139H PWB** **Ref Wellpath: Prelim_3**

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
8.75in Open Hole	22.00	10284.00	10262.00	22.00	7340.00	0.00	0.00	-1711.57	-2385.98
7in Casing	22.00	10284.00	10262.00	22.00	7340.00	0.00	0.00	-1711.57	-2385.98

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
2) No.139H PBHL	20323.59	7300.00	-1733.08	-12422.36	**641205.78**	**494125.09**	32°21'27.490"N	103°52'33.749"W	point
1) No.139H Target #1	10283.49	7340.00	-1711.47	-2385.48	**651242.00**	**494146.70**	32°21'27.265"N	103°50'36.743"W	point

SURVEY PROGRAM - **Ref Wellbore: JRU No.139H PWB** **Ref Wellpath: Prelim_3**

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
22.00	20323.59	NaviTrak (Standard)		JRU No.139H PWB

HYDROGEN SULFIDE (H_2S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H_2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H_2S monitors and air packs in order to control the release.**
- **Use the "buddy system" to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the**
  - **Detection of H_2S, and**
  - **Measures for protection against the gas,**
  - **Equipment used for protection and emergency response.**

Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (**SO_2**). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

BOPCO L.P. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New México's "Hazardous Materials Emergency Response Plan" (HMER).

H_2S CONTINGENCY PLAN EMERGENCY CONTACTS

BOPCO L.P. Midland Office 432-683-2277

Key Personnel

Name	Title	Cell Phone Number
Stephen Martinez	Drilling Supt.	432-556-0262
Buddy Jenkins	Assistant Supt.	432-238-3295
Bill Dannels	Engineer	432-638-9463
Brian Hammit	Engineer	432-638-9460
Charles Warne	Engineer	432-894-1392

Ambulance	911
State Police	575-746-2703
City Police	575-746-2703
Sheriff's Office	575-746-9888
Fire Department	575-746-2701
Local Emergency Planning Committee	575-746-2122
New Mexico Oil Conservation Division	575-748-1283

Carlsbad

Ambulance	911
State Police	575-885-3137
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-887-3798
Local Emergency Planning Committee	575-887-6544
US Bureau of Land Management	575-887-6544

New Mexico Emergency Response Commission (Santa Fe)	505-476-9600
24 Hour	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635
National Emergency Response Center (Washington, DC)	800-424-8802

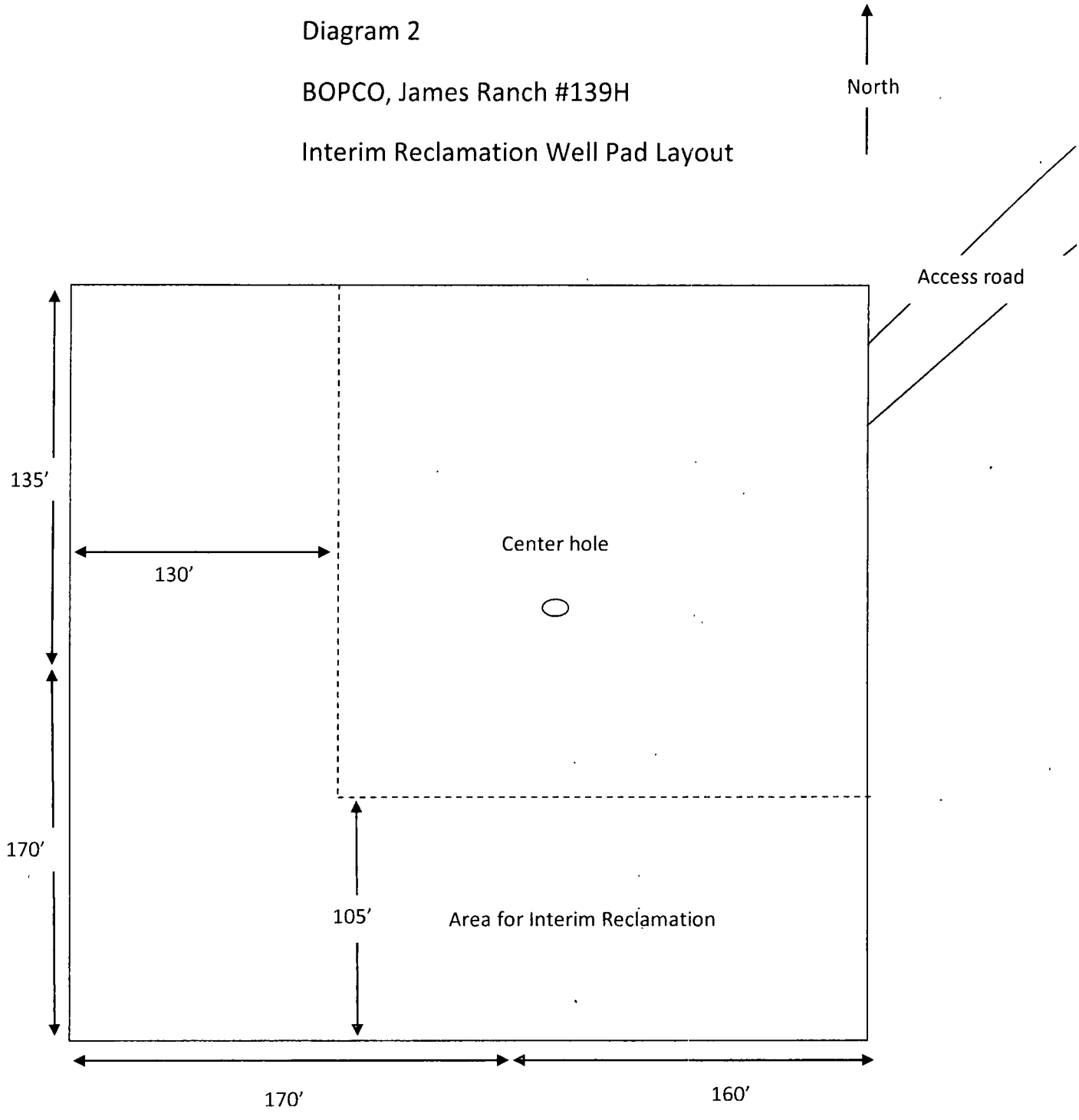
Other

Boots & Coots IWC	800-256-9688 or 281-931-8884
Cudd PressureControl	432-580-3544 or 432-570-5300
Halliburton	575-746-2757
B. J. Services	575-746-3569
Flight For Life – 4000 24th St. Lubbock, Texas	806-743-9911
Aerocare – R3, Box 49F, Lubbock, Texas	806-747-8923
Med Flight Air Amb – 2301 Yale Blvd SE #D3, Albuq., NM	505-842-4433
S B Air Med Service – 2505 Clark Carr Loop SE, Albuq., NM	505-842-4949

Diagram 2

BOPCO, James Ranch #139H

Interim Reclamation Well Pad Layout



BLM On-Site Notes

The Location onsite was conducted on 09/06/2011 by Cecil. Watkins -- BOPCO L.P, Randy-Rust-BLM, and Robert Gomez with Basin Survey. The James Ranch Unit 139H was approved with a surface location at 2,365' FSL & 2050' FWL, Sec 25, T22S-R30E.

MULTI-POINT SURFACE USE PLAN

NAME OF WELL: James Ranch Unit 139H

LEGAL DESCRIPTION - SURFACE: 2365' FSL, 2050' FWL, Section 25, T22S, R30E, Eddy County, NM.
BHL: 660' FSL, 330' FWL, Section 27, T22S, R30E, Eddy County, New Mexico.

POINT 1: EXISTING ROADS

A) Proposed Well Site Location:

See Form C-102 (Survey Plat).

B) Existing Roads:

From the WHIPP Site, go north 1 mile to lease road. Turn onto lease road and travel southwesterly for 1.8 miles to lease road. On lease road go south 0.9 miles to lease road, on lease road go southwesterly for 0.3 miles to lease road. On lease road go north 0.1 miles to proposed location.

C) Existing Road Maintenance or Improvement Plan:

See the Well Pad Layout and Topo Map of the survey plat (Sheet 1 and 2 of plat package)

POINT 2: NEW PLANNED ACCESS ROUTE

A) Route Location:

There will be no new lease road built for this location. (See the Well Pad Layout of the survey plat (Sheet 1 of plat package).

B) Width

14' wide

C) Maximum Grade

Grade to match existing topography or as per BLM requirements.

D) Turnout Ditches

As required by BLM stipulations

E) Culverts, Cattle Guards, and Surfacing Equipment

If required, culverts and cattle guards will be set per BLM Specs.

POINT 3: LOCATION OF EXISTING WELLS

The following wells are located within a one-mile radius of the location site. See the One-Mile Radius Map (Sheet 5 of the plat package).

Existing wells..... (37)
Water wells..... (0)

POINT 4: LOCATION OF EXISTING OR PROPOSED FACILITIES

A) No existing production facilities operated by BOPCO, L.P. are located within one mile of the James Ranch Unit #139H.

B) New Facilities in the Event of Production:

Total production (oil, water, gas) from the JRU 139H will be sent through an above ground 2-7/8" steel flowline to an existing BOPCO, L.P. production facility; JRU 19 battery, T22S, R30E, Sec 36. The flowline will be laid following an existing DCP gas line ROW in the southeasterly direction between the JRU 91 and JRU 31 wells and onto the JRU 19 battery. A rental generator will be set at the JRU 139H for the initial testing. A sundry describing the permanent power line will be submitted at a later date

C) Rehabilitation of Disturbed Areas Unnecessary for Production:

Following the construction, those access areas required for continued production will be graded to provide drainage and minimize erosion. The areas unnecessary for use will be graded to blend in with the surrounding topography (see Point 10)

POINT 5: LOCATION AND TYPE OF WATER SUPPLY

A) Location and Type of Water Supply

Fresh water will be hauled from Johnson Station 50 miles east of Carlsbad, New Mexico or other commercial facilities. Brine water will be hauled from commercial facilities.

B) Water Transportation System

Water hauling to the location will be over the existing and proposed roads.

POINT 6: SOURCE OF CONSTRUCTION MATERIALS

A) Materials

On-site caliche will be used. If this is not sufficient, caliche will be hauled from a BLM approved pit.

B) Land Ownership

Federally Owned

C) Materials Foreign to the Site

No construction materials foreign to this area are anticipated for this drill site

D) Access Roads

See the Well Pad Layout and Aerial Map of the survey plat (Sheet 1 and 4 of plat package)

POINT 7: METHODS FOR HANDLING WASTE MATERIAL

A) Cuttings

Cuttings will be contained in the roll off bins and disposed at Controlled Recovery Inc. located in Lea county, NM.

B) Drilling Fluids

Drilling fluids will be contained in the steel pits, frac tanks and disposed at licensed disposal sites.

C) Produced Fluids

Water production will be contained in the steel pits.

Hydrocarbon fluid or other fluids that may be produced during testing will be retained in test tanks. Prior to cleanup operations, any hydrocarbon material in the reserve pit will be removed by skimming or burning as the situation would dictate.

D) Sewage

Current laws and regulations pertaining to the disposal of human waste will be complied with.

E) Garbage

Portable containers will be utilized for garbage disposal during the drilling of this well.

F) Cleanup of Well Site

Upon release of the drilling rig, the surface of the drilling pad will be graded to accommodate a completion rig if electric log analysis indicate potential productive zones. Reasonable cleanup will be performed prior to the final restoration of the site.

POINT 8: ANCILLARY FACILITIES

None required.

POINT 9: WELL SITE LAYOUT

A) Rig Orientation and Layout

The "Rig Layout Schematic" (Sheet 6 of plat package) shows the dimensions of the well pad, closed loop system, and the location of major rig components. Only minor leveling of the well site will be required. No significant cuts or fills will be necessary.

B) Locations of Access Road

See the Well Pad Layout, Topo Map, and Vicinity Map of the survey plat (Sheet 1, 2, and 3 of plat package)

C) Lining of the Pits

No reserve pits - closed loop system.

POINT 10: PLANS FOR RESTORATION OF THE SURFACE

A) Reserve Pit Cleanup - Not applicable. Closed loop drilling fluid system will be used

The pits will be fenced immediately after construction and shall be maintained until they are backfilled. Previous to backfill operations, any hydrocarbon material on the pits' surfaces shall be removed. The fluids and solids contained in the pits shall be backfilled with soil excavated from the site and soil adjacent to the reserve pits. The restored surface of the pits shall be contoured to prevent impoundment of surface water flow. Water-bars will be constructed as needed to prevent excessive erosion. Topsoil, as available, shall be placed over the restored surface in a uniform layer. The area will be seeded according to the Bureau of Land Management stipulations during the appropriate season following restoration.

B) Restoration Plans - Production Developed

Those areas not required for production will be graded to blend with the surrounding topography. Topsoil, as available, will be placed upon those areas and seeded. The portion of the site required for production will be graded to minimize erosion and provide access during inclement conditions. Following depletion and abandonment of the site, restoration procedures will be those that follow under Item C. See diagram 2 for the proposed interim reclamation plat

C) Restoration Plans - No Production Developed

With no production developed, the entire surface disturbed by construction of the well site will be restored. The site will be contoured to blend with the surrounding topography and provide drainage of surface water. The topsoil, as available, shall be replaced in a uniform layer and seeded according to the Bureau of Land Management's stipulations.

D) Rehabilitation's Timetable

Upon completion of drilling operations, the initial cleanup of the site will be performed as soon as weather and site conditions allow economic execution of the work.

POINT 11: OTHER INFORMATION

A) On-Site

The Location onsite was conducted on 09/06/2011 by Cecil. Watkins – BOPCO L.P, Randy-Rust-BLM, and Robert Gomez with Basin Survey. The James Ranch Unit 139H was approved with a surface location at 2,365' FSL & 2050' FWL, Sec 25, T22S-R30E.

B) Soil

Caliche and sand.

C) Vegetation

Sparse, primarily grasses and mesquite with very little grass.

POINT 11: OTHER INFORMATION – cont'd...

D) Surface Use

Primarily grazing.

E) Surface Water

There are no ponds, lakes, streams or rivers within several miles of the wellsite.

F) Water Wells

There are no water wells located within a 1 mile radius of the proposed location.

G) Residences and Buildings

None in the immediate vicinity.

H) Historical Sites

None observed.

I) Archeological Resources

No independent archeological survey has been done. This well location is located in the area covered by Memorandum of Agreement – Permian Basin. A Payment of $1420.00 fee for this project is included in this application. Any location or construction conflicts will be resolved before construction begins. Please see diagram 3 for flowline route.

J) Surface Ownership

The well site is on federally owned land. There will be no new access roads required for this location.

K) Well signs will be posted at the drilling site.

L) Open Pits

No open pits will be used for drilling or production. Any open top tanks will be netted.

M) Terrian

Slightly rolling hills.

POINT 12: OPERATOR'S FIELD REPRESENTATIVE

(Field personnel responsible for compliance with development plan for surface use).

DRILLING
Stephen Martinez
Box 2760
Midland, Texas 79702
(432) 683-2277

PRODUCTION
Dean Clemmer
3104 East Green Street
Carlsbad, New Mexico 88220
(575) 887-7329

Carlos Cruz
Box 2760
Midland, Texas 79702
(432) 683-2277

SMM/jdb

BOPCO, L. P.
6 DESTA DRIVE, SUITE 3700 (79705)
P. O. BOX 2760
MIDLAND, TEXAS 79702

(432) 683-2277 **FAX (432) 687-0329**

September 15, 2011

Bureau of Land Management
620 E. Greene
Carlsbad, New Mexico 88220
Attn: John Chopp

Dear Mr. Chopp,

BOPCO, L.P respectfully requests exception to the Prairie Chicken timing restrictions for James Ranch Unit #139H located 2365' FSL, 2050' FWL, of Section 25, T22S, R30E, Eddy County, New Mexico.

Sincerely,

Stephen Martinez
Division Drilling Superintendent

SMM\JDB

30-015-39793

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO, L.P.
LEASE NO.:	NM-02952B
WELL NAME & NO.:	James Ranch Unit #139H
SURFACE HOLE FOOTAGE:	2365' FSL & 2050' FWL
BOTTOM HOLE FOOTAGE	0660' FSL & 0330' FWL Sec. 27
LOCATION:	Section 25, T. 22 S., R. 30 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

Commercial Well Determination
Well is not in a participating area. A commercial well determination will need to be submitted.

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.

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 values 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 values, 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.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. 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.

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 in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 4 inches in depth. The topsoil will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

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

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call theCarlsbad 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 twenty (20) 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.

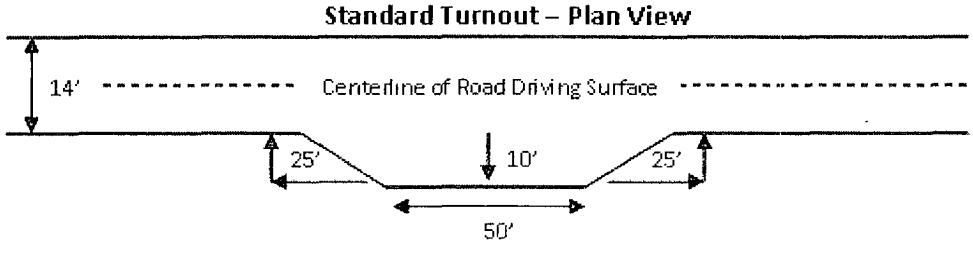
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

Turnouts

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

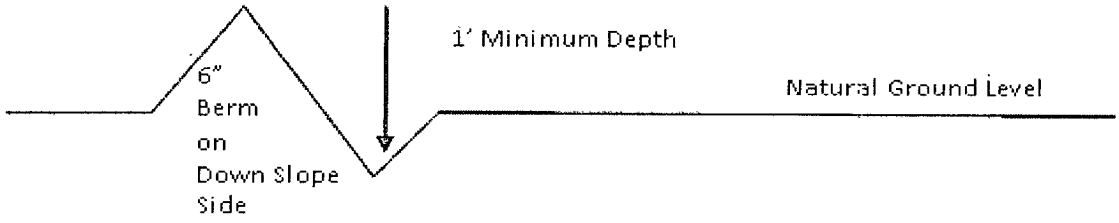


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

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

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

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

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

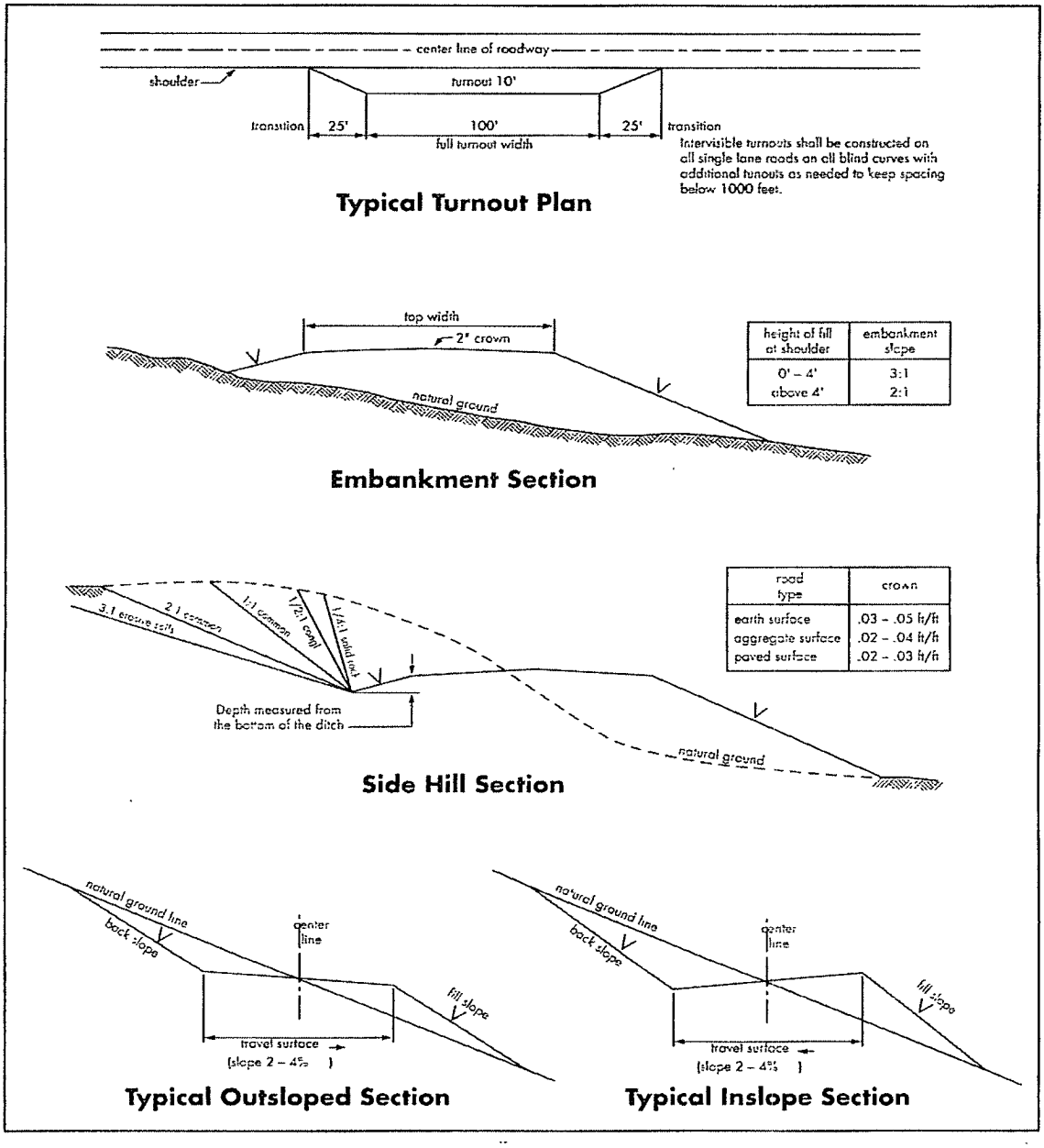
Fence Requirement

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

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

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

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

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

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

5. **Due to the proximity of the proposed well to existing wellbores, an anti-collision review must be performed prior to drilling and an anti-collision analysis generated during drilling. Submit the results to the BLM Carlsbad Field Office.**

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 prior to drilling out 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. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

R-111-P Potash/WIPP
HIGH CAVE/KARST
Possible water and brine flows in the Rustler, Salado and Castile formations.
Possible lost circulation within the Rustler, Delaware and Bone Spring.

1. The 1**3-3/8** inch surface casing shall be set at approximately **751** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

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

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

   a. First stage to DV tool, cement shall:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

   b. Second stage above DV tool, cement shall:

   ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Additional cement may be required – excess calculates to 16%.**

4. Cement not required on the **4-1/2"** completion assembly. **Packer system being used.**

5. 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.

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

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

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. **Operator installing a 5M but testing as a 2M system.**

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

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **3000 (3M)** psi. **Operator installing a 5M but testing as a 3M system.**

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

    a. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

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

    d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

F. WIPP Requirements

The proposed well is located over 330' of the WIPP Land Withdrawal Area boundary. As a result, BOPCO, L.P. is requested, but not required to submit daily logs and deviation survey information to the Department of Energy per requirements of the Joint Powers Agreement. Information from this well will be included in the Quarterly Drilling Report. Information will also be provided to the New Mexico Oil Conservation Division after drilling activities have been completed. Any future entry into the well for purposes of completing additional drilling will require supplemental information.

BOPCO, L.P. can email the required information to Mr. Melvin Balderrama at Melvin.Balderama@wipp.ws or Mr. J. Neatherlin at Jimmy.Neatherlin@wipp.ws fax to his attention at 575-234-6062.

CRW 112811

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

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the

Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and
termination of the facility.

b. Activities of other parties including, but not limited to:

(1) Land clearing.
(2) Earth-disturbing and earth-moving work.
(3) Blasting.
(4) Vandalism and sabotage.

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **25** feet.

6. (a) Where a polyline is laid along a County Road, the operator will lay that polyline ten (10)
feet out from the center of the ditch to prevent obstructing County Maintenance activities.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder 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 will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. 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, powerline 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.

IX. INTERIM RECLAMATION

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

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

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

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

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

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

Seed Mixture 2, for Sandy Sites

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

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

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

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0

Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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