12-117

OCD-ARTESIA
R-111-POTASH

WIPP

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

EA26B

5 Lease Serial No. BH NM02952A
~~NM02952,~~ See box six
JH 11/18

6. If Indian, Allotee or Tribe Name
Lease info on first pg of 8pt DP.

1a. Type of work: ☑ DRILL ☐ REENTER

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 #141H [306407]

2. Name of Operator
BOPCO, L. P. [260737]

9 API Well No.
30-015-39972

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) [50448]

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SENW ~~NWSE~~, ULF, 2619' FNL, 2080' FWL, Lat:N32.363058,Long:W103.835792 30-0
JH 11/19
At proposed prod. zone **660' FNL, 350' FWL, Sec 27,T22S,R30E,Lat:N32.368522,Lg:W103.875961**

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*
20 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)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
2050'	**7683.46**	**320**
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20 BLM/BIA Bond No. on file
70'	**20,487' MD, 7,325' TVD**	**COB 000050**
21 Elevations (Show whether DF, KDB, RT, GL, etc.)	22 Approximate date work will start*	23. Estimated duration
3,346' GL	**04/26/2012**	**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	Name *(Printed/Typed)*	Date
Jeremy Braden	**Jeremy Braden**	1-15-11
Title **Engineering Assistant**		

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ Jesse J. Juen		FEB 15 2012
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
FEB 23 2012
NMOCD ARTESIA

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

BOPCO, L.P.

P. O. Box 2760
Midland, Texas 79702

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

November 3, 2011

Bureau of Land Management
Carlsbad Field Office
620 East Green Street
Carlsbad, New Mexico 88220-6292

Attn: Mr. Don Peterson – Assistant Field Manager, Minerals

RE: APPLICATION FOR PERMIT TO DRILL
JAMES RANCH UNIT 141H
2619' FNL, 2050' FWL, SEC. 25, T22S, R30E, EDDY COUNTY, NM

Dear Mr. Peterson,

In reference to the above captioned well, 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 currently exist; that the statements made in the attached eight point drilling plan and multi-use surface plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by BOPCO, L.P. and it's 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 a false statement.

If you have any questions regarding the accuracy of the plan provided herein, please do not hesitate to contact me at (432) 683-2277.

Sincerely,

Stephen M. Martinez
Division Drilling Superintendent

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
30-015-39972	50443	Quahada Ridge, SE (Delaware)

Property Code	Property Name	Well Number
306407	JAMES RANCH UNIT	141H

OGRID No.	Operator Name	Elevation
260737	BOPCO, L.P.	3346'

Surface Location

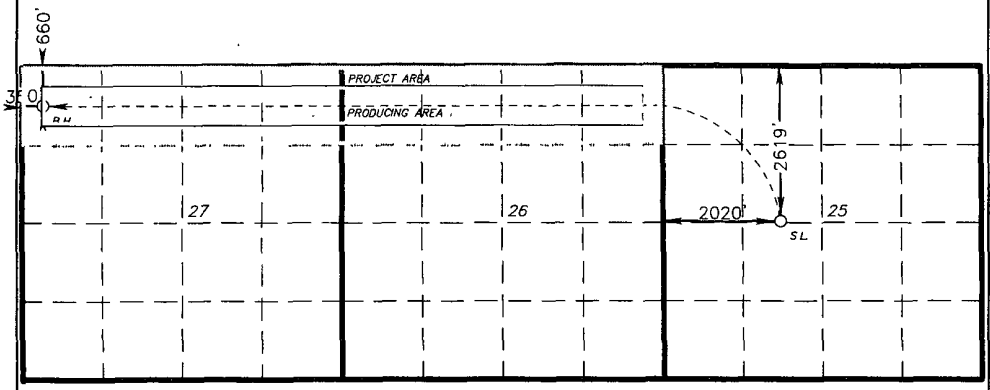
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	25	22 S	30 E		2619	NORTH	2020	WEST	EDDY

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
D	27	22 S	30 E		660	NORTH	350	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



PROPOSED BOTTOM HOLE LOCATION
Lat - N 32°22'06.68"
Long - W 103°52'33.46"
NMSPCE- N 498084.937
E 641213.880
(NAD-27)

SURFACE LOCATION
DELAWARE PP
Lat - N 32°21'47.01"
Long - W 103°50'09.20"
NMSPCE- N 496152.977
E 653594.881
(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 1-9-12
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

JANUARY 5, 2012
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL SURVEYOR

Certificate No. Gary L. Jones 7977

BASIN SURVEYS 25990

Surface casing is to be set into the Rustler below all fresh water sands at an approximate depth of 754' and cement circulated to surface.

7" casing will be set at approximately 10,487' MD, 7,365' TVD (thru curve) and cemented in two stages with DV Tool set at approximately 5,000'. Cement will be circulated to surface.

Drilling procedure, BOP diagram, and anticipated tops are attached.

This well is located inside the R111 Potash area and Secretary's Potash area.

The surface location is nonstandard and located outside the James Ranch Unit.

The bottom hole location is standard and located inside the James Ranch Unit

Surface Lease Numbers – LC 064827, NM 02953 Surface lease is off unit

Bottom Hole Lease Numbers – NM 02952

BOPCO, L.P., at P. O. Box 2760, Midland, TX, 79702 is a subsidiary of BOPCO, L.P., 201 Main Street, Ft. Worth, TX, 76102. Bond No. COB000050 (Nationwide).

EIGHT POINT DRILLING PROGRAM
BOPCO, L.P.

NAME OF WELL: James Ranch Unit 141H
LEGAL DESCRIPTION - SURFACE: 2619' FNL, 2050' FWL, Section 25, T22S, R30E, Eddy County, NM.
BHL: 660' FNL, 350' 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 3368' (estimated)
GL 3346'

FORMATION	ESTIMATED TOP FROM KB TVD	MD	ESTIMATED SUB-SEA TOP	BEARING
T/Fresh Water	155'	155'	+ 3,213'	Fresh Water
T/Rustler	371'	371'	+ 2,997'	Barren
T/Salt	764'	764'	+ 2,604'	Barren
B/Salt	3,571'	3,571'	- 203'	Barren
T/Lamar	3,815'	3,815'	- 447'	Barren
T/Ramsey	3,851'	3,851'	- 483'	Oil/Gas
T/Lower Cherry Canyon	6,005'	6,005'	- 2,637'	Oil/Gas
KOP	6,888'	6,888'	- 3,520'	Oil/Gas
LBC Lo "U"	7,299'	7,383'	- 3.931'	Oil/Gas
EOC	7,365'	7,637'	- 3,997'	Oil/Gas
Target #1	7,365'	10,487'	- 3,996'	Oil/Gas
TD Horizontal Hole	7,325'	20,487'	- 3,957'	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' -	754'	17-1/2"	Surface	New
9-5/8", 40#, N-80, 8rd, LT&C	0' -	3835'	12-1/4"	Intermediate	New
7", 26#, N-80, Buttress or 8rd LTC*	0' -	10,487'	8-3/4"	Production	New
Completion System					
4-1/2", 11.6#, HCP-110 8rd. LT&C*	10,437' – 20,486'		6-1/8"	Completion System	New
4-1/2", 11.6#, N-80, 8rd, LT&C*	10,437' – 20,486'		6-1/8"	Completion System	New

CASING DESIGN SAFETY FACTORS:

TYPE	TENSION	COLLAPSE	BURST
13-3/8", 48#, H-40, 8rd, ST&C*	10.29	2.04	4 11
13-3/8", 54.5#, J-55, 8rd, STC*	24.15	3.09	6.49
9-5/8", 40#, N-80, 8rd, LT&C	5.69	1.41	2.69
7", 26#, N-80, Buttress*	3.66	1.36	1.76
7", 26#, N-80, 8rd, LTC*	3.14	1.32	1.76
Completion System			
4-1/2", 11.6#, HCP-110 8rd. LT&C*	3.81	2.50	2.62
4-1/2", 11.6#, N-80, 8rd, LT&C*	3.04	1.54	1.90

*** 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.

Please refer to diagram 2 for choke manifold and closed loop system layout.

POINT 5: MUD PROGRAM

DEPTH	MUD TYPE	WEIGHT	FV	PV	YP	FL	Ph
0' - 754'	FW Spud Mud	8.5 – 9.2	38-70	NC	NC	NC	10.0
754' - 3,835'	Brine Water	9.8 – 10.2	28-30	NC	NC	NC	9.5 – 10.5
3,835' - 10,487'	FW/Gel	8.7 – 9.0	28-36	NC	NC	NC	9.5 – 10.0
10,487' – 20,487'	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 See COA

A) TESTING

None anticipated.

B) LOGGING

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'.

C) CONVENTIONAL CORING

None anticipated

D) CEMENT

INTERVAL	AMOUNT SXS	FT OF FILL	TYPE	GALS/SX	PPG	FT^3/SX
SURFACE:						
Lead: 0' – 654'	550	654	ExtendaCem CZ	8.72	13.70	1.68
Tail: 654' – 754'	115	100	ExtendaCem CZ	8.72	13.70	1.68
INTERMEDIATE:						
Lead: 0' – 3335'	1040	3335	EconoCem HLC 5% CaCl + 5 #/sk Gilsonite	9.32	12.90	1.85
Tail: 3335' – 3835'	270	500	HalCem C	6.34	14.80	1.33
Production:						
Stage 1:						
Lead: 5000' – 6788'	160	1788	Tuned Light + 0.75% CFR-3 + 1.5#/sk CaCl	12.41	10.20	2.76
Tail: 6,788' – 10,487'	520	3699	VersaCem-PBSH2 + 0.4% Halad-9	8.76	13.0	1.65
DV Tool @ 5000'						
Stage 2:						
Lead: 0' – 4500'	371	4500	EconoCem HLC + 1% Econolite + 5% CaCl + 5#/sk Gilsonite	10.71	12.60	2.04
Tail: 4500' - 5000'	100	500	HalCem C	6.34	14.80	1.33

Cement excesses will be as follows:

Surface – 100% excess with cement circulated to surface.

1st Intermediate – 50% excess above fluid caliper with cement circulated to surface.

Production – 50% above gauge hole or 35% above electric log caliper with cement circulated 500' up into the 9-5/8" 1st intermediate casing in areas outside the SOPA. Cement will be circulated to surface on areas inside the SOPA.

Cement volumes will be adjusted proportionately for depth changes of the multi stage tool.

E) Completion System

A 4-1/2" completion system with open hole packers will be run in the producing lateral to a depth of 20,487'. The top of the liner will be set at approximately 10,437'. Cement will not be required for this system.

F) DIRECTIONAL DRILLING

BOPCO, L.P. plans to drill out the 9-5/8" intermediate casing with a 8-3/4" bit to a TVD of approximately 6,888' at which point a directional hole will be kicked off and drilled at an azimuth of 330.00 degrees, building angle at 12.01 deg/100' to 90 degrees at a TVD of 7,365' (MD 7,637'). This angle and azimuth will be maintained for 2,850' to a measured depth of 10,487' (7,365' TVD). At this depth 7", 26#, N80, Buttress, or 8rd LTC casing will be installed and cemented in two stages (DV Tool @ approximately 5000') with cement circulated to surface. A 6-1/8" open hole lateral will then be drilled out from 7" casing at an azimuth of 269.568 degrees, inclination of 90.236 degrees to a measured depth of 20,487', TVD 7,325'. At this depth a 4-1/2" Completion System with packers installed for zone isolation will be run into the producing lateral.

G) H_2S Safety Equipment

As stated in the BLM Onshore Order 6, for wells located in the SOPA, H_2S equipment will be rigged up after setting surface casing. For the wells located inside the SOPA the flare pit or ½ steel pits will be located 150' from the location. For wells located outside the SOPA the flare pit or ½ steel pit will be located 100' away from the location. **(See page 6 of Survey plat package)** There is not any H_2S anticipated in the area, although in the event that H_2S is encountered, the H_2S contingency plan attached will be implemented. (**Please refer to diagram 2 for choke manifold and closed loop system layout.)**

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

Normal pressures are anticipated throughout Delaware section. A BHP of 3428 psi (max) or MWE of 9.0 ppg is expected. Lost circulation may exist in the Delaware Section from 3,815'-7,325' TVD.

POINT 8: OTHER PERTINENT INFORMATION

A) Auxiliary Equipment

Upper and lower kelly cocks. Full opening stab in valve on the rig floor.

B) Anticipated Starting Date

Upon approval

30 days drilling operations

14 days completion operations

JDB

BOPCO, L.P.

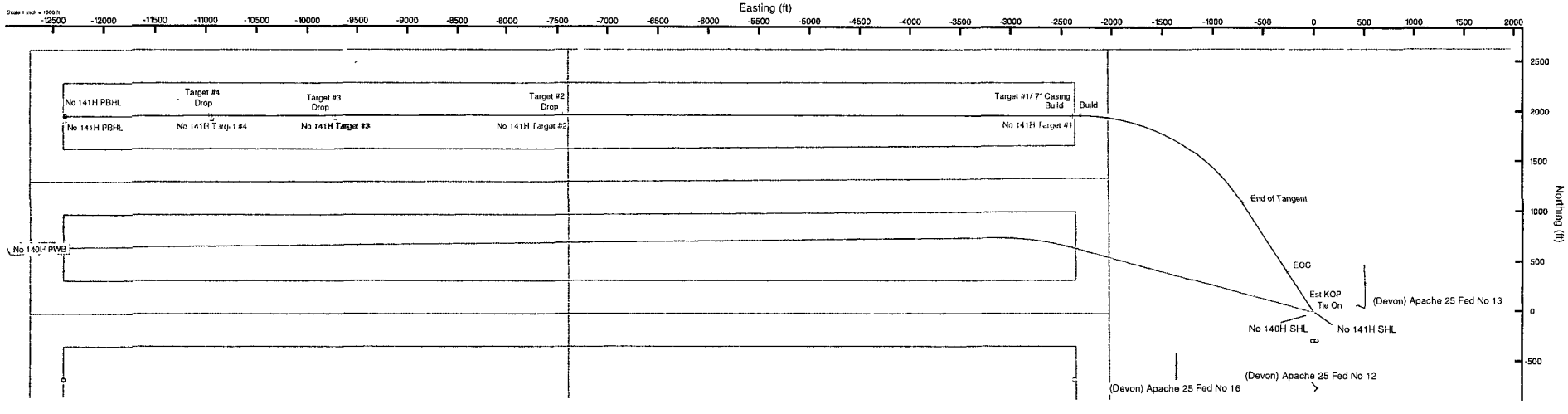
Location Eddy County, NM
Field JRU NAD27
Facility JRU No 141H

Slot No 141H SHL
Well No 141H
Wellbore No 141H PWB

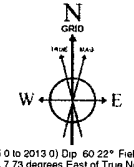
BAKER HUGHES

Well Profile Data

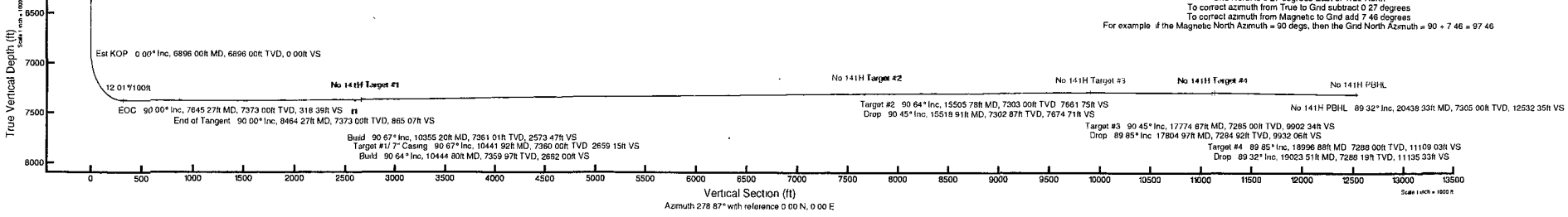
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	30 00	0 000	327 000	30 00	0 00	0 00	0 00	0 00
Est KOP	6896 00	0 000	327 000	6896 00	0 00	0 00	0 00	0 00
EOC	7645 27	90 000	327 000	7373 00	400 05	-259 79	12 01	318 39
End of Tangent	8464 27	90 000	327 000	7373 00	1088 92	-705 85	0 00	865 07
Build	10355 20	90 666	270 029	7361 01	1952 89	-2299 74	3 01	2573 47
Target #1/ 7" Casing	10441 92	90 666	270 029	7360 00	1952 93	-2386 46	0 00	2659 15
Build	10444 80	90 645	269 975	7359 97	1952 93	-2389 34	2 00	2662 00
Target #2	15505 78	90 645	269 975	7303 00	1950 73	-7450 00	0 00	7661 75
Drop	15518 91	90 454	269 795	7302 87	1950 70	-7463 13	2 00	7674 71
Target #3	17774 87	90 454	269 795	7285 00	1942 63	-9719 00	0 00	9902 34
Drop	17804 97	89 852	269 795	7284 92	1942 52	-9749 10	2 00	9932 06
Target #4	18996 88	89 852	269 795	7288 00	1938 25	-10941 00	0 00	11109 03
Drop	19023 51	89 319	269 802	7288 19	1938 16	-10967 63	2 00	11135 33
No 141H PBHL	20438 33	89 319	269 802	7305 00	1933 26	-12382 34	0 00	12532 35



Plot reference wellpath is Prelim_3	
True vertical depths are referenced to Rig on No 141H SHL (KB)	Grid System NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No 141H SHL (KB)	North Reference Grid north
Rig on No 141H SHL (KB) to Mean Sea Level 3376 feet	Scale True distance
Mean Sea Level to Mud line (At Slot No 141H SHL) -3346 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by gentbry on 1/23/2012



BGGM (1945 0 to 2013 0) Dip 60 22° Field 48621 4 nT
Magnetic North is 7 73 degrees East of True North (at 1/13/2012)
Grid North is 0 27 degrees East of True North
To correct azimuth from True to Grid subtract 0 27 degrees
To correct azimuth from Magnetic to Grid add 7 46 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7 46 = 97 46



Planned Wellpath Report

Prelim_3

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**BOPCO, L.P.**	Slot	**No.141H SHL**
Area	**Eddy County, NM**	Well	**No.141H**
Field	**JRU NAD27**	Wellbore	**No.141H PWB**
Facility	**JRU No.141H**		

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	**1/23/2012 at 4:23:02 PM**
Convergence at slot	**0.27° East**	Database/Source file	**WA Midland/No.141H_PWB.xml**

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	**East[ft]**	**Easting[US ft]**	**Northing[US ft]**	**Latitude**	**Longitude**
Slot Location	**0.00**	**0.00**	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W
Facility Reference Pt			**653595.40**	**496151.80**	32°21'47.000"N	103°50'09.198"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 No.141H SHL (KB) to Facility Vertical Datum	**30.00ft**
Horizontal Reference Pt	**Slot**	Rig on No.141H SHL (KB) to Mean Sea Level	**3376.00ft**
Vertical Reference Pt	**Rig on No.141H SHL (KB)**	Rig on No.141H SHL (KB) to Mud Line at Slot (No.141H SHL)	**30.00ft**
MD Reference Pt	**Rig on No.141H SHL (KB)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**278.87°**

Planned Wellpath Report

Prelim_3

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.141H SHL
Area	Eddy County, NM	Well	No.141H
Field	JRU NAD27	Wellbore	No.141H PWB
Facility	JRU No.141H		

WELLPATH DATA (227 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	327.000	0.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
30.00	0.000	327.000	30.00	0.00	0.00	0.00	653595.40	496151 80	32°21'47.000"N	103°50'09.198"W	0.00	Tie On
130.00†	0.000	327.000	130.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
230.00†	0.000	327.000	230.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
330.00†	0.000	327.000	330.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
379.00†	0.000	327.000	379.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	Rustler
430.00†	0.000	327.000	430.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
530.00†	0.000	327.000	530.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
630.00†	0.000	327.000	630.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
730.00†	0.000	327.000	730.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
772.00†	0.000	327.000	772.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	Salt
830.00†	0.000	327.000	830.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
930.00†	0.000	327.000	930.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
1030.00†	0.000	327.000	1030.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
1130.00†	0.000	327.000	1130.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
1230.00†	0.000	327.000	1230.00	0 00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
1330.00†	0.000	327.000	1330.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
1430.00†	0.000	327.000	1430.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
1530.00†	0.000	327.000	1530.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
1630.00†	0.000	327.000	1630.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
1730.00†	0.000	327.000	1730.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
1830.00†	0.000	327.000	1830.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
1930.00†	0.000	327.000	1930.00	0 00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
2030.00†	0.000	327.000	2030.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
2130.00†	0.000	327.000	2130.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
2230.00†	0 000	327.000	2230.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
2330.00†	0.000	327.000	2330.00	0.00	0.00	0 00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
2430.00†	0.000	327.000	2430.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
2530.00†	0.000	327.000	2530.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
2630.00†	0.000	327.000	2630.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
2730.00†	0.000	327.000	2730.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
2830.00†	0.000	327.000	2830.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
2930.00†	0.000	327.000	2930.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
3030.00†	0.000	327.000	3030.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
3130.00†	0.000	327.000	3130.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
3230.00†	0.000	327.000	3230.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
3330.00†	0.000	327.000	3330.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
3430.00†	0.000	327.000	3430.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
3530.00†	0.000	327.000	3530.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
3579.00†	0.000	327.000	3579.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	Base/Salt
3630.00†	0.000	327.000	3630.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
3730.00†	0.000	327.000	3730.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
3823.00†	0.000	327.000	3823.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	Lamar
3830.00†	0.000	327.000	3830.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
3859.00†	0.000	327.000	3859.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	Ramsey

Planned Wellpath Report

Prelim_3

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	BOPCO, L.P.	Slot	No.141H SHL
Area	Eddy County, NM	Well	No.141H
Field	JRU NAD27	Wellbore	No.141H PWB
Facility	JRU No.141H		

WELLPATH DATA (227 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
3930.00†	0.000	327.000	3930.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
4030.00†	0.000	327.000	4030.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
4130.00†	0.000	327.000	4130.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
4230.00†	0.000	327.000	4230.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
4330.00†	0.000	327.000	4330.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
4430.00†	0.000	327.000	4430.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
4530.00†	0.000	327.000	4530.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
4630.00†	0.000	327.000	4630.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
4730.00†	0.000	327.000	4730.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
4830.00†	0.000	327.000	4830.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
4930.00†	0.000	327.000	4930.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
5030.00†	0.000	327.000	5030.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
5130.00†	0.000	327.000	5130.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
5230.00†	0.000	327.000	5230.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
5330.00†	0.000	327.000	5330.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
5430.00†	0.000	327.000	5430.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
5530.00†	0.000	327.000	5530.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
5630.00†	0.000	327.000	5630.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
5730.00†	0.000	327.000	5730.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
5830.00†	0.000	327.000	5830.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
5930.00†	0.000	327.000	5930.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
6013.00†	0.000	327.000	6013.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	Lower Cherry Canyon
6030.00†	0.000	327.000	6030.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
6130.00†	0.000	327.000	6130.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
6230.00†	0.000	327.000	6230.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
6330.00†	0.000	327.000	6330.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
6430.00†	0.000	327.000	6430.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
6530.00†	0.000	327.000	6530.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
6630.00†	0.000	327.000	6630.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
6730.00†	0.000	327.000	6730.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
6830.00†	0.000	327.000	6830.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	
6896.00	0.000	327.000	6896.00	0.00	0.00	0.00	653595.40	496151.80	32°21'47.000"N	103°50'09.198"W	0.00	Est KOP
6930.00†	4.084	327.000	6929.97	0.81	1.02	-0.66	653594.74	496152.82	32°21'47.010"N	103°50'09.206"W	12.01	
7030.00†	16.096	327.000	7028.24	12.48	15.68	-10.18	653585.22	496167.48	32°21'47.155"N	103°50'09.316"W	12.01	
7130.00†	28.107	327.000	7120.73	37.55	47.18	-30.64	653564.76	496198.98	32°21'47.468"N	103°50'09.553"W	12.01	
7230.00†	40.119	327.000	7203.37	74.92	94.13	-61.13	653534.28	496245.92	32°21'47.934"N	103°50'09.906"W	12.01	
7330.00†	52.131	327.000	7272.55	122.94	154.47	-100.32	653495.09	496306.26	32°21'48.533"N	103°50'10.360"W	12.01	
7391.36†	59.501	327.000	7307.00	156.80	197.01	-127.94	653467.47	496348.80	32°21'48.955"N	103°50'10.679"W	12.01	LBC Lo U
7430.00†	64.142	327.000	7325.24	179.53	225.57	-146.49	653448.92	496377.36	32°21'49.238"N	103°50'10.894"W	12.01	
7530.00†	76.154	327.000	7359.14	242.20	304.31	-197.62	653397.79	496456.09	32°21'50.020"N	103°50'11.486"W	12.01	
7630.00†	88.166	327.000	7372.76	308.20	387.24	-251.48	653343.94	496539.02	32°21'50.843"N	103°50'12.109"W	12.01	
7645.27	90.000	327.000	7373.00	318.39	400.05	-259.79	653335.62	496551.82	32°21'50.970"N	103°50'12.206"W	12.01	EOC
7730.00†	90.000	327.000	7373.00	374.95	471.11	-305.94	653289.48	496622.88	32°21'51.675"N	103°50'12.740"W	0.00	
7830.00†	90.000	327.000	7373.00	441.70	554.97	-360.40	653235.02	496706.74	32°21'52.508"N	103°50'13.370"W	0.00	
7930.00†	90.000	327.000	7373.00	508.45	638.84	-414.87	653180.56	496790.60	32°21'53.340"N	103°50'14.001"W	0.00	

Planned Wellpath Report

Prelim_3

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**BOPCO, L.P.**	Slot	**No.141H SHL**
Area	**Eddy County, NM**	Well	**No.141H**
Field	**JRU NAD27**	Wellbore	**No.141H PWB**
Facility	**JRU No.141H**		

WELLPATH DATA (227 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
8030.00†	90.000	327.000	7373.00	575.20	722.71	-469.33	653126.10	496874.46	32°21'54.172"N	103°50'14.631"W	0.00	
8130.00†	90.000	327.000	7373.00	641.95	806.57	-523.80	653071.64	496958.32	32°21'55.005"N	103°50'15.261"W	0.00	
8230.00†	90.000	327.000	7373.00	708.70	890.44	-578.26	653017.18	497042.18	32°21'55.837"N	103°50'15.892"W	0.00	
8330.00†	90.000	327.000	7373.00	775.45	974.31	-632.72	652962.72	497126.04	32°21'56.670"N	103°50'16 522"W	0.00	
8430.00†	90.000	327.000	7373.00	842.20	1058.18	-687.19	652908.26	497209.91	32°21'57.502"N	103°50'17.153"W	0.00	
8464.27	90.000	327.000	7373.00	865 07	1086.92	-705.85	652889.59	497238.65	32°21'57.787"N	103°50'17.369"W	0.00	End of Tangent
8530.00†	90.027	325.020	7372.98	909.78	1141.41	-742.60	652852.85	497293.14	32°21'58.328"N	103°50'17.794"W	3.01	
8630.00†	90.069	322.007	7372.90	980.93	1221.80	-802.05	652793.40	497373 52	32°21'59.126"N	103°50'18.483"W	3.01	
8730.00†	90.111	318.994	7372.74	1055.67	1298.96	-865.65	652729.80	497450.67	32°21'59.893"N	103°50'19.220"W	3.01	
8830.00†	90.152	315.982	7372.51	1133.80	1372.66	-933.22	652662.24	497524.37	32°22'00.625"N	103°50'20.004"W	3.01	
8930.00†	90.193	312.969	7372.21	1215.10	1442.71	-1004.57	652590.90	497594.42	32°22'01.322"N	103°50'20.832"W	3.01	
9030.00†	90.233	309.956	7371.84	1299.34	1508.92	-1079.50	652515.97	497660.62	32°22'01.980"N	103°50'21.702"W	3.01	
9130.00†	90.272	306.943	7371.40	1386.30	1571.09	-1157.80	652437.67	497722.79	32°22'02.599"N	103°50'22.612"W	3.01	
9230.00†	90.311	303.931	7370.89	1475.74	1629.07	-1239.27	652356.21	497780.76	32°22'03.176"N	103°50'23.558"W	3.01	
9330.00†	90.349	300.918	7370.32	1567.39	1682.68	-1323.67	652271.82	497834.37	32°22'03.711"N	103°50'24.539"W	3.01	
9430 00†	90.386	297.905	7369.67	1661.03	1731.78	-1410.77	652184.73	497883.47	32°22'04.200"N	103°50'25.552"W	3.01	
9530.00†	90.422	294.892	7368.97	1756.37	1776.23	-1500.33	652095.17	497927.92	32°22'04.644"N	103°50'26.594"W	3.01	
9630.00†	90.457	291.879	7368.20	1853.17	1815.92	-1592.10	652003.41	497967.60	32°22'05.041"N	103°50'27.662"W	3.01	
9730.00†	90.490	288.866	7367.37	1951.15	1850.73	-1685.83	651909.68	498002.41	32°22'05.390"N	103°50'28.753"W	3.01	
9830.00†	90.523	285.853	7366.49	2050.04	1880.56	-1781.26	651814.26	498032.24	32°22'05.689"N	103°50'29.864"W	3.01	
9930.00†	90.553	282.840	7365.55	2149.56	1905.34	-1878.12	651717.40	498057.01	32°22'05.939"N	103°50'30.992"W	3.01	
10030.00†	90.582	279.827	7364.56	2249.46	1924.98	-1976 16	651619.37	498076.66	32°22'06.138"N	103°50'32.134"W	3.01	
10130.00†	90.610	276 814	7363.52	2349.43	1939.45	-2075.09	651520.45	498091.13	32°22'06.286"N	103°50'33.286"W	3 01	
10230.00†	90.636	273.801	7362.43	2449.22	1948.70	-2174.64	651420.90	498100.37	32°22'06.382"N	103°50'34.447"W	3.01	
10330.00†	90.660	270.788	7361.30	2548.55	1952.71	-2274.54	651321.01	498104.38	32°22'06.426"N	103°50'35.611"W	3.01	
10355.20	90.666	270.029	7361.01	2573.47	1952.89	-2299.74	651295.81	498104.56	32°22'06.429"N	103°50'35.905"W	3.01	Build
10430.00†	90.666	270.029	7360.14	2647.38	1952.92	-2374.54	651221.02	498104.59	32°22'06.432"N	103°50'36.777"W	0.00	
10441.92	90.666	270.029	7360.00	2659.15	1952.93	-2386.46	651209.10	498104.60	32°22'06.433"N	103°50'36.916"W	0.00	Target #1/ 7" Casing
10444.80	90.645	269.975	7359.97	2662.00	1952.93	-2389.34	651206.22	498104.60	32°22'06.433"N	103°50'36.949"W	2.00	Build
10530.00†	90.645	269.975	7359.01	2746.17	1952.89	-2474.53	651121.03	498104.56	32°22'06.437"N	103°50'37.943"W	0.00	
10630.00†	90.645	269.975	7357.88	2844.96	1952.85	-2574.52	651021.05	498104.52	32°22'06.441"N	103°50'39.108"W	0.00	
10730.00†	90.645	269 975	7356.76	2943.75	1952.80	-2674.52	650921.06	498104.48	32°22'06.445"N	103°50'40.274"W	0.00	
10830.00†	90.645	269.975	7355.63	3042.54	1952.76	-2774.51	650821.07	498104.43	32°22'06.449"N	103°50'41.440"W	0.00	
10930.00†	90.645	269.975	7354.51	3141.33	1952.72	-2874.51	650721.08	498104.39	32°22'06.453"N	103°50'42.606"W	0.00	
11030.00†	90.645	269.975	7353.38	3240.12	1952.67	-2974.50	650621.10	498104.35	32°22'06.457"N	103°50'43.772"W	0.00	
11130.00†	90.645	269.975	7352 25	3338.91	1952.63	-3074.49	650521 11	498104.30	32°22'06.461"N	103°50'44.937"W	0.00	
11230.00†	90.645	269.975	7351.13	3437.70	1952.59	-3174.49	650421.12	498104.26	32°22'06.465"N	103°50'46.103"W	0.00	
11330 00†	90.645	269.975	7350.00	3536.49	1952.54	-3274.48	650321.14	498104 22	32°22'06.469"N	103°50'47.269"W	0.00	
11430.00†	90.645	269.975	7348.88	3635.28	1952.50	-3374.47	650221.15	498104.17	32°22'06.473"N	103°50'48.435"W	0.00	
11530.00†	90.645	269.975	7347.75	3734.07	1952.46	-3474.47	650121.16	498104.13	32°22'06.477"N	103°50'49.601"W	0.00	
11630.00†	90.645	269.975	7346.63	3832.86	1952.41	-3574.46	650021.17	498104.09	32°22'06.482"N	103°50'50.767"W	0.00	
11730.00†	90.645	269.975	7345.50	3931.65	1952.37	-3674.45	649921.19	498104.04	32°22'06.486"N	103°50'51.932"W	0.00	
11830.00†	90.645	269.975	7344.38	4030.44	1952.33	-3774.45	649821.20	498104.00	32°22'06.490"N	103°50'53.098"W	0.00	
11930.00†	90.645	269.975	7343.25	4129.23	1952.28	-3874.44	649721.21	498103.95	32°22'06.494"N	103°50'54.264"W	0.00	
12030.00†	90.645	269.975	7342.12	4228.02	1952.24	-3974.44	64962123	498103.91	32°22'06.498"N	103°50'55.430"W	0.00	

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**BOPCO, L.P.**	Slot	**No.141H SHL**
Area	**Eddy County, NM**	Well	**No.141H**
Field	**JRU NAD27**	Wellbore	**No.141H PWB**
Facility	**JRU No.141H**		

WELLPATH DATA (227 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
12130.00†	90.645	269.975	7341.00	4326.81	1952.20	-4074.43	649521.24	498103.87	32°22'06.502"N	103°50'56.596"W	0.00	
12230.00†	90.645	269.975	7339.87	4425.60	1952.15	-4174.42	649421.25	498103.82	32°22'06.506"N	103°50'57.761"W	0.00	
12330.00†	90.645	269.975	7338.75	4524.39	1952.11	-4274.42	649321.26	498103.78	32°22'06.510"N	103°50'58.927"W	0.00	
12430.00†	90.645	269.975	7337.62	4623.18	1952.07	-4374.41	649221.28	498103.74	32°22'06.514"N	103°51'00.093"W	0.00	
12530.00†	90.645	269.975	7336.50	4721.97	1952.02	-4474.40	649121.29	498103.69	32°22'06.518"N	103°51'01.259"W	0.00	
12630.00†	90.645	269.975	7335.37	4820.76	1951.98	-4574.40	649021.30	498103.65	32°22'06.522"N	103°51'02.425"W	0.00	
12730.00†	90.645	269.975	7334.24	4919.55	1951.94	-4674.39	648921.32	498103.61	32°22'06.526"N	103°51'03.590"W	0.00	
12830.00†	90.645	269.975	7333.12	5018.34	1951.89	-4774.38	648821.33	498103.56	32°22'06.530"N	103°51'04.756"W	0.00	
12930.00†	90.645	269.975	7331.99	5117.13	1951.85	-4874.38	648721.34	498103.52	32°22'06.534"N	103°51'05.922"W	0.00	
13030.00†	90.645	269.975	7330.87	5215.92	1951.81	-4974.37	648621.36	498103.48	32°22'06.538"N	103°51'07.088"W	0.00	
13130.00†	90.645	269.975	7329.74	5314.71	1951.76	-5074.37	648521.37	498103.43	32°22'06.542"N	103°51'08.254"W	0.00	
13230.00†	90.645	269.975	7328.62	5413.50	1951.72	-5174.36	648421.38	498103.39	32°22'06.546"N	103°51'09.419"W	0.00	
13330.00†	90.645	269.975	7327.49	5512.29	1951.68	-5274.35	648321.39	498103.35	32°22'06.550"N	103°51'10.585"W	0.00	
13430.00†	90.645	269.975	7326.37	5611.08	1951.63	-5374.35	648221.41	498103.30	32°22'06.554"N	103°51'11.751"W	0.00	
13530.00†	90.645	269.975	7325.24	5709.87	1951.59	-5474.34	648121.42	498103.26	32°22'06.558"N	103°51'12.917"W	0.00	
13630.00†	90.645	269.975	7324.11	5808.66	1951.54	-5574.33	648021.43	498103.22	32°22'06.562"N	103°51'14.083"W	0.00	
13730.00†	90.645	269.975	7322.99	5907.45	1951.50	-5674.33	647921.45	498103.17	32°22'06.566"N	103°51'15.248"W	0.00	
13830.00†	90.645	269.975	7321.86	6006.24	1951.46	-5774.32	647821.46	498103.13	32°22'06.570"N	103°51'16.414"W	0.00	
13930.00†	90.645	269.975	7320.74	6105.03	1951.41	-5874.32	647721.47	498103.09	32°22'06.574"N	103°51'17.580"W	0.00	
14030.00†	90.645	269.975	7319.61	6203.82	1951.37	-5974.31	647621.48	498103.04	32°22'06.578"N	103°51'18.746"W	0.00	
14130.00†	90.645	269.975	7318.49	6302.61	1951.33	-6074.30	647521.50	498103.00	32°22'06.582"N	103°51'19.912"W	0.00	
14230.00†	90.645	269.975	7317.36	6401.40	1951.28	-6174.30	647421.51	498102.96	32°22'06.586"N	103°51'21.078"W	0.00	
14330.00†	90.645	269.975	7316.23	6500.19	1951.24	-6274.29	647321.52	498102.91	32°22'06.590"N	103°51'22.243"W	0.00	
14430.00†	90.645	269.975	7315.11	6598.98	1951.20	-6374.28	647221.54	498102.87	32°22'06.594"N	103°51'23.409"W	0.00	
14530.00†	90.645	269.975	7313.98	6697.77	1951.15	-6474.28	647121.55	498102.83	32°22'06.598"N	103°51'24.575"W	0.00	
14630.00†	90.645	269.975	7312.86	6796.56	1951.11	-6574.27	647021.56	498102.78	32°22'06.602"N	103°51'25.741"W	0.00	
14730.00†	90.645	269.975	7311.73	6895.35	1951.07	-6674.26	646921.58	498102.74	32°22'06.606"N	103°51'26.907"W	0.00	
14830.00†	90.645	269.975	7310.61	6994.14	1951.02	-6774.26	646821.59	498102.70	32°22'06.610"N	103°51'28.072"W	0.00	
14930.00†	90.645	269.975	7309.48	7092.93	1950.98	-6874.25	646721.60	498102.65	32°22'06.614"N	103°51'29.238"W	0.00	
15030.00†	90.645	269.975	7308.36	7191.72	1950.94	-6974.25	646621.61	498102.61	32°22'06.618"N	103°51'30.404"W	0.00	
15130.00†	90.645	269.975	7307.23	7290.51	1950.89	-7074.24	646521.63	498102.56	32°22'06.622"N	103°51'31.570"W	0.00	
15150.42†	90.645	269.975	7307.00	7310.68	1950.88	-7094.66	646501.21	498102.56	32°22'06.623"N	103°51'31.808"W	0.00	LBC Lo U
15230.00†	90.645	269.975	7306.10	7389.30	1950.85	-7174.23	646421.64	498102.52	32°22'06.626"N	103°51'32.736"W	0.00	
15330.00†	90.645	269.975	7304.98	7488.09	1950.81	-7274.23	646321.65	498102.48	32°22'06.630"N	103°51'33.901"W	0.00	
15430.00†	90.645	269.975	7303.85	7586.88	1950.76	-7374.22	646221.67	498102.43	32°22'06.634"N	103°51'35.067"W	0.00	
15505.78	90.645	269.975	7303.00[2]	7661.75	1950.73	-7450.00	646145.89	498102.40	32°22'06.637"N	103°51'35.951"W	0.00	Target #2
15518.91	90.454	269.795	7302.87	7674.71	1950.70	-7463.13	646132.77	498102.38	32°22'06.637"N	103°51'36.104"W	2.00	Drop
15530.00†	90.454	269.795	7302.79	7685.66	1950.66	-7474.21	646121.68	498102.34	32°22'06.637"N	103°51'36.233"W	0.00	
15630.00†	90.454	269.795	7301.99	7784.40	1950.31	-7574.21	646021.69	498101.98	32°22'06.638"N	103°51'37.399"W	0.00	
15730.00†	90.454	269.795	7301.20	7883.15	1949.95	-7674.21	645921.70	498101.62	32°22'06.639"N	103°51'38.565"W	0.00	
15830.00†	90.454	269.795	7300.41	7981.89	1949.59	-7774.20	645821.71	498101.26	32°22'06.640"N	103°51'39.731"W	0.00	
15930.00†	90.454	269.795	7299.62	8080.64	1949.23	-7874.20	645721.72	498100.90	32°22'06.640"N	103°51'40.896"W	0.00	
16030.00†	90.454	269.795	7298.82	8179.38	1948.87	-7974.20	645621.73	498100.55	32°22'06.641"N	103°51'42.062"W	0.00	
16130.00†	90.454	269.795	7298.03	8278.13	1948.52	-8074.19	645521.74	498100.19	32°22'06.642"N	103°51'43.228"W	0.00	
16230.00†	90.454	269.795	7297.24	8376.87	1948.16	-8174.19	645421.75	498099.83	32°22'06.643"N	103°51'44.394"W	0.00	

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**BOPCO, L.P.**	Slot	**No.141H SHL**
Area	**Eddy County, NM**	Well	**No.141H**
Field	**JRU NAD27**	Wellbore	**No.141H PWB**
Facility	**JRU No.141H**		

WELLPATH DATA (227 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
16330.00†	90.454	269.795	7296.45	8475.61	1947.80	-8274.18	645321.76	498099.47	32°22'06.644"N	103°51'45.560"W	0.00	
16430.00†	90.454	269.795	7295.66	8574.36	1947.44	-8374.18	645221.77	498099.11	32°22'06.645"N	103°51'46.726"W	0.00	
16530.00†	90.454	269.795	7294.86	8673.10	1947.09	-8474.18	645121.78	498098.76	32°22'06.645"N	103°51'47.892"W	0.00	
16630.00†	90.454	269.795	7294.07	8771.85	1946.73	-8574.17	645021.79	498098.40	32°22'06.646"N	103°51'49.057"W	0.00	
16730.00†	90.454	269.795	7293.28	8870.59	1946.37	-8674.17	644921.80	498098.04	32°22'06.647"N	103°51'50.223"W	0.00	
16830.00†	90.454	269.795	7292.49	8969.33	1946.01	-8774.16	644821.81	498097.68	32°22'06.648"N	103°51'51.389"W	0.00	
16930.00†	90.454	269.795	7291.69	9068.08	1945.65	-8874.16	644721.82	498097.33	32°22'06.649"N	103°51'52.555"W	0.00	
17030.00†	90.454	269.795	7290.90	9166.82	1945.30	-8974.16	644621.83	498096.97	32°22'06.649"N	103°51'53.721"W	0.00	
17130.00†	90.454	269.795	7290.11	9265.57	1944.94	-9074.15	644521.84	498096.61	32°22'06.650"N	103°51'54.887"W	0.00	
17230.00†	90.454	269.795	7289.32	9364.31	1944.58	-9174.15	644421.85	498096.25	32°22'06.651"N	103°51'56.053"W	0.00	
17330.00†	90.454	269.795	7288.52	9463.05	1944.22	-9274.15	644321.86	498095.89	32°22'06.652"N	103°51'57.218"W	0.00	
17430.00†	90.454	269.795	7287.73	9561.80	1943.86	-9374.14	644221.88	498095.54	32°22'06.652"N	103°51'58.384"W	0.00	
17530.00†	90.454	269.795	7286.94	9660.54	1943.51	-9474.14	644121.89	498095.18	32°22'06.653"N	103°51'59.550"W	0.00	
17630.00†	90.454	269.795	7286.15	9759.29	1943.15	-9574.13	644021.90	498094.82	32°22'06.654"N	103°52'00.716"W	0.00	
17730.00†	90.454	269.795	7285.36	9858.03	1942.79	-9674.13	643921.91	498094.46	32°22'06.655"N	103°52'01.882"W	0.00	
17774.87	90.454	269.795	7285.00[3]	9902.34	1942.63	-9719.00	643877.04	498094.30	32°22'06.655"N	103°52'02.405"W	0.00	Target #3
17804.97	89.852	269.795	7284.92	9932.06	1942.52	-9749.10	643846.94	498094.19	32°22'06.655"N	103°52'02.756"W	2.00	Drop
17830.00†	89.852	269.795	7284.98	9956.78	1942.43	-9774.13	643821.92	498094.10	32°22'06.656"N	103°52'03.048"W	0.00	
17930.00†	89.852	269.795	7285.24	10055.52	1942.07	-9874.13	643721.92	498093.75	32°22'06.656"N	103°52'04.214"W	0.00	
18030.00†	89.852	269.795	7285.50	10154.27	1941.72	-9974.13	643621.93	498093.39	32°22'06.657"N	103°52'05.380"W	0.00	
18130.00†	89.852	269.795	7285.76	10253.02	1941.36	-10074.13	643521.94	498093.03	32°22'06.658"N	103°52'06.545"W	0.00	
18230.00†	89.852	269.795	7286.02	10351.76	1941.00	-10174.12	643421.95	498092.67	32°22'06.659"N	103°52'07.711"W	0.00	
18330.00†	89.852	269.795	7286.28	10450.51	1940.64	-10274.12	643321.95	498092.31	32°22'06.659"N	103°52'08.877"W	0.00	
18430.00†	89.852	269.795	7286.53	10549.26	1940.28	-10374.12	643221.96	498091.95	32°22'06.660"N	103°52'10.043"W	0.00	
18530.00†	89.852	269.795	7286.79	10648.00	1939.92	-10474.12	643121.97	498091.60	32°22'06.661"N	103°52'11.209"W	0.00	
18630.00†	89.852	269.795	7287.05	10746.75	1939.57	-10574.12	643021.98	498091.24	32°22'06.662"N	103°52'12.375"W	0.00	
18730.00†	89.852	269.795	7287.31	10845.50	1939.21	-10674.12	642921.98	498090.88	32°22'06.662"N	103°52'13.541"W	0.00	
18830.00†	89.852	269.795	7287.57	10944.24	1938.85	-10774.12	642821.99	498090.52	32°22'06.663"N	103°52'14.707"W	0.00	
18930.00†	89.852	269.795	7287.83	11042.99	1938.49	-10874.12	642722.00	498090.16	32°22'06.664"N	103°52'15.873"W	0.00	
18996.88	89.852	269.795	7288.00[4]	11109.03	1938.25	-10941.00	642655.12	498089.92	32°22'06.664"N	103°52'16.652"W	0.00	Target #4
19023.51	89.319	269.802	7288.19	11135.33	1938.16	-10967.63	642628.49	498089.83	32°22'06.664"N	103°52'16.963"W	2.00	Drop
19030.00†	89.319	269.802	7288.27	11141.74	1938.13	-10974.12	642622.01	498089.81	32°22'06.664"N	103°52'17.038"W	0.00	
19130.00†	89.319	269.802	7289.46	11240.48	1937.79	-11074.11	642522.02	498089.46	32°22'06.665"N	103°52'18.204"W	0.00	
19230.00†	89.319	269.802	7290.65	11339.22	1937.44	-11174.10	642422.04	498089.11	32°22'06.666"N	103°52'19.370"W	0.00	
19330.00†	89.319	269.802	7291.83	11437.96	1937.10	-11274.09	642322.05	498088.77	32°22'06.667"N	103°52'20.536"W	0.00	
19430.00†	89.319	269.802	7293.02	11536.70	1936.75	-11374.09	642222.06	498088.42	32°22'06.668"N	103°52'21.702"W	0.00	
19530.00†	89.319	269.802	7294.21	11635.45	1936.41	-11474.08	642122.08	498088.08	32°22'06.669"N	103°52'22.867"W	0.00	
19630.00†	89.319	269.802	7295.40	11734.19	1936.06	-11574.07	642022.09	498087.73	32°22'06.670"N	103°52'24.033"W	0.00	
19730.00†	89.319	269.802	7296.59	11832.93	1935.71	-11674.06	641922.11	498087.39	32°22'06.670"N	103°52'25.199"W	0.00	
19830.00†	89.319	269.802	7297.77	11931.67	1935.37	-11774.05	641822.12	498087.04	32°22'06.671"N	103°52'26.365"W	0.00	
19930.00†	89.319	269.802	7298.96	12030.41	1935.02	-11874.05	641722.14	498086.69	32°22'06.672"N	103°52'27.531"W	0.00	
20030.00†	89.319	269.802	7300.15	12129.16	1934.68	-11974.04	641622.15	498086.35	32°22'06.673"N	103°52'28.696"W	0.00	
20130.00†	89.319	269.802	7301.34	12227.90	1934.33	-12074.03	641522.16	498086.00	32°22'06.674"N	103°52'29.862"W	0.00	
20230.00†	89.319	269.802	7302.53	12326.64	1933.98	-12174.02	641422.18	498085.66	32°22'06.674"N	103°52'31.028"W	0.00	
20330.00†	89.319	269.802	7303.71	12425.38	1933.64	-12274.02	641322.19	498085.31	32°22'06.675"N	103°52'32.194"W	0.00	

Planned Wellpath Report

Prelim_3

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**BOPCO, L.P.**	Slot	**No.141H SHL**
Area	**Eddy County, NM**	Well	**No.141H**
Field	**JRU NAD27**	Wellbore	**No.141H PWB**
Facility	**JRU No.141H**		

WELLPATH DATA (227 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
20430.00†	89.319	269.802	7304.90	12524.13	1933.29	-12374.01	641222.21	498084.97	32°22'06.676"N	103°52'33.360"W	0.00	
20438.33	89.319	269.802	7305.00[5]	12532.35	1933.26	-12382.34	641213.88	498084.94	32°22'06.676"N	103°52'33.457"W	0.00	No 141H PBHL

HOLE & CASING SECTIONS - Ref Wellbore: No.141H 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	30.00	10496.00	10466.00	30.00	7359.39	0.00	0.00	1952.91	-2440.53
7in Casing	30.00	10496.00	10466.00	30.00	7359.39	0.00	0.00	1952.91	-2440.53

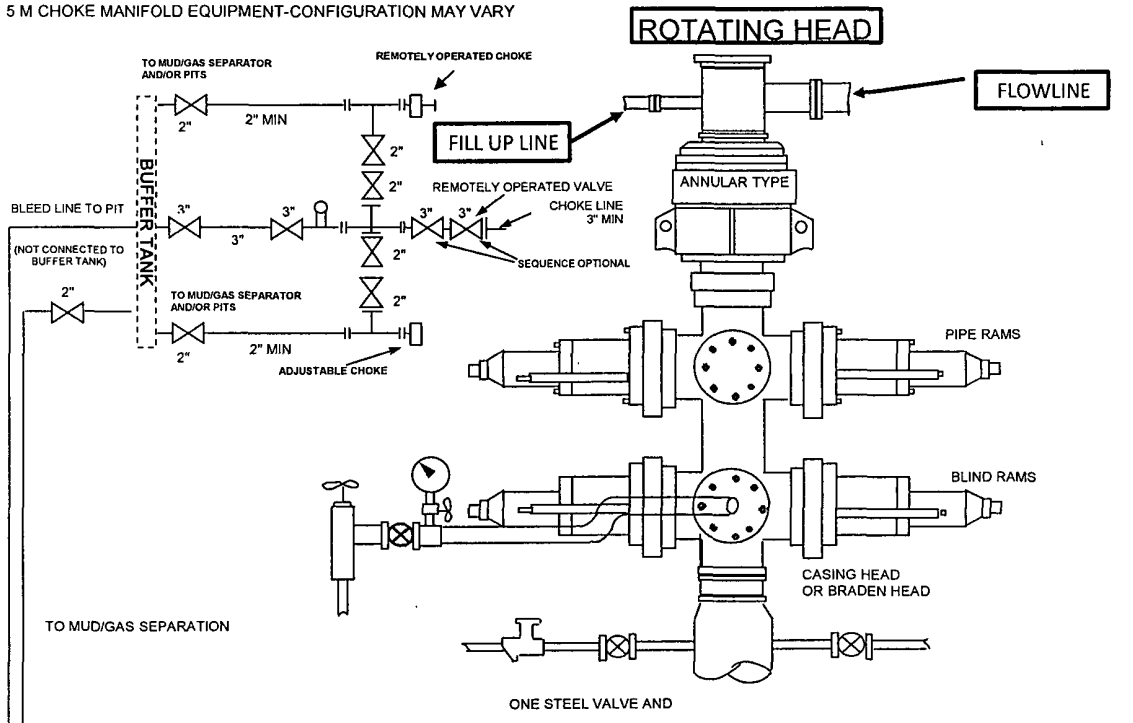
TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
3) No.141H Target #3	17774.87	7285.00	1942.63	-9719.00	643877.04	498094.30	32°22'06.655"N	103°52'02.405"W	point
4) No.141H Target #4	18996.88	7288.00	1938.25	-10941.00	642655.12	498089.92	32°22'06.664"N	103°52'16.652"W	point
2) No.141H Target #2	15505.78	7303.00	1950.73	-7450.00	646145.89	498102.40	32°22'06.637"N	103°51'35.951"W	point
5) No.141H PBHL	20438.33	7305.00	1933.26	-12382.34	**641213.88**	**498084.94**	32°22'06.676"N	103°52'33.457"W	point
1) No.141H Target #1	10441.92	7360.00	1952.93	-2386.46	**651209.10**	**498104.60**	32°22'06.433"N	103°50'36.916"W	point
t1		7373.00	1952.93	-2316.46	651279.09	498104.60	32°22'06.430"N	103°50'36.100"W	point

SURVEY PROGRAM - Ref Wellbore: No.141H PWB Ref Wellpath: Prelim_3

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	20438.33	NaviTrak (Standard)		No.141H PWB

BOPCO, L. P.
13 5/8" X 5-M WP BOPE WITH 5-M WP ANNULAR



THE FOLLOWING CONSTITUTE MINIMUM BLOWOUT PREVENTER REQUIREMENTS

A. One double gate Blowout preventer with lower pipe rams and upper blind rams, all hydraulically controlled.
B. Opening on preventers between rams to be flanged, studded or clamped and at least two inches in diameter.
C. All connections from operating manifold to preventers to be all steel hose or tube a mininum of one inch in diameter.
D. The available closing pressure shall be at least 15% in excess of that required with suffficient volume to operate (close, open, and re-close) the preventers.
E. All connections to and from preventers to have a pressure rating equivalent to that of the BOPs.
F. Manual controls to be installed before drilling cement plug.
G. Valve to control flow through drill pipe to be located on rig floor.
H. Chokes must be adjustable. Choke spool may be used between rams.

DIAGRAM 1

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
Pete Lensing	Engineer	432-557-7157
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

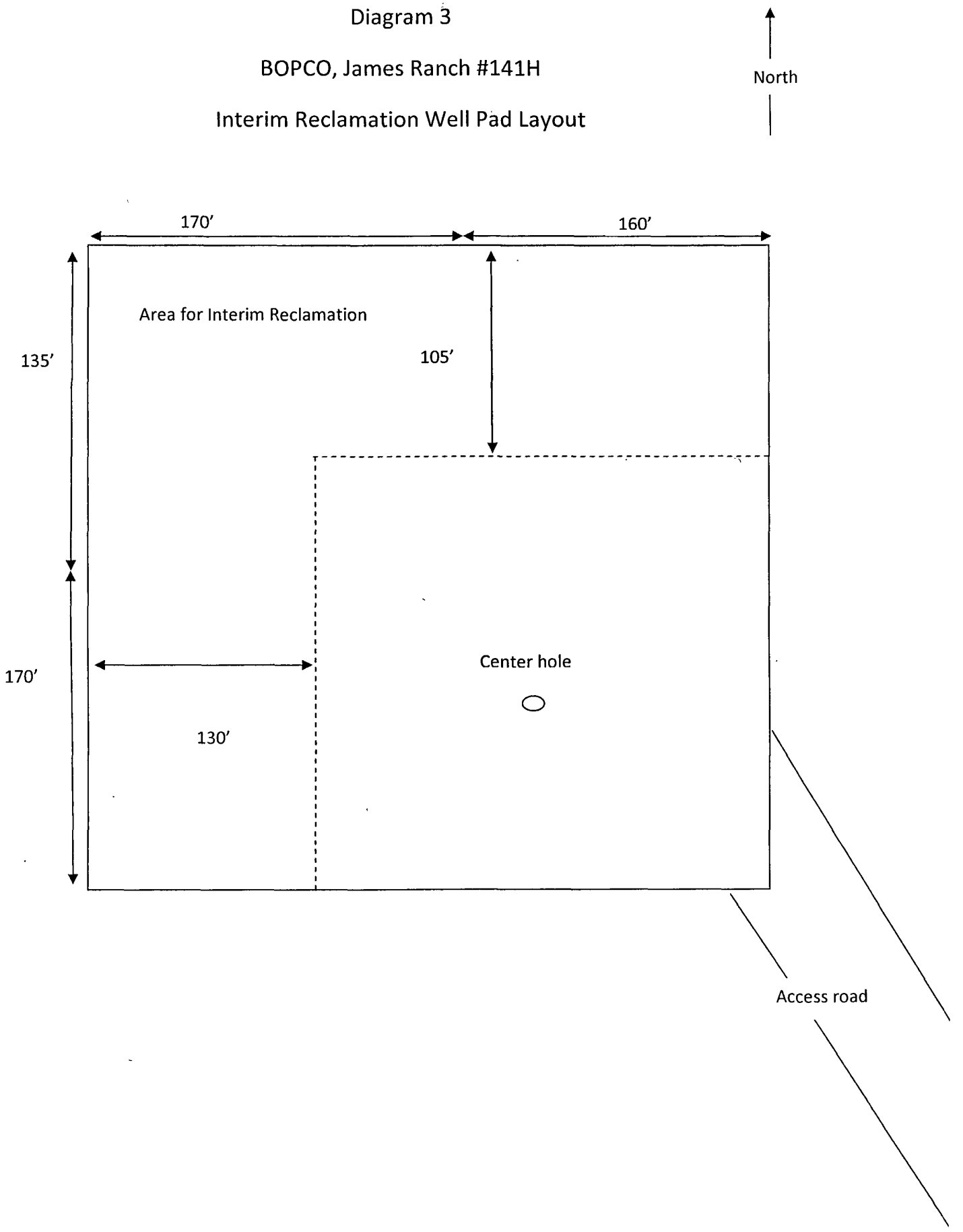
Other

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 3

BOPCO, James Ranch #141H

Interim Reclamation Well Pad Layout



Location On-Site Notes

On September 6, 2011 a BLM on-site meeting was held with Buddy Jenkins- BOPCO, L.P., Randy Rust- BLM, and Robert Gomez- Basin Surveys. The James Ranch Unit #141H was approved with a surface location at 2619' FNL & 2050' FWL in Section 25, T22S-R30E. V-door will face the east.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BOPCO, L.P.
LEASE NO.:	NMNM02952A
WELL NAME & NO.:	James Ranch Unit 141H
SURFACE HOLE FOOTAGE:	2619' FNL & 2020' FWL
BOTTOM HOLE FOOTAGE	660' FNL & 350' FWL
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)

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.

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

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.

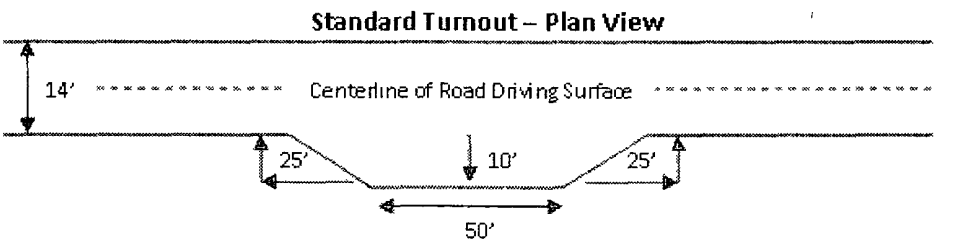
Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

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.

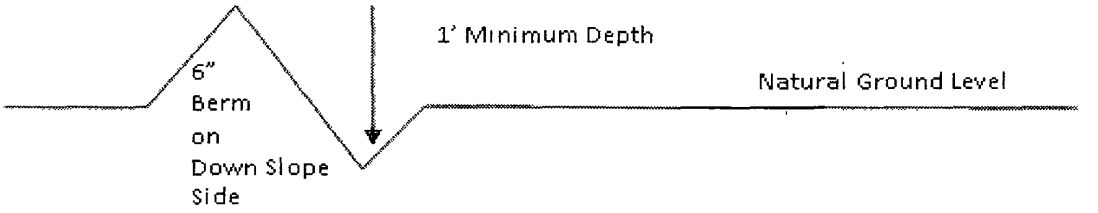
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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.

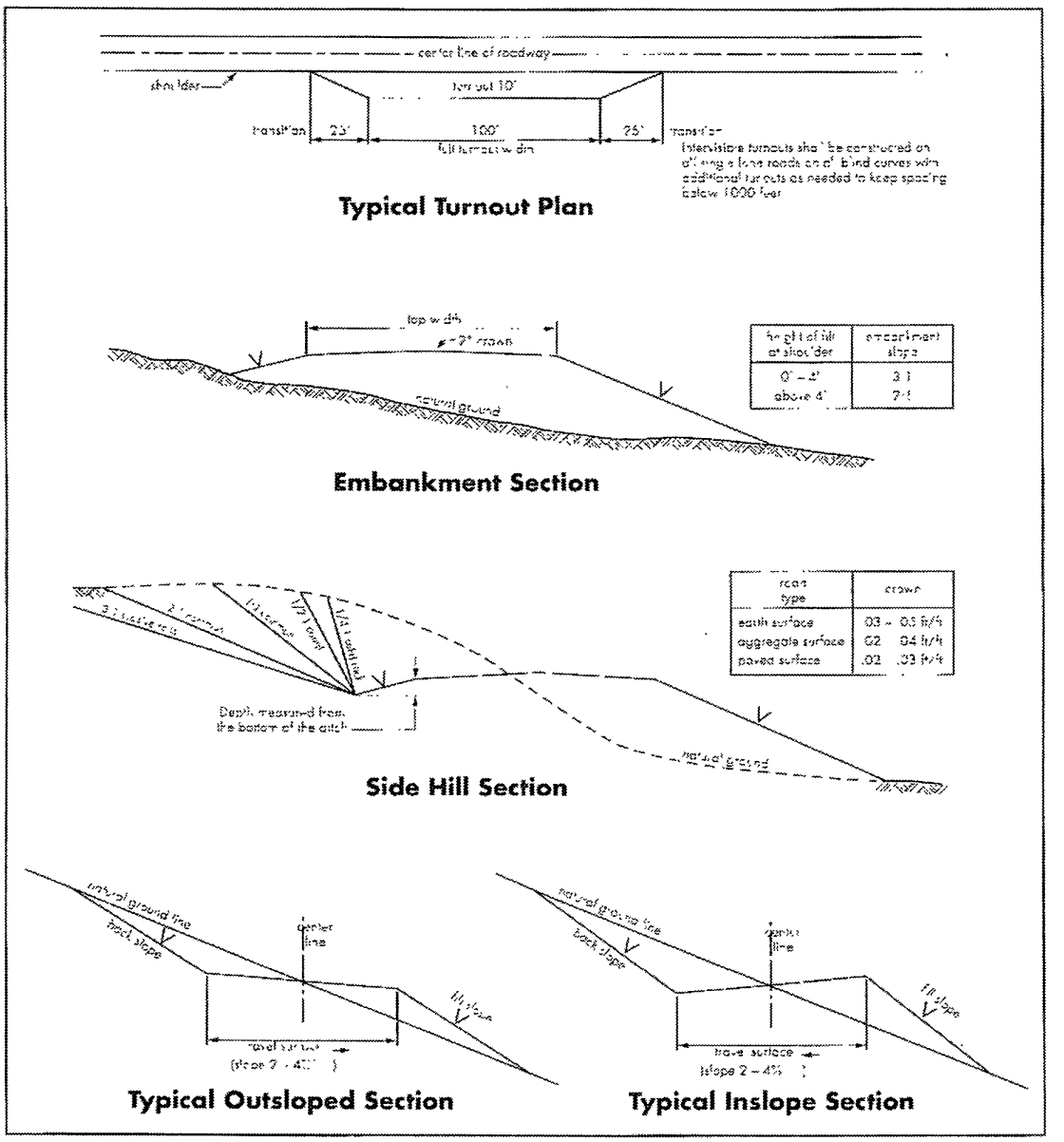
Fence Requirement

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 program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

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 **754** 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 14%.**

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.Balderrama@wipp.ws or Mr. J. Neatherlin at Jimmy.Neatherlin@wipp.ws fax to his attention at 575-234-6062.

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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