

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 05/05/2014

Well information:

Operator Huntington Eng., Well Name and Number CLU 2506-15 #4H

API# 30-039-31240, Section 15, Township 25 N/S, Range 6 E/W

Conditions of Approval:

(See the below checked and handwritten conditions)

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☒ Hold C-104 for directional survey & "As Drilled" Plat
- ☐ Hold C-104 for NSL, NSP, DHC
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ☐ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
 - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
 - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
 - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- ☐ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ☐ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.

Charles X. Perera
NMOCD Approved by Signature

8-25-2014
Date

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MAY 07 2014

Farmington Field Office

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		8. Lease Name and Well No. CLU 2506 15 #4H
2. Name of Operator Huntington Energy, L.L.C.		9. API Well No. 30-039-31240
3a. Address 908 N.W. 71st St. Oklahoma City, OK 73116	3b. Phone No. (include area code) 405-840-9876	10. Field and Pool, or Exploratory Devil's Fork Gallup
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface SESE, Lot P, 454' FSL & 278' FEL At proposed prod. zone NWSW, Lot L, 2600' FSL & 790' FWL		11. Sec., T. R. M. or Blk. and Survey or Area Sec 15-T25N-R6W
14. Distance in miles and direction from nearest town or post office*		12. County or Parish Rio Arriba
		13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 40'	16. No. of acres in lease 2560.00	17. Spacing Unit dedicated to this well 640
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 11,000'	20. BLM/BIA Bond No. on file NMB 000076
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6529' GL	22. Approximate date work will start* 06/15/2014	23. Estimated duration

24. Attachments

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

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

25. Signature <i>Catherine Smith</i>	Name (Printed/Typed) Catherine Smith	Date 05/05/2014
Title Regulatory		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed)	Date 8/21/14
Title AFM FFO		

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.

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

(Continued on page 2)
**DRILLING OPERATIONS
AUTHORIZED ARE SUBJECT TO
COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS"**

**ACTION DOES NOT RELIEVE THE LESSEE AND
OPERATOR FROM OBTAINING ANY OTHER
AUTHORIZATION REQUIRED FOR OPERATIONS
ON FEDERAL AND INDIAN LANDS**

*** (Instructions on page 2)
This action is subject to technical
and procedural review pursuant to
43 CFR 3165.3 and appeal
pursuant to 43 CFR 3165.4**

NMOCDA

DISTRICT I
1825 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 896-6161 Fax: (575) 896-0780

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 746-1263 Fax: (575) 746-9720

DISTRICT III
1000 Rio Branco Rd., Aztec, N.M. 87410
Phone: (505) 834-6175 Fax: (505) 834-6170

DISTRICT IV
1820 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-8400 Fax: (505) 476-8469

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-31240		*Pool Code 17810	*Pool Name DEVILS FORK GALLUP
*Property Code 313617	*Property Name CLU 2506-15		*Well Number 4H
*OGRD No. 208706	*Operator Name HUNTINGTON ENERGY		*Elevation 8529'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	WEST/West line	County
P	15	25N	6W		454'	SOUTH	278'	EAST	RIO ARriba

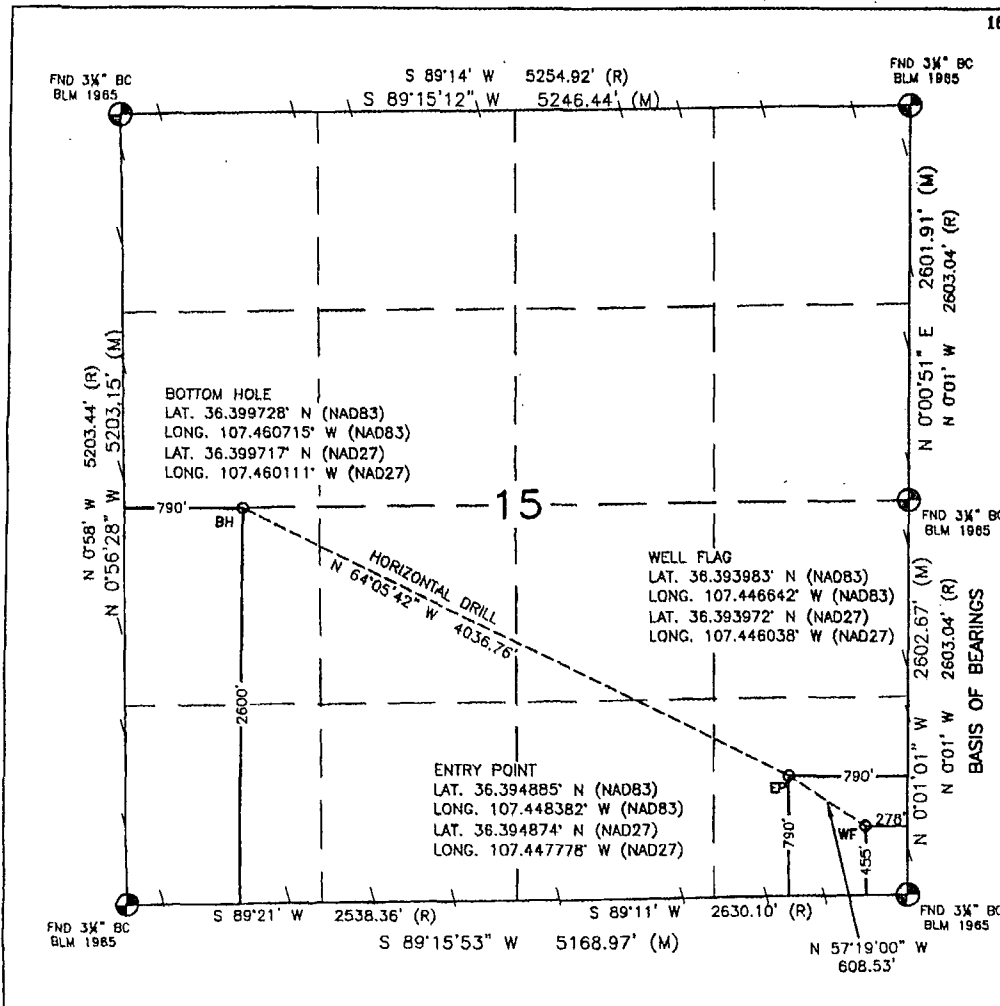
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	WEST/West line	County
L	15	25N	6W		2600'	SOUTH	790'	WEST	RIO ARriba

*Dedicated Acres 640	PROJECT AREA	*Joint or Infill	*Consolidation Code	*Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Catherine Smith 3/18/14
Signature Date

Catherine Smith
Printed Name

csmith@huntingtonenergy.com
E-mail 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 supervision, and that the same is true and correct to the best of my belief.

FEBRUARY 17, 2014

Date of Survey

Signature and Seal of Professional Surveyor:

DAVID R. RUSSELL
NEW MEXICO
REGISTERED PROFESSIONAL LAND SURVEYOR
10201

DAVID RUSSELL

Certificate Number 10201

Operations Plan

WELL NAME: **CLU 25-6-15 #4H**

LOCATION: SHL: 454' FSL, 278' FEL 25N-6W Sec. 15 Lot P
BHL: 2600' FSL, 790' FWL 25N-6W Sec. 15 Lot L
Rio Arriba County, NM

ELEVATION: 6,529' GL
6,541' KB

GEOLOGICAL MARKERS:

<u>Formation Tops</u>	<u>MD</u>	<u>TVD</u>
San Jose	Surface	
Ojo Alamo	1,979'	Possible Water
Kirtland	2,108'	
Fruitland	2,222'	
Pictured Cliffs	2,519'	
Lewis Shale	2,778'	
Huerfanito Bentonite	2,911'	
Chacra	3,368'	
Cliffhouse	4,102'	
Menefee	4,185'	
Point Lookout	4,759'	
Mancos	5,056'	Oil/Gas
El Vado	5,787'	Oil/Gas
Target	TD 10,462'	6,090'

CASING AND CEMENTING PROGRAM:

<u>Hole Size</u>	<u>Depth Interval</u>	<u>Casing Size</u>	<u>Weight</u>	<u>Grade</u>
12-1/4"	0 - 450'	9-5/8"	36.0#	J-55
8-3/4"	0 - 6,453'	7"	26.0#	N-80
6-1/8"	0 - 10,462'	4-1/2"	11.6#	P-110

CEMENTING:

Surface Casing - 9-5/8"

Cement to surface w/153 sacks Type III neat (37 bbls, 14.6 ppg).
WOC 8 hr. Prior to drilling out surface casing, test casing to 600 psi for 30 minutes.
10 Centralizers to be installed.

Intermediate Casing - 7"

Lead 610 sacks Premium Lite FM + 3% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 5 lbs/sack LCM-1 +0.4% bwoc FL-52A + 8% bwoc Bentonite +0.4% bwoc Sodium Metasilicate (232 bbls, 12.1 ppg)
Tail 235 sacks Type III Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A (58 bbls, 14.6 ppg). Cement to surface.
60 Centralizers to be installed. WOC. Test casing to 1500 psi for 30 minutes.

Production Casing - 4-1/2"

Lead w/272 sacks Premium Lite High Strength + 0.7% bwoc R-3 + 3% bwoc Potassium Chloride + 0.5% bwoc CD-32 + 5 lbs/sack LCM-1 + 0.25 lbs/sack Cello Flake + 1.15% bwoc FL-52A (106 bbls, 12.5 ppg)
Tail w/ 85 sacks Premium Lite High Strength + 0.7% bwoc R-3 + 3% bwoc Potassium Chloride + 0.25 lbs/sack Cello Flake + 5 lbs/sack LCM-1 + 0.5% bwoc CD-32 + 1.15% bwoc FL-52A (27 bbls, 13.5 ppg). Est TOC @ 4900'. 60
Centralizers to be installed. WOC. Test csg to 1500 psi for 30 mins.

PRESSURE CONTROL EQUIPMENT:

See Attached BOPE & Choke Manifold Schematic for a diagram of pressure control equipment

Pressure control configuration will be designed to meet and exceed 2M standards.

All equipment will have 3M pressure ratings

During stimulation stages a wellhead isolation sleeve (10,000 psi) will be used

DRILLING FLUIDS:

Mud Program:

<u>Depth Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>Invert Ratio</u>
0 - 450'	Spud	8.4 - 8.6	30 - 35	no control	
0 - 6,453'	LSND	9.0 - 10.5	38 - 42	8 - 12	
0 - 10,462'	LSND	8.5 - 9.5	36 - 40	< 1	

✓ Closed Loop equipment will be utilized for solids control. Cuttings from production hole will be hauled off to an approved disposal site.

PRESSURE AND HAZARDS:

No abnormal or temperatures are anticipated.

No hydrogen sulfide gas is expected on nearby well production.

Maximum bottom hole pressure will be +/- 2,100 psi

<u>Anticipated Pore Pressures</u>	
Fruitland Coal	840 psi
Pictured Cliffs	920 psi
Mesaverde	1,580 psi
Gallup	2,100 psi

TESTS, LOGS, CORING:

Mud log - KOP to TD

Logs - GR/CCL during perforating stages

LWD - Gamma Ray, Resistivity

Cores & DST's - None

DIRECTIONAL PLAN:

The wellbore directional plan and survey plat (C-102) are attached.

The production hole will be landed and drilled within the target formation horizontally utilizing LWD equipment to help steer the wellbore. Adjustments will be made to the directional plan as formation and hole indicates during drilling.

OTHER INFORMATION:

- 1) If lost circulation is encountered, sufficient LCM will be added to the mud system to maintain well control
- 2) This gas is dedicated

AUG 22 2014



Huntington Energy

Project: Rio Arriba (NM83C)
 Site: Sec 15-T25N-R6W
 Well: CLU 25-6-15 #4H
 Wellbore: Wellbore #1
 Design: 08-21-14 - True



Azimuths to True North
 Magnetic North: 9.37°

Magnetic Field
 Strength: 50345.28nT
 Dip Angle: 63.16°
 Date: 04/24/2014
 Model: IGRF2010

WELL DETAILS: CLU 25-6-15 #4H

+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude
0.0	0.0	1964861.85	0.0	1288232.21	36°23'38.339 N	107°26'47.911 W
SHL 455' FNL / 278' FEL						

Annotations

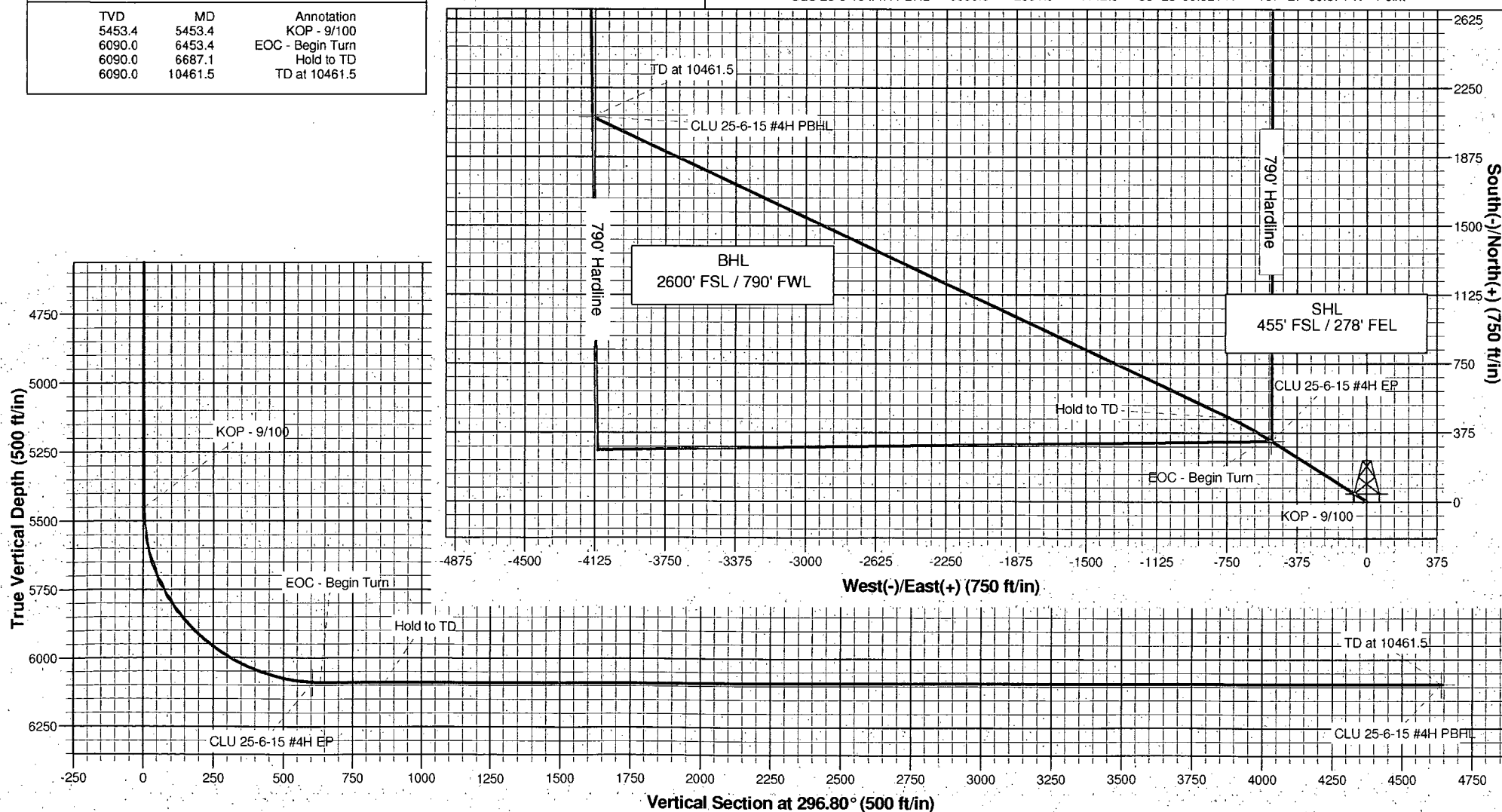
TVD	MD	Annotation
5453.4	5453.4	KOP - 9/100
6090.0	6453.4	EOC - Begin Turn
6090.0	6687.1	Hold to TD
6090.0	10461.5	TD at 10461.5

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5453.4	0.00	0.00	5453.4	0.0	0.0	0.00	0.00	0.0	
3	6453.4	90.00	302.67	6090.0	343.6	-535.9	9.00	302.67	633.3	
4	6687.1	90.00	295.66	6090.0	457.4	-739.8	3.00	-90.00	866.6	
5	10461.5	90.00	295.66	6090.0	2091.9	-4142.0	0.00	0.00	4640.3	CLU 25-6-15 #4H PBHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
CLU 25-6-15 #4H EP	6090.0	328.4	-512.2	36°23'41.586 N	107°26'54.175 W	Point
CLU 25-6-15 #4H PBHL	6090.0	2091.9	-4142.0	36°23'59.021 N	107°27'38.574 W	Point



Huntington Energy

Rio Arriba (NM83C)

Sec 15-T25N-R6W

CLU 25-6-15 #4H

Wellbore #1

Plan: 08-21-14

Standard Planning Report

21 August, 2014

Wolverine Directinal, LLC

Planning Report

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well CLU 25-6-15 #4H
Company:	Huntington Energy	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Rio Arriba (NM83C)	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 15-T25N-R6W	North Reference:	True
Well:	CLU 25-6-15 #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	08-21-14		

Project	Rio Arriba (NM83C)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Sec 15-T25N-R6W		
Site Position:		Northing:	1,964,861.85ft
From:	Lat/Long	Easting:	1,288,232.21ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	36° 23' 38.339 N
		Longitude:	107° 26' 47.911 W
		Grid Convergence:	-0.71°

Well	CLU 25-6-15 #4H		
Well Position	+N/-S	0.0 ft	Northing: 1,964,861.85 ft
	+E/-W	0.0 ft	Easting: 1,288,232.21 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	36° 23' 38.339 N
		Longitude:	107° 26' 47.911 W
		Ground Level:	0.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	04/24/14	9.37	63.16	50,345

Design	08-21-14			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	296.80

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,453.4	0.00	0.00	5,453.4	0.0	0.0	0.00	0.00	0.00	0.00	
6,453.4	90.00	302.67	6,090.0	343.6	-535.9	9.00	9.00	0.00	302.67	
6,687.1	90.00	295.66	6,090.0	457.4	-739.8	3.00	0.00	-3.00	-90.00	
10,461.5	90.00	295.66	6,090.0	2,091.9	-4,142.0	0.00	0.00	0.00	0.00	CLU 25-6-15 #4H F

Wolverine Directinal, LLC

Planning Report

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well CLU 25-6-15 #4H
Company:	Huntington Energy	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Rio Arriba (NM83C)	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 15-T25N-R6W	North Reference:	True
Well:	CLU 25-6-15 #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	08-21-14		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Wolverine Directinal, LLC

Planning Report

Database:	EDM.2003.21 Single User Db	Local Co-ordinate Reference:	Well, CLU 25-6-15 #4H
Company:	Huntington Energy	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Rio Arriba (NM83C)	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 15-T25N-R6W	North Reference:	True
Well:	CLU 25-6-15 #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	08-21-14		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,453.4	0.00	0.00	5,453.4	0.0	0.0	0.0	0.00	0.00	0.00
KOP - 9/100									
5,500.0	4.19	302.67	5,500.0	0.9	-1.4	1.7	9.00	9.00	0.00
5,550.0	8.69	302.67	5,549.6	3.9	-6.2	7.3	9.00	9.00	0.00
5,600.0	13.19	302.67	5,598.7	9.1	-14.1	16.7	9.00	9.00	0.00
5,650.0	17.69	302.67	5,646.9	16.3	-25.4	30.0	9.00	9.00	0.00
5,700.0	22.19	302.67	5,693.9	25.5	-39.7	46.9	9.00	9.00	0.00
5,750.0	26.69	302.67	5,739.4	36.6	-57.1	67.5	9.00	9.00	0.00
5,800.0	31.19	302.67	5,783.1	49.7	-77.5	91.6	9.00	9.00	0.00
5,850.0	35.69	302.67	5,824.8	64.6	-100.7	119.0	9.00	9.00	0.00
5,900.0	40.19	302.67	5,864.3	81.1	-126.5	149.5	9.00	9.00	0.00
5,950.0	44.69	302.67	5,901.1	99.4	-154.9	183.1	9.00	9.00	0.00
6,000.0	49.19	302.67	5,935.3	119.1	-185.7	219.4	9.00	9.00	0.00
6,050.0	53.69	302.67	5,966.4	140.2	-218.6	258.3	9.00	9.00	0.00
6,100.0	58.19	302.67	5,994.4	162.5	-253.5	299.5	9.00	9.00	0.00
6,150.0	62.69	302.67	6,019.1	186.0	-290.1	342.8	9.00	9.00	0.00
6,200.0	67.19	302.67	6,040.3	210.4	-328.2	387.8	9.00	9.00	0.00
6,250.0	71.69	302.67	6,057.8	235.7	-367.6	434.4	9.00	9.00	0.00
6,300.0	76.19	302.67	6,071.6	261.6	-408.0	482.2	9.00	9.00	0.00
6,350.0	80.69	302.67	6,081.6	288.1	-449.2	530.9	9.00	9.00	0.00
6,400.0	85.19	302.67	6,087.8	314.9	-491.0	580.2	9.00	9.00	0.00
6,453.4	90.00	302.67	6,090.0	343.6	-535.9	633.3	9.00	9.00	0.00
EOC - Begin Turn									
6,500.0	90.00	301.27	6,090.0	368.3	-575.4	679.7	3.00	0.00	-3.00
6,600.0	90.00	298.27	6,090.0	418.0	-662.2	779.5	3.00	0.00	-3.00
6,687.1	90.00	295.66	6,090.0	457.5	-739.8	866.6	3.00	0.00	-3.00
Hold to TD									
6,700.0	90.00	295.66	6,090.0	463.0	-751.5	879.5	0.00	0.00	0.00
6,800.0	90.00	295.66	6,090.0	506.4	-841.6	979.5	0.00	0.00	0.00
6,900.0	90.00	295.66	6,090.0	549.7	-931.8	1,079.5	0.00	0.00	0.00
7,000.0	90.00	295.66	6,090.0	593.0	-1,021.9	1,179.5	0.00	0.00	0.00
7,100.0	90.00	295.66	6,090.0	636.3	-1,112.0	1,279.4	0.00	0.00	0.00
7,200.0	90.00	295.66	6,090.0	679.6	-1,202.2	1,379.4	0.00	0.00	0.00
7,300.0	90.00	295.66	6,090.0	722.9	-1,292.3	1,479.4	0.00	0.00	0.00
7,400.0	90.00	295.66	6,090.0	766.2	-1,382.4	1,579.4	0.00	0.00	0.00
7,500.0	90.00	295.66	6,090.0	809.5	-1,472.6	1,679.4	0.00	0.00	0.00
7,600.0	90.00	295.66	6,090.0	852.8	-1,562.7	1,779.4	0.00	0.00	0.00
7,700.0	90.00	295.66	6,090.0	896.1	-1,652.9	1,879.3	0.00	0.00	0.00
7,800.0	90.00	295.66	6,090.0	939.4	-1,743.0	1,979.3	0.00	0.00	0.00
7,900.0	90.00	295.66	6,090.0	982.7	-1,833.1	2,079.3	0.00	0.00	0.00
8,000.0	90.00	295.66	6,090.0	1,026.0	-1,923.3	2,179.3	0.00	0.00	0.00
8,100.0	90.00	295.66	6,090.0	1,069.3	-2,013.4	2,279.3	0.00	0.00	0.00
8,200.0	90.00	295.66	6,090.0	1,112.6	-2,103.5	2,379.2	0.00	0.00	0.00
8,300.0	90.00	295.66	6,090.0	1,155.9	-2,193.7	2,479.2	0.00	0.00	0.00
8,400.0	90.00	295.66	6,090.0	1,199.2	-2,283.8	2,579.2	0.00	0.00	0.00
8,500.0	90.00	295.66	6,090.0	1,242.5	-2,374.0	2,679.2	0.00	0.00	0.00
8,600.0	90.00	295.66	6,090.0	1,285.8	-2,464.1	2,779.2	0.00	0.00	0.00
8,700.0	90.00	295.66	6,090.0	1,329.1	-2,554.2	2,879.1	0.00	0.00	0.00
8,800.0	90.00	295.66	6,090.0	1,372.4	-2,644.4	2,979.1	0.00	0.00	0.00
8,900.0	90.00	295.66	6,090.0	1,415.7	-2,734.5	3,079.1	0.00	0.00	0.00
9,000.0	90.00	295.66	6,090.0	1,459.0	-2,824.6	3,179.1	0.00	0.00	0.00
9,100.0	90.00	295.66	6,090.0	1,502.3	-2,914.8	3,279.1	0.00	0.00	0.00

Wolverine Directinal, LLC

Planning Report

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well CLU 25-6-15 #4H
Company:	Huntington Energy	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Project:	Rio Arriba (NM83C)	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec.15-T25N-R6W	North Reference:	True
Well:	CLU 25-6-15 #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	08-21-14		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,200.0	90.00	295.66	6,090.0	1,545.6	-3,004.9	3,379.0	0.00	0.00	0.00	
9,300.0	90.00	295.66	6,090.0	1,588.9	-3,095.1	3,479.0	0.00	0.00	0.00	
9,400.0	90.00	295.66	6,090.0	1,632.2	-3,185.2	3,579.0	0.00	0.00	0.00	
9,500.0	90.00	295.66	6,090.0	1,675.5	-3,275.3	3,679.0	0.00	0.00	0.00	
9,600.0	90.00	295.66	6,090.0	1,718.8	-3,365.5	3,779.0	0.00	0.00	0.00	
9,700.0	90.00	295.66	6,090.0	1,762.1	-3,455.6	3,878.9	0.00	0.00	0.00	
9,800.0	90.00	295.66	6,090.0	1,805.4	-3,545.8	3,978.9	0.00	0.00	0.00	
9,900.0	90.00	295.66	6,090.0	1,848.7	-3,635.9	4,078.9	0.00	0.00	0.00	
10,000.0	90.00	295.66	6,090.0	1,892.0	-3,726.0	4,178.9	0.00	0.00	0.00	
10,100.0	90.00	295.66	6,090.0	1,935.4	-3,816.2	4,278.9	0.00	0.00	0.00	
10,200.0	90.00	295.66	6,090.0	1,978.7	-3,906.3	4,378.8	0.00	0.00	0.00	
10,300.0	90.00	295.66	6,090.0	2,022.0	-3,996.4	4,478.8	0.00	0.00	0.00	
10,400.0	90.00	295.66	6,090.0	2,065.3	-4,086.6	4,578.8	0.00	0.00	0.00	
10,461.5	90.00	295.66	6,090.0	2,091.9	-4,142.0	4,640.3	0.00	0.00	0.00	
TD at 10461.5										

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
5,453.4	5,453.4	0.0	0.0	KOP - 9/100	
6,453.4	6,090.0	343.6	-535.9	EOC - Begin Turn	
6,687.1	6,090.0	457.5	-739.8	Hold to TD	
10,461.5	6,090.0	2,091.9	-4,142.0	TD at 10461.5	

HUNTINGTON ENERGY
CLU 25-6-15 #4H
454' FSL & 278' FEL
LOCATED IN THE SE/4 SE/4 OF SECTION 15,
T25N, R6W, N.M.P.M.,
RIO ARriba COUNTY, NEW MEXICO

DIRECTIONS

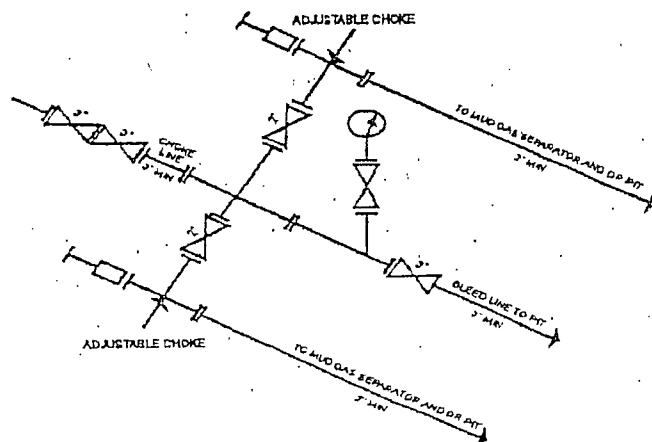
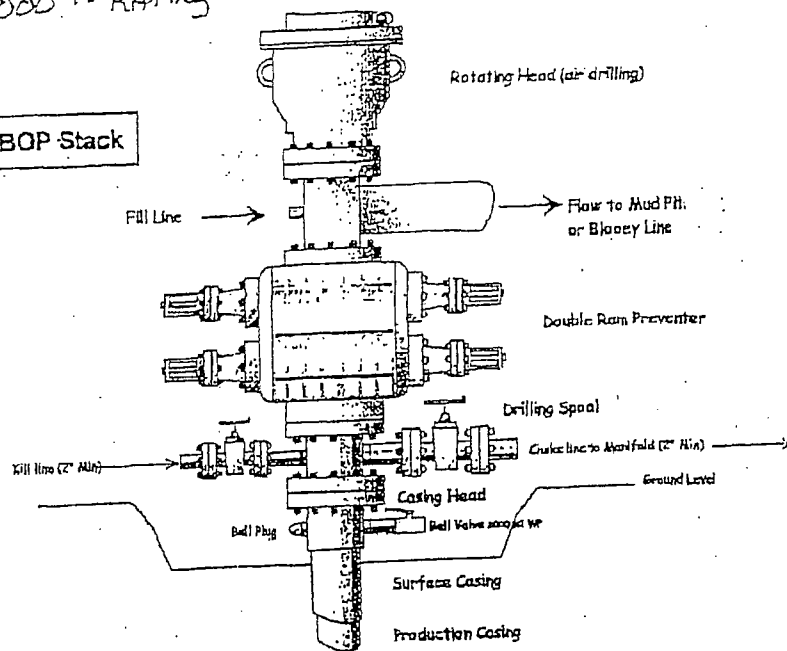
- 1) FROM THE BLANCO TRADING POST OFFICE, GO 1.3 MILES EAST ON HWY 64 TO CR 4450.
- 2) TURN RIGHT AND GO 3.6 MILES TO INTERSECTION.
- 3) TURN RIGHT AND CROSS BRIDGE, TRAVEL 21.8 MILES SOUTH ALONG LARGO CANYON TO OLD SCHOOL HOUSE.
- 4) TURN RIGHT AND TRAVEL 2.5 MILES.
- 5) TURN LEFT AND CROSS LARGO WASH AND GO 2.9 MILES.
- 6) TURN RIGHT AND GO 5.0 MILES TO TOP OF GONZALES MESA AND DOWN MAIN ROAD.
- 7) TURN LEFT AND GO 1.7 MILES TO "T" INTERSECTION.
- 8) TURN LEFT AND GO 0.3 MILES TO EXISTING LOCATION WHERE ROAD IS STAKED ON SOUTH SIDE OF PAD.

WELL FLAG LOCATED AT LAT. 36.393983° N, LONG. 107.446642° W (NAD 83).



3000 # RATING

BOP Stack



3M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY
[54 FR 39528, Sept. 27, 1989]