State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

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

David R. Catanach 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: 8-5-15
Well information;
Operator WPX, Well Name and Number MC 5 Com #906H

API# 30-045-35606, Section 33, Township 24 (N)/S, Range 8 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
- o Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- o 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
- o 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
- ✓ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ✓ 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.
- ✓ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

Charlie Perrin
NMOCD Approved by Signature

9-3-2015
Date

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

Form 3160-3
(September 2001)

RECEIVED
AUG 05 2015
Farmington Field Office
Bureau of Land Management

FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM 119786

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
NMNM-134816

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
MC 5 COM 906H

2. Name of Operator
WPX Energy Production, LLC

9. API Well No.
30-045-35606

3a. Address
P.O. Box 640 Aztec, NM 87410

3b. Phone No. *(include area code)*
(505) 333-1849

10. Field and Pool, or Exploratory
Basin Mancos

4. Location of Well *(Report location clearly and in accordance with any State requirements. *)*
At surface D 1,262' FNL & 422' FWL, sec 33, T24N, R8W
At proposed prod. zone N 335' FSL & 2,322' FWL, sec 34, T24N, R8W

11. Sec., T., R., M., or Blk. and Survey or Area
SHL: Sec 33, T24N, R8W
BHL: Sec 34, T24N, R8W

14. Distance in miles and direction from nearest town or post office*
approximately 9 miles northwest of Lybrook, New Mexico

12. County or Parish
San Juan County

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 422'	16. No. of Acres in lease 480 acres	17. Spacing Unit dedicated to this well 960 acres Entire Section 33 / W/2 Section 34
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 22'	19. Proposed Depth 14,217' MD / 5,342' TVD	20. BLM/BIA Bond No. on file UTB000178
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7020' GR	22. Approximate date work will start* August 20, 2015	23. Estimated duration 1 month

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
Title: Regulatory Specialist Sr.	Andrea Felix	8-5-2015
Approved by *(Signature)*	Name *(Printed/Typed)*	Date 8/21/15
Title AFM	Office 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.

**(Instructions on reverse)*

WPX Energy Production, LLC, proposes to develop the Basin Mancos formation at the above described location in accordance with the attached drilling and surface use plans.

OIL CONS. DIV DIST. 3

AUG 21 2015

The well pad surface is under jurisdiction of the BLM and is an existing well pad.

This well was originally permitted as a State well with API #30-045-35606. MO-TE spud and set surface on 12/9/14.

This location has been archaeologically surveyed by La Plata Archaeological Consultants. Copies of their report have been submitted directly to the BLM.

The well will use existing access so no new access road is needed.

The well will use existing pipelines so no new pipeline is needed.

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

NMOCD

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-045-35606	97232	BASIN MANCOS

[4] Property Code	[5] Property Name	[6] Well Number
315059	MC 5 COM	906H

[7] OGRID No.	[8] Operator Name	[9] Elevation
120782	WPX ENERGY PRODUCTION, LLC	7020

[10] Surface Location

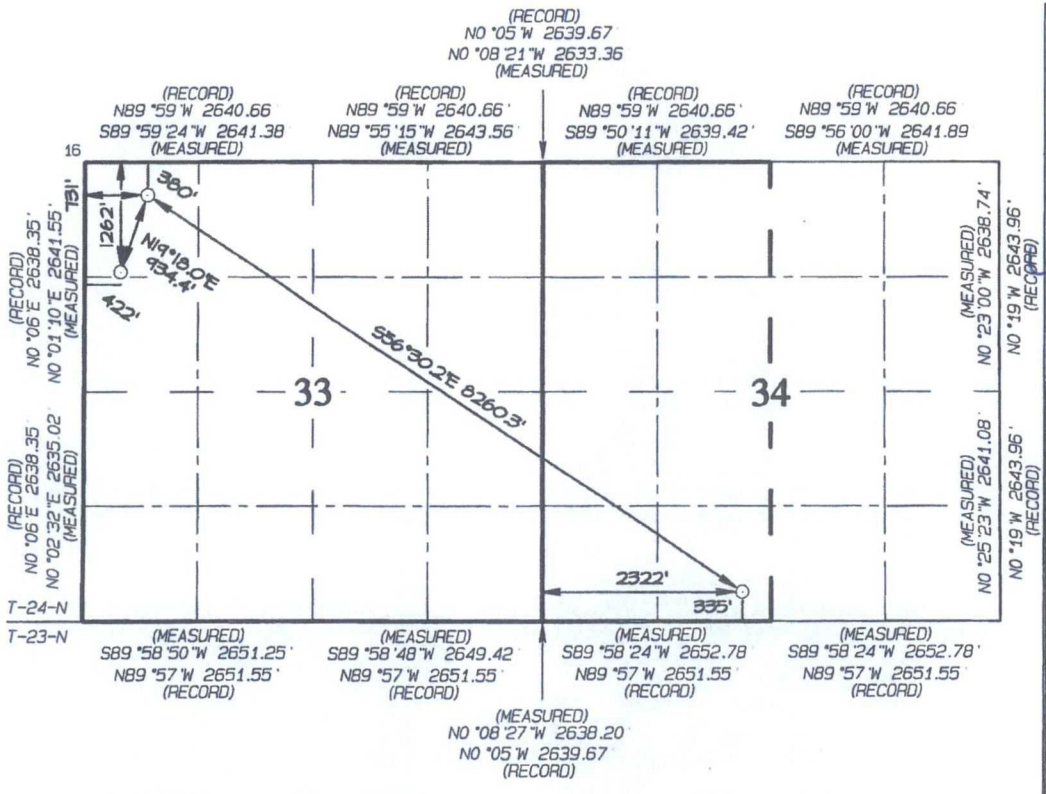
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	33	24N	8W		1262	NORTH	422	WEST	SAN JUAN

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	34	24N	8W		335	SOUTH	2322	WEST	SAN JUAN

[12] Dedicated Acres		[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
960.0	Entire Section 33 W/2 - Section 34			

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



SURFACE LOCATION
1262' FNL 422' FWL
SECTION 33, T24N, R8W
LAT: 36.274606 °N
LONG: 107.694152 °W
DATUM: NAD1927

LAT: 36.274618 °N
LONG: 107.694763 °W
DATUM: NAD1983

POINT-OF-ENTRY
380' FNL 731' FWL
SECTION 33, T24N, R8W
LAT: 36.277027 °N
LONG: 107.693100 °W
DATUM: NAD1927

LAT: 36.277039 °N
LONG: 107.693711 °W
DATUM: NAD1983

END-OF-LATERAL
335' FSL 2322' FWL
SECTION 34, T24N, R8W
LAT: 36.264474 °N
LONG: 107.669756 °W
DATUM: NAD1927

LAT: 36.264486 °N
LONG: 107.670367 °W
DATUM: NAD1983

[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.

Signature 8-5-2015 Date

Andrea Felix
Printed Name

andrea.felix@wpxenergy.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

Date Revised: AUGUST 4, 2015
Survey Date: DECEMBER 12, 2013

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

WPXENERGY

WPX ENERGY

Operations Plan

(Note: This procedure will be adjusted on site based upon actual conditions)

DATE: 08/04/2014

FIELD: Basin Mancos

WELL NAME: MC 5 COM 906H

SURFACE: Federal

SH Location: NWNW Section 33 24N-08W

ELEVATION: 7020' GR

BH Location: SESW Section 34 24N-08W
San Juan CO., NM

MINERALS: Federal

MEASURED DEPTH:

I. **GEOLOGY:** Surface formation – Nacimiento

A. **FORMATION TOPS:** (KB)

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1188	1181	Point Lookout	4464	4288
Kirtland	1450	1433	Mancos	4687	4499
Picture Cliffs	1980	1935	Gallup	**5061**	4861
Lewis	2098	2047	**Kickoff Point**	**4734**	4543
Chacra	2360	2295	Top Target	4577	5363
Cliff House	3476	3352	**Landing Point**	**5957**	5360
Menefee	3535	3408	Base Target	5957	5360
			TD	14217	5342

B. **MUD LOGGING PROGRAM:** Mudlogger on location from surface csg to TD.
C. **LOGGING PROGRAM:** LWD GR from surface casing to TD.
D. **NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

II. **DRILLING**

A. **MUD PROGRAM:** LSND mud (WBM) will be used to drill the 12-1/4" Surface hole, the 8 ¾" Directional Vertical hole, and the curve portion of the wellbore. A LSND (WBM) or (OBM) will be used to drill the lateral portion of well. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.

B. **BOP TESTING:** While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The anticipated reservoir is expected to be less than 1300 psi, so the BOPE will be tested to **250 psi (Low) for 5 minutes** and **1500 psi (High) for 10 minutes**. Pressure test surface casing to **600 psi for 30 minutes** and intermediate casing to **1500 psi for 30 minutes.** Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. **All tests and inspections will be recorded in the tour book as to time and results.**

III. MATERIALS

A. CASING PROGRAM:

CASING TYPE	OH SIZE (IN)	DEPTH (MD) (FT)	CASING SIZE (IN)	WEIGHT(LB)	GRADE
Surface	12.25"	320'	9.625"	36#	J-55
Intermediate	8.75"	5,957	7"	23#	K-55
Prod. Liner	6.125"	5,807' - 14,217'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5,807'	4-1/2"	11.6#	N-80

B. FLOAT EQUIPMENT:

1. SURFACE CASING: 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.

2. INTERMEDIATE CASING: 7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install (1) centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) centralizer at 2,700 ft., 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft.

3. PRODUCTION LINER: Run 4-1/2" Liner with cement nose guide Float Shoe + 2jts. of 4-1/2" casing + Landing Collar + 4-1/2" pup joint + 1 RSI (Sliding Sleeve) positioned inside the 330ft Hard line. Centralizer program will be determined by Wellbore condition and when Lateral is evaluated by Geoscientists and Reservoir Engineers. Set seals on Liner Hanger. Test TOL to 1500 psi for 15 minutes.

4. TIE-BACK CASING: None

C. CEMENTING:

(Note: Volumes may be adjusted onsite due to actual conditions)

1. SURFACE: 5 bbl Fresh Water Spacer, 100 sx (160 cu.ft.) of 14.5 ppg Type I-II (Neat G) + 20% Fly Ash cement w/ 7.41 gal/sack mix water ratio @ 1.61 cu ft/sx yield. Calculated @ volume + 50% excess. WOC 12 hours. Test csg to 600psi. Total Volume: (160 cu-ft/100 sx/ Bbls).TOC at Surface.

2. INTERMEDIATE: 20 bbl (112 cu-ft) Mud Flush III spacer + Lead: +/- 700 sx Foamed 50/50 Poz Cement. 13.0 ppg + 0.1% Halad 766 + 0.2% Versaset + 1.5% Chem-Foamer 760 (Yield :1.43 cu-ft/ sk. / Vol: 1001 cu-ft / 178.3 Bbls.) + TAIL: 100 sx 13.5 #/gal. + 0.2% Versaset + 0.15% HALAD-766 (Yield: 1.28 cu-ft / sk / Vol: 128 cu-ft / 22.8 Bbls.). + Fresh Water Displacement (1,362 cu-ft / +/- 242 Bbls) + 100 sx Top-Out Cement Premium: Yield: (1.17 cu-ft/ sk / (Vol: 117 cu-ft / 20.8 Bbls). WOC 12 hrs. Test Casing to 1500 PSI for 30 minutes. Total Cement Volume: (900 sx / 1246 cu-ft / 222 bbls). Mix with +/- 84,000 SCF Nitrogen. TOC at surface.

3. PRODUCTION LINER: **Spacer #1:**10 bbl (56.cu-ft) Water Spacer. **Spacer #2:** 40 bbl 9.5 ppg (224.6 cu-ft) Tuned Spacer III. **Spacer #3:** 10 bbl Water Spacer. **Lead Cement:** Extencem ™ System. Yield 1.29 cu ft/sk, 13.5 ppg, (670 sx / 912 cu ft. / 162 bbls). **Tail Spacer:** 20 BBL of MMCR. **Displacement**: Displace w/ +/- 192 bbl Fr Water. Total Cement (912 cu ft / 162 bbls).

IV. COMPLETION

A. CBL

1. Run CCL for perforating.

B. PRESSURE TEST

1. Pressure test 4-1/2" casing to 4500 psi max, hold at 1500 psi for 30 minutes. Increase pressure to Open RSI sleeves.

C. STIMULATION

1. Stimulate with approximately 2,805,000# 20/40 mesh sand and 340,000# 16/30 mesh sand in 619,113 gallons water with 42,696 mscf N2 for 17 stages.
2. Isolate stages with flow through frac plug.
3. Drill out frac plugs and flowback lateral.

D. RUNNING TUBING

1. *Production Tubing:* Run 2-7/8", 6.5#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing near Top of Liner.

- Although this horizontal well will be drilled past the applicable setbacks, an unorthodox location application is not required because the completed interval in this well, as defined by 19.15.16.7 B(1) NMAC,will be entirely within the applicable setbacks . This approach complies with all applicable rules, including 19.15.16.14 A(3) NMAC, 19.15.16.14 B(2) NMAC, 19.15.16.15 B(2)NMAC, and 19.15.16.15. B(4) NMAC.

NOTE:

Installation of RSI sleeves at Toe of Lateral.

Proposed Operations:

A 4-1/2" 11.6# N-80 Liner will be run to TD and landed +/- 150 ft. into the 7" 23# K-55 Intermediate casing with a Liner Hanger and pack-off assembly then cemented to top of liner hanger.

After cementing and TOL clean up operations are complete, the TOL will be tested to 1500 psi (per BLM).

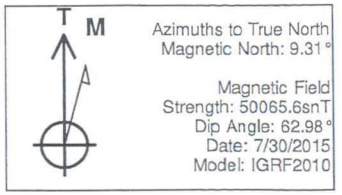
A 4-1/2" 11.6# N-80 tie-back string with seal assembly will be run and stung into the PBR of the liner hanger, tested to 1500 PSI and hung off at the surface. After Stimulation and Testing operations are complete the 4-1/2" tie-back string will be removed from the well.

WPXENERGY

Well Name: MC 5 COM #906H
Surface Location: Chaco 2408-33D
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003
Ground Elevation: 7020.00

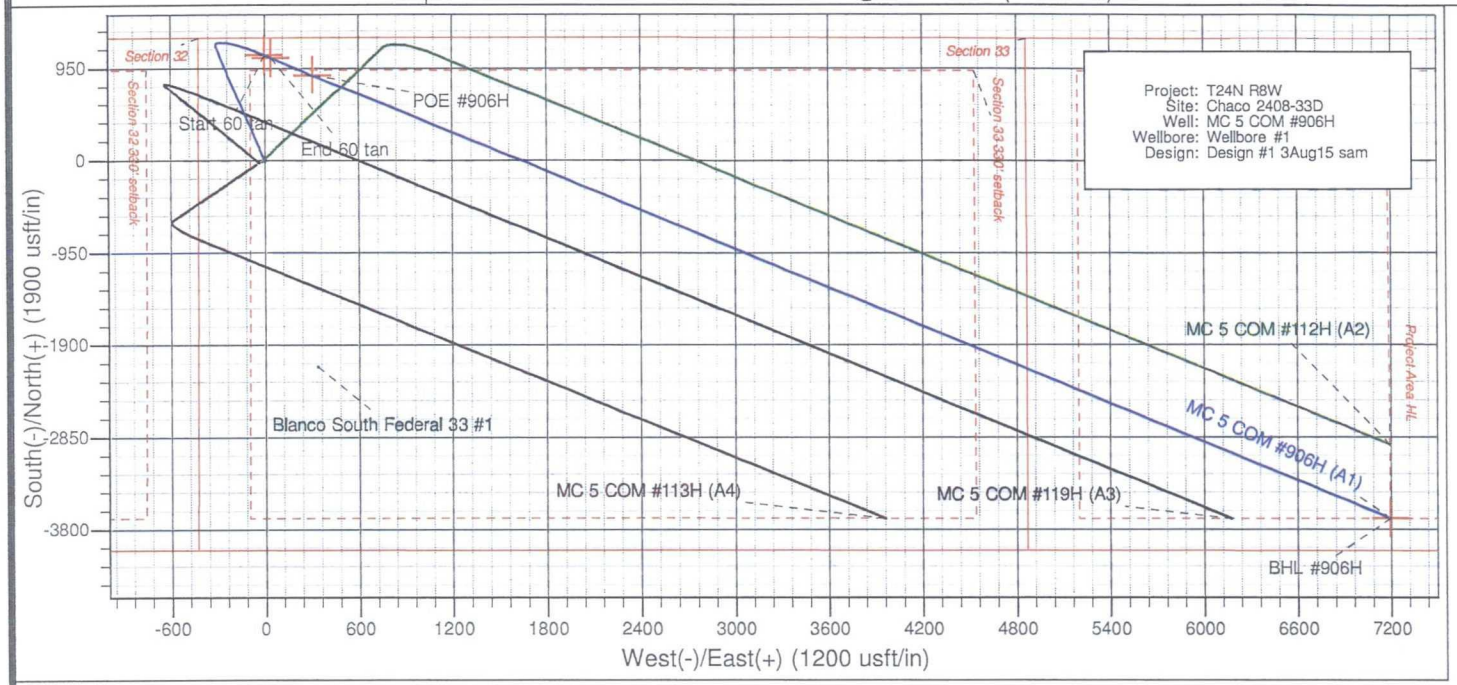
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
0.00	0.00	1919229.79	541026.47	36.2746100	-107.6941500	A1

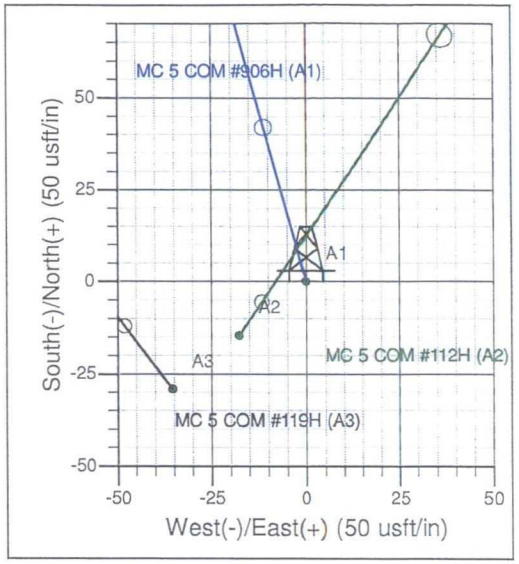
KB @ 7034.00usft (Aztec 920)



Azimuths to True North
Magnetic North: 9.31°

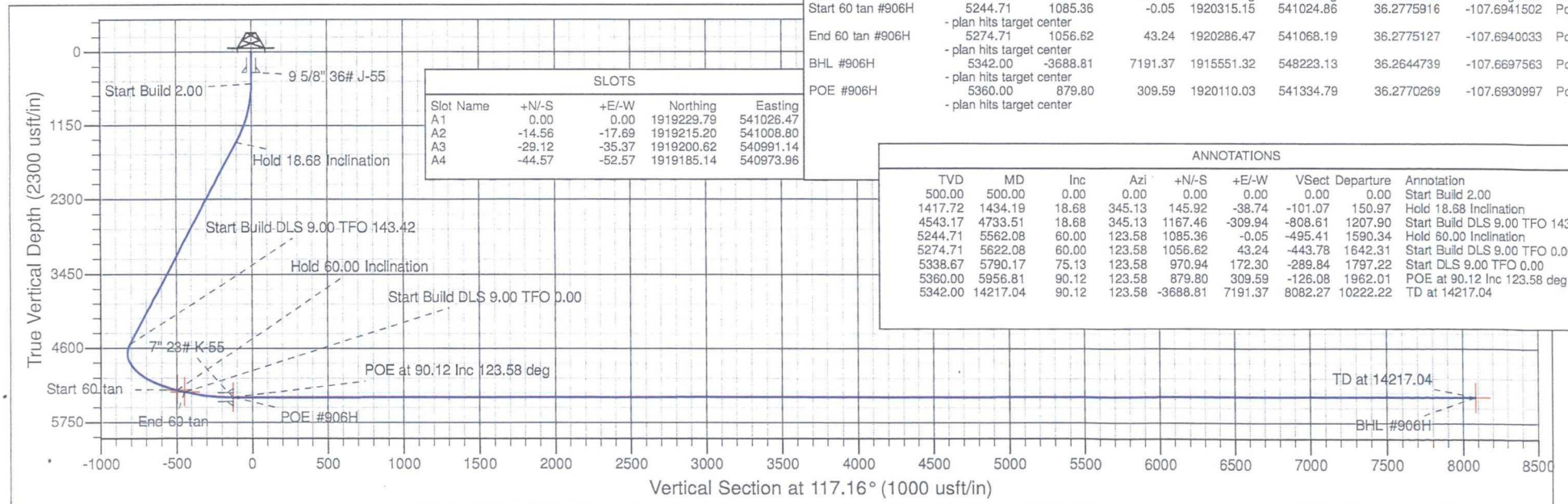
Magnetic Field
Strength: 50065.6snT
Dip Angle: 62.98°
Date: 7/30/2015
Model: IGRF2010





DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Start 60 tan #906H	5244.71	1085.36	-0.05	1920315.15	541024.86	36.2775916	-107.6941502	Point
	- plan hits target center							
End 60 tan #906H	5274.71	1056.62	43.24	1920286.47	541068.19	36.2775127	-107.6940033	Point
	- plan hits target center							
BHL #906H	5342.00	-3688.81	7191.37	1915551.32	548223.13	36.2644739	-107.6697563	Point
	- plan hits target center							
POE #906H	5360.00	879.80	309.59	1920110.03	541334.79	36.2770269	-107.6930997	Point
	- plan hits target center							



SLOTS

Slot Name	+N/-S	+E/-W	Northing	Easting
A1	0.00	0.00	1919229.79	541026.47
A2	-14.56	-17.69	1919215.20	541008.80
A3	-29.12	-35.37	1919200.62	540991.14
A4	-44.57	-52.57	1919185.14	540973.96

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
500.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1417.72	1434.19	18.68	345.13	145.92	-38.74	-101.07	150.97	Hold 18.68 Inclination
4543.17	4733.51	18.68	345.13	1167.46	-309.94	-808.61	1207.90	Start Build DLS 9.00 TFO 143.42
5244.71	5562.08	60.00	123.58	1085.36	-0.05	-495.41	1590.34	Hold 60.00 Inclination
5274.71	5622.08	60.00	123.58	1056.62	43.24	-443.78	1642.31	Start Build DLS 9.00 TFO 0.00
5338.67	5790.17	75.13	123.58	970.94	172.30	-289.84	1797.22	Start DLS 9.00 TFO 0.00
5360.00	5956.81	90.12	123.58	879.80	309.59	-126.08	1962.01	POE at 90.12 Inc 123.58 deg
5342.00	14217.04	90.12	123.58	-3688.81	7191.37	8082.27	10222.22	TD at 14217.04

WPX Energy

T24N R8W
Chaco 2408-33D
MC 5 COM #906H - Slot A1

Wellbore #1

Plan: Design #1 3Aug15 sam

Standard Planning Report

03 August, 2015

WPX

Planning Report

Database:	San Juan	**Local Co-ordinate Reference:**	Well MC 5 COM #906H (A1) - Slot A1
Company:	WPX Energy	**TVD Reference:**	KB @ 7034.00usft (Aztec 920)
Project:	T24N R8W	**MD Reference:**	KB @ 7034.00usft (Aztec 920)
Site:	Chaco 2408-33D	**North Reference:**	True
Well:	MC 5 COM #906H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 3Aug15 sam		

Project	T24N R8W		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		

Site	Chaco 2408-33D				
Site Position:		**Northing:**	1,919,215.20 usft	**Latitude:**	36.2745700
From:	Lat/Long	**Easting:**	541,008.80 usft	**Longitude:**	-107.6942100
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.20 in	**Grid Convergence:**	0.08 °

Well	MC 5 COM #906H - Slot A1					
Well Position	**+N/-S**	14.56 usft	**Northing:**	1,919,229.79 usft	**Latitude:**	36.2746100
	+E/-W	17.69 usft	**Easting:**	541,026.47 usft	**Longitude:**	-107.6941500
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	7,020.00 usft

Wellbore	Wellbore #1			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	7/30/2015	9.31	62.98	50,066

Design	Design #1 3Aug15 sam			
Audit Notes:				
Version:	**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.00	0.00	0.00	117.16

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,434.19	18.68	345.13	1,417.72	145.92	-38.74	2.00	2.00	0.00	345.13	
4,733.51	18.68	345.13	4,543.17	1,167.46	-309.94	0.00	0.00	0.00	0.00	
5,562.08	60.00	123.58	5,244.71	1,085.36	-0.05	9.00	4.99	16.71	143.42	Start 60 tan #906H
5,622.08	60.00	123.58	5,274.71	1,056.62	43.24	0.00	0.00	0.00	0.00	End 60 tan #906H
5,790.17	75.13	123.58	5,338.67	970.94	172.30	9.00	9.00	0.00	0.00	
5,956.81	90.12	123.58	5,360.00	879.80	309.59	9.00	9.00	0.00	0.00	POE #906H
14,217.04	90.12	123.58	5,342.00	-3,688.81	7,191.37	0.00	0.00	0.00	0.00	BHL #906H

Database:	San Juan	**Local Co-ordinate Reference:**	Well MC 5 COM #906H (A1) - Slot A1
Company:	WPX Energy	**TVD Reference:**	KB @ 7034.00usft (Aztec 920)
Project:	T24N R8W	**MD Reference:**	KB @ 7034.00usft (Aztec 920)
Site:	Chaco 2408-33D	**North Reference:**	True
Well:	MC 5 COM #906H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 3Aug15 sam		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320.00	0.00	0.00	320.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8" 36# J-55									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,000.00	10.00	345.13	997.47	42.07	-11.17	-29.14	2.00	2.00	0.00
1,434.19	18.68	345.13	1,417.72	145.92	-38.74	-101.07	2.00	2.00	0.00
Hold 18.68 Inclination									
1,500.00	18.68	345.13	1,480.06	166.29	-44.15	-115.18	0.00	0.00	0.00
2,000.00	18.68	345.13	1,953.71	321.10	-85.25	-222.40	0.00	0.00	0.00
2,500.00	18.68	345.13	2,427.36	475.91	-126.35	-329.63	0.00	0.00	0.00
3,000.00	18.68	345.13	2,901.01	630.72	-167.44	-436.86	0.00	0.00	0.00
3,500.00	18.68	345.13	3,374.66	785.54	-208.54	-544.08	0.00	0.00	0.00
4,000.00	18.68	345.13	3,848.31	940.35	-249.64	-651.31	0.00	0.00	0.00
4,500.00	18.68	345.13	4,321.96	1,095.16	-290.74	-758.53	0.00	0.00	0.00
4,733.51	18.68	345.13	4,543.17	1,167.46	-309.94	-808.61	0.00	0.00	0.00
Start Build DLS 9.00 TFO 143.42									
5,000.00	14.05	79.04	4,802.45	1,215.57	-288.82	-811.78	9.00	-1.74	35.24
5,500.00	54.56	122.07	5,211.16	1,113.68	-43.91	-547.36	9.00	8.10	8.61
5,562.08	60.00	123.58	5,244.71	1,085.36	-0.05	-495.41	9.00	8.76	2.43
Hold 60.00 Inclination									
5,622.08	60.00	123.58	5,274.71	1,056.62	43.24	-443.78	0.00	0.00	0.00
Start Build DLS 9.00 TFO 0.00									
5,790.17	75.13	123.58	5,338.67	970.94	172.30	-289.84	9.00	9.00	0.00
Start DLS 9.00 TFO 0.00									
5,956.81	90.12	123.58	5,360.00	879.80	309.59	-126.08	9.00	9.00	0.00
POE at 90.12 Inc 123.58 deg									
5,957.00	90.12	123.58	5,360.00	879.69	309.75	-125.89	0.00	0.00	0.00
7" 23# K-55									
6,000.00	90.12	123.58	5,359.91	855.91	345.58	-83.16	0.00	0.00	0.00
6,500.00	90.12	123.58	5,358.82	579.37	762.14	413.70	0.00	0.00	0.00
7,000.00	90.12	123.58	5,357.73	302.82	1,178.70	910.56	0.00	0.00	0.00
7,500.00	90.12	123.58	5,356.64	26.28	1,595.26	1,407.42	0.00	0.00	0.00
8,000.00	90.12	123.58	5,355.55	-250.26	2,011.82	1,904.28	0.00	0.00	0.00
8,500.00	90.12	123.58	5,354.46	-526.80	2,428.38	2,401.14	0.00	0.00	0.00
9,000.00	90.12	123.58	5,353.37	-803.35	2,844.94	2,898.00	0.00	0.00	0.00
9,500.00	90.12	123.58	5,352.28	-1,079.89	3,261.50	3,394.86	0.00	0.00	0.00
10,000.00	90.12	123.58	5,351.19	-1,356.43	3,678.06	3,891.72	0.00	0.00	0.00
10,500.00	90.12	123.58	5,350.10	-1,632.97	4,094.63	4,388.58	0.00	0.00	0.00
11,000.00	90.12	123.58	5,349.01	-1,909.52	4,511.19	4,885.44	0.00	0.00	0.00
11,500.00	90.12	123.58	5,347.92	-2,186.06	4,927.75	5,382.30	0.00	0.00	0.00
12,000.00	90.12	123.58	5,346.83	-2,462.60	5,344.31	5,879.16	0.00	0.00	0.00
12,500.00	90.12	123.58	5,345.74	-2,739.14	5,760.87	6,376.02	0.00	0.00	0.00
13,000.00	90.12	123.58	5,344.65	-3,015.68	6,177.43	6,872.88	0.00	0.00	0.00
13,500.00	90.12	123.58	5,343.56	-3,292.23	6,593.99	7,369.74	0.00	0.00	0.00
14,000.00	90.12	123.58	5,342.47	-3,568.77	7,010.55	7,866.60	0.00	0.00	0.00
14,217.04	90.12	123.58	5,342.00	-3,688.81	7,191.37	8,082.27	0.00	0.00	0.00
TD at 14217.04									

Database:	San Juan	**Local Co-ordinate Reference:**	Well MC 5 COM #906H (A1) - Slot A1
Company:	WPX Energy	**TVD Reference:**	KB @ 7034.00usft (Aztec 920)
Project:	T24N R8W	**MD Reference:**	KB @ 7034.00usft (Aztec 920)
Site:	Chaco 2408-33D	**North Reference:**	True
Well:	MC 5 COM #906H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 3Aug15 sam		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Start 60 tan #906H - plan hits target center - Point	0.00	0.00	5,244.71	1,085.36	-0.05	1,920,315.15	541,024.86	36.2775916	-107.6941502
End 60 tan #906H - plan hits target center - Point	0.00	0.00	5,274.71	1,056.62	43.24	1,920,286.47	541,068.19	36.2775126	-107.6940033
BHL #906H - plan hits target center - Point	0.00	0.00	5,342.00	-3,688.81	7,191.37	1,915,551.32	548,223.13	36.2644738	-107.6697563
POE #906H - plan hits target center - Point	0.00	0.00	5,360.00	879.80	309.59	1,920,110.03	541,334.79	36.2770269	-107.6930997

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
320.00	320.00	9 5/8" 36# J-55	9.62	12.25
5,957.00	5,360.00	7" 23# K-55	7.00	8.75

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
500.00	500.00	0.00	0.00	Start Build 2.00
1,434.19	1,417.72	145.92	-38.74	Hold 18.68 Inclination
4,733.51	4,543.17	1,167.46	-309.94	Start Build DLS 9.00 TFO 143.42
5,562.08	5,244.71	1,085.36	-0.05	Hold 60.00 Inclination
5,622.08	5,274.71	1,056.62	43.24	Start Build DLS 9.00 TFO 0.00
5,790.17	5,338.67	970.94	172.30	Start DLS 9.00 TFO 0.00
5,956.81	5,360.00	879.80	309.59	POE at 90.12 Inc 123.58 deg
14,217.04	5,342.00	-3,688.81	7,191.37	TD at 14217.04

irreparable harm to roads, soils, or streams. No frozen soils will be used for construction purposes or trench backfilling.

Soils will be excavated from the well-connect pipeline corridor trenches using a trencher or backhoe. Each trench will be 4 to 5 feet in depth. The trench will be 16 inches in width if a trencher is used or 24 inches in width if a backhoe is used. Soft plugs will be placed within the trench every quarter mile. When stringing pipe, one joint of pipe will be set back every quarter mile. Backfilling operations will be performed within a reasonable amount of time to ensure that the trench is not left open for more than 24 hours. If a trench is left open overnight, it will be fenced with a temporary fence or a night watchman will be utilized.

After a pipe has been welded and coated, a side-boom tractor will be used to place the pipe into the trench. Prior to construction commencement, WPX will notify the BLM-FFO of additional types of construction equipment to be used.

The soils excavated from the trench will be returned to the trench, atop the pipe, and compacted to prevent subsidence. The trench will be compacted after approximately 2 feet of fill is placed within the trench and after the ground surface has been leveled.

Prior to the well-connect pipelines being placed in service, the pipes will be pressure tested.

Pipeline markers will be installed along the well-connect pipeline corridor within the line of sight. These markers will not create safety hazards.

Construction plats are provided in the APD and ROW Grant permit packages.

9. METHODS FOR HANDLING WASTE DISPOSAL

Drilling operations will utilize a closed-loop system. Drilling of the horizontal lateral will be accomplished with water-based mud. All cuttings will be hauled to a commercial disposal facility or land farm. WPX will follow New Mexico Oil Conservation Division "Pit Rule" guidelines and Onshore Order No. 1 regarding the placement, operation, and removal of closed-loop systems. No blow pit will be used.

If drilling has not been initiated on the well pad within 120 days of the well pad being constructed, the operator will submit a site-stabilization plan to the BLM-FFO.

All garbage and trash will be placed in a metal trash basket. The trash and garbage will be hauled off site and dumped in an approved landfill, as needed. Portable toilets will be provided and maintained during construction, as needed (see Figures B.3 and B.4 [Appendix B] for the location of toilets and trash receptacles).

10. ANCILLARY FACILITIES

Two TUAs will be used; the TUAs are described in Section 2.2 (Project Description). During staging, WPX will stay within the boundaries of the previously disturbed well pads associated with the TUAs. During interim reclamation, WPX will repair any damage to and reseed the TUAs (with the exception of portions of the TUAs that the well pad operator prefers to remain unseeded).

11. WELL SITE LAYOUT

The approximate cuts, approximate fills, and orientation for the well pad are depicted on the construction plats in the APD and ROW Grant permit packages. Rig orientation and the location of drilling equipment and topsoil or spoil material stockpiles are depicted on Figure B.3 (Appendix B). The layout of the completions rigs is depicted on Figure B.4 (Appendix B).

3000 PSI BOP Schematic