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: 8/14/14
Well information;
Operator WPX, Well Name and Number Chaco 2306-08E #198H
API# 30-039-31268, Section 8, Township 23 (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
- 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.

Charlie Perrin
NMOCD Approved by Signature

9-5-2014
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

CONFIDENTIAL

Form 3160-3
(September 2001)

RECEIVED
AUG 14 2014
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

1a. Type of Work: ☒ DRILL ☐ REENTER	5. Lease Serial No. NMSF 078362
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone	6. If Indian, Allottee or Tribe Name
2. Name of Operator WPX Energy Production, LLC	7. If Unit or CA Agreement, Name and No. NE Chaco COM NMNM-132829
3a. Address P.O. Box 640 Aztec, NM 87410	3b. Phone No. (include area code) (505) 333-1808
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface E 1440' FNL & 217' FWL, sec 8, T23N, R6W At proposed prod. zone A 131' FNL & 502' FEL, sec 12, T23N, R7W	8. Lease Name and Well No. Chaco 2306-08E #198H
	9. API Well No. 30-039-31268
	10. Field and Pool, or Exploratory Lybrook Gallup/Counselors Gallup-Dakota
	11. Sec., T., R., M., or Blk. and Survey or Area SHL: Section 8, T23N, R6W BHL: Section 12, T23N, R7W
14. Distance in miles and direction from nearest town or post office* approximately 4 miles northeast of Lybrook, New Mexico	12. County or Parish Rio Arriba County / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 195'	16. No. of Acres in lease 2530.37 ~~160~~
	17. Spacing Unit dedicated to this well 160.78 ~~2530.37~~ acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 22'	19. Proposed Depth 11,485' MD / 5,405' TVD
	20. BLM/BIA Bond No. on file UTB000178
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6845' GR	22. Approximate date work will start* October 1, 2014
	23. Estimated duration 1 month

OIL CONS. DIV DIST. 3
AUG 28 2014

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 Larry Higgins	Name (Printed/Typed) Larry Higgins	Date 8/14/2014
Title Regulatory Specialist		
Approved by (Signature) /s/ Matthew Kade	Name (Printed/Typed)	Date 8/27/14
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 Lybrook Gallup and Counselors Gallup-Dakota formations at the above described location in accordance with the attached drilling and surface use plans.

The well pad surface is under jurisdiction of the BLM and is co-located with the Chaco 2306-08E #197H, 266H and 267H.

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

A 550' access road is needed.

There will be 811' of pipeline associated with these wells and it is all on lease. Pipeline plats are attached.

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

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

NMOCD

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

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

RECEIVED

AUG 14 2014

Bureau of Land Management
Farmington Field Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-039-31268	42289 / 13379	LYBROOK GALLUP / COUNSELORS GALLUP-DAKOTA

4 Property Code	5 Property Name	6 Well Number
313644	CHACO 2306-08E	198H

7 OGRID No.	8 Operator Name	9 Elevation
120782	WPX ENERGY PRODUCTION, LLC	6845'

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
E	8	23N	6W		1440	NORTH	217	WEST	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	East/West line	County
A	12	23N	7W		131	NORTH	502	EAST	RIO ARRIBA

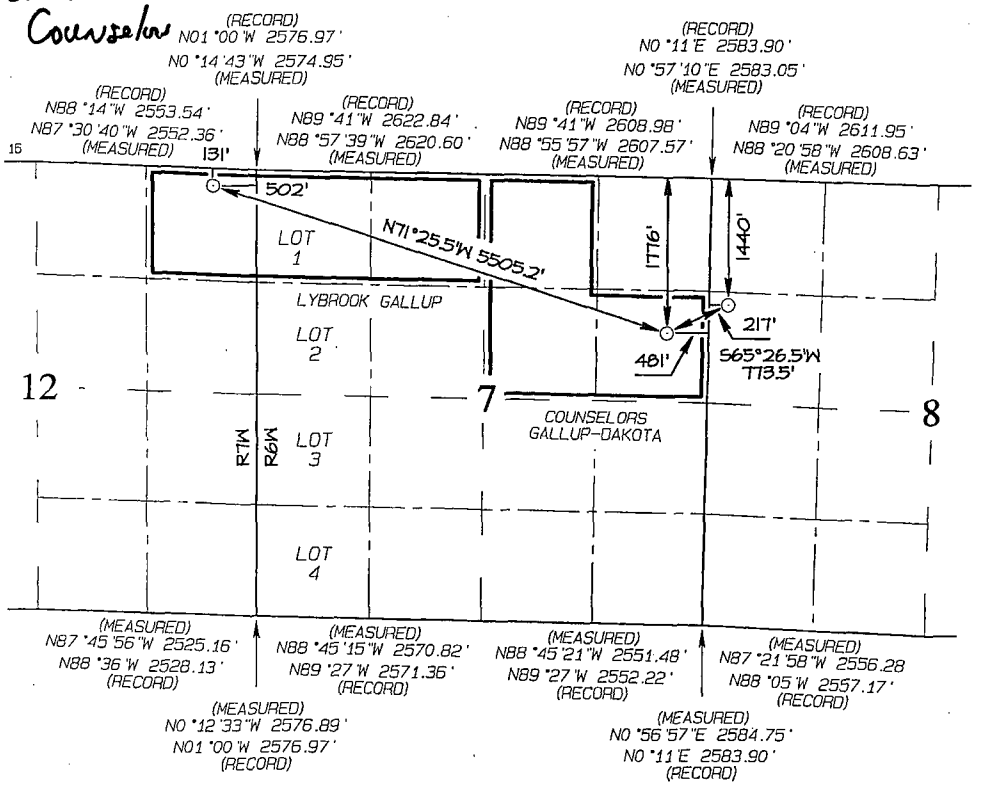
12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
240.46 NE/4 NE/4 (12) S/2 NE/4, NW/4 NE/4, N/2 NW/4 (7)			

OIL CONS. DIV DIST. 3

AUG 28 2014

120.46 Lybrook
120 ac Counselors

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



END-OF-LATERAL
131' FNL 502' FEL
SECTION 12, T23N, R7W
LAT: 36.246170 °N
LONG: 107.520170 °W
DATUM: NAD1927

LAT: 36.246183 °N
LONG: 107.520776 °W
DATUM: NAD1983

POINT-OF-ENTRY
1776' FNL 481' FEL
SECTION 7, T23N, R6W
LAT: 36.241540 °N
LONG: 107.502400 °W
DATUM: NAD1927

LAT: 36.241553 °N
LONG: 107.503005 °W
DATUM: NAD1983

SURFACE LOCATION
1440' FNL 217' FWL
SECTION 8, T23N, R6W
LAT: 36.242448 °N
LONG: 107.500029 °W
DATUM: NAD1927

LAT: 36.242461 °N
LONG: 107.500634 °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 Date 8/12/14

Larry Higgins
Printed Name

larry.higgins@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 14, 2014
Survey Date: AUGUST 22, 2013

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

APD Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 14th day of August, 2014.

Name Larry Higgins

Position Title Regulatory Specialist

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

Telephone (505) 333-1808

Field representative (if not above signatory) _____

E-mail larry.higgins@wpxenergy.com

Larry Higgins

Date: 08/14/14

Larry Higgins
Regulatory Spec.
WPX Energy Production, LLC

WPXENERGY

WPX ENERGY

Operations Plan

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

DATE:	8/1//2014	**FIELD:**	Lybrook (Gallup)/Counselors (Gallup-Dakota)
WELL NAME:	**Chaco 2306-08L #198H**	**SURFACE:**	BLM
SH Location:	SWNW Sec 8 -23N -06W	**ELEVATION:**	6845' GR
BH Location:	NENE Sec 12 -23N -07W Rio Arriba Co, NM	**MINERALS:**	BLM
MEASURED DEPTH:	**11,485'**	**LEASE #:**	NMSF 078362

I. GEOLOGY: Surface formation – San Jose

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

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1384	1379	Point Lookout	4261	4228
Kirtland	1732	1723	Mancos	4491	4456
Picture Cliffs	1983	1972	**Kickoff Point**	**4903**	4867
Lewis	2067	2055	Top Target	5657	5458
Chacra	2420	2405	**Landing Point**	**5978**	5533
Cliff House	3512	3486	Base Target	5978	5533
Menefee	3535	3509			
			TD	11485	5405

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.**

NOTE: Vertical portion of the well (8-3/4 in.) will be directionally drilled as per attached Directional Plan to +/- 4,903' (MD) / 4,867' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 5,978' (MD) / 5,533' (TVD). 7 in. csg will be set at this point. A 6-1/8" Lateral will be drilled as per the attached Directional Plan to +/- 11,485' (MD) / 5,405' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,828 ft. to TD and cemented. Liner will be tied back to surface w / 4-1/2" Casing for stimulation / testing, then removed from the well.

III. MATERIALS

A. CASING PROGRAM:

CASING TYPE	OH SIZE (IN)	DEPTH (MD) (FT)	CASING SIZE (IN)	WEIGHT(LB)	GRADE
Surface	12.25"	400'+	9.625"	36#	J-55
Intermediate	8.75"	5,978	7"	23#	K-55
Prod. Liner	6.125"	5,828' - 11,485'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5851'	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 + (2) RSI (Sliding Sleeves) 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: 10 bbl Fr Water Spacer + 190 sx (222.3 cu.ft.) of "Premium Cement" + 2% Calcium Chloride Cement + 0.125# pps of Poly-E-Flake, 15.8 #/gal (1.17 cu ft./sk, Vol 39.58 Bbls.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 600psi. Total Volume: (222.3 cu-ft/190 sx/39.6 Bbls). TOC at Surface.

2. INTERMEDIATE: 20 bbl (112 cu-ft) Mud Flush III spacer + Lead: 850 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: 1216 cu-ft / 216.5 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). Test Casing to 1500 PSI for 30 minutes. Total Cement Volume: (1050 sx / 1461 cu-ft / 260 bbls). Mix with +/- 84,000 SCF Nitrogen. TOC at surface.

3. PRODUCTION LINER: **STAGE 1**:10 bbl (56.cu-ft) Fr Water Spacer. **STAGE 2**:40 bbl 9.5 ppg (224.6 cu-ft) Tuned Spacer III + 0.5 gal/bbl Musol + 38.75 ppb Barite + 0.5 gal/bbl SEM-7. **STAGE 3**: 10 bbl Fr Water Spacer. **STAGE 4: Lead Cement:** 50 / 50 Poz Premium + 0.2% Versaset + 0.2% Halad -766, Yield 1.43 cu ft/sk, 13.0 ppg, (10 sx / 14.3 cu ft. / 2.5 bbls). **STAGE 5:** 200 sx. Foamed Lead Cement: 50 / 50 Poz Standard + 0.2% Versaset + 0.2% HALAD-766 + 1.5% Chem-Foamer 760. Yield 1.97 cu-ft/sk. 13.0 ppg (200 sx / 394 cu-ft. / 70.2 bbls.). **STAGE 6**: Tail Cement : 100 sx. 50/50 Poz Standard + 0.2% Versaset + 0.05% HALAD-766 + .05% SA-1015, Weight: 13.5 ppg (100 sx / Yield 1.28 cu ft/sk. / 128 cu ft. / 22.8 bbls) **STAGE 7**: Displace w/ +/- 137 bbl Fr Water. Total Cement (536.3 cu ft / 95.5 bbls). Mix Foamed Cement w/ +/- 75,000 SCF Nitrogen. Est. TOC +/- 5,528 ft.

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 point of curve (~5,800' MD).

- 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 (set at 5,978 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,828ft. (MD) +/- 78 degree angle. TOC: +/- 5,528 ft. (MD).

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.

The Drilling Rig will be rigged down at this point and Completion operations will begin. After Stimulation and Testing operations are complete the 4-1/2" tie-back string will be removed from the well.

Note: Changes to formation tops, casing landing points, well TD and Directional Plan.

WPXENERGY

Well Name: Chaco 2306-08E #198H
Surface Location: Chaco 2306-08E
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico Central 3002
Ground Elevation: 6809.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1909839.32282	131380.41497	36.24245	-107.50003	198H

WELL @ 6859.00usft (Original Well Elev)

T M

Azimuths to True North
Magnetic North: 9.34°

Magnetic Field
Strength: 50172.2snT
Dip Angle: 63.01°
Date: 7/30/2014
Model: IGRF2010

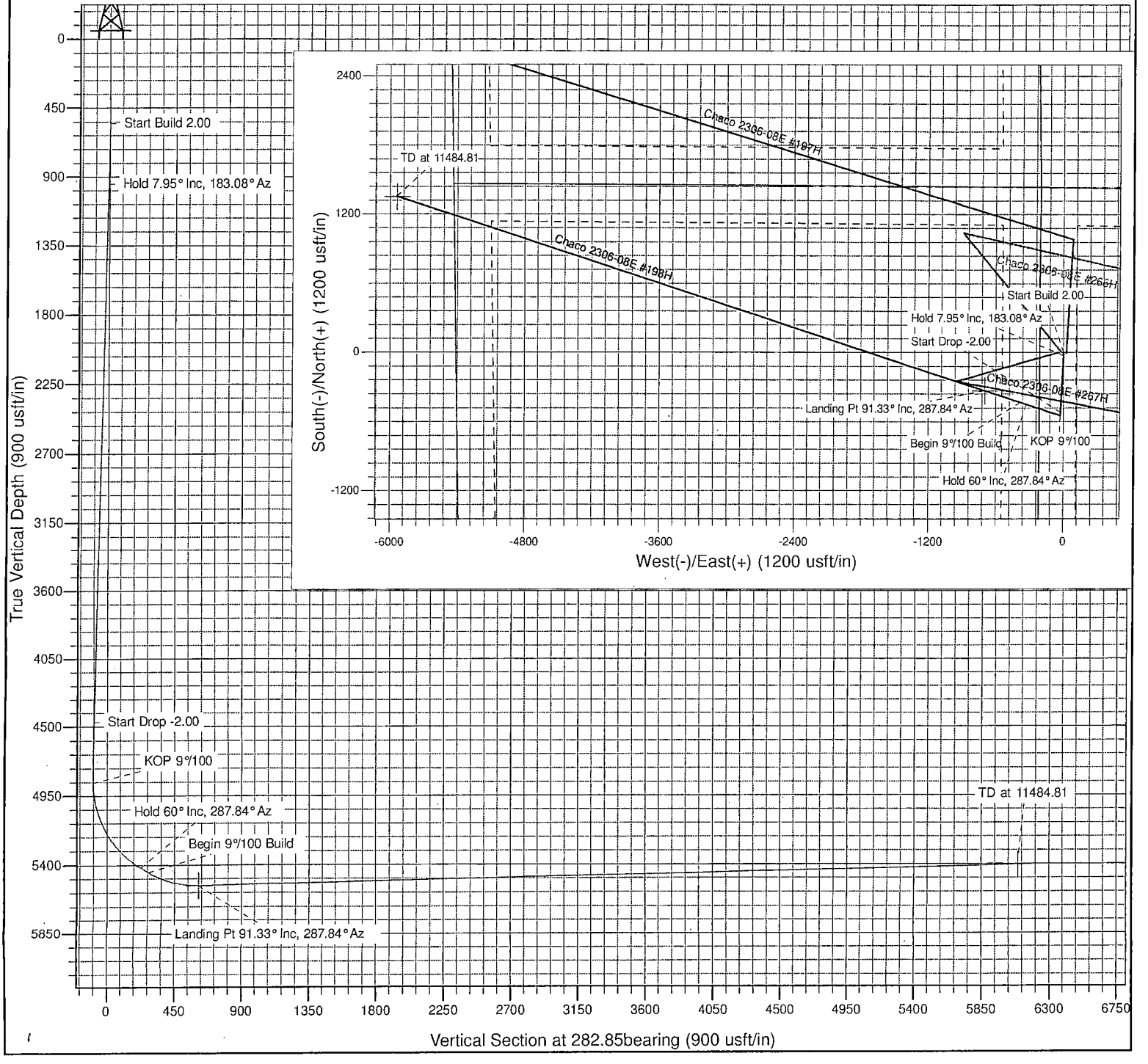
Project: SJ 08-23N-06W
Site: Chaco 2306-08E
Well: Chaco 2306-08E #198H
Design #1 30Jul14 kjs

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
550.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
946.47	947.75	7.95	183.08	-27.53	-1.48	-4.68	27.57	Hold 7.95° Inc, 183.08° Az
4470.08	4505.59	7.95	183.08	-519.20	-27.94	-88.24	519.95	Start Drop -2.00
4866.55	4903.34	0.00	0.00	-546.73	-29.42	-92.91	547.52	KOP 9°/100
5417.88	5570.01	60.00	287.84	-449.23	-332.43	224.19	865.83	Hold 60° Inc, 287.84° Az
5447.88	5630.01	60.00	287.84	-433.32	-381.89	275.96	917.79	Begin 9°/100 Build
5533.00	5978.14	91.33	287.84	-331.29	-698.99	607.80	1250.90	Landing Pt 91.33° Inc, 287.84° Az
5405.00	11484.81	91.33	287.84	1354.94	-5939.57	6092.15	6756.08	TD at 11484.81

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TD / PBHL Chaco 2306-08E #198H - plan hits target center	5405.00	1354.94	-5939.57	1911270.76905	125458.81780	36.24617	-107.52017	Point
PP Chaco 2306-08E #198H - plan hits target center	5533.00	-331.29	-698.99	1909517.07708	130677.21364	36.24154	-107.50240	Point



WPXENERGY SM

SAN JUAN BASIN

SJ 08-23N-06W
Chaco 2306-08E
Chaco 2306-08E #198H - Slot 198H

Wellbore #1

Plan: Design #1 30Jul14 kjs

Standard Planning Report - Geographic

31 July, 2014

Database:	COMPASS-PICEANCE	**Local Co-ordinate Reference:**	Well Chaco 2306-08E #198H - Slot 198H
Company:	SAN JUAN BASIN	**TVD Reference:**	WELL @ 6859.00usft (Original Well Elev)
Project:	SJ 08-23N-06W	**MD Reference:**	WELL @ 6859.00usft (Original Well Elev)
Site:	Chaco 2306-08E	**North Reference:**	True
Well:	Chaco 2306-08E #198H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 30Jul14 kjs		

Project	SJ 08-23N-06W, Rio Arriba County, NM		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Site	Chaco 2306-08E				
Site Position:		**Northing:**	1,909,835.37814 usft	**Latitude:**	36.24244
From:	Lat/Long	**Easting:**	131,403.96023 usft	**Longitude:**	-107.49995
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	-0.74 °

Well	Chaco 2306-08E #198H - Slot 198H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	1,909,839.32281 usft	**Latitude:**	36.24245
	+E/-W	0.00 usft	**Easting:**	131,380.41496 usft	**Longitude:**	-107.50003
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	6,809.00 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	7/30/2014	9.34	63.01	50,172

Design	Design #1 30Jul14 kjs				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (bearing)**	
	0.00	0.00	0.00	282.85	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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	
550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	
947.75	7.95	183.08	946.47	-27.53	-1.48	2.00	2.00	0.00	183.08	
4,505.59	7.95	183.08	4,470.08	-519.20	-27.94	0.00	0.00	0.00	0.00	
4,903.34	0.00	0.00	4,866.55	-546.73	-29.42	2.00	-2.00	0.00	180.00	
5,570.01	60.00	287.84	5,417.88	-449.23	-332.43	9.00	9.00	0.00	287.84	
5,630.01	60.00	287.84	5,447.88	-433.32	-381.89	0.00	0.00	0.00	0.00	
5,978.14	91.33	287.84	5,533.00	-331.29	-698.99	9.00	9.00	0.00	0.00	
11,484.81	91.33	287.84	5,405.00	1,354.94	-5,939.57	0.00	0.00	0.00	0.00	TD / PBHL Chaco 23(

Database:	COMPASS-PICEANCE	**Local Co-ordinate Reference:**	Well Chaco 2306-08E #198H - Slot 198H
Company:	SAN JUAN BASIN	**TVD Reference:**	WELL @ 6859.00usft (Original Well Elev)
Project:	SJ 08-23N-06W	**MD Reference:**	WELL @ 6859.00usft (Original Well Elev)
Site:	Chaco 2306-08E	**North Reference:**	True
Well:	Chaco 2306-08E #198H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 30Jul14 kjs		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,909,839.32281	131,380.41496	36.24245	-107.50003
200.00	0.00	0.00	200.00	0.00	0.00	1,909,839.32281	131,380.41496	36.24245	-107.50003
400.00	0.00	0.00	400.00	0.00	0.00	1,909,839.32281	131,380.41496	36.24245	-107.50003
550.00	0.00	0.00	550.00	0.00	0.00	1,909,839.32281	131,380.41496	36.24245	-107.50003
Start Build 2.00									
600.00	1.00	183.08	600.00	-0.44	-0.02	1,909,838.88746	131,380.38590	36.24245	-107.50003
800.00	5.00	183.08	799.68	-10.89	-0.59	1,909,828.44564	131,379.68882	36.24242	-107.50003
947.75	7.95	183.08	946.47	-27.53	-1.48	1,909,811.81667	131,378.57870	36.24238	-107.50004
Hold 7.95° Inc, 183.08° Az									
1,000.00	7.95	183.08	998.22	-34.75	-1.87	1,909,804.60132	131,378.09701	36.24236	-107.50004
1,200.00	7.95	183.08	1,196.30	-62.39	-3.36	1,909,776.98388	131,376.25331	36.24228	-107.50004
1,400.00	7.95	183.08	1,394.37	-90.03	-4.84	1,909,749.36645	131,374.40961	36.24220	-107.50005
1,600.00	7.95	183.08	1,592.45	-117.67	-6.33	1,909,721.74901	131,372.56591	36.24213	-107.50005
1,800.00	7.95	183.08	1,790.52	-145.30	-7.82	1,909,694.13157	131,370.72221	36.24205	-107.50006
2,000.00	7.95	183.08	1,988.60	-172.94	-9.31	1,909,666.51413	131,368.87852	36.24198	-107.50006
2,200.00	7.95	183.08	2,186.67	-200.58	-10.79	1,909,638.89669	131,367.03482	36.24190	-107.50007
2,400.00	7.95	183.08	2,384.75	-228.22	-12.28	1,909,611.27925	131,365.19112	36.24182	-107.50007
2,600.00	7.95	183.08	2,582.82	-255.86	-13.77	1,909,583.66182	131,363.34742	36.24175	-107.50008
2,800.00	7.95	183.08	2,780.90	-283.50	-15.26	1,909,556.04438	131,361.50372	36.24167	-107.50008
3,000.00	7.95	183.08	2,978.97	-311.14	-16.74	1,909,528.42694	131,359.66002	36.24160	-107.50009
3,200.00	7.95	183.08	3,177.05	-338.78	-18.23	1,909,500.80950	131,357.81632	36.24152	-107.50009
3,400.00	7.95	183.08	3,375.13	-366.42	-19.72	1,909,473.19206	131,355.97263	36.24144	-107.50010
3,600.00	7.95	183.08	3,573.20	-394.05	-21.20	1,909,445.57462	131,354.12893	36.24137	-107.50010
3,800.00	7.95	183.08	3,771.28	-421.69	-22.69	1,909,417.95718	131,352.28523	36.24129	-107.50011
4,000.00	7.95	183.08	3,969.35	-449.33	-24.18	1,909,390.33974	131,350.44153	36.24122	-107.50011
4,200.00	7.95	183.08	4,167.43	-476.97	-25.67	1,909,362.72231	131,348.59783	36.24114	-107.50012
4,400.00	7.95	183.08	4,365.50	-504.61	-27.15	1,909,335.10487	131,346.75413	36.24106	-107.50012
4,505.59	7.95	183.08	4,470.08	-519.20	-27.94	1,909,320.52398	131,345.78073	36.24102	-107.50013
Start Drop -2.00									
4,600.00	6.07	183.08	4,563.78	-530.71	-28.56	1,909,309.02686	131,345.01320	36.24099	-107.50013
4,800.00	2.07	183.08	4,763.23	-544.87	-29.32	1,909,294.87735	131,344.06860	36.24095	-107.50013
4,903.34	0.00	0.00	4,866.55	-546.73	-29.42	1,909,293.01784	131,343.94446	36.24095	-107.50013
KOP 9°/100									
5,000.00	8.70	287.84	4,962.84	-544.49	-36.39	1,909,295.35093	131,337.00197	36.24096	-107.50016
5,200.00	26.70	287.84	5,152.59	-525.94	-94.04	1,909,314.64091	131,279.60164	36.24101	-107.50035
5,400.00	44.70	287.84	5,314.34	-490.34	-204.68	1,909,351.66547	131,169.42926	36.24110	-107.50073
5,570.01	60.00	287.84	5,417.88	-449.23	-332.43	1,909,394.41648	131,042.21694	36.24122	-107.50116
Hold 60° Inc, 287.84° Az									
5,600.00	60.00	287.84	5,432.88	-441.28	-357.16	1,909,402.69095	131,017.59496	36.24124	-107.50124
5,630.01	60.00	287.84	5,447.88	-433.32	-381.89	1,909,410.96899	130,992.96235	36.24126	-107.50133
Begin 9°/100 Build									
5,800.00	75.30	287.84	5,512.33	-385.30	-531.12	1,909,460.90417	130,844.37225	36.24139	-107.50183
5,978.13	91.33	287.84	5,533.00	-331.29	-698.99	1,909,517.07926	130,677.21407	36.24154	-107.50240
PP Chaco 2306-08E #198H									
5,978.14	91.33	287.84	5,533.00	-331.29	-698.99	1,909,517.08132	130,677.20794	36.24154	-107.50240
Landing Pt 91.33° Inc, 287.84° Az									
6,000.00	91.33	287.84	5,532.49	-324.59	-719.80	1,909,524.04335	130,656.49124	36.24156	-107.50247
6,200.00	91.33	287.84	5,527.84	-263.35	-910.13	1,909,587.73659	130,466.96140	36.24173	-107.50312
6,400.00	91.33	287.84	5,523.19	-202.11	-1,100.47	1,909,651.42983	130,277.43156	36.24190	-107.50376
6,600.00	91.33	287.84	5,518.54	-140.86	-1,290.80	1,909,715.12307	130,087.90172	36.24206	-107.50441
6,800.00	91.33	287.84	5,513.89	-79.62	-1,481.14	1,909,778.81629	129,898.37189	36.24223	-107.50505
7,000.00	91.33	287.84	5,509.25	-18.38	-1,671.47	1,909,842.50953	129,708.84204	36.24240	-107.50570
7,200.00	91.33	287.84	5,504.60	42.87	-1,861.81	1,909,906.20277	129,519.31221	36.24257	-107.50635
7,400.00	91.33	287.84	5,499.95	104.11	-2,052.15	1,909,969.89601	129,329.78236	36.24274	-107.50699

Database:	COMPASS-PICEANCE	**Local Co-ordinate Reference:**	Well Chaco 2306-08E #198H - Slot 198H
Company:	SAN JUAN BASIN	**TVD Reference:**	WELL @ 6859.00usft (Original Well Elev)
Project:	SJ 08-23N-06W	**MD Reference:**	WELL @ 6859.00usft (Original Well Elev)
Site:	Chaco 2306-08E	**North Reference:**	True
Well:	Chaco 2306-08E #198H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 30Jul14 kjs		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,600.00	91.33	287.84	5,495.30	165.35	-2,242.48	1,910,033.58924	129,140.25253	36.24290	-107.50764
7,800.00	91.33	287.84	5,490.65	226.59	-2,432.82	1,910,097.28248	128,950.72268	36.24307	-107.50828
8,000.00	91.33	287.84	5,486.00	287.84	-2,623.15	1,910,160.97572	128,761.19285	36.24324	-107.50893
8,200.00	91.33	287.84	5,481.35	349.08	-2,813.49	1,910,224.66895	128,571.66300	36.24341	-107.50957
8,400.00	91.33	287.84	5,476.70	410.32	-3,003.83	1,910,288.36218	128,382.13317	36.24358	-107.51022
8,600.00	91.33	287.84	5,472.05	471.57	-3,194.16	1,910,352.05542	128,192.60333	36.24375	-107.51086
8,800.00	91.33	287.84	5,467.41	532.81	-3,384.50	1,910,415.74866	128,003.07349	36.24391	-107.51151
9,000.00	91.33	287.84	5,462.76	594.05	-3,574.83	1,910,479.44189	127,813.54365	36.24408	-107.51215
9,200.00	91.33	287.84	5,458.11	655.30	-3,765.17	1,910,543.13513	127,624.01381	36.24425	-107.51280
9,400.00	91.33	287.84	5,453.46	716.54	-3,955.50	1,910,606.82836	127,434.48397	36.24442	-107.51344
9,600.00	91.33	287.84	5,448.81	777.78	-4,145.84	1,910,670.52160	127,244.95413	36.24459	-107.51409
9,800.00	91.33	287.84	5,444.16	839.02	-4,336.18	1,910,734.21483	127,055.42429	36.24475	-107.51474
10,000.00	91.33	287.84	5,439.51	900.27	-4,526.51	1,910,797.90807	126,865.89445	36.24492	-107.51538
10,200.00	91.33	287.84	5,434.86	961.51	-4,716.85	1,910,861.60131	126,676.36461	36.24509	-107.51603
10,400.00	91.33	287.84	5,430.22	1,022.75	-4,907.18	1,910,925.29455	126,486.83477	36.24526	-107.51667
10,600.00	91.33	287.84	5,425.57	1,084.00	-5,097.52	1,910,988.98777	126,297.30493	36.24543	-107.51732
10,800.00	91.33	287.84	5,420.92	1,145.24	-5,287.85	1,911,052.68101	126,107.77509	36.24560	-107.51796
11,000.00	91.33	287.84	5,416.27	1,206.48	-5,478.19	1,911,116.37425	125,918.24525	36.24576	-107.51861
11,200.00	91.33	287.84	5,411.62	1,267.72	-5,668.53	1,911,180.06749	125,728.71541	36.24593	-107.51925
11,400.00	91.33	287.84	5,406.97	1,328.97	-5,858.86	1,911,243.76072	125,539.18557	36.24610	-107.51990
11,484.81	91.33	287.84	5,405.00	1,354.94	-5,939.57	1,911,270.76905	125,458.81780	36.24617	-107.52017

TD at 11484.81 - TD / PBHL Chaco 2306-08E #198H

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
TD / PBHL Chaco 2306- - plan hits target center - Point	0.00	0.00	5,405.00	1,354.94	-5,939.57	1,911,270.76905	125,458.81780	36.24617	-107.52017
PP Chaco 2306-08E #19 - plan hits target center - Point	0.00	0.00	5,533.00	-331.29	-698.99	1,909,517.07708	130,677.21364	36.24154	-107.50240

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
550.00	550.00	0.00	0.00	Start Build 2.00
947.75	946.47	-27.53	-1.48	Hold 7.95° Inc, 183.08° Az
4,505.59	4,470.08	-519.20	-27.94	Start Drop -2.00
4,903.34	4,866.55	-546.73	-29.42	KOP 9°/100
5,570.01	5,417.88	-449.23	-332.43	Hold 60° Inc, 287.84° Az
5,630.01	5,447.88	-433.32	-381.89	Begin 9°/100 Build
5,978.14	5,533.00	-331.29	-698.99	Landing Pt 91.33° Inc, 287.84° Az
11,484.81	5,405.00	1,354.94	-5,939.57	TD at 11484.81

1. INTRODUCTION

WPX Energy Production, LLC (WPX), is providing this Surface Use Plan of Operations (SUPO)/Plan of Operations (POD) to the Bureau of Land Management – Farmington Field Office (BLM-FFO) as part of their Chaco 2306-08E Nos. 197H, 198H, 266H and 267H (197H/198H/266H/267H) Applications for Permit to Drill (APDs) and Right-of-Way (ROW) Grant Applications. This SUPO/POD is provided per Onshore Oil and Gas Order No. 1, 43 Code of Federal Regulations (CFR) 2804.12, 43 CFR 2884.11, BLM Manual Section 2804 (Applying for Federal Land Policy and Management Act [FLPMA] Grants), and BLM FLPMA ROW Manual Section 2884 (Applying for a Mineral Leasing Act Grant or a Temporary Use Permit).

The 197H/198H/266H/267H wells will each be permitted by an approved APD. The associated well pad (including construction zone), access road, and well-connect pipeline, all of which have portions that are located off-lease, will each be permitted under a ROW Grant.

The project will include three TUAs. These TUAs were already authorized during the approval process for WPX's Chaco 2306-06L Nos. 178H, 179H, and 239H (178H/179H/239H) oil and natural gas wells project. Therefore, the use of these existing well pads as TUAs has already been authorized under an agreement between WPX and the corresponding operators. The three TUAs include of the following:

- Elm Ridge Exploration Company, LLC's (Elm Ridge's) active Grace Federal 6 No. 2 well pad
- Elm Ridge's plugged and abandoned Marcus No. 5 well pad
- Bannon Energy Inc.'s (Bannon's) plugged and abandoned Grace Federal 6 No. 1 well pad

A pre-disturbance onsite meeting for the project was held on March 26, 2014. The BLM, WPX, and an environmental consultant (Nelson Consulting, Inc.) attended the meeting.

In addition to the best management practices (BMPs) provided below and in the Surface Reclamation Plan (Reclamation Plan; Appendix A), the general Conditions of Approval/stipulations will be followed, if any are attached to the approved APDs/ROW Grants.

2. PROJECT LOCATION AND DESCRIPTION

2.1. Project Location

The project area is located in Rio Arriba County, New Mexico. The project area is located approximately 41.0 miles southeast of the town of Bloomfield, New Mexico. To access the project area from Bloomfield, head southward on U.S. Highway 550 from the U.S. Highway 550-U.S. Highway 64 intersection for approximately 50.0 miles, turn left onto an existing road near an existing landing strip in Escrito Canyon, follow the road north for approximately 1.0 mile, and then left onto an existing road for approximately 0.2 miles to the start of the197H/198H/266H/267H access road. The access route from U.S. Highway 550 is depicted on Figure B.1 (Appendix B) and on the construction plats provided in the APD/ROW Grant permit packages.

The legal location of the project area is described in the below table (New Mexico Principal Meridian [NMPM]). The project features are depicted on Figures B.1 and B.2 (Appendix B).

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 toilet[s] and trash receptacle[s]).

10. ANCILLARY FACILITIES

Three potential TUAs will be used; these 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 (post-construction) reclamation, WPX will repair any damage to and reseed the TUAs (with the exception of portions of well pads that Elm Ridge or Bannon 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/ROW Grant permit packages. Rig orientation and the location of drilling equipment and topsoil or spoil material stockpiles are depicted on Figures B.3 and B.4 (Appendix B). The layout of the completions rigs is depicted on Figure B.4 (Appendix B). The interim reclamation/long-term disturbance layout is depicted on Figure B.5 (Appendix B) and is described below.

- The following areas (known as the "non-reseed working areas") will remain unreclaimed throughout the lifetime of the project:
    - Production facilities will be located within a 300-by-100-foot (0.7-acre) facility area at the western end of the well pad.
    - The teardrop for the well pad will include a looped, 35-foot-wide driving surface, totaling approximately 0.3 acre.
- The following areas (known as the "reseed working areas") will be reseeded (but not recontoured) during interim (post-construction) reclamation:
    - The center of the teardrop will measure approximately 0.2 acre.
    - A 210-by-180-foot (0.9-acre) potential workover area will surround each wellhead. This area may be used for future activities within the well pad, but will not be used for daily activities. After excluding the portions of these polygons that overlap one another, the teardrop, and the teardrop center, this area measures approximately 0.9 acre.

3000 PSI BOP Schematic