State of New Mexico
Energy, Minerals and Natural Resources Department

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: 8/19/14
Well information;
Operator WPX, Well Name and Number Chaco 2306-08E #197H
API# 30-039-31278, 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

9-5-14
Date KC

Form 3160-3
(September 2001)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONFIDENTIAL

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMSF 078362

6. If Indian, Allottee or Tribe Name

AUG 19 2014

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
~~NE Chaco COM~~ NMNM132829

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

8. Lease Name and Well No.
Chaco 2306-08E #197H

2. Name of Operator
WPX Energy Production, LLC

9. API Well No.
30-039-31278

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
P.O. Box 640 Aztec, NM 87410	(505) 333-1808	Lybrook Gallup/Counselors Gallup-Dakota

4. Location of Well *(Report location clearly and in accordance with any State requirements. *)*
At surface F 1442' FNL & 239' FWL, sec 8, T23N, R6W SWNW
At proposed prod. zone M 1170' FSL & 69' FWL, sec 6, T23N, R6W SWSW

11. Sec., T., R., M., or Blk. and Survey or Area
SHL: Section 8, T23N, R6W
BHL: Section 6, T23N, R6W

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
approximately 4 miles northeast of Lybrook, New Mexico	Rio Arriba County	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of Acres in lease	17. Spacing Unit dedicated to this well
239'	~~200.59~~ 2530.37	~~2530.37~~ acres 200.59 acres

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
22'	11097 MD / 5424' TVD	UTB000178

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
6845' GR	October 1, 2014	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	Name *(Printed/Typed)*	Date
Heather Riley	Heathery Riley	8/19/2014

Title
Regulatory Team Lead

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
AFM		8/27/14
Title	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 #198H, 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.

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

NOTIFY AZTEC OCD 24 HRS PRIOR TO CASING & CEMENT

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 19 2014

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-039-31278	42289 / 13379	LYBROOK GALLUP / COUNSELORS GALLUP-DAKOTA

4 Property Code	5 Property Name	6 Well Number
313644	CHACO 2306-08E	197H

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		1442	NORTH	239	WEST	RIO ARRIBA

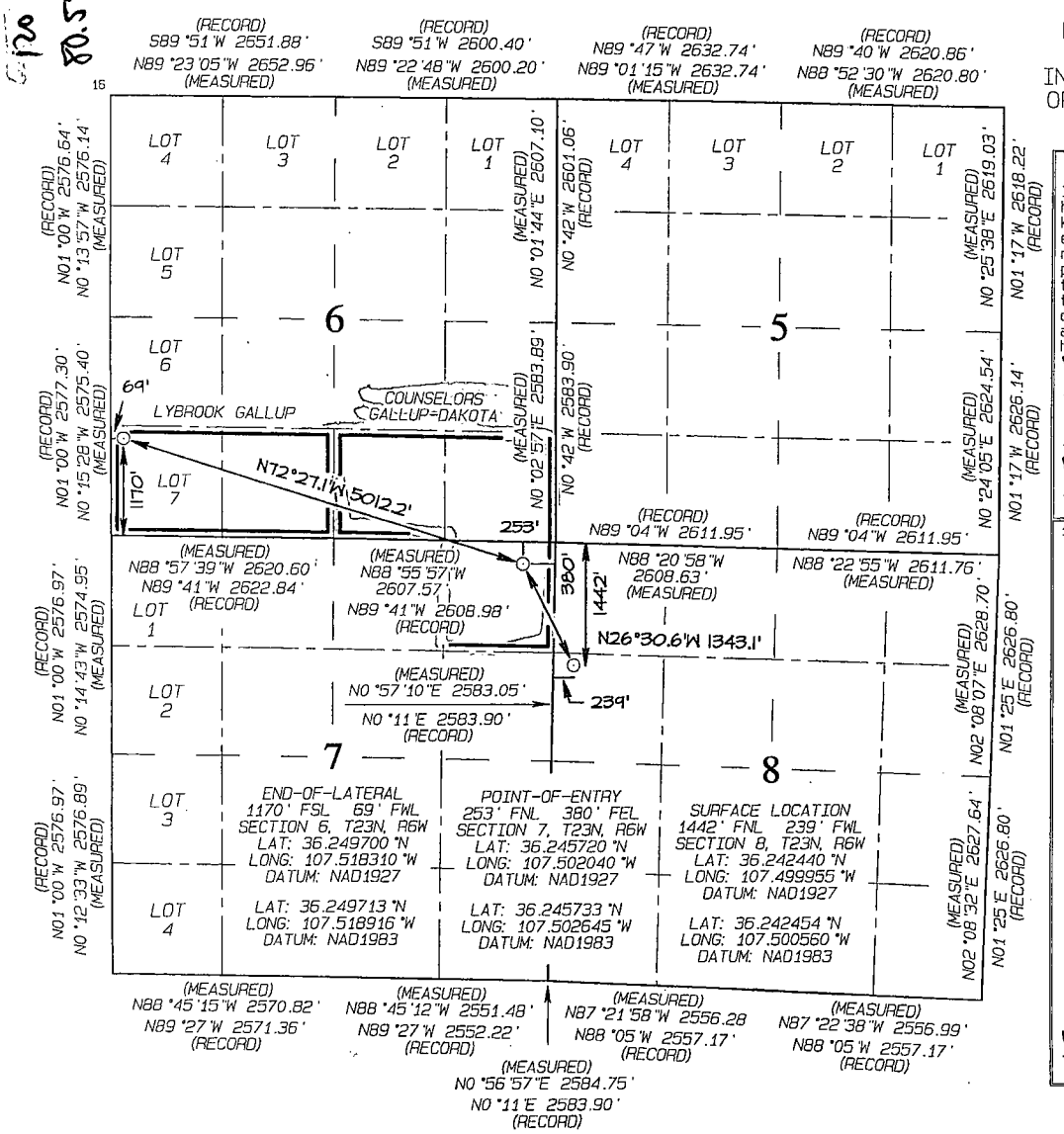
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	6	23N	6W	7	1170	SOUTH	69	WEST	RIO ARRIBA

OIL CONS. DIV DIST. 3

12 Dedicated Acres		13 Joint or Infill	14 Consolidation Code	15 Order No.
200.59	S/2 S/2 - Section 6 NE/4 NE/4 - Section 7			AUG 28 2014

120 ac Counselors
80.59 ac Lybrook



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

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.

Heather Riley 8/19/14
Signature Date

Heather Riley
Printed Name

heather.riley@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 15, 2014
Date of Survey: MARCH 27, 2014

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 19th day of Aug, 2014.

Name Heather Riley

Position Title Regulatory Team Lead

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

Telephone (505) 333-1822

Field representative (if not above signatory) _____

E-mail heather.riley@wpxenergy.com

Heather Riley

Date: 8/19/14

Heather Riley
Regulatory Team Lead
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:**	Counselors (Gallup-Dakota)
WELL NAME:	**Chaco 2306-08E #197H**	**SURFACE:**	BLM
SH Location:	SWNW Sec 8 -23N -06W	**ELEVATION:**	6832' GR
BH Location:	SWSW Sec 6 -23N -07W Rio Arriba Co, NM	**MINERALS:**	BLM
MEASURED DEPTH:	**11,097'**	**LEASE #:**	NMSF 078362

I. GEOLOGY: Surface formation – San Jose

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

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1391	1379	Point Lookout	4348	4228
Kirtland	1748	1723	Mancos	4581	4456
Picture Cliffs	2007	1972	**Kickoff Point**	**5008**	4882
Lewis	2093	2055	Top Target	5725	5458
Chacra	2456	2405	**Landing Point**	**6084**	5548
Cliff House	3579	3486	Base Target	6084	5548
Menefee	3603	3509			
			TD	11097	5424

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 +/- 5,008' (MD) / 4,882' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 6,084' (MD) / 5,548' (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 +/- 11,097' (MD) / 5,424' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,934 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"	6,084'	7"	23#	K-55
Prod. Liner	6.125"	5,934' - 11,097'	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 +/- 5,634 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 6,084 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,934 ft. (MD) +/- 78 degree angle. TOC: +/- 5,634 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 #197H
Surface Location: Chaco 2306-08E
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico Central 3002
Ground Elevation: 6845.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1909835.37814	131403.96023	36.24244	-107.49995	267H

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

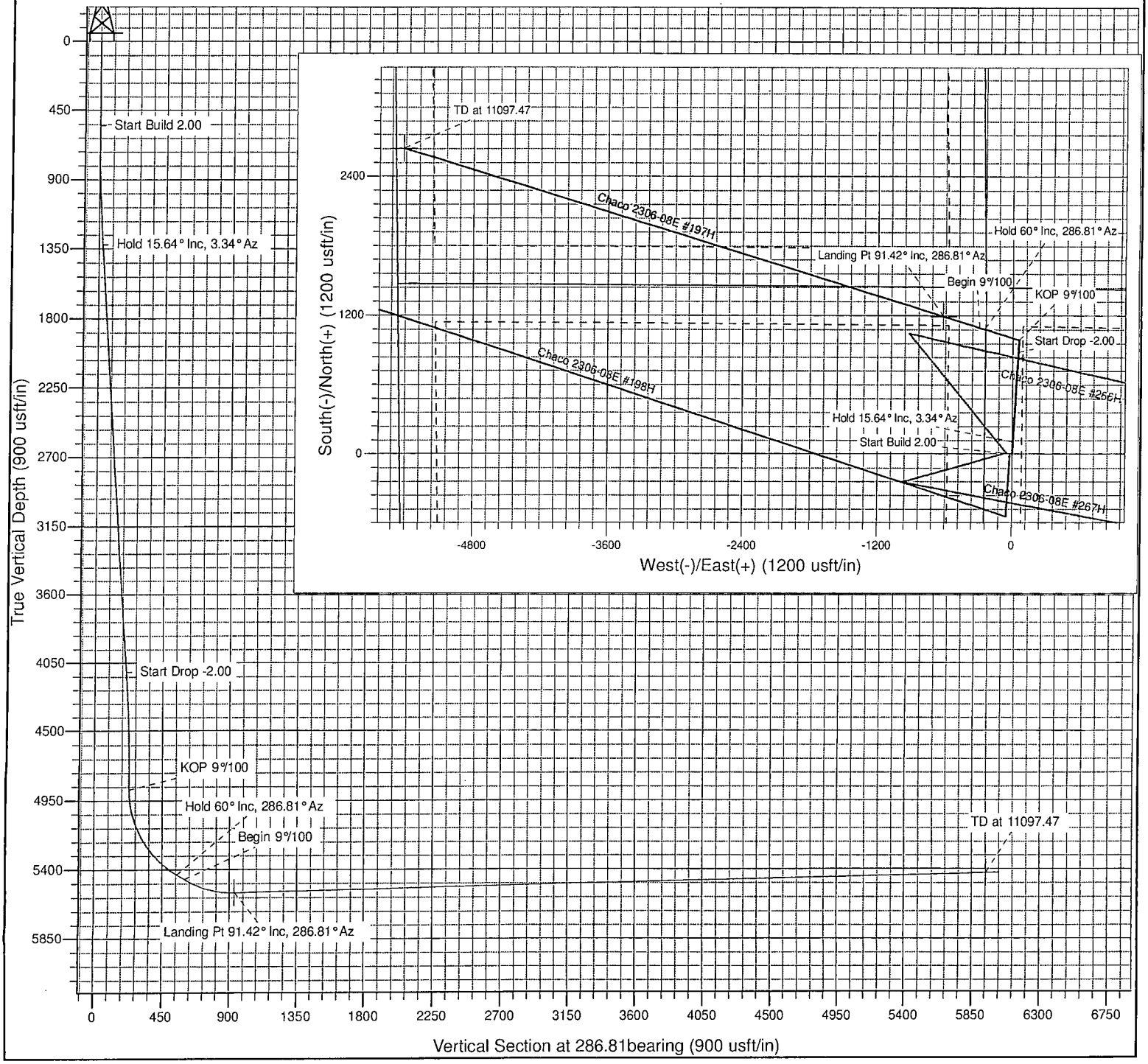
Project: SJ 08-23N-06W
Site: Chaco 2306-08E
Well: Chaco 2306-08E #197H
Design #1 30Jul14 kjs

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
1322.12	1331.79	15.64	3.34	105.83	6.18	24.69	106.01	Hold 15.64° Inc, 3.34° Az
4109.45	4226.23	15.64	3.34	884.62	51.68	206.36	886.13	Start Drop -2.00
4881.57	5008.02	0.00	0.00	990.45	57.86	231.05	992.14	KOP 9°/100
5432.90	5674.68	60.00	286.81	1082.50	-246.85	549.36	1310.45	Hold 60° Inc, 286.81° Az
5462.90	5734.68	60.00	286.81	1097.53	-296.59	601.32	1362.41	Begin 9°/100
5548.00	6083.76	91.42	286.81	1194.14	-616.37	935.37	1696.46	Landing Pt 91.42° Inc, 286.81° Az
5424.00	11097.46	91.42	286.81	2643.62	-5414.37	5947.54	6708.63	TD at 11097.47

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TD / PBHL Chaco 2306-08E #197H - plan hits target center	5424.00	2643.63	-5414.38	1912548.62635	126024.13453	36.24970	-107.51831	Point
PP Chaco 2306-08E #197H - plan hits target center	5548.00	1194.14	-616.37	1911037.36626	130803.04211	36.24572	-107.50204	Point



WPXENERGY SM

SAN JUAN BASIN

SJ 08-23N-06W
Chaco 2306-08E
Chaco 2306-08E #197H - Slot 267H

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 #197H - Slot 267H
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 #197H	**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 #197H - Slot 267H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	1,909,835.37814 usft	**Latitude:**	36.24244
	+E/-W	0.00 usft	**Easting:**	131,403.96023 usft	**Longitude:**	-107.49995
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	6,845.00 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	286.81	

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	
1,331.79	15.64	3.34	1,322.12	105.83	6.18	2.00	2.00	0.00	3.34	
4,226.23	15.64	3.34	4,109.45	884.62	51.68	0.00	0.00	0.00	0.00	
5,008.02	0.00	0.00	4,881.57	990.45	57.86	2.00	-2.00	0.00	180.00	
5,674.68	60.00	286.81	5,432.90	1,082.50	-246.85	9.00	9.00	0.00	286.81	
5,734.68	60.00	286.81	5,462.90	1,097.53	-296.59	0.00	0.00	0.00	0.00	
6,083.76	91.42	286.81	5,548.00	1,194.14	-616.37	9.00	9.00	0.00	0.00	
11,097.47	91.42	286.81	5,424.00	2,643.63	-5,414.38	0.00	0.00	0.00	0.00	TD / PBHL Chaco 23(

Database:	COMPASS-PICEANCE	***Local Co-ordinate Reference:***	Well Chaco 2306-08E #197H - Slot 267H
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 #197H	**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	1,909,835.37814	131,403.96023	36.24244	-107.49995
200.00	0.00	0.00	200.00	0.00	0.00	1,909,835.37814	131,403.96023	36.24244	-107.49995
400.00	0.00	0.00	400.00	0.00	0.00	1,909,835.37814	131,403.96023	36.24244	-107.49995
550.00	0.00	0.00	550.00	0.00	0.00	1,909,835.37814	131,403.96023	36.24244	-107.49995
Start Build 2.00									
600.00	1.00	3.34	600.00	0.44	0.03	1,909,835.81335	131,403.99129	36.24244	-107.49995
800.00	5.00	3.34	799.68	10.88	0.64	1,909,846.25186	131,404.73631	36.24247	-107.49995
1,000.00	9.00	3.34	998.15	35.21	2.06	1,909,870.55895	131,406.47116	36.24254	-107.49995
1,200.00	13.00	3.34	1,194.44	73.30	4.28	1,909,908.61619	131,409.18739	36.24264	-107.49994
1,331.79	15.64	3.34	1,322.12	105.83	6.18	1,909,941.12252	131,411.50744	36.24273	-107.49993
Hold 15.64° Inc, 3.34° Az									
1,400.00	15.64	3.34	1,387.81	124.19	7.25	1,909,959.45992	131,412.81622	36.24278	-107.49993
1,600.00	15.64	3.34	1,580.41	178.00	10.40	1,910,013.22741	131,416.65372	36.24293	-107.49992
1,800.00	15.64	3.34	1,773.01	231.81	13.54	1,910,066.99489	131,420.49122	36.24308	-107.49991
2,000.00	15.64	3.34	1,965.61	285.62	16.69	1,910,120.76237	131,424.32872	36.24323	-107.49990
2,200.00	15.64	3.34	2,158.20	339.44	19.83	1,910,174.52984	131,428.16622	36.24337	-107.49989
2,400.00	15.64	3.34	2,350.80	393.25	22.97	1,910,228.29732	131,432.00372	36.24352	-107.49987
2,600.00	15.64	3.34	2,543.40	447.06	26.12	1,910,282.06480	131,435.84122	36.24367	-107.49986
2,800.00	15.64	3.34	2,736.00	500.87	29.26	1,910,335.83228	131,439.67872	36.24382	-107.49985
3,000.00	15.64	3.34	2,928.60	554.69	32.40	1,910,389.59976	131,443.51623	36.24396	-107.49984
3,200.00	15.64	3.34	3,121.20	608.50	35.55	1,910,443.36725	131,447.35373	36.24411	-107.49983
3,400.00	15.64	3.34	3,313.80	662.31	38.69	1,910,497.13473	131,451.19123	36.24426	-107.49982
3,600.00	15.64	3.34	3,506.40	716.12	41.83	1,910,550.90221	131,455.02873	36.24441	-107.49981
3,800.00	15.64	3.34	3,699.00	769.94	44.98	1,910,604.66968	131,458.86623	36.24456	-107.49980
4,000.00	15.64	3.34	3,891.59	823.75	48.12	1,910,658.43716	131,462.70373	36.24470	-107.49979
4,200.00	15.64	3.34	4,084.19	877.56	51.27	1,910,712.20464	131,466.54123	36.24485	-107.49978
4,226.23	15.64	3.34	4,109.45	884.62	51.68	1,910,719.25625	131,467.04452	36.24487	-107.49978
Start Drop -2.00									
4,400.00	12.16	3.34	4,278.11	926.28	54.11	1,910,760.88252	131,470.01548	36.24499	-107.49977
4,600.00	8.16	3.34	4,474.93	961.49	56.17	1,910,796.06643	131,472.52663	36.24508	-107.49976
4,800.00	4.16	3.34	4,673.74	982.91	57.42	1,910,817.46974	131,474.05423	36.24514	-107.49976
5,000.00	0.16	3.34	4,873.55	990.44	57.86	1,910,824.98819	131,474.59084	36.24516	-107.49976
5,008.02	0.00	0.00	4,881.57	990.45	57.86	1,910,824.99937	131,474.59164	36.24516	-107.49976
KOP 9°/100									
5,200.00	17.28	286.81	5,070.66	998.76	30.36	1,910,833.66181	131,447.19910	36.24518	-107.49985
5,400.00	35.28	286.81	5,249.25	1,024.26	-54.06	1,910,860.25063	131,363.11943	36.24525	-107.50014
5,600.00	53.28	286.81	5,391.85	1,064.47	-187.17	1,910,902.17833	131,230.53482	36.24536	-107.50059
5,674.68	60.00	286.81	5,432.90	1,082.50	-246.85	1,910,920.97451	131,171.09721	36.24541	-107.50079
Hold 60° Inc, 286.81° Az									
5,734.68	60.00	286.81	5,462.90	1,097.53	-296.59	1,910,936.64176	131,121.55392	36.24546	-107.50096
Begin 9°/100									
5,800.00	65.88	286.81	5,492.60	1,114.34	-352.25	1,910,954.17300	131,066.11632	36.24550	-107.50115
6,000.00	83.88	286.81	5,544.56	1,169.95	-536.31	1,911,012.14934	130,882.78292	36.24565	-107.50177
6,083.76	91.42	286.81	5,548.00	1,194.14	-616.37	1,911,037.36617	130,803.04222	36.24572	-107.50204
Landing Pt 91.42° Inc, 286.81° Az - PP Chaco 2306-08E #197H									
6,200.00	91.42	286.81	5,545.12	1,227.74	-727.61	1,911,072.40274	130,692.24956	36.24581	-107.50242
6,400.00	91.42	286.81	5,540.17	1,285.56	-919.00	1,911,132.68790	130,501.61578	36.24597	-107.50307
6,600.00	91.42	286.81	5,535.23	1,343.38	-1,110.40	1,911,192.97307	130,310.98202	36.24613	-107.50372
6,800.00	91.42	286.81	5,530.28	1,401.20	-1,301.80	1,911,253.25823	130,120.34824	36.24629	-107.50437
7,000.00	91.42	286.81	5,525.34	1,459.03	-1,493.19	1,911,313.54339	129,929.71448	36.24645	-107.50502
7,200.00	91.42	286.81	5,520.39	1,516.85	-1,684.59	1,911,373.82855	129,739.08071	36.24661	-107.50566
7,400.00	91.42	286.81	5,515.44	1,574.67	-1,875.98	1,911,434.11371	129,548.44694	36.24677	-107.50631
7,600.00	91.42	286.81	5,510.50	1,632.49	-2,067.38	1,911,494.39887	129,357.81317	36.24692	-107.50696
7,800.00	91.42	286.81	5,505.55	1,690.31	-2,258.77	1,911,554.68404	129,167.17940	36.24708	-107.50761

Database:	COMPASS-PICEANCE	**Local Co-ordinate Reference:**	Well Chaco 2306-08E #197H - Slot 267H
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 #197H	**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
8,000.00	91.42	286.81	5,500.60	1,748.13	-2,450.17	1,911,614.96920	128,976.54563	36.24724	-107.50826
8,200.00	91.42	286.81	5,495.66	1,805.95	-2,641.56	1,911,675.25436	128,785.91187	36.24740	-107.50891
8,400.00	91.42	286.81	5,490.71	1,863.77	-2,832.96	1,911,735.53953	128,595.27809	36.24756	-107.50956
8,600.00	91.42	286.81	5,485.77	1,921.59	-3,024.36	1,911,795.82468	128,404.64433	36.24772	-107.51021
8,800.00	91.42	286.81	5,480.82	1,979.42	-3,215.75	1,911,856.10984	128,214.01055	36.24788	-107.51086
9,000.00	91.42	286.81	5,475.87	2,037.24	-3,407.15	1,911,916.39501	128,023.37679	36.24804	-107.51151
9,200.00	91.42	286.81	5,470.93	2,095.06	-3,598.54	1,911,976.68017	127,832.74302	36.24819	-107.51216
9,400.00	91.42	286.81	5,465.98	2,152.88	-3,789.94	1,912,036.96533	127,642.10925	36.24835	-107.51280
9,600.00	91.42	286.81	5,461.03	2,210.70	-3,981.33	1,912,097.25050	127,451.47548	36.24851	-107.51345
9,800.00	91.42	286.81	5,456.09	2,268.52	-4,172.73	1,912,157.53565	127,260.84171	36.24867	-107.51410
10,000.00	91.42	286.81	5,451.14	2,326.34	-4,364.12	1,912,217.82082	127,070.20794	36.24883	-107.51475
10,200.00	91.42	286.81	5,446.20	2,384.16	-4,555.52	1,912,278.10598	126,879.57417	36.24899	-107.51540
10,400.00	91.42	286.81	5,441.25	2,441.98	-4,746.92	1,912,338.39114	126,688.94040	36.24915	-107.51605
10,600.00	91.42	286.81	5,436.30	2,499.80	-4,938.31	1,912,398.67631	126,498.30663	36.24931	-107.51670
10,800.00	91.42	286.81	5,431.36	2,557.63	-5,129.71	1,912,458.96147	126,307.67286	36.24946	-107.51735
11,000.00	91.42	286.81	5,426.41	2,615.45	-5,321.10	1,912,519.24663	126,117.03909	36.24962	-107.51800
11,097.46	91.42	286.81	5,424.00	2,643.62	-5,414.37	1,912,548.62358	126,024.14326	36.24970	-107.51831
TD at 11097.47									
11,097.47	91.42	286.81	5,424.00	2,643.63	-5,414.38	1,912,548.62634	126,024.13454	36.24970	-107.51831
TD / PBHL Chaco 2306-08E #197H									

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	5,424.00	2,643.63	-5,414.38	1,912,548.62634	126,024.13454	36.24970	-107.51831
PP Chaco 2306-08E #1[illegible] - plan hits target center - Point	0.00	0.00	5,548.00	1,194.14	-616.37	1,911,037.36626	130,803.04212	36.24572	-107.50204

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
1,331.79	1,322.12	105.83	6.18	Hold 15.64° Inc, 3.34° Az
4,226.23	4,109.45	884.62	51.68	Start Drop -2.00
5,008.02	4,881.57	990.45	57.86	KOP 9°/100
5,674.68	5,432.90	1,082.50	-246.85	Hold 60° Inc, 286.81° Az
5,734.68	5,462.90	1,097.53	-296.59	Begin 9°/100
6,083.76	5,548.00	1,194.14	-616.37	Landing Pt 91.42° Inc, 286.81° Az
11,097.46	5,424.00	2,643.62	-5,414.37	TD at 11097.47

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