

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: 10/24/13

Well information;

Operator WPX, Well Name and Number Chaco 2307-15M 106H

API# 30-039-31202, Section 15, Township 23 NS, Range 7 EW

Conditions of Approval:

(See the below checked and handwritten conditions)

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

Charles Ferrin
NMOCD Approved by Signature

3-24-2014
Date CA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

OCT 25 2013

5. Lease Serial No.
NMBF-058876
6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
Chaco 2307-15M #166H

9. API Well No.
30-039-31202

10. Field and Pool, or Exploratory
Lybrook Gallup

11. Sec., T., R., M., or Blk. and Survey or Area
Section 15, T23N, R7W

12. County or Parish
Rio Arriba County

13. State
NM

1a. Type of Work: DRILL REENTER

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

2. Name of Operator
WPX Energy Production, LLC

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 1306' FSL & 502' FWL, sec 15, T23N, R7W
At proposed prod. zone 2241' FSL & 230' FEL, sec 15, T23N, R7W

14. Distance in miles and direction from nearest town or post office*
approximately 1 mile south of Lybrook, New Mexico

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 502'

16. No. of Acres in lease
480

17. Spacing Unit dedicated to this well
160 acres

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 20'

19. Proposed Depth
10,787' MD / 5,749' TVD

20. BLM/BIA Bond No. on file
UTB000178

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
7295' GR

22. Approximate date work will start*
November 1, 2013

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:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification.
- Such other site specific information and/or plans as may be required by the authorized officer.

RCVD DEC 10 '13
OIL CONS. DIV.

DIST. 3

25. Signature *Larry Higgins* Name (Printed/Typed) Larry Higgins Date 10/24/13

Title

Permit Supervisor: Approved by (Signature) *[Signature]* Name (Printed/Typed) Office FFC Date 12/6/13

Title

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 formation 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.

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

No new access road is needed.

CONFIDENTIAL

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

NMOCDA

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

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

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

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

AMENDED REPORT
RECORDED

OCT 25 2013

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-039-31202		2 Pool Code 42289		3 Pool Name LYBROOK GALLUP		4 Formington Field Office Bureau of Land Management	
5 Property Code 40295		6 Property Name CHACO 2307-15M				7 Well Number 166H	
8 OGRID No. 120782		9 Operator Name WPX ENERGY PRODUCTION, LLC				10 Elevation 7294'	

10 Surface Location

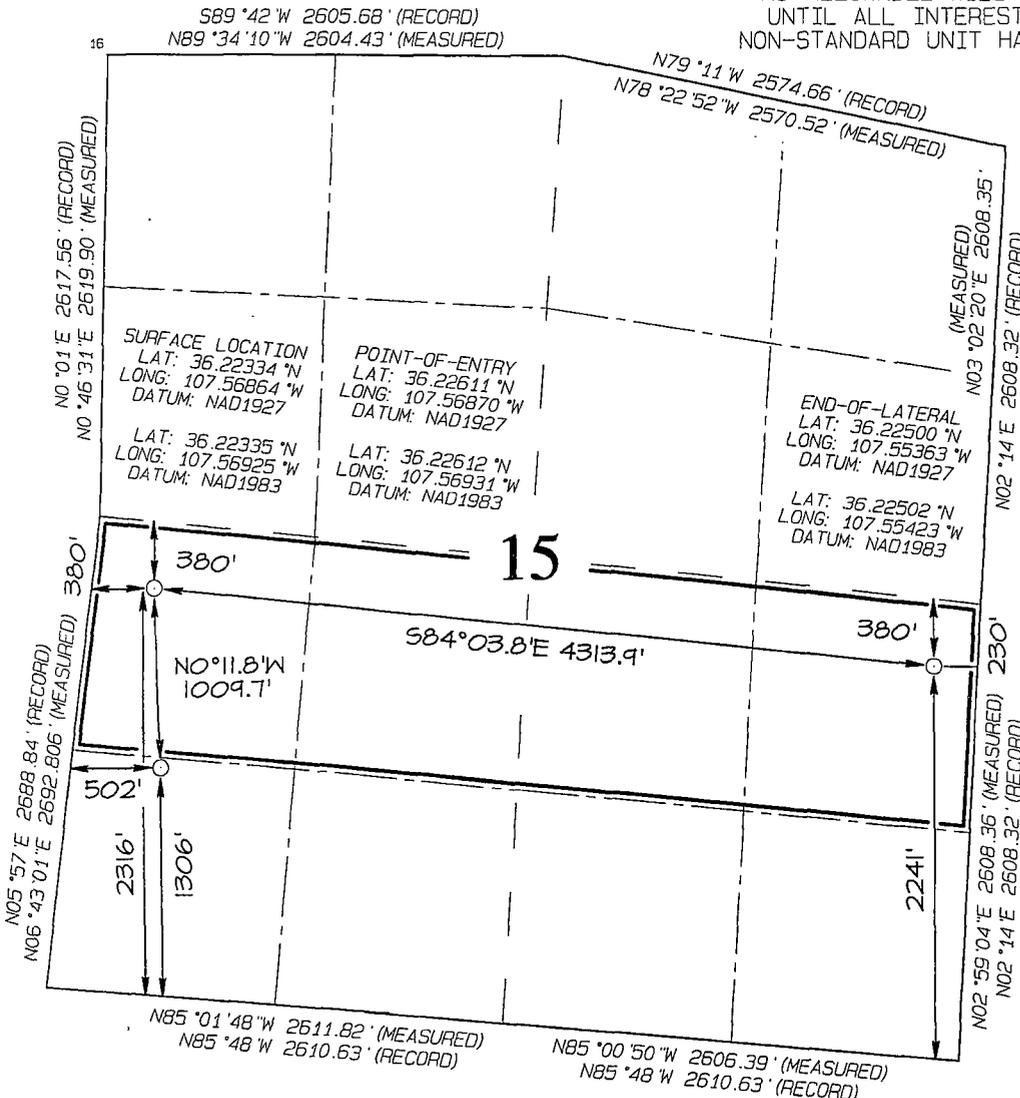
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	15	23N	7W		1306	SOUTH	502	WEST	RIO ARRIBA

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
I	15	23N	7W		2241	SOUTH	230	EAST	RIO ARRIBA

12 Dedicated Acres 160.0 Acres - (N/2 S/2)					13 Joint or Infill		14 Consolidation Code		15 Order No.	
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION
UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A
NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



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.

Larry Higgins 10/1/13
Signature Date
Larry Higgins
Printed Name
larry.higgins@wpenergy.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.

Survey Date: AUGUST 23, 2013
Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR
15269

JASON C. EDWARDS
Certificate Number 15269

RECEIVED

OCT 28 2013

Bureau of Land Management
Farmington Field Office

APD Certification:

Chaco #166H

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 24th day of October, 2013.

Name Larry Higgins

Position Title Permit Supervisor

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

Telephone (505) 333-1808

Field representative (if not above signatory) _____

E-mail larry.higgins@wpenergy.com

Date: 10/24/2013



Larry Higgins
Permit Suprv.
WPX Energy Production, LLC

WPXENERGY.

WPX ENERGY

Operations Plan

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

DATE: 9/26/2013 **FIELD:** Lybrook Gallup
WELL NAME: Chaco 2307-15M #166H **SURFACE:** BLM
SH Location: SWSW of Sec 15-23N-7W **ELEVATION:** 7,294' GR
County: Rio Arriba Co, NM
BH Location: NESE of Sec 15-23N-7W **MINERALS:** BLM
MEASURED DEPTH: 10,787' **LEASE #:** NMNM-~~0~~58876

I. **GEOLOGY:** Surface formation – San Jose

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

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1,566	1,545	Point Lookout	4,717	4,524
Kirtland	1,991	1,944	Mancos	4,963	4,669
Pictured Cliffs	2,265	2,202	Kickoff Point	5,417	5,223
Lewis	2,358	2,289	Target Top	6,070	5,742
Chacra	2,690	2,601	Landing Point	6,323	5,796
Cliff House	3,859	3,700	Target Base	6,303	5,785
Menefee	3,883	3,722			
			TD	10,787	5,749

B. **MUD LOGGING PROGRAM:** Mudlogger on location from surface csg to TD.

C. **LOGGING PROGRAM:** MWD GR for curve and MWD Sonic and GR in lateral.

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 8 3/4" Directional Vertical Hole and the curve portion of the wellbore. (OBM) will be used to drill the lateral portion of the well. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.

B. **BOP / CASING 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**, intermediate casing to **1500 psi for 30 minutes**, TOL and Liner to **1500 psi for 30 minutes**. Utilize a BOPE Testing Unit with a recording chart and, when applicable, 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 +/- 5,417 (MD) / 5,223' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 6,323' (MD) / 5,796' (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 +/- 10,787'(MD) / 5,749'(TVD). Will run 4-1/2 in. Production Liner from +/- 6,173 ft. (+/- 75 deg angle) 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:**

Surface	12.25"	+/- 400'	9.625"	36#	J-55
Intermediate	8.75"	6,323	7"	23#	K-55
Prod. Liner	6.125"	6,170'-10,787'	4.5"	11.6#	N-80
Tie-Back String	N/A	Surf. - 6,170'	4.5"	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', 2,500', 2,300', 2,000', 1,500', and 1,000'.
3. **PRODUCTION LINER:** Run 4-1/2" Liner with cement nose guide Float Shoe + 2jts. of 4-1/2" casing + Float Collar + Landing Collar. Centralizer program will be determined by Wellbore condition and when Lateral is evaluated by Geoscientists and Reservoir Engineers.
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. The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 600psi. Total Volume: (190sx / 222.3 cu-ft / 39.6 Bbls).
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 (563.3 cu ft / 95.5 bbls). Mix Foamed Cement w/ +/- 75,000 SCF Nitrogen. Est. TOC +/- 6,020 ft.

IV. COMPLETION**A. LOGS**

1. Run CCL for perforating.

B. PRESSURE TEST

1. Pressure test 4-1/2" Liner / Liner Hanger / Tie-Back Seals and Tie-Back string to 6000 psi max, hold at 6000 psi for 30 minutes.

C. STIMULATION

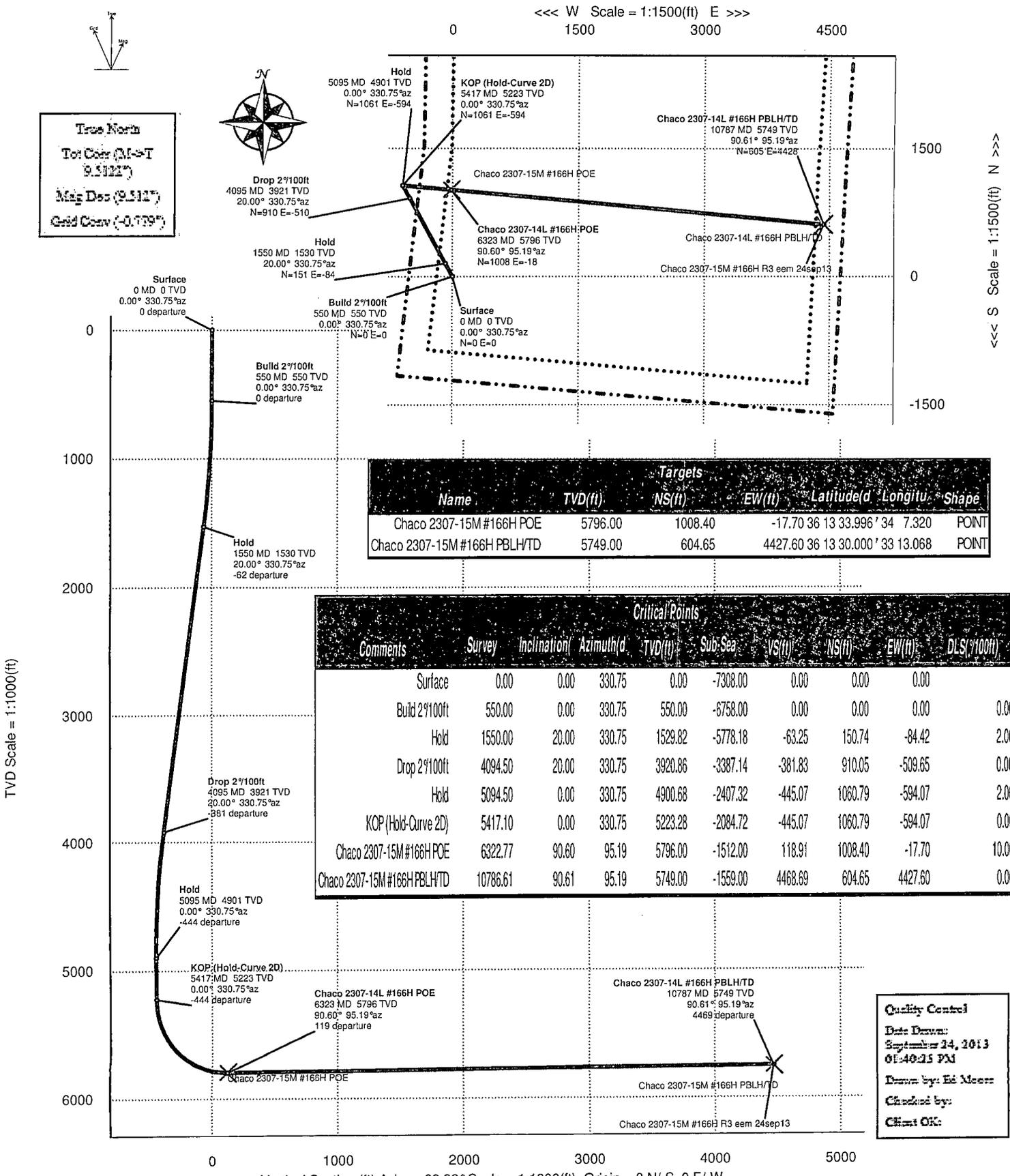
1. Stimulate with approximately 2,805,000# 20/40 mesh sand and 340,000# 16/30 mesh sand in 619,113 gallons water with 42,696 mscf N₂ for 17 stages.
2. Isolate stages with flow through frac plug.
3. Drill out frac plugs flowback lateral.

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 landing point of curve (~6100' 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.
-

WELL Chaco 2307-15M #166H	FIELD NM, Rio Arriba	STRUCTURE WPX Energy 14-23N-7W
Magnetic Parameters Model: BGGM 2013 Dip: 63.009° Mag Dec: 9.512°	Date: September 24, 2013 FS: 50176.8mT	Surface Location Lat: N 36 13 24.024 Lon: W 107 34 7.164
NAD27 New Mexico State Plane, Central Zone, US Feet Northing: 1903150.78 RUS Easting: 111052.40 RUS	Grid Conv: -0.779° Scale Fact: 1.00007312	Miscellaneous Slot: Chaco 2307-14L #166H Plan: Chaco 2307-15M #166H R3 TVD Ref: RKB(7308ft above MSL) Srvy Date: September 24, 2013



Chaco 2307-15M #166H R3 eem 24sep13 Proposal Geodetic Report
(Non-Def Plan)

Report Date: September 24, 2013 - 01:38 PM
 Client: WPX Energy
 Field: NM, Rio Arriba (NAD 27 CZ)
 Structure / Slot: WPX Energy 14-23N-7W (Chaco 2307-15M #166H) / Chaco 2307-14L #166H
 Well: Chaco 2307-15M #166H
 Borehole: Original Hole
 UWI / API#: Unknown / Unknown
 Survey Name: Chaco 2307-15M #166H R3 eem 24sep13
 Survey Date: September 24, 2013
 Tort / AHD / DDI / ERD Ratio: 130.610 * / 6258.148 ft / 6.182 / 1.080
 Coordinate Reference System: NAD27 New Mexico State Plane, Central Zone, US Feet
 Location Lat / Long: N 36° 13' 24.02400", W 107° 34' 7.10400"
 Location Grid N/E Y/X: N 1903150.779 RUS, E 111052.401 RUS
 CRS Grid Convergence Angle: -0.7793 *
 Grid Scale Factor: 1.00007312

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 82.224 * (True North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 7308.000 ft above MSL
 Seabed / Ground Elevation: 7294.000 ft above MSL
 Magnetic Declination: 9.512 *
 Total Gravity Field Strength: 998.4562mgm (9.80665 Based)
 Total Magnetic Field Strength: 50176.846 nT
 Magnetic Dip Angle: 63.009 *
 Declination Date: September 24, 2013
 Magnetic Declination Model: BGGM 2013
 North Reference: True North
 Grid Convergence Used: 0.0000 *
 Total Corr Mag North-True North: 9.5122 *
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (*/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Surface	0.00	0.00	330.75	0.00	0.00	0.00	0.00	N/A	1903150.78	111052.40	N 36 13 24.02	W 107 34 7.10
	100.00	0.00	330.75	100.00	0.00	0.00	0.00	0.00	1903150.78	111052.40	N 36 13 24.02	W 107 34 7.10
	200.00	0.00	330.75	200.00	0.00	0.00	0.00	0.00	1903150.78	111052.40	N 36 13 24.02	W 107 34 7.10
	300.00	0.00	330.75	300.00	0.00	0.00	0.00	0.00	1903150.78	111052.40	N 36 13 24.02	W 107 34 7.10
	400.00	0.00	330.75	400.00	0.00	0.00	0.00	0.00	1903150.78	111052.40	N 36 13 24.02	W 107 34 7.10
Build 2"/100ft	500.00	0.00	330.75	500.00	0.00	0.00	0.00	0.00	1903150.78	111052.40	N 36 13 24.02	W 107 34 7.10
	550.00	0.00	330.75	550.00	0.00	0.00	0.00	0.00	1903150.78	111052.40	N 36 13 24.02	W 107 34 7.10
	600.00	1.00	330.75	600.00	-0.16	0.38	-0.21	2.00	1903151.16	111052.19	N 36 13 24.03	W 107 34 7.11
	700.00	3.00	330.75	699.93	-1.44	3.43	-1.92	2.00	1903154.23	111050.53	N 36 13 24.06	W 107 34 7.13
	800.00	5.00	330.75	799.68	-3.99	9.51	-5.33	2.00	1903160.36	111047.20	N 36 13 24.12	W 107 34 7.17
	900.00	7.00	330.75	899.13	-7.82	18.63	-10.43	2.00	1903169.55	111042.22	N 36 13 24.21	W 107 34 7.23
	1000.00	9.00	330.75	998.15	-12.91	30.77	-17.23	2.00	1903181.79	111035.59	N 36 13 24.33	W 107 34 7.31
	1100.00	11.00	330.75	1096.63	-19.27	45.92	-25.72	2.00	1903197.05	111027.31	N 36 13 24.48	W 107 34 7.42
	1200.00	13.00	330.75	1194.44	-26.88	64.08	-35.88	2.00	1903215.33	111017.40	N 36 13 24.68	W 107 34 7.54
	1300.00	15.00	330.75	1291.46	-35.73	85.17	-47.70	2.00	1903236.60	111006.86	N 36 13 24.87	W 107 34 7.69
Hold	1400.00	17.00	330.75	1387.58	-45.82	109.22	-61.18	2.00	1903260.83	110982.72	N 36 13 25.10	W 107 34 7.85
	1500.00	19.00	330.75	1482.68	-57.14	136.18	-78.26	2.00	1903287.98	110971.99	N 36 13 25.37	W 107 34 8.03
	1550.00	20.00	330.75	1529.82	-63.25	150.74	-84.42	2.00	1903302.68	110970.04	N 36 13 25.51	W 107 34 8.13
	1600.00	20.00	330.75	1576.80	-69.51	165.66	-92.77	2.00	1903317.70	110961.88	N 36 13 25.66	W 107 34 8.24
	1700.00	20.00	330.75	1670.77	-82.03	195.50	-109.49	0.00	1903347.77	110945.58	N 36 13 25.96	W 107 34 8.44
	1800.00	20.00	330.75	1764.74	-94.55	225.34	-126.20	0.00	1903377.83	110929.27	N 36 13 26.25	W 107 34 8.64
	1900.00	20.00	330.75	1858.71	-107.07	255.18	-142.91	0.00	1903407.90	110912.97	N 36 13 26.55	W 107 34 8.85
	2000.00	20.00	330.75	1952.68	-119.59	285.02	-159.62	0.00	1903437.97	110896.66	N 36 13 26.84	W 107 34 9.05
	2100.00	20.00	330.75	2046.65	-132.11	314.87	-176.33	0.00	1903468.04	110880.35	N 36 13 27.14	W 107 34 8.26
	2200.00	20.00	330.75	2140.62	-144.63	344.71	-193.04	0.00	1903498.10	110864.05	N 36 13 27.43	W 107 34 8.46
	2300.00	20.00	330.75	2234.59	-157.15	374.55	-209.76	0.00	1903528.17	110847.74	N 36 13 27.73	W 107 34 8.66
	2400.00	20.00	330.75	2328.55	-169.67	404.39	-226.47	0.00	1903558.24	110831.44	N 36 13 28.02	W 107 34 8.87
	2500.00	20.00	330.75	2422.52	-182.19	434.23	-243.18	0.00	1903588.31	110815.13	N 36 13 28.32	W 107 34 10.07
	2600.00	20.00	330.75	2516.49	-194.71	464.07	-259.89	0.00	1903618.38	110798.83	N 36 13 28.61	W 107 34 10.28
	2700.00	20.00	330.75	2610.46	-207.23	493.91	-276.60	0.00	1903648.44	110782.52	N 36 13 28.91	W 107 34 10.48
	2800.00	20.00	330.75	2704.43	-219.75	523.75	-293.32	0.00	1903678.51	110766.22	N 36 13 29.20	W 107 34 10.68
	2900.00	20.00	330.75	2798.40	-232.27	553.59	-310.03	0.00	1903708.58	110749.91	N 36 13 29.50	W 107 34 10.89
	3000.00	20.00	330.75	2892.37	-244.79	583.44	-326.74	0.00	1903738.65	110733.60	N 36 13 29.79	W 107 34 11.09
	3100.00	20.00	330.75	2986.34	-257.31	613.28	-343.45	0.00	1903768.71	110717.30	N 36 13 30.09	W 107 34 11.30
	3200.00	20.00	330.75	3080.31	-269.83	643.12	-360.16	0.00	1903798.78	110700.99	N 36 13 30.38	W 107 34 11.50
	3300.00	20.00	330.75	3174.28	-282.35	672.96	-376.88	0.00	1903828.85	110684.69	N 36 13 30.68	W 107 34 11.70
	3400.00	20.00	330.75	3268.25	-294.87	702.80	-393.59	0.00	1903858.92	110668.38	N 36 13 30.97	W 107 34 11.91
	3500.00	20.00	330.75	3362.22	-307.39	732.64	-410.30	0.00	1903889.00	110652.08	N 36 13 31.27	W 107 34 12.11
	3600.00	20.00	330.75	3456.19	-319.91	762.48	-427.01	0.00	1903919.05	110635.77	N 36 13 31.56	W 107 34 12.32
	3700.00	20.00	330.75	3550.15	-332.43	792.32	-443.72	0.00	1903949.12	110619.47	N 36 13 31.86	W 107 34 12.52
	3800.00	20.00	330.75	3644.12	-344.95	822.16	-460.43	0.00	1903979.19	110603.16	N 36 13 32.15	W 107 34 12.72
	3900.00	20.00	330.75	3738.09	-357.47	852.01	-477.15	0.00	1904009.26	110586.85	N 36 13 32.45	W 107 34 12.93
	4000.00	20.00	330.75	3832.06	-369.99	881.85	-493.86	0.00	1904039.32	110570.55	N 36 13 32.74	W 107 34 13.13
	4084.50	20.00	330.75	3926.06	-381.83	910.05	-509.65	0.00	1904069.39	110554.25	N 36 13 33.04	W 107 34 13.32
Drop 2"/100ft	4100.00	19.89	330.75	3926.03	-382.51	911.68	-510.57	2.00	1904069.39	110554.25	N 36 13 33.04	W 107 34 13.34
	4200.00	17.89	330.75	4020.64	-394.36	939.93	-526.39	2.00	1904097.85	110538.81	N 36 13 33.32	W 107 34 13.53
	4300.00	15.89	330.75	4116.32	-405.00	965.28	-540.59	2.00	1904123.39	110523.46	N 36 13 33.57	W 107 34 13.70
	4400.00	13.89	330.75	4212.98	-414.41	987.70	-553.14	2.00	1904145.98	110512.71	N 36 13 33.79	W 107 34 13.85
	4500.00	11.89	330.75	4310.44	-422.57	1007.16	-564.04	2.00	1904165.59	110502.08	N 36 13 33.98	W 107 34 13.99
	4600.00	9.89	330.75	4408.63	-429.49	1023.64	-573.27	2.00	1904182.20	110493.07	N 36 13 34.15	W 107 34 14.10
	4700.00	7.89	330.75	4507.42	-435.14	1037.12	-580.82	2.00	1904195.78	110485.70	N 36 13 34.28	W 107 34 14.19
	4800.00	5.89	330.75	4606.70	-439.54	1047.59	-586.68	2.00	1904206.33	110478.98	N 36 13 34.38	W 107 34 14.26
	4900.00	3.89	330.75	4706.33	-442.66	1055.03	-590.84	2.00	1904213.82	110475.92	N 36 13 34.46	W 107 34 14.31
	5000.00	1.89	330.75	4806.20	-444.50	1059.43	-593.31	2.00	1904218.25	110473.52	N 36 13 34.50	W 107 34 14.35
Hold	5084.50	0.00	330.75	4906.68	-445.07	1060.79	-594.07	2.00	1904219.62	110472.77	N 36 13 34.51	W 107 34 14.35
	5100.00	0.00	330.75	4906.18	-445.07	1060.79	-594.07	0.00	1904219.62	110472.77	N 36 13 34.51	W 107 34 14.35
	5200.00	0.00	330.75	5006.18	-445.07	1060.79	-594.07	0.00	1904219.62	110472.77	N 36 13 34.51	W 107 34 14.35
	5300.00	0.00	330.75	5106.18	-445.07	1060.79	-594.07	0.00	1904219.62	110472.77	N 36 13 34.51	W 107 34 14.35
	5400.00	0.00	330.75	5206.18	-445.07	1060.79	-594.07	0.00	1904219.62	110472.77	N 36 13 34.51	W 107 34 14.35
KOP (Hold-Curve 2D)	5417.10	0.00	330.75	5223.28	-445.07	1060.79	-594.07	0.00	1904219.62	110472.77	N 36 13 34.51	W 107 34 14.35
	5500.00	8.29	95.19	5305.89	-439.24	1060.24	-588.10	10.00	1904219.00	110478.73	N 36 13 34.51	W 107 34 14.28
	5600.00	18.30	95.19	5403.09	-418.86	1058.17	-555.23	10.00	1904216.61	110501.57	N 36 13 34.49	W 107 34 14.00
	5700.00	28.30	95.19	5494.82	-378.36	1054.59	-525.89	10.00	1904212.50	110540.86	N 36 13 34.45	W 107 34 13.52
	5800.00	38.30	95.19	5578.29	-324.63	1049.63	-471.28	10.00	1904206.79	110595.41	N 36 13 34.40	W 107 34 12.86
	5900.00	48.31	95.19	5650.97	-258.17	1043.43	-403.06	10.00	1904199.67	110663.54	N 36 1	

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (7/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6500.00	90.60	95.19	5794.14	291.61	992.36	158.79	0.00	1904140.96	11224.69	N 36 13 33.84	W 107 34 5.17
	6600.00	90.60	95.19	5793.10	389.05	983.31	258.38	0.00	1904130.55	111324.15	N 36 13 33.75	W 107 34 3.95
	6700.00	90.60	95.19	5792.05	486.49	974.26	357.96	0.00	1904120.15	111423.61	N 36 13 33.66	W 107 34 2.74
	6800.00	90.60	95.19	5791.00	583.94	965.21	457.54	0.00	1904109.74	111523.06	N 36 13 33.57	W 107 34 1.52
	6900.00	90.60	95.19	5789.95	681.38	956.16	557.13	0.00	1904099.34	111622.52	N 36 13 33.48	W 107 34 0.30
	7000.00	90.60	95.19	5788.90	778.82	947.11	656.71	0.00	1904088.94	111721.98	N 36 13 33.39	W 107 33 59.09
	7100.00	90.60	95.19	5787.85	876.27	938.06	756.30	0.00	1904078.53	111821.44	N 36 13 33.30	W 107 33 57.87
	7200.00	90.60	95.19	5786.80	973.71	929.01	855.88	0.00	1904068.13	111920.90	N 36 13 33.21	W 107 33 56.66
	7300.00	90.60	95.19	5785.75	1071.16	919.96	955.47	0.00	1904057.73	112020.36	N 36 13 33.12	W 107 33 55.44
	7400.00	90.60	95.19	5784.70	1168.60	910.92	1055.05	0.00	1904047.32	112119.82	N 36 13 33.03	W 107 33 54.23
	7500.00	90.60	95.19	5783.65	1266.05	901.87	1154.63	0.00	1904036.92	112219.28	N 36 13 32.94	W 107 33 53.01
	7600.00	90.60	95.19	5782.60	1363.49	892.82	1254.22	0.00	1904026.52	112318.74	N 36 13 32.85	W 107 33 51.80
	7700.00	90.60	95.19	5781.55	1460.93	883.77	1353.80	0.00	1904016.12	112418.20	N 36 13 32.76	W 107 33 50.58
	7800.00	90.60	95.19	5780.50	1558.38	874.73	1453.39	0.00	1904005.72	112517.66	N 36 13 32.67	W 107 33 49.37
	7900.00	90.60	95.19	5779.45	1655.82	865.68	1552.97	0.00	1903995.32	112617.11	N 36 13 32.58	W 107 33 48.15
	8000.00	90.60	95.19	5778.40	1753.27	856.63	1652.56	0.00	1903984.91	112716.57	N 36 13 32.49	W 107 33 46.94
	8100.00	90.60	95.19	5777.35	1850.71	847.58	1752.14	0.00	1903974.51	112816.03	N 36 13 32.41	W 107 33 45.72
	8200.00	90.60	95.19	5776.30	1948.16	838.54	1851.72	0.00	1903964.11	112915.49	N 36 13 32.32	W 107 33 44.50
	8300.00	90.60	95.19	5775.24	2045.60	829.49	1951.31	0.00	1903953.71	113014.95	N 36 13 32.23	W 107 33 43.29
	8400.00	90.60	95.19	5774.19	2143.05	820.45	2050.89	0.00	1903943.31	113114.41	N 36 13 32.14	W 107 33 42.07
	8500.00	90.60	95.19	5773.14	2240.49	811.40	2150.48	0.00	1903932.91	113213.87	N 36 13 32.05	W 107 33 40.86
	8600.00	90.60	95.19	5772.09	2337.94	802.36	2250.06	0.00	1903922.51	113313.33	N 36 13 31.96	W 107 33 39.64
	8700.00	90.60	95.19	5771.03	2435.38	793.31	2349.65	0.00	1903912.12	113412.79	N 36 13 31.87	W 107 33 38.43
	8800.00	90.60	95.19	5769.98	2532.83	784.27	2449.23	0.00	1903901.72	113512.25	N 36 13 31.78	W 107 33 37.21
	8900.00	90.60	95.19	5768.93	2630.27	775.23	2548.82	0.00	1903891.32	113611.71	N 36 13 31.69	W 107 33 36.00
	9000.00	90.60	95.19	5767.87	2727.72	766.18	2648.40	0.00	1903880.92	113711.17	N 36 13 31.60	W 107 33 34.78
	9100.00	90.60	95.19	5766.82	2825.16	757.14	2747.99	0.00	1903870.52	113810.63	N 36 13 31.51	W 107 33 33.57
	9200.00	90.60	95.19	5765.76	2922.61	748.10	2847.57	0.00	1903860.13	113910.09	N 36 13 31.42	W 107 33 32.35
	9300.00	90.60	95.19	5764.71	3020.05	739.05	2947.15	0.00	1903849.73	114009.55	N 36 13 31.33	W 107 33 31.14
	9400.00	90.60	95.19	5763.65	3117.50	730.01	3046.74	0.00	1903839.33	114109.01	N 36 13 31.24	W 107 33 29.92
	9500.00	90.60	95.19	5762.60	3214.94	720.97	3146.32	0.00	1903828.93	114208.47	N 36 13 31.15	W 107 33 28.70
	9600.00	90.60	95.19	5761.54	3312.39	711.93	3245.91	0.00	1903818.54	114307.93	N 36 13 31.06	W 107 33 27.49
	9700.00	90.60	95.19	5760.49	3409.83	702.88	3345.49	0.00	1903808.14	114407.38	N 36 13 30.97	W 107 33 26.27
	9800.00	90.61	95.19	5759.43	3507.28	693.84	3445.08	0.00	1903797.75	114506.84	N 36 13 30.88	W 107 33 25.06
	9900.00	90.61	95.19	5758.38	3604.72	684.80	3544.66	0.00	1903787.35	114606.30	N 36 13 30.79	W 107 33 23.84
	10000.00	90.61	95.19	5757.32	3702.17	675.76	3644.25	0.00	1903776.95	114705.76	N 36 13 30.70	W 107 33 22.63
	10100.00	90.61	95.19	5756.26	3799.62	666.72	3743.83	0.00	1903766.55	114805.22	N 36 13 30.61	W 107 33 21.41
	10200.00	90.61	95.19	5755.21	3897.06	657.68	3843.42	0.00	1903756.16	114904.68	N 36 13 30.53	W 107 33 20.20
	10300.00	90.61	95.19	5754.15	3994.51	648.64	3943.00	0.00	1903745.77	115004.14	N 36 13 30.44	W 107 33 18.98
	10400.00	90.61	95.19	5753.09	4091.95	639.60	4042.59	0.00	1903735.38	115103.60	N 36 13 30.35	W 107 33 17.77
	10500.00	90.61	95.19	5752.03	4189.40	630.56	4142.17	0.00	1903724.98	115203.06	N 36 13 30.26	W 107 33 16.55
	10600.00	90.61	95.19	5750.98	4286.85	621.52	4241.76	0.00	1903714.59	115302.52	N 36 13 30.17	W 107 33 15.34
	10700.00	90.61	95.19	5749.92	4384.29	612.48	4341.34	0.00	1903704.20	115401.98	N 36 13 30.08	W 107 33 14.12
Chaco 2307-15M #166H PBLH/TD	10786.61	90.61	95.19	5749.00	4481.69	604.65	4427.60	0.00	1903693.81	115488.13	N 36 13 30.00	W 107 33 13.07

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
 Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	14.000	1/100.000	30.000	30.000	SLB_MWD-STD-Depth Only	Original Hole / Chaco 2307-15M #166H R3 eem 24sep13
	14.000	10786.614	1/100.000	30.000	30.000	SLB_MWD-STD	Original Hole / Chaco 2307-15M #166H R3 eem 24sep13

1. INTRODUCTION

WPX Energy Production, LLC (WPX) is providing this Surface Use Plan of Operations (SUPO) to the Bureau of Land Management – Farmington Field Office (BLM-FFO), per Onshore Oil and Gas Order No. 1. This SUPO applies to the following projects:

- Chaco 2307-15M No.166H (166H)
- Chaco 2307-15M No. 167H (167H)

The 166H and 167H oil and natural gas wells will be twinned with one another. Each well will be permitted by an approved Application for Permit to Drill (APD). The associated well pad will be permitted under the APDs.

A pre-disturbance onsite meeting for the project was held on September 5, 2013. 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 will be followed, if any are attached to the approved APDs.

2. PROJECT LOCATION AND EXISTING ROADS

The project area is located approximately 41 miles south-southeast of the town of Bloomfield, New Mexico. To access the project area, head south from the U.S. Highway 550-U.S. Highway 64 intersection for approximately 47 miles, then turn right onto an existing dirt road for approximately 0.6 mile. The access route from U.S. Highway 550 is depicted on Figure 1 (Appendix B) and on the construction plats provided in the APD packages.

For existing County Roads or roads that are considered collector roads, WPX will defer to the county or Roads Committee, when formed, for maintenance determinations. For the project, WPX was not allocated existing roads for upgrading or maintenance. If required by the BLM-FFO, WPX will upgrade existing non-County Roads leading to the project site. The road(s) will be upgraded following *The Gold Book: Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development (Gold Book)* and BLM Handbook 9113.

3. NEW OR RECONSTRUCTED ACCESS ROADS

The existing access road discussed in Section 2 (Project Location and Existing Roads) travels through the western portion of the 166H/167H well pad. During the construction phase of the project, the road will be temporarily rerouted through the western portion of the well pad construction zone, to the west of its current location. It will remain on the eastern side of Blanco Wash (a U.S. Geological Survey (USGS) watercourse), which is located along the western edge of the well pad construction zone; the rerouted road will be separated from the watercourse by jersey barriers.

The temporarily rerouted access road is depicted on Figure 3 (Appendix B) and the construction plats provided in the APD packages.

4. LOCATION OF EXISTING WELLS

There are two recorded water wells within a 1-mile radius of the well pad:

- SJ 02233: 0.9 mile to northeast

- SJ 01507: 1.0 mile to northeast

The water wells, plugged and abandoned oil and gas wells, active oil and gas wells, and proposed oil and gas wells within a 1-mile radius of the well pad are depicted on Figure 2 (Appendix B).

5. LOCATION OF PRODUCTION FACILITIES

After the drilling and completion phases of the 166H and 167H wells, production facilities will be located within a 275-by-100-foot facility area at the northern end of the well pad (see Figure 4, Appendix B).

A depiction of the production facility layout will be deferred until the facility on-site meeting is held with the BLM-FFO. All production equipment will comply with Visual Resource Management requirements. Within 90 days of installation, above-ground structures not subject to safety requirements will be painted Juniper Green (Federal 595a-34127) to blend with vegetation and reduce visual resource impacts.

6. WATER SUPPLY

The wells will be horizontally drilled, and completion will include well stimulation (hydraulic fracturing). Water for drilling and completion operations will be purchased from San Juan Basin Water Haulers Association. San Juan Basin Water Haulers Association will obtain water from the following two permitted water wells:

- Turtle Mountain: SJ-960-S-3
- Blanco Trading Post: WR711

The water hauler(s) will access the well pad via the roads described in Section 2 (Project Location and Existing Roads).

7. WELL PAD CONSTRUCTION MATERIAL

Excavated materials from the cuts will be used on the fill portions of the location to level the well pad. Approximately 13 feet of cut and 14 feet of fill will be needed to create a level well pad. No additional materials will be required for construction of the well pad.

Construction plats are provided in the APD packages.

8. METHODS FOR HANDLING WASTE DISPOSAL

Drilling operations will utilize a closed-loop system. Drilling of the horizontal lateral may be done with oil-based mud. All oil-based mud cuttings will be hauled to a commercial disposal facility or land farm.

A 30-mil reinforced liner will be placed under the drill rig mats and all drilling machinery, as shown on Figure 3 (Appendix B). This area will be enclosed by a containment berm and ditches, which will drain to sump areas for spill prevention and control. The containment berm will be ramped to allow access to the solids control area.

WPX will follow New Mexico Oil Division "Pit Rule" guidelines and Onshore Order Nos. 1 and 7 regarding the placement, operation, and closure of any reserve pits or closed-loop systems. No blow pit will be used.

As stated in the Reclamation Plan (Appendix A), if drilling has not been initiated on the well pad within 120 days of the well pad being constructed, WPX 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 drilling and completion operations.

9. ANCILLARY FACILITIES

Pipelines will be permitted and constructed at a later date.

10. WELL SITE LAYOUT

The interim reclamation/long-term disturbance layout is depicted in Figure 4, Appendix B, and is described below.

After the drilling and completion phases of the 166H and 167H wells, production facilities will be located within a 275-by-100-foot (0.63-acre) facility area at the northern end of the well pad. This area will remain unreclaimed for the lifetime of the project.

The teardrop for the well pad will include a looped, 35-foot-wide driving surface, totaling approximately 0.71 acre. This area will also remain unreclaimed for the lifetime of the project.

A 210-by-180-foot (0.87-acre) area in the center of the well pad may be used for future activities within the well pad, but will not be used for daily activities. This area and the center of the teardrop (0.69 acre) will be reseeded (but not recontoured) during interim reclamation. After excluding the portions of the reseed working area that overlap the non-reseed working area (i.e., production facility area and teardrop driving surface), the acreage of the reseed working area totals 0.86 acre.

The approximate cuts, approximate fills, and orientation for the well pad are depicted on the construction plats in the APD packages. The location of drilling equipment, rig orientation, and the location of topsoil or spoil material stockpiles are provided on Figure 3 (Appendix B).

After the drilling and completion phases of the project, WPX will meet with the BLM-FFO for a facility on-site meeting. A depiction of the production facility layout will be deferred until the facility on-site meeting is held with the BLM-FFO.

11. PLANS FOR SURFACE RECLAMATION

Interim reclamation associated with the 166H/167H project will be delayed until after the completion phases of both wells. WPX will follow proper procedures to obtain BLM-FFO approval of this schedule.

The BLM-FFO Piñon-Juniper Vegetation Community Seed Mixture will be used during reclamation activities. The location of water diversions, such as 24-inch-diameter culverts and silt traps, will be determined during interim reclamation. Surface reclamation, including the construction of drainage diversions and the control and prevention of noxious weeds, is described in the Reclamation Plan (Appendix A).

The BLM-FFO Environmental Protection Staff will be notified (505-564-7600) at least 48 hours prior to the start of construction and reclamation activities associated with this project.

12. SURFACE OWNERSHIP

The project area is located on surface managed by the BLM-FFO. The BLM-FFO contact information is provided below.

3000 PSI BOP Schematic

