

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

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

David R. Catanach
Division Director
Oil Conservation Division



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

Operator Signature Date: 12-1-14

Well information;

Operator WPX, Well Name and Number NE Chaco Com #210H

API# 30-039-31293, Section 16, 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
 - ☐ 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
- ☒ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ☒ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ☒ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

Charles R. Perri
NMOCD Approved by Signature

1-5-2015
Date PC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DEC 05 2014

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMSF078359
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. CA 132829
3a. Address P.O. Box 640 Aztec, NM 87410		8. Lease Name and Well No. NE Chaco COM #210H
3b. Phone No. (include area code) (505) 333-1849		9. API Well No. 30-039-31293
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1371' FSL & 377' FWL, sec 16, T23N, R6W At proposed prod. zone 554' FSL & 17' FWL, sec 17, T23N, R6W		10. Field and Pool, or Exploratory Chaco Unit NE HZ (OIL)
11. Sec., T., R., M., or Blk. and Survey or Area SHL: Section 16, T23N, R6W BHL: Section 17, T23N, R6W		12. County or Parish Rio Arriba County
13. State NM		14. Distance in miles and direction from nearest town or post office* approximately 4 miles east of Lybrook, New Mexico
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 377'	16. No. of Acres in lease 2461.69 9,237.3	17. Spacing Unit dedicated to this well 320 acres 52
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 22'	19. Proposed Depth 10,897' MD / 5,354' TVD	20. BLM/BIA Bond No. on file UTB000178
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6858' GR	22. Approximate date work will start* February 1, 2015	23. Estimated duration 1 month

OIL CONS. DIV DIST. 3

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 SUP 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) Andrea Felix	Date 12-1-2014
Title Regulatory Specialist		
Approved by (Signature) 	Name (Printed/Typed) AFM	Date 12/16/14
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 Chaco Unit NE HZ (OIL) pool at the above described location in accordance with the attached drilling and surface use plans.

The well pad surface is under jurisdiction of the State of New Mexico and is co-located with the NE Chaco COM #209H, 271H, 243H, and the 244H which has been built.

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.

There will be no new pipeline. The pipeline for the NE Chaco COM #244H is on NMSLO surface and will be built as a lease action.

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

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

AV
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

CONFIDENTIAL

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

DEC 05 2014

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30.039-31293		Pool Code 98088	Pool Name CHACO UNIT NE HZ (OIL)
Property Code 313800	Property Name NE CHACO COM		Well Number 210H
GRID No. 120782	Operator Name WPX ENERGY PRODUCTION, LLC		Elevation 6858'

¹⁰ Surface Location

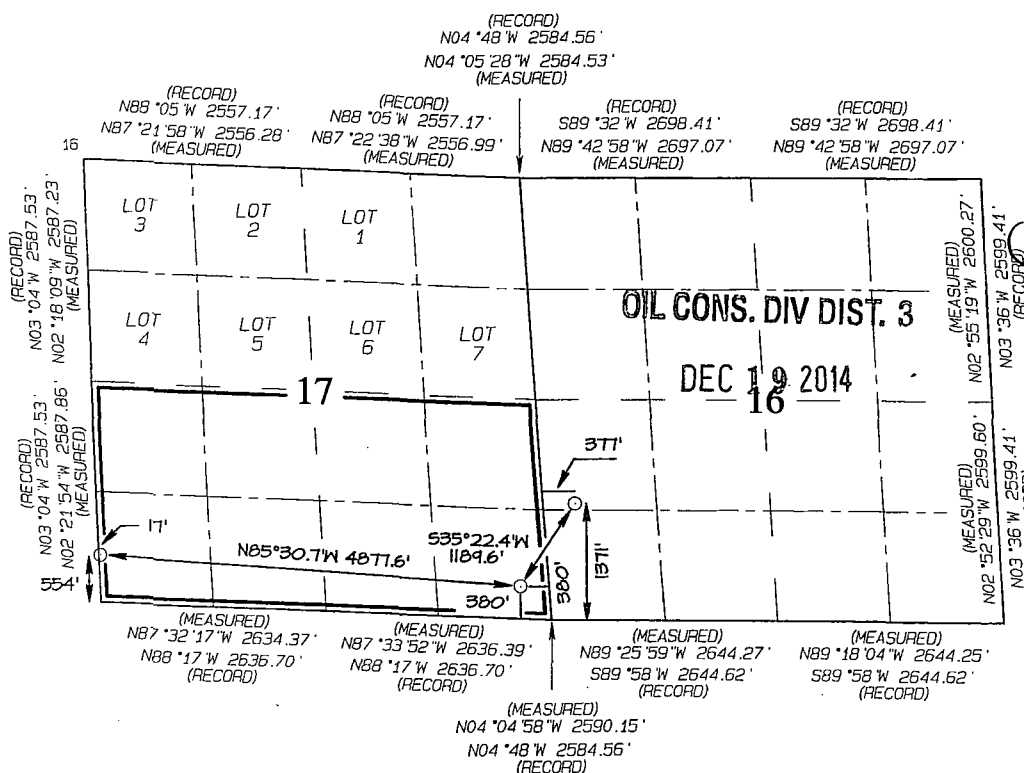
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	16	23N	6W		1371	SOUTH	377	WEST	RIO ARriba

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	17	23N	6W		554	SOUTH	17	WEST	RIO ARriba

¹² Dedicated Acres 320.0 Acres S/2 - Section 17	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13817A 9,237.3
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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.

Signature: *Andrea Felix* Date: **12-1-14**

Printed Name: **Andrea Felix**

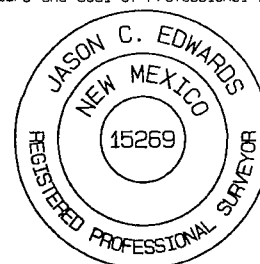
E-mail Address: **Andrea.felix@wpxenergy.com**

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: **NOVEMBER 6, 2014**
Survey Date: **SEPTEMBER 4, 2013**

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

END-OF-LATERAL
554' FSL 17' FWL
SECTION 17, T23N, R6W
LAT: 36.219543°N
LONG: 107.499916°W
DATUM: NAD1927

POINT-OF-ENTRY
380' FSL 380' FEL
SECTION 17, T23N, R6W
LAT: 36.218666°N
LONG: 107.483418°W
DATUM: NAD1927

SURFACE LOCATION
1371' FSL 377' FWL
SECTION 16, T23N, R6W
LAT: 36.221354°N
LONG: 107.481126°W
DATUM: NAD1927

LAT: 36.219557°N
LONG: 107.500521°W
DATUM: NAD1983

LAT: 36.218680°N
LONG: 107.484023°W
DATUM: NAD1983

LAT: 36.221368°N
LONG: 107.481730°W
DATUM: NAD1983

WPX ENERGY

Operations Plan

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

DATE: 10/20/2014 **FIELD:** Chaco Unit NE HZ (oil)

WELL NAME: NE Chaco COM #210H **SURFACE:** STATE

SH Location: NWSW Sec 16-23N-6W **ELEVATION:** 6,858' GR

BH Location: SWSW Sec 17-23N-6W **MINERALS:** BLM
Rio Arriba Co, NM

MEASURED DEPTH: 10,897 **LEASE #:** NMSF 078359

I. GEOLOGY: Surface formation – San Jose

A. FORMATION TOPS: (KB)

Ojo Alamo	1338	1329	Point Lookout	4259	4170
Kirtland	1465	1452	Mancos	4464	4369
Picture Cliffs	1921	1896	Gallup	4877	4771
Lewis	1958	1932	Kickoff Point	4914	4807
Chacra	2254	2220	Top Target	5617	5379
Cliff House	3490	3422	Landing Point	6018	5439
Menefee	3514	3445	Base Target	6018	5439
			TD	10,897	5,354

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

C. LOGGING PROGRAM: LWD GR from surface casing to TD. LWD GR / E- Sonic will be run 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 the 12-1/4" Surface hole, the 8 3/4" Directional Vertical hole, the curve portion of the wellbore. 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 +/- 4,914' (MD) / 4,807' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 6,018' (MD) / 5,439' (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 +/- 10,897' (MD) / 5,354 (TVD). Will run 4-1/2 in. Production Liner from

+/- 5,868 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:

<u>CASING TYPE</u>	<u>OH SIZE (IN)</u>	<u>DEPTH (MD) (FT)</u>	<u>CASING SIZE (IN)</u>	<u>WEIGHT (LB)</u>	<u>GRADE</u>
Surface	12.25"	400'+	9 5/8	36#	J-55
Intermediate	8.75"	6,018'	7	23#	K-55
Prod. Liner	6.125"	5,868' - 10,897'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 6,024'	4-1/2"	11.6#	N-80

B. FLOAT EQUIPMENT:

1. SURFACE CASING: 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.
2. INTERMEDIATE CASING: 7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install (1) centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) centralizer at 2,700 ft., 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft.
3. PRODUCTION LINER: Run 4-1/2" Liner with cement nose guide Float Shoe + 2jts. of 4-1/2" casing + Landing Collar + 4-1/2" pup joint + 1 RSI (Sliding Sleeve) positioned inside 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).
2. INTERMEDIATE: 20 bbl (112 cu-ft) Mud Flush III spacer + Lead: +/- 700 sx Foamed 50/50 Poz Cement. 13.0 ppg + 0.1% Halad 766 + 0.2% Versaset + 1.5% Chem-Foamer 760 (Yield :1.43 cu-ft/ sk. / Vol: 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: (900 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 +/- 5,724 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. 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 (~6,000' 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 6,018 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,868 ft. (MD) +/- 78 degree angle. TOC: +/- 5,568 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.

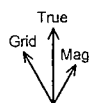
The Drilling Rig will be rigged down at this point and Completion operations will begin. After Stimulation and Testing operations are complete the 4-1/2" tie-back string will be removed from the well.

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

Borehole:	Well:	Field:	Structure:
Original Hole	Chaco 2306-16L #210H	NM, Rio Arriba (NAD 27 CZ)	16-23N-6W (Chaco 2306-16L Pad)

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: BGGM 2013 Dip: 63.019° Date: 12-Nov-2013	NAD27 New Mexico State Plane, Central Zone, US Feet	Chaco 2306-16L #210H TVD Ref: RKB(6873ft above MSL)
MagDec: 9.462° FS: 50174.365nT Gravity FS: 998.92mgm (9.80665 Based)	Lat: N 36 13 16.86 Northing: 1902086.88ft Grid Conv: -0.7276°	Plan: Chaco 2306-16L #210H R2 mdv 14Aug14
	Lon: W 107 28 52.07 Easting: 136856.51ftUS Scale Fact: 1.00005091	

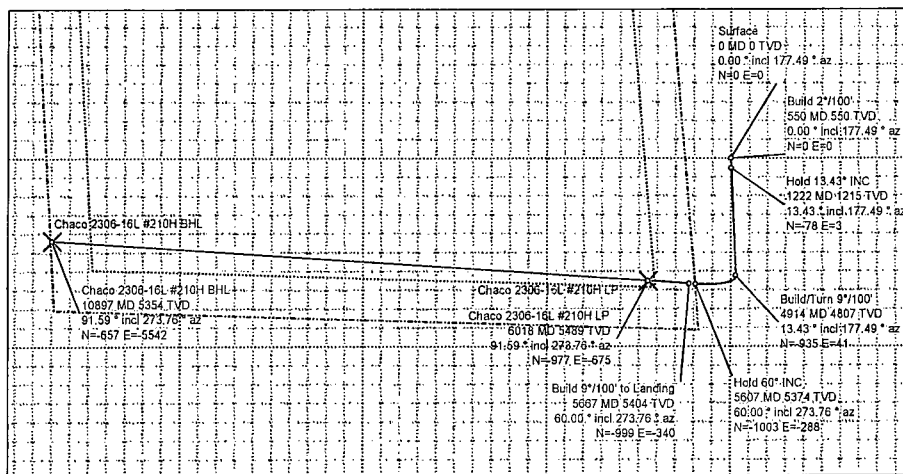
Proposal



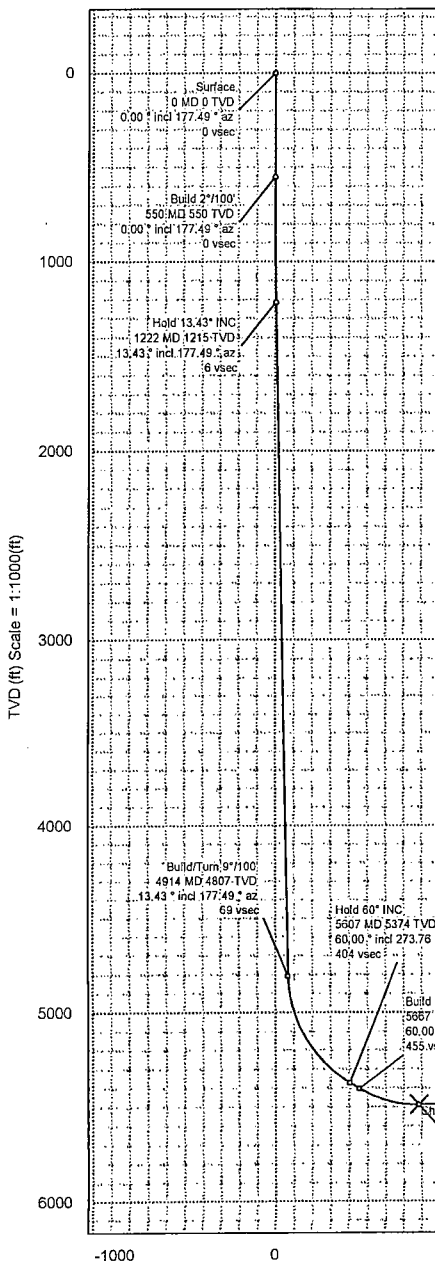
True North
Tot Corr (M->T 9.462°)
Mag Dec (9.462°)
Grid Conv (-0.728°)



EW (ft) Scale = 1:1500(ft)



NS (ft) Scale = 1:1500(ft)



Surface Location									
Northing: 1902086.885		Easting: 136856.506		Latitude: N 36 13 16.86		Longitude: W 107 28 52.07		VSec Azimuth: 263.237	
Target Description		Grid Coord						Local Coord	
Target Name		Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)/S(-)	E(+)/W(-)
Chaco 2306-16L #210H BHL		N 36 13 10.36	W 107 29 59.70	1901500.13	131306.52	5354.00	5580.65	-657.15	-5541.82
Chaco 2306-16L #210H LP		N 36 13 7.20	W 107 29 0.30	1901118.40	136169.16	5489.00	785.33	-977.08	-674.96
Chaco 2306-16L Sec 17		N 36 13 17.47	W 107 28 52.39	1902149.11	136830.74	6873.00	19.08	61.89	-26.55
Chaco 2306-16L Sec 17 - 330' Setback		N 36 13 17.47	W 107 28 52.39	1902149.11	136830.74	6873.00	19.08	61.89	-26.55
Critical Points									
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS	
Surface	0.00	0.00	177.49	0.00	0.00	0.00	0.00		
Build 2°/100'	550.00	0.00	177.49	550.00	0.00	0.00	0.00		
Hold 13.43° INC	1221.50	13.43	177.49	1215.37	5.81	-78.26	3.43	2.00	
Build/Turn 9°/100'	4913.99	13.43	177.49	4806.88	69.39	-935.05	41.00	0.00	
Hold 60° INC	5605.55	60.00	273.76	5373.89	403.86	-1002.53	-287.81	9.00	
Build 9°/100' to Landing	5666.67	60.00	273.76	5403.95	455.05	-999.11	-339.76	0.00	
Chaco 2306-16L #210H LP	6017.62	91.59	273.76	5489.00	785.32	-977.08	-674.96	9.00	
Chaco 2306-16L #210H BHL	10896.86	91.59	273.76	5354.00	5580.65	-657.15	-5541.82	0.00	

OIL CONS. DIV. DIST. 3

DEC 19 2014

Vertical Section (ft) Azim = 263.24° Scale = 1:1000(ft) Origin = 0N-S, 0E-W



Chaco 2306-16L #210H R2 mdv 14Aug14 Proposal Geodetic Report

(Def Plan)

Report Date: August 15, 2014 - 10:26 AM
Client: WPX Energy
Field: NM, Rio Arriba (NAD 27 CZ)
Structure / Slot: WPX 16-23N-6W (Chaco 2306-16L Pad) / Chaco 2306-16L #210H
Well: Chaco 2306-16L #210H
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Chaco 2306-16L #210H R2 mdv 14Aug14
Survey Date: November 12, 2013
Tort / AHD / DDI / ERD Ratio: 107.347 * / 6557.534 ft / 6.145 / 1.195
Coordinate Reference System: NAD27 New Mexico State Plane, Central Zone, US Feet
Location Lat / Long: N 36° 13' 16.86000", W 107° 28' 52.06800"
Location Grid N/E Y/X: N 1902086.885 RUS, E 136856.506 RUS
CRS Grid Convergence Angle: -0.7276 °
Grid Scale Factor: 1.00005091
Version / Patch: 2.8.551.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 263.237 ° (True North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 6873.000 ft above MSL
Seabed / Ground Elevation: 6859.000 ft above MSL
Magnetic Declination: 9.462 °
Total Gravity Field Strength: 998.9204mgn (9.80665 Based)
Gravity Model: DOX
Total Magnetic Field Strength: 50174.365 nT
Magnetic Dip Angle: 63.019 °
Declination Date: November 12, 2013
Magnetic Declination Model: BGGM 2013
North Reference: True North
Grid Convergence Used: 0.0000 °
Total Corr Mag North->True North: 9.4618 °
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
Surface	0.00	0.00	177.49	0.00	0.00	0.00	0.00	N/A	1902086.88	136856.51	36.221350	-107.481130
Build 2"/100'	100.00	0.00	177.49	100.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	36.221350	-107.481130
	200.00	0.00	177.49	200.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	36.221350	-107.481130
	300.00	0.00	177.49	300.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	36.221350	-107.481130
	400.00	0.00	177.49	400.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	36.221350	-107.481130
	500.00	0.00	177.49	500.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	36.221350	-107.481130
	550.00	0.00	177.49	550.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	36.221350	-107.481130
	600.00	1.00	177.49	600.00	0.03	-0.44	0.02	2.00	1902086.88	136856.51	36.221350	-107.481130
	700.00	3.00	177.49	699.93	0.29	-3.92	0.17	2.00	1902086.45	136856.52	36.221349	-107.481130
	800.00	5.00	177.49	799.68	0.81	-10.89	0.48	2.00	1902082.96	136856.63	36.221339	-107.481129
	900.00	7.00	177.49	899.13	1.58	-21.33	0.94	2.00	1902075.99	136856.85	36.221320	-107.481128
Hold 13.43° INC	900.00	7.00	177.49	899.13	1.58	-21.33	0.94	2.00	1902065.54	136857.17	36.221291	-107.481127
	1000.00	9.00	177.49	998.15	2.61	-35.24	1.55	2.00	1902051.63	136857.60	36.221253	-107.481125
	1100.00	11.00	177.49	1096.63	3.90	-52.58	2.31	2.00	1902034.27	136858.14	36.221206	-107.481122
	1200.00	13.00	177.49	1194.44	5.44	-73.35	3.22	2.00	1902013.49	136858.79	36.221149	-107.481119
	1221.50	13.43	177.49	1215.37	5.81	-78.26	3.43	2.00	1902008.58	136858.94	36.221135	-107.481118
	1300.00	13.43	177.49	1291.72	7.16	-96.48	4.23	0.00	1901990.36	136859.51	36.221085	-107.481116
	1400.00	13.43	177.49	1388.99	8.88	-119.68	5.25	0.00	1901967.14	136860.23	36.221021	-107.481112
	1500.00	13.43	177.49	1486.25	10.60	-142.89	6.27	0.00	1901943.92	136860.96	36.220958	-107.481109
	1600.00	13.43	177.49	1583.52	12.33	-166.09	7.28	0.00	1901920.71	136861.68	36.220894	-107.481105
	1700.00	13.43	177.49	1680.78	14.05	-189.29	8.30	0.00	1901897.49	136862.40	36.220830	-107.481102
	1800.00	13.43	177.49	1778.05	15.77	-212.50	9.32	0.00	1901874.28	136863.12	36.220766	-107.481098
	1900.00	13.43	177.49	1875.31	17.49	-235.70	10.33	0.00	1901851.06	136863.85	36.220703	-107.481095
	2000.00	13.43	177.49	1972.58	19.21	-258.90	11.35	0.00	1901827.85	136864.57	36.220639	-107.481092
	2100.00	13.43	177.49	2069.84	20.94	-282.11	12.37	0.00	1901804.63	136865.29	36.220575	-107.481088
	2200.00	13.43	177.49	2167.11	22.66	-305.31	13.39	0.00	1901781.41	136866.02	36.220511	-107.481085
	2300.00	13.43	177.49	2264.38	24.38	-328.51	14.40	0.00	1901758.20	136866.74	36.220448	-107.481081
	2400.00	13.43	177.49	2361.64	26.10	-351.72	15.42	0.00	1901734.98	136867.46	36.220384	-107.481078
	2500.00	13.43	177.49	2458.91	27.82	-374.92	16.44	0.00	1901711.77	136868.18	36.220320	-107.481074
	2600.00	13.43	177.49	2556.17	29.55	-398.12	17.46	0.00	1901688.55	136868.91	36.220256	-107.481071
	2700.00	13.43	177.49	2653.44	31.27	-421.33	18.47	0.00	1901665.34	136869.63	36.220193	-107.481067
	2800.00	13.43	177.49	2750.70	32.99	-444.53	19.49	0.00	1901642.12	136870.35	36.220129	-107.481064
	2900.00	13.43	177.49	2847.97	34.71	-467.73	20.51	0.00	1901618.90	136871.07	36.220065	-107.481060
	3000.00	13.43	177.49	2945.23	36.43	-490.94	21.53	0.00	1901595.69	136871.80	36.220001	-107.481057
	3100.00	13.43	177.49	3042.50	38.16	-514.14	22.54	0.00	1901572.47	136872.52	36.219938	-107.481054
	3200.00	13.43	177.49	3139.76	39.88	-537.35	23.56	0.00	1901549.26	136873.24	36.219874	-107.481050
	3300.00	13.43	177.49	3237.03	41.60	-560.55	24.58	0.00	1901526.04	136873.97	36.219810	-107.481047
	3400.00	13.43	177.49	3334.30	43.32	-583.75	25.60	0.00	1901502.83	136874.69	36.219746	-107.481043
	3500.00	13.43	177.49	3431.56	45.04	-606.96	26.61	0.00	1901479.61	136875.41	36.219683	-107.481040
	3600.00	13.43	177.49	3528.83	46.77	-630.16	27.63	0.00	1901456.39	136876.13	36.219619	-107.481036
	3700.00	13.43	177.49	3626.09	48.49	-653.36	28.65	0.00	1901433.18	136876.86	36.219555	-107.481033
3800.00	13.43	177.49	3723.36	50.21	-676.57	29.67	0.00	1901409.96	136877.58	36.219492	-107.481029	
3900.00	13.43	177.49	3820.62	51.93	-699.77	30.68	0.00	1901386.75	136878.30	36.219428	-107.481026	
4000.00	13.43	177.49	3917.89	53.65	-722.97	31.70	0.00	1901363.53	136879.02	36.219364	-107.481023	
4100.00	13.43	177.49	4015.15	55.38	-746.18	32.72	0.00	1901340.32	136879.75	36.219300	-107.481019	
4200.00	13.43	177.49	4112.42	57.10	-769.38	33.74	0.00	1901317.10	136880.47	36.219237	-107.481016	
4300.00	13.43	177.49	4209.68	58.82	-792.58	34.75	0.00	1901293.88	136881.19	36.219173	-107.481012	
4400.00	13.43	177.49	4306.95	60.54	-815.79	35.77	0.00	1901270.67	136881.92	36.219109	-107.481009	
4500.00	13.43	177.49	4404.21	62.26	-838.99	36.79	0.00	1901247.45	136882.64	36.219045	-107.481005	
4600.00	13.43	177.49	4501.48	63.99	-862.19	37.81	0.00	1901224.24	136883.36	36.218982	-107.481002	
4700.00	13.43	177.49	4598.75	65.71	-885.40	38.82	0.00	1901201.02	136884.08	36.218918	-107.480998	
4800.00	13.43	177.49	4696.01	67.43	-908.60	39.84	0.00	1901177.81	136884.81	36.218854	-107.480995	
4900.00	13.43	177.49	4793.28	69.15	-931.80	40.86	0.00	1901154.59	136885.53	36.218790	-107.480992	
Build/Turn 9"/100'	4913.99	13.43	177.49	4806.88	69.39	-935.05	41.00	0.00	1901151.34	136885.63	36.218781	-107.480991
Build 60° INC Build 9"/100' to Landing	5000.00	13.80	210.78	4890.60	76.39	-953.87	36.18	9.00	1901132.59	136880.57	36.218730	-107.481007
	5100.00	18.71	238.27	4986.72	98.25	-972.59	16.39	9.00	1901114.12	136880.55	36.218678	-107.481074
	5200.00	25.86	252.89	5079.26	134.32	-987.47	-18.17	9.00	1901099.68	136825.80	36.218637	-107.481192
	5300.00	33.86	261.25	5165.94	183.72	-998.15	-66.65	9.00	1901089.62	136777.18	36.218608	-107.481356
	5400.00	42.23	266.66	5244.65	245.24	-1004.36	-127.86	9.00	1901084.18	136715.90	36.218591	-107.481563
	5500.00	50.78	270.55	5313.43	317.35	-1005.95	-200.29	9.00	1901083.51	136643.45	36.218587	-107.481809
	5600.00	59.43	273.58	5370.59	398.29	-1002.89	-282.16	9.00	1901087.61	136561.62	36.218595	-107.482086
	5606.55	60.00	273.76	5373.89	403.86	-1002.53	-287.81	9.00	1901088.04	136555.98	36.218596	-107.482106
	5666.67	60.00	273.76	5403.95	455.05	-999.11	-339.76	0.00	1901092.12	136504.07	36.218606	-107.482282
	5700.00	63.00	273.76	5419.85	483.84	-997.19	-368.98	9.00	1901094.41	136474.87	36.218611	-107.482381
Chaco 2306-16L #210H LP	5800.00	72.00	273.76	5458.08	574.58	-991.14	-461.08	9.00	1901101.63	136382.86	36.218627	-107.482693
	5900.00	81.00	273.76	5481.40	670.08	-984.77	-558.00	9.00	1901109.23	136286.01	36.218645	-107.483022
	6000.00	90.00	273.76	5489.24	768.00	-978.24	-657.38	9.00	1901117.02	136186.72	36.218663	-107.483358
	6017.62	91.59	273.76	5489.00	785.32	-977.08	-674.96	9.00	1901118.40	136169.16	36.218666	-107.483418
	6100.00	91.59	273.76	5486.72	866.28	-971.68	-757.13	0.00	1901124.85	136087.06	36.218681	-107.483697
	6200.00	91.59	273.76	5483.95	964.56	-965.13	-856.88	0.00	1901132.67	135987.40	36.218699	-107.484035
	6300.00	91.59	273.76	5481.19	1062.84	-958.57	-956.62	0.00	1901140.49	135887.74	36.218717	-107.484373
	6400.00	91.59	273.76	5478.42	1161.12	-952.01	-1056.37	0.00	1901148.32	135788.08	36.218735	-107.484711
	6500.00	91.59	273.76	5475.65	1259.40	-945.45	-1156.12	0.00	1901156.14	135688.42	36.218753	-107.485049
	6600.00	91.59	273.76	5472.89	1357.69	-938.90	-1255.86	0.00	1901163.96	135588.76	36.218771	-107.485387
6700.00	91.59	273.76	5470.12	1455.97	-932.34	-1355.61	0.00	1901171.79	13			

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	6900.00	91.59	273.76	5464.59	1652.53	-919.23	-1555.10	0.00	1901187.44	135289.78	36.218825	-107.486402
	7000.00	91.59	273.76	5461.82	1750.81	-912.67	-1654.85	0.00	1901195.26	135190.12	36.218843	-107.486740
	7100.00	91.59	273.76	5459.05	1849.09	-906.11	-1754.59	0.00	1901203.08	135090.46	36.218861	-107.487078
	7200.00	91.59	273.76	5456.29	1947.37	-899.55	-1854.34	0.00	1901210.91	134990.80	36.218879	-107.487416
	7300.00	91.59	273.76	5453.52	2045.65	-893.00	-1954.09	0.00	1901218.73	134891.14	36.218897	-107.487754
	7400.00	91.59	273.76	5450.75	2143.93	-886.44	-2053.83	0.00	1901226.55	134791.48	36.218915	-107.488092
	7500.00	91.59	273.76	5447.99	2242.21	-879.88	-2153.58	0.00	1901234.38	134691.82	36.218933	-107.488430
	7600.00	91.59	273.76	5445.22	2340.49	-873.33	-2253.33	0.00	1901242.20	134592.16	36.218951	-107.488768
	7700.00	91.59	273.76	5442.45	2438.77	-866.77	-2353.07	0.00	1901250.02	134492.50	36.218969	-107.489107
	7800.00	91.59	273.76	5439.68	2537.05	-860.21	-2452.82	0.00	1901257.85	134392.84	36.218987	-107.489445
	7900.00	91.59	273.76	5436.92	2635.33	-853.66	-2552.57	0.00	1901265.67	134293.18	36.219005	-107.489783
	8000.00	91.59	273.76	5434.15	2733.61	-847.10	-2652.31	0.00	1901273.49	134193.52	36.219023	-107.490121
	8100.00	91.59	273.76	5431.38	2831.89	-840.54	-2752.06	0.00	1901281.32	134093.86	36.219041	-107.490459
	8200.00	91.59	273.76	5428.62	2930.17	-833.98	-2851.81	0.00	1901289.14	133994.20	36.219059	-107.490797
	8300.00	91.59	273.76	5425.85	3028.45	-827.43	-2951.55	0.00	1901296.96	133894.54	36.219077	-107.491135
	8400.00	91.59	273.76	5423.08	3126.73	-820.87	-3051.30	0.00	1901304.79	133794.88	36.219095	-107.491473
	8500.00	91.59	273.76	5420.32	3225.01	-814.31	-3151.04	0.00	1901312.61	133695.22	36.219113	-107.491812
	8600.00	91.59	273.76	5417.55	3323.29	-807.76	-3250.79	0.00	1901320.43	133595.56	36.219131	-107.492150
	8700.00	91.59	273.76	5414.78	3421.57	-801.20	-3350.54	0.00	1901328.26	133495.90	36.219149	-107.492488
	8800.00	91.59	273.76	5412.02	3519.85	-794.64	-3450.28	0.00	1901336.08	133396.24	36.219167	-107.492826
	8900.00	91.59	273.76	5409.25	3618.13	-788.08	-3550.03	0.00	1901343.90	133296.58	36.219185	-107.493164
	9000.00	91.59	273.76	5406.48	3716.41	-781.53	-3649.78	0.00	1901351.73	133196.92	36.219203	-107.493502
	9100.00	91.59	273.76	5403.72	3814.69	-774.97	-3749.52	0.00	1901359.55	133097.26	36.219221	-107.493840
	9200.00	91.59	273.76	5400.95	3912.97	-768.41	-3849.27	0.00	1901367.38	132997.60	36.219239	-107.494178
	9300.00	91.59	273.76	5398.18	4011.25	-761.86	-3949.02	0.00	1901375.20	132897.94	36.219257	-107.494516
	9400.00	91.59	273.76	5395.42	4109.53	-755.30	-4048.76	0.00	1901383.02	132798.28	36.219274	-107.494855
	9500.00	91.59	273.76	5392.65	4207.81	-748.74	-4148.51	0.00	1901390.85	132698.62	36.219292	-107.495193
	9600.00	91.59	273.76	5389.88	4306.10	-742.19	-4248.26	0.00	1901398.67	132598.96	36.219310	-107.495531
	9700.00	91.59	273.76	5387.11	4404.38	-735.63	-4348.00	0.00	1901406.49	132499.30	36.219328	-107.495869
	9800.00	91.59	273.76	5384.35	4502.66	-729.07	-4447.75	0.00	1901414.32	132399.64	36.219346	-107.496207
	9900.00	91.59	273.76	5381.58	4600.94	-722.51	-4547.49	0.00	1901422.14	132299.98	36.219364	-107.496545
	10000.00	91.59	273.76	5378.81	4699.22	-715.96	-4647.24	0.00	1901429.96	132200.32	36.219382	-107.496883
	10100.00	91.59	273.76	5376.05	4797.50	-709.40	-4746.99	0.00	1901437.79	132100.66	36.219400	-107.497221
	10200.00	91.59	273.76	5373.28	4895.78	-702.84	-4846.73	0.00	1901445.61	132001.00	36.219418	-107.497560
	10300.00	91.59	273.76	5370.51	4994.06	-696.29	-4946.48	0.00	1901453.43	131901.34	36.219436	-107.497898
	10400.00	91.59	273.76	5367.75	5092.34	-689.73	-5046.23	0.00	1901461.26	131801.68	36.219454	-107.498236
	10500.00	91.59	273.76	5364.98	5190.62	-683.17	-5145.97	0.00	1901469.08	131702.02	36.219472	-107.498574
	10600.00	91.59	273.76	5362.21	5288.90	-676.62	-5245.72	0.00	1901476.90	131602.36	36.219490	-107.498912
	10700.00	91.59	273.76	5359.45	5387.18	-670.06	-5345.47	0.00	1901484.73	131502.70	36.219508	-107.499250
	10800.00	91.59	273.76	5356.68	5485.46	-663.50	-5445.21	0.00	1901492.55	131403.04	36.219526	-107.499588
Chaco 2306-16L #210H BHL	10896.86	91.59	273.76	5354.00	5580.65	-657.15	-5541.82	0.00	1901500.13	131306.51	36.219543	-107.499916

Survey Type: Def Plan

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

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	14.000	1/100.000	12.250	9.625	SLB_NSG+MSHOT-Depth Only	Original Hole / Chaco 2306-16L #210H R2 mdv 14Aug14
	1	14.000	550.000	1/100.000	12.250	9.625	SLB_NSG+MSHOT	Original Hole / Chaco 2306-16L #210H R2 mdv 14Aug14
	1	550.000	6017.000	1/30.000	8.750	7.000	SLB_MWD-STD	Original Hole / Chaco 2306-16L #210H R2 mdv 14Aug14
	1	6017.000	10896.857	1/100.000	6.125	4.500	SLB_MWD-STD	Original Hole / Chaco 2306-16L #210H R2 mdv 14Aug14

7.0 Methods for Handling Waste

- A. Cuttings
 - ✓ 1. Drilling operations will utilize a closed-loop system. Drilling of the horizontal laterals will be accomplished with water-based mud. All cuttings will be placed in roll-off bins and hauled to a commercial disposal facility or land farm. WPX will follow Onshore Oil and Gas Order No. 1 regarding the placement, operation, and removal of closed-loop systems. No blow pit will be used.
 - 2. Closed-loop tanks will be adequately sized for containment of all fluids.
- B. Drilling Fluids
 - 1. Drilling fluids will be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids will be recycled and transferred to other permitted closed-loop systems or returned to the vendor for reuse, as practical. All residual fluids will be hauled to a commercial disposal facility.
- C. Spills
 - 1. Any spills of non-freshwater fluids will be immediately cleaned up and removed to an approved disposal site.
- D. Sewage
 - 1. Portable toilets will be provided and maintained during construction, as needed (see Figure 4 for the location of toilets).
- E. Garbage and other water material
 - 1. 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.
- F. Hazardous Waste
 - 1. No chemicals subject to reporting under Superfund Amendments and Reauthorization Act Title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of these wells.
 - 2. No extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of these wells.
 - 3. All fluids (i.e., scrubber cleaners) used during washing of production equipment will be properly disposed of to avoid ground contamination or hazard to livestock or wildlife.
- G. Produced Water:
 - 1. WPX Energy will dispose of produced water from this well at one of the following facilities:
 - a. Lybrook Yard WDW #1, API #30-039-27533, NMOCD permit #SWD-907, operated by Elm Ridge Resources, located in NE ¼, Section 14, Township 23 North, Range 7 West
 - b. Jillson Federal #1, NMOCD order #R-10168, operated by ConocoPhillips, located in NW ¼, Section 8, Township 24 North, Range 3 West
 - c. Rosa Unit SWD #001, API #30-039-27055, NMOCD permit SWD-916, operated by WPX Energy, located in SE ¼, Section 23, Township 31 North, Range 6 West
 - d. Rosa Unit SWD #002, API #30-039-30182, NMOCD permit SWD-1236, operated by WPX Energy, located in NW ¼, Section 25, Township 31 North, Range 5 West
 - e. Basin Disposal, permit #NM-01-005, located in the NW ¼, Section 3, Township 29 North, Range 11 West

Directions from the Intersection of US Hwy 550 & US Hwy 64

in Bloomfield, NM to WPX Energy Production, LLC NE Chaco COM #210H

1371' FSL & 377' FWL, Section 16, T23N, R6W, N.M.P.M., Rio Arriba County, NM

Latitude: 36.221368°N Longitude: 107.481730°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 52.1 miles to Mile Marker 99.1 to new access on left-hand side of highway which continues for 968' to staked WPX NE Chaco COM #210H location.

