

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., 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 Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico

Form C-101
Revised November 14, 2012

Energy Minerals and Natural Resources

Oil Conservation Division

☐ AMENDED REPORT

1220 South St. Francis Dr.

Santa Fe, NM 87505

RCVD DEC 10 '13
OIL CONS. DIV.
DIST. 3

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address WPX Energy Production, LLC P.O. Box 640 Aztec, NM 87410		² OGRID Number 120782
		³ API Number 30-039-31205
⁴ Property Code 40299	⁵ Property Name Chaco 2306-16L	⁶ Well No. 244H

⁷ Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
L	16	23N	6W		1371	South	377	West	Rio Arriba

⁸ Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
P	16	23N	6W		380	South	230	East	Rio Arriba

⁹ Pool Information

Pool Name Counselors Gallup-Dakota	Pool Code 13379
---------------------------------------	--------------------

Additional Well Information

¹¹ Work Type N	¹² Well Type O	¹³ Cable/Rotary R	¹⁴ Lease Type S	¹⁵ Ground Level Elevation 6859'
¹⁶ Multiple No	¹⁷ Proposed Depth 10,729' MD / 5,414' TVD	¹⁸ Formation Gallup	¹⁹ Contractor AWS	²⁰ Spud Date 01/15/14
Depth to Ground water TBD		Distance from nearest fresh water well >1000'		Distance to nearest surface water >1000'

²¹ Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
J-55	12-1/4"	9-5/8"	36#	400'	190	Surface
K-55	8-3/4"	7"	23#	6,044'	1050	Surface
N-80	6-1/8"	4-1/2"	11.6#	5,894' - 10,729'	310	5594'

Casing/Cement Program: Additional Comments

²² Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	3000#	2000#	

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

I further certify that I have complied with 19.15.14.9 (A) NMAC ☐ and/or 19.15.14.9 (B) NMAC ☐, if applicable.

Signature: *Larry Higgins*

Printed name: Larry Higgins

Hold C104

Title: Permit Supervisor

for Directional Survey
and "As Drilled" plat

E-mail Address: larry.higgins@wpxenergy.com

Date: 12/09/13

Phone: 333-1808

OIL CONSERVATION DIVISION

Approved By:

Charles Herrin 12-18-2013

Title:

SUPERVISOR DISTRICT 3

Approved Date:

DEC 18 2013

Expiration Date:

DEC 18 2015

Conditions of Approval Attached

DEC 18 2013 ca

AV

NOTIFY AZTEC OCD 24 HRS
PRIOR TO CASING & CEMENT

Hold C104
for Directional Survey
and "As Drilled" plat

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-31205		*Pool Code 13379	*Pool Name COUNSELORS GALLUP-DAKOTA
*Property Code 40294	*Property Name CHACO 2306-16L		*Well Number 244H
*OGRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC		*Elevation 6859'

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

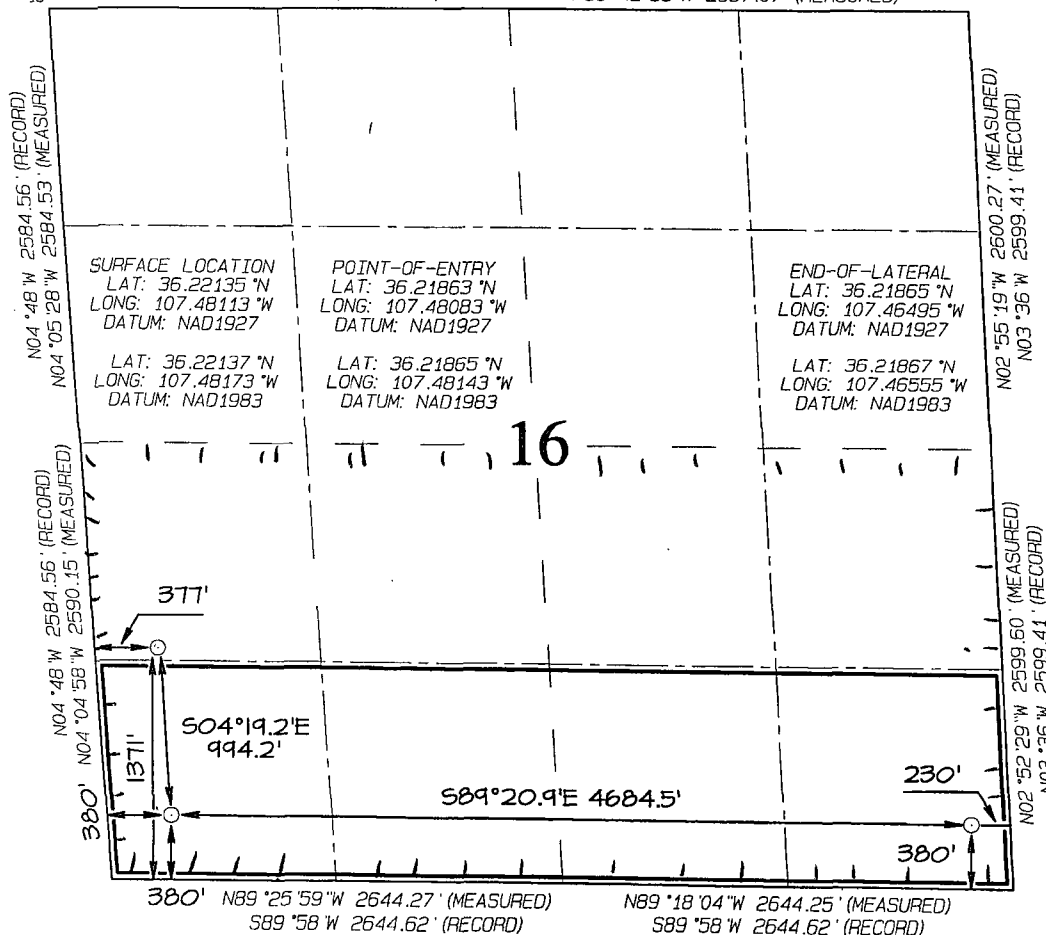
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	16	23N	6W		380	SOUTH	230	EAST	RIO ARriba

¹² Dedicated Acres 320 160.0 Acres - S/2 S/2	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
---	-------------------------------	----------------------------------	-------------------------

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

¹⁵ S89°32'W 2698.41' (RECORD)
N89°42'58"W 2697.07' (MEASURED)

S89°32'W 2698.41' (RECORD)
N89°42'58"W 2697.07' (MEASURED)



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: *Larry Higgins* Date: **12/9/13**
Printed Name: Larry Higgins

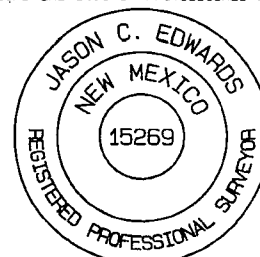
Printed Name: larry.higgins@wpxenergy.com
E-mail Address:

¹⁸ SURVEYOR CERTIFICATION

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

Date Revised: DECEMBER 5, 2013
Survey Date: SEPTEMBER 4, 2013

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269

WPX ENERGY**Operations Plan***(Note: This procedure will be adjusted on site based upon actual conditions)*

DATE: 11/13/13 **FIELD:** Basin Mancos

WELL NAME: Chaco 2306-16L #244H **SURFACE:** State

SH Location: NWSW Sec 16-23N-6W **ELEVATION:** 6,859' GR

BH Location: SESE Sec 16-23N-6W
Rio Arriba Co, NM **MINERALS:** State

MEASURED DEPTH: 10,729' **LEASE #:** E1207-9

I. GEOLOGY: Surface formation – San Jose**A. FORMATION TOPS:** (KB)

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1,342	1,332	Point Lookout	4,285	4,173
Kirtland	1,469	1,455	Mancos	4,491	4,372
Pictured Cliffs	1,929	1,899	Kickoff Point	4,876	4,743
Lewis	1,967	1,935	Target Top	5,648	5,382
Chacra	2,265	2,223	Landing Point	6,044	5,492
Cliff House	3,510	3,425	Target Base	6,044	5,492
Menefee	3,534	3,448			
			TD	10,729	5,414

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 +/- 4,876' (MD) / 4,743' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 6,044' (MD) / 5,492' (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 +/- 10,729' (MD) / 5,414' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,894 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"	6,044'	7"	23#	K-55
Prod. Liner	6.125"	5,894' - 10,729'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5,894'	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 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 (563.3 cu ft / 95.5 bbls). Mix Foamed Cement w/ +/- 75,000 SCF Nitrogen. Est. TOC +/- 5,594 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 (~5,700' 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 6,044 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,894 ft. (MD) +/- 77 degree angle. TOC: +/- 5,594 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.

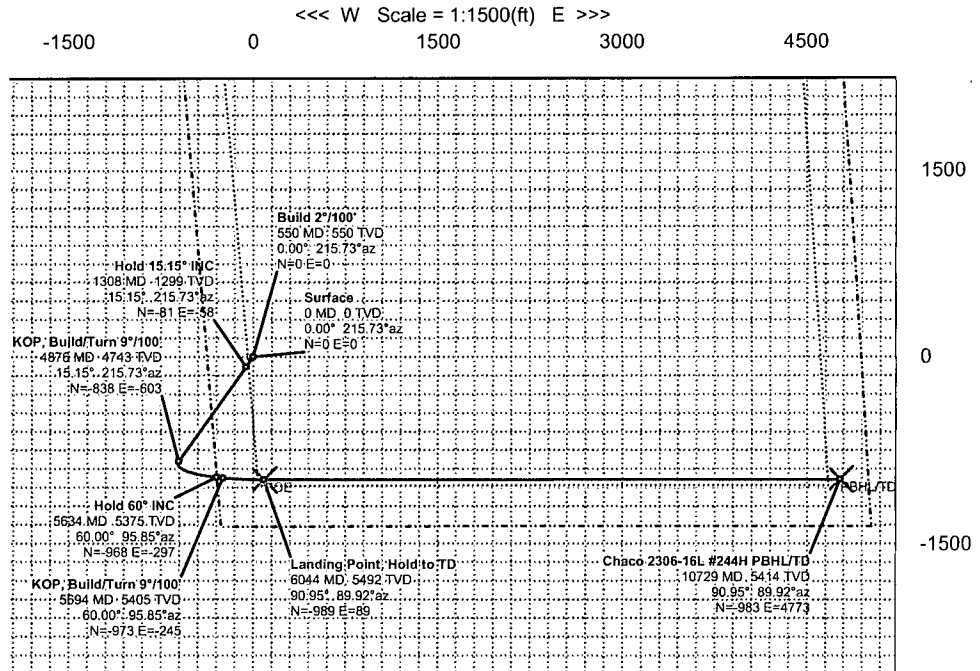
WELL	Chaco 2306-16L #244H	FIELD	NM, Rio Arriba (NAD 27 CZ)	STRUCTURE	Sec 16-23N-6W
------	----------------------	-------	----------------------------	-----------	---------------

Magnetic Parameters Model: BGGM 2013 Dip: 63.015° Mag Dec: 9.462°	Date: November 12, 2013 FS: 50174.4mT	Surface Location Lat: N 36 13 16.960 Lon: W 107 28 52.006	NAD27 New Mexico State Plane, Central Zone, US Feet Northing: 189266.68 NUS Easting: 136858.51 EUS Grid Conv: -0.728° Scale Fact: 1.00005091	Miscellaneous Set: Chaco 2306-16L #244H Plan: RD rev 12Nov13	TVD Ref: RKB(6873ft above MSL) Srvy Date: November 12, 2013
--	--	---	--	--	--

Proposal

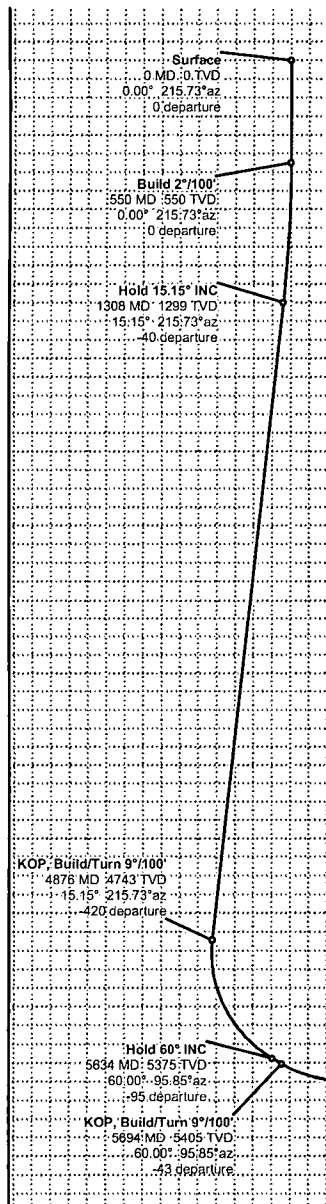


True North
Tot Corr (M→T 9.4618°)
Mag Dec (9.462°)
Grid Conv (-0.728°)



TVD Scale = 1:1000(ft)

0
1000
2000
3000
4000
5000
6000



Targets									
Name	TVD(ft)	NS(ft)	EW(ft)	Latitude(deg)	Longitude(deg)	Shape			
Chaco 2306-16L #244H POE	5492.00	-988.74	88.80	N 36 13 7.082	W 107 28 50.984	POINT			
Chaco 2306-16L #244H PBHL/TD	5414.00	-982.51	4773.11	N 36 13 7.140	W 107 27 53.820	POINT			
Critical Points									
Comments	MD(ft)	INC	AZM	TVD(ft)	SS-TVD	VS(ft)	NS(ft)	EW(ft)	DLS
Surface	0.00	0.00	215.73	0.00	-6873.00	0.00	0.00	0.00	
Build 2°/100'	550.00	0.00	215.73	550.00	-6323.00	0.00	0.00	0.00	0.00
Hold 15.15° INC	1307.75	15.15	215.73	1298.94	-5574.06	-40.67	-80.88	-58.17	2.00
KOP, Build/Turn 9°/100'	4875.54	15.15	215.73	4742.65	-2130.35	-421.44	-838.10	-602.79	0.00
Hold 60° INC	5634.36	60.00	95.85	5375.32	-1497.68	-95.48	-967.85	-296.71	9.00
KOP, Build/Turn 9°/100'	5694.36	60.00	95.85	5405.32	-1467.68	-43.78	-973.15	-245.02	0.00
Landing Point, Hold to TD	6043.98	90.95	89.92	5492.00	-1381.00	286.32	-988.74	88.80	9.00
Chaco 2306-16L #244H PBHL/TD	10728.94	90.95	89.92	5414.00	-1459.00	4873.18	-982.51	4773.11	0.00

-1000 0 1000 2000 3000 4000 5000

Vertical Section (ft) Azim = 101.63° Scale = 1:1000(ft) Origin = 0 N/-S, 0 E/-W

>>> N
<<< S
Scale = 1:1500(ft)



Chaco 2306-16L #244H R0 mdv 12Nov13 Proposal Geodetic Report



(Def Plan)

Report Date: November 12, 2013 - 10:21 AM
Client: WPX Energy
Field: NM, Rio Arriba (NAD 27 CZ)
Structure / Slot: WPX Energy Sec 16-23N-6W (Chaco 2306-16L #244H) / Chaco 2306-16L #244H
Well: Chaco 2306-16L #244H
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Chaco 2306-16L #244H R0 mdv 12Nov13
Survey Date: November 12, 2013
Tort / AHD / DDI / ERD Ratio: 114.915' / 6471.337 ft / 6.162 / 1.178
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 ftUS, E 136856.506 ftUS
CRS Grid Convergence Angle: -0.7278°
Grid Scale Factor: 1.00005091

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 101.632° (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: 998.4978mgn (9.80665 Based)
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 (N/S ° ' ")	Longitude (E/W ° ' ")	
Surface	0.00	0.00	215.73	0.00	0.00	0.00	0.00	N/A	1902086.88	136856.51	N 36 13 16.86	W 107 28 52.07	
	100.00	0.00	215.73	100.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	N 36 13 16.86	W 107 28 52.07	
	200.00	0.00	215.73	200.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	N 36 13 16.86	W 107 28 52.07	
	300.00	0.00	215.73	300.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	N 36 13 16.86	W 107 28 52.07	
	400.00	0.00	215.73	400.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	N 36 13 16.86	W 107 28 52.07	
	500.00	0.00	215.73	500.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	N 36 13 16.86	W 107 28 52.07	
Build 2°/100'	550.00	0.00	215.73	550.00	0.00	0.00	0.00	0.00	1902086.88	136856.51	N 36 13 16.86	W 107 28 52.07	
	600.00	1.00	215.73	600.00	-0.18	-0.35	-0.25	2.00	1902086.53	136856.25	N 36 13 16.86	W 107 28 52.07	
	700.00	3.00	215.73	699.93	-1.60	-3.19	-2.29	2.00	1902083.73	136854.17	N 36 13 16.83	W 107 28 52.10	
	800.00	5.00	215.73	799.68	-4.45	-8.85	-6.37	2.00	1902078.12	136850.03	N 36 13 16.77	W 107 28 52.15	
	900.00	7.00	215.73	899.13	-8.72	-17.34	-12.47	2.00	1902069.71	136843.82	N 36 13 16.69	W 107 28 52.22	
	1000.00	9.00	215.73	998.15	-14.40	-28.63	-20.59	2.00	1902058.51	136835.55	N 36 13 16.58	W 107 28 52.32	
	1100.00	11.00	215.73	1096.63	-21.49	-42.73	-30.73	2.00	1902044.55	136825.23	N 36 13 16.44	W 107 28 52.44	
	1200.00	13.00	215.73	1194.44	-29.97	-59.61	-42.87	2.00	1902027.82	136812.88	N 36 13 16.27	W 107 28 52.59	
	1300.00	15.00	215.73	1291.46	-39.85	-79.25	-57.00	2.00	1902008.36	136798.50	N 36 13 16.08	W 107 28 52.76	
	1307.75	15.15	215.73	1298.94	-40.67	-80.88	-58.17	2.00	1902006.74	136797.31	N 36 13 16.06	W 107 28 52.78	
Hold 15.15° INC	1400.00	15.15	215.73	1387.99	-50.52	-100.46	-72.26	0.00	1901987.34	136782.98	N 36 13 15.87	W 107 28 52.95	
	1500.00	15.15	215.73	1484.51	-61.19	-121.69	-87.52	0.00	1901966.31	136767.44	N 36 13 15.66	W 107 28 53.14	
	1600.00	15.15	215.73	1581.03	-71.86	-142.91	-102.79	0.00	1901945.28	136751.91	N 36 13 15.45	W 107 28 53.32	
	1700.00	15.15	215.73	1677.55	-82.53	-164.13	-118.05	0.00	1901924.26	136736.37	N 36 13 15.24	W 107 28 53.51	
	1800.00	15.15	215.73	1774.08	-93.21	-185.36	-133.32	0.00	1901903.23	136720.84	N 36 13 15.03	W 107 28 53.69	
	1900.00	15.15	215.73	1870.60	-103.88	-206.58	-148.58	0.00	1901882.20	136705.31	N 36 13 14.82	W 107 28 53.88	
	2000.00	15.15	215.73	1967.12	-114.55	-227.80	-163.85	0.00	1901861.17	136689.77	N 36 13 14.61	W 107 28 54.07	
	2100.00	15.15	215.73	2063.64	-125.22	-249.03	-179.11	0.00	1901840.14	136674.24	N 36 13 14.40	W 107 28 54.25	
	2200.00	15.15	215.73	2160.16	-135.90	-270.25	-194.38	0.00	1901819.11	136658.71	N 36 13 14.19	W 107 28 54.44	
	2300.00	15.15	215.73	2256.69	-146.57	-291.48	-209.64	0.00	1901798.08	136643.17	N 36 13 13.98	W 107 28 54.63	
	2400.00	15.15	215.73	2353.21	-157.24	-312.70	-224.90	0.00	1901777.05	136627.64	N 36 13 13.77	W 107 28 54.81	
	2500.00	15.15	215.73	2449.73	-167.91	-333.92	-240.17	0.00	1901756.02	136612.10	N 36 13 13.56	W 107 28 55.00	
	2600.00	15.15	215.73	2546.25	-178.59	-355.15	-255.43	0.00	1901734.99	136596.57	N 36 13 13.35	W 107 28 55.19	
	2700.00	15.15	215.73	2642.78	-189.26	-376.37	-270.70	0.00	1901713.96	136581.04	N 36 13 13.14	W 107 28 55.37	
	2800.00	15.15	215.73	2739.30	-199.93	-397.59	-285.96	0.00	1901692.93	136565.50	N 36 13 12.93	W 107 28 55.56	
	2900.00	15.15	215.73	2835.82	-210.60	-418.82	-301.23	0.00	1901671.91	136549.97	N 36 13 12.72	W 107 28 55.74	
	3000.00	15.15	215.73	2932.34	-221.27	-440.04	-316.49	0.00	1901650.88	136534.43	N 36 13 12.51	W 107 28 55.93	
	3100.00	15.15	215.73	3028.86	-231.95	-461.26	-331.76	0.00	1901629.85	136518.90	N 36 13 12.30	W 107 28 56.12	
	3200.00	15.15	215.73	3125.39	-242.62	-482.49	-347.02	0.00	1901608.82	136503.37	N 36 13 12.09	W 107 28 56.30	
	3300.00	15.15	215.73	3221.91	-253.29	-503.71	-362.29	0.00	1901587.79	136487.83	N 36 13 11.88	W 107 28 56.49	
	3400.00	15.15	215.73	3318.43	-263.96	-524.94	-377.55	0.00	1901566.76	136472.30	N 36 13 11.67	W 107 28 56.68	
	3500.00	15.15	215.73	3414.95	-274.64	-546.16	-392.82	0.00	1901545.73	136456.76	N 36 13 11.46	W 107 28 56.86	
	3600.00	15.15	215.73	3511.48	-285.31	-567.38	-408.08	0.00	1901524.70	136441.23	N 36 13 11.25	W 107 28 57.05	
	3700.00	15.15	215.73	3608.00	-295.98	-588.61	-423.35	0.00	1901503.67	136425.70	N 36 13 11.04	W 107 28 57.23	
	3800.00	15.15	215.73	3704.52	-306.65	-609.83	-438.61	0.00	1901482.64	136410.16	N 36 13 10.83	W 107 28 57.42	
	3900.00	15.15	215.73	3801.04	-317.33	-631.05	-453.88	0.00	1901461.61	136394.63	N 36 13 10.62	W 107 28 57.61	
	4000.00	15.15	215.73	3897.56	-328.00	-652.28	-469.14	0.00	1901440.59	136379.10	N 36 13 10.41	W 107 28 57.79	
	4100.00	15.15	215.73	3994.09	-338.67	-673.50	-484.41	0.00	1901419.56	136363.56	N 36 13 10.20	W 107 28 57.98	
	4200.00	15.15	215.73	4090.61	-349.34	-694.73	-499.67	0.00	1901398.53	136348.03	N 36 13 9.99	W 107 28 58.17	
	4300.00	15.15	215.73	4187.13	-360.02	-715.95	-514.94	0.00	1901377.50	136332.49	N 36 13 9.78	W 107 28 58.35	
	4400.00	15.15	215.73	4283.65	-370.69	-737.17	-530.20	0.00	1901356.47	136316.96	N 36 13 9.57	W 107 28 58.54	
	4500.00	15.15	215.73	4380.18	-381.36	-758.40	-545.47	0.00	1901335.44	136301.43	N 36 13 9.36	W 107 28 58.72	
	4600.00	15.15	215.73	4476.70	-392.03	-779.62	-560.73	0.00	1901314.41	136285.89	N 36 13 9.15	W 107 28 58.91	
	4700.00	15.15	215.73	4573.22	-402.70	-800.84	-576.00	0.00	1901293.38	136270.36	N 36 13 8.94	W 107 28 59.10	
	4800.00	15.15	215.73	4669.74	-413.38	-822.07	-591.26	0.00	1901272.35	136254.82	N 36 13 8.73	W 107 28 59.28	
	KOP, Build/Turn 9°/100'	4875.54	15.15	215.73	4742.65	-421.44	-838.10	-602.79	0.00	1901256.47	136243.09	N 36 13 8.57	W 107 28 59.42
		4900.00	13.97	208.33	4766.33	-423.59	-843.29	-606.06	9.00	1901251.31	136239.76	N 36 13 8.52	W 107 28 59.46
		5000.00	12.38	168.65	4863.89	-422.87	-864.47	-609.69	9.00	1901230.18	136235.86	N 36 13 8.31	W 107 28 59.51
		5100.00	16.46	135.70	4960.88	-406.92	-885.17	-597.66	9.00	1901209.33	136247.63	N 36 13 8.11	W 107 28 59.36
		5200.00	23.41	118.63	5054.90	-376.12	-904.87	-570.26	9.00	1901189.28	136274.77	N 36 13 7.91	W 107 28 59.03
	5300.00	31.38	109.44	5143.65	-331.23	-923.09	-528.18	9.00	1901170.53	136316.62	N 36 13 7.73	W 107 28 58.51	
	5400.00	39.76	103.74	5224.94	-273.35	-939.39	-472.45	9.00	1901153.53	136372.14	N 36 13 7.57	W 107 28 57.83	
	5500.00	48.33	99.77	5296.77	-203.93	-953.35	-404.44	9.00	1901138.70	136439.97	N 36 13 7.43	W 107 28 57.00	
	5600.00	57.00	96.75	5357.37	-124.65	-964.64	-325.83	9.00	1901126.41	136518.44	N 36 13 7.32	W 107 28 56.04	
	5634.36	60.00	95.85	5375.32	-95.48	-967.85	-296.71	9.00	1901122.83	136547.51	N 36 13 7.29	W 107 28 55.69	
Hold 60° INC	5694.36	60.00	95.85	5405.32	-43.78	-973.15	-245.02	0.00	1901116.88	136599.14	N 36 13 7.24	W 107 28 55.06	
KOP, Build/Turn 9°/100'	5700.00	60.50	95.73	5408.12	-38.92	-973.64	-240.15	9.00	1901116.32	136604.00	N 36 13 7.23	W 107 28 55.00	
	5800.00	69.33	93.85	5450.47	50.91	-981.15	-149.99	9.00	1901107.67	136694.06	N 36 13 7.16	W 107 28 53.90	
	5900.00	78.19	92.17	5478.41	145.73	-986.16	-54.21	9.00	1901101.45	136789.78	N 36 13 7.11	W 107 28 52.73	
	6000.00	87.05	90.60	5491.24	243.22	-988.54	44.83	9.00	1901097.81	136888.78	N 36 13 7.08	W 107 28 51.52	
Landing Point, Hold to TD	6043.98	90.95	89.92	5492.00	286.32	-988.74	88.80	9.00	1901097.05	136932.75	N 36 13 7.08	W 107 28 50.98	
	6100.00	90.95	89.92	5491.07	341.17	-988.67	144.81	0.00	1901096.41	136988.76	N 36 13 7.08	W 107 28 50.30	
	6200.00	90.95	89.92	5489.41	439.07	-988.54	244.80	0.00	1901095.27	137088.74	N 36 13 7.08	W 107 28 49.08	
	6300.00	90.95	89.92	5487.74	536.98	-988.40	344.78	0.00	1901094.14	137188.72	N 36 13 7.09	W 107 28 47.86	
	6400.00	90.95	89.92										

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7000.00	90.95	89.92	5476.09	1222.32	-987.47	1044.68	0.00	1901086.18	137888.62	N 36 13 7.09	W 107 28 39.32
	7100.00	90.95	89.92	5474.42	1320.23	-987.34	1144.67	0.00	1901085.04	137988.60	N 36 13 7.10	W 107 28 38.10
	7200.00	90.95	89.92	5472.76	1418.13	-987.21	1244.66	0.00	1901083.91	138088.59	N 36 13 7.10	W 107 28 36.88
	7300.00	90.95	89.92	5471.09	1516.04	-987.07	1344.64	0.00	1901082.77	138188.57	N 36 13 7.10	W 107 28 35.66
	7400.00	90.95	89.92	5469.43	1613.94	-986.94	1444.63	0.00	1901081.63	138288.55	N 36 13 7.10	W 107 28 34.44
	7500.00	90.95	89.92	5467.76	1711.85	-986.81	1544.61	0.00	1901080.49	138388.54	N 36 13 7.10	W 107 28 33.22
	7600.00	90.95	89.92	5466.10	1809.76	-986.67	1644.60	0.00	1901079.36	138488.52	N 36 13 7.10	W 107 28 32.00
	7700.00	90.95	89.92	5464.43	1907.66	-986.54	1744.59	0.00	1901078.22	138588.51	N 36 13 7.10	W 107 28 30.78
	7800.00	90.95	89.92	5462.77	2005.57	-986.41	1844.57	0.00	1901077.08	138688.49	N 36 13 7.10	W 107 28 29.56
	7900.00	90.95	89.92	5461.10	2103.47	-986.27	1944.56	0.00	1901075.95	138788.48	N 36 13 7.11	W 107 28 28.34
	8000.00	90.95	89.92	5459.44	2201.38	-986.14	2044.54	0.00	1901074.81	138888.46	N 36 13 7.11	W 107 28 27.12
	8100.00	90.95	89.92	5457.77	2299.29	-986.01	2144.53	0.00	1901073.67	138988.45	N 36 13 7.11	W 107 28 25.90
	8200.00	90.95	89.92	5456.11	2397.19	-985.88	2244.52	0.00	1901072.54	139088.43	N 36 13 7.11	W 107 28 24.68
	8300.00	90.95	89.92	5454.44	2495.10	-985.74	2344.50	0.00	1901071.40	139188.42	N 36 13 7.11	W 107 28 23.46
	8400.00	90.95	89.92	5452.78	2593.00	-985.61	2444.49	0.00	1901070.26	139288.40	N 36 13 7.11	W 107 28 22.24
	8500.00	90.95	89.92	5451.11	2690.91	-985.48	2544.47	0.00	1901069.13	139388.39	N 36 13 7.11	W 107 28 21.02
	8600.00	90.95	89.92	5449.45	2788.82	-985.34	2644.46	0.00	1901067.99	139488.37	N 36 13 7.11	W 107 28 19.80
	8700.00	90.95	89.92	5447.78	2886.72	-985.21	2744.45	0.00	1901066.85	139588.35	N 36 13 7.12	W 107 28 18.58
	8800.00	90.95	89.92	5446.12	2984.63	-985.08	2844.43	0.00	1901065.72	139688.34	N 36 13 7.12	W 107 28 17.36
	8900.00	90.95	89.92	5444.45	3082.53	-984.95	2944.42	0.00	1901064.58	139788.32	N 36 13 7.12	W 107 28 16.14
	9000.00	90.95	89.92	5442.79	3180.44	-984.81	3044.40	0.00	1901063.44	139888.31	N 36 13 7.12	W 107 28 14.92
	9100.00	90.95	89.92	5441.12	3278.35	-984.68	3144.39	0.00	1901062.31	139988.29	N 36 13 7.12	W 107 28 13.70
	9200.00	90.95	89.92	5439.46	3376.25	-984.55	3244.38	0.00	1901061.17	140088.28	N 36 13 7.12	W 107 28 12.48
	9300.00	90.95	89.92	5437.79	3474.16	-984.41	3344.36	0.00	1901060.03	140188.26	N 36 13 7.12	W 107 28 11.26
	9400.00	90.95	89.92	5436.13	3572.06	-984.28	3444.35	0.00	1901058.90	140288.25	N 36 13 7.12	W 107 28 10.04
	9500.00	90.95	89.92	5434.46	3669.97	-984.15	3544.33	0.00	1901057.76	140388.23	N 36 13 7.13	W 107 28 8.82
	9600.00	90.95	89.92	5432.80	3767.88	-984.01	3644.32	0.00	1901056.62	140488.22	N 36 13 7.13	W 107 28 7.60
	9700.00	90.95	89.92	5431.13	3865.78	-983.88	3744.31	0.00	1901055.49	140588.20	N 36 13 7.13	W 107 28 6.37
	9800.00	90.95	89.92	5429.47	3963.69	-983.75	3844.29	0.00	1901054.35	140688.18	N 36 13 7.13	W 107 28 5.15
	9900.00	90.95	89.92	5427.80	4061.59	-983.62	3944.28	0.00	1901053.21	140788.17	N 36 13 7.13	W 107 28 3.93
	10000.00	90.95	89.92	5426.14	4159.50	-983.48	4044.26	0.00	1901052.08	140888.15	N 36 13 7.13	W 107 28 2.71
	10100.00	90.95	89.92	5424.47	4257.41	-983.35	4144.25	0.00	1901050.94	140988.14	N 36 13 7.13	W 107 28 1.49
	10200.00	90.95	89.92	5422.81	4355.31	-983.22	4244.24	0.00	1901049.80	141088.12	N 36 13 7.13	W 107 28 0.27
	10300.00	90.95	89.92	5421.14	4453.22	-983.08	4344.22	0.00	1901048.67	141188.11	N 36 13 7.14	W 107 27 59.05
	10400.00	90.95	89.92	5419.48	4551.12	-982.95	4444.21	0.00	1901047.53	141288.09	N 36 13 7.14	W 107 27 57.83
	10500.00	90.95	89.92	5417.81	4649.03	-982.82	4544.20	0.00	1901046.39	141388.08	N 36 13 7.14	W 107 27 56.61
	10600.00	90.95	89.92	5416.15	4746.94	-982.69	4644.18	0.00	1901045.26	141488.06	N 36 13 7.14	W 107 27 55.39
	10700.00	90.95	89.92	5414.48	4844.84	-982.55	4744.17	0.00	1901044.12	141588.05	N 36 13 7.14	W 107 27 54.17
Chaco 2306-16L #244H PBHL/TD	10728.94	90.95	89.92	5414.00	4873.18	-982.51	4773.11	0.00	1901043.79	141616.98	N 36 13 7.14	W 107 27 53.82

Survey Type: 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_UNKNOWN-Depth Only	Original Hole / Chaco 2306-16L #244H R0 mdv 12Nov13
	14.000	10728.943	1/100.000	30.000	30.000	SLB_UNKNOWN	Original Hole / Chaco 2306-16L #244H R0 mdv 12Nov13