

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

MAR 26 2014

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE – Other instructions on page 2.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

WPX Energy Production, LLC

3a. Address

PO Box 640 Aztec, NM 87410

3b. Phone No. (include area code)

505-333-1808

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sur: 1426' FNL & 304' FWL, Sec 14, T23N, R8W – BHL: 380' FNL & 230' FWL, Sec 15, T23N, R8W

Office Serial No.

NMNM 18463

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

Chaco 2308-14E #151H

9. API Well No.

30-045-35503

10. Field and Pool or Exploratory Area

Nageezi Gallup

11. Country or Parish, State

San Juan, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other <u>Surface change</u>
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

WPX plans to change the surface location slightly for better rig access per attached C-102, operations plan and directional plan. 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.

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations.

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

14. I hereby certify that the foregoing is true and correct.

Name (Printed/Typed)

Larry Higgins

Title Regulatory Specialist

Signature

Larry Higgins

Date 3/26/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

William Tambekou

Petroleum Engineer

Date 3/28/2014

Conditions of approval, if any, are attached. Approval of this notice 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.

Office FFO

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 page 2)

NMOCDA

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

MAR 26 2014

WELL LOCATION AND ACREAGE DEDICATION PLAT Farmington Field Office
Bureau of Land Management

*API Number 30-045-35503		*Pool Code 47540	*Pool Name NAGEEZI GALLUP
*Property Code 40455	*Property Name CHACO 2308-14E		*Well Number 151H
*OGRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC		*Elevation 6889'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	14	23N	8W		1426	NORTH	304	WEST	SAN JUAN

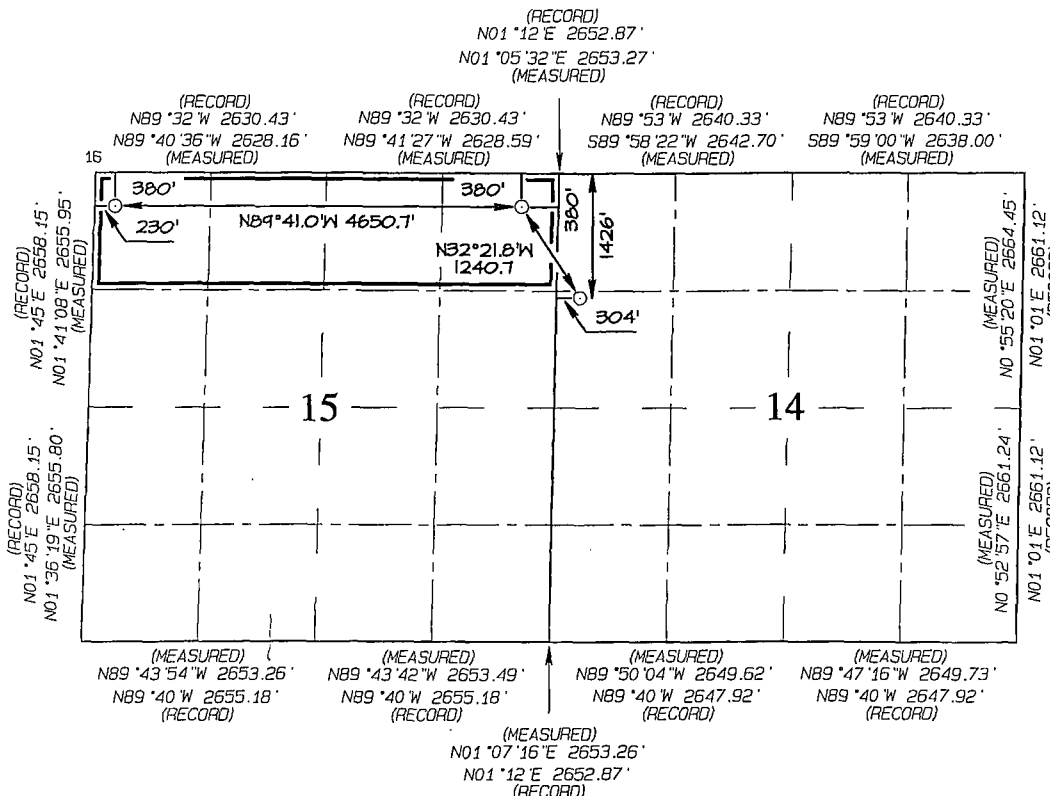
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	15	23N	8W		380	NORTH	230	WEST	SAN JUAN

¹² Dedicated Acres 160.0 Acres N/2 N/2 - Section 15	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. RCVD MAR 31 '14 OIL CONS. DIV.
--	-------------------------------	----------------------------------	--

DIST. 3

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE
BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



END-OF-LATERAL
380' FNL 230' FWL
SECTION 15, T23N, R8W
LAT: 36.23332°N
LONG: 107.67645°W
DATUM: NAD1927

LAT: 36.23334°N
LONG: 107.67706°W
DATUM: NAD1983

POINT-OF-ENTRY
380' FNL 380' FEL
SECTION 15, T23N, R8W
LAT: 36.23323°N
LONG: 107.66068°W
DATUM: NAD1927

LAT: 36.23325°N
LONG: 107.66130°W
DATUM: NAD1983

SURFACE LOCATION
1426' FNL 304' FWL
SECTION 14, T23N, R8W
LAT: 36.23035°N
LONG: 107.65844°W
DATUM: NAD1927

LAT: 36.23036°N
LONG: 107.65905°W
DATUM: NAD1983

¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: *Larry Higgins* Date: 03/26/14

Printed Name: Larry Higgins

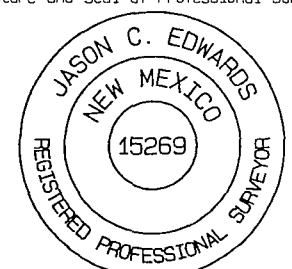
E-mail Address: larry.higgins@wpxenergy.com

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: MARCH 11, 2014
Date of Survey: SEPT 14, 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: 3/13/2014 **FIELD:** Nageezi (Gallup)

WELL NAME: Chaco 2308-14E #151H **SURFACE:** BLM

SH Location: SWNW Sec 14-23N-08W **ELEVATION:** 6889' GR

BH Location: NWNW Sec 15-23N-08W **MINERALS:** BLM
San Juan, NM

MEASURED DEPTH: 10,482' **LEASE #:** NMNM 18463

I. GEOLOGY: Surface formation – Nacimiento

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

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	951	950	Point Lookout	4,115	3,954
Kirtland	1,120	1,116	Mancos	4,304	4,141
Pictured Cliffs	1,581	1,559	Kickoff Point	4,745	4,582
Lewis	1,720	1,690	Target Top	5,338	5,091
Chacra	1,990	1,943	Landing Point	5,828	5,248
Cliff House	3,139	3,023	Target Base	5,828	5,248
Menefee	3,223	3,102			
			TD	10,482	5,083

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, and the curve portion of the wellbore. A LSND (WBM) or (OBM) will be used to drill the lateral portion of well. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.

B. **BOP TESTING:** While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The anticipated reservoir is expected to be less than 1300 psi, so the BOPE will be tested to **250 psi (Low) for 5 minutes** and **1500 psi (High) for 10 minutes**. Pressure test surface casing to **600 psi for 30 minutes** and intermediate casing to **1500 psi for 30 minutes**. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. **All tests and inspections will be recorded in the tour book as to time and results.**

NOTE: Vertical portion of the well (8-3/4 in.) will be directionally drilled as per attached Directional Plan to +/- 4,745' (MD) / 4,582' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 5,828' (MD) / 5,248' (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 +/- 10,482' (MD) / 5,083' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,678 ft. to TD and cemented. Liner will be tied back to surface w / 4-1/2" Casing for stimulation / testing, then removed from the well.

III. MATERIALS**A. CASING PROGRAM:**

CASING TYPE	OH SIZE (IN)	DEPTH (MD) (FT)	CASING SIZE (IN)	WEIGHT(LB)	GRADE
Surface	12.25"	400'+	9.625"	36#	J-55
Intermediate	8.75"	5,828'	7"	23#	K-55
Prod. Liner	6.125"	5,678' - 10,482'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5,678'	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., and 2,000ft. Additionally run 1 turbolizing centralizer on every other joint from 100' below the top of the Kirtland to 100' above the top of the Ojo Alamo, as referenced in Formation Tops in Section I-A.
3. **PRODUCTION LINER:** Run 4-1/2" Liner with cement nose guide Float Shoe + 2jts. of 4-1/2" casing + Landing Collar + 4-1/2" pup joint + (2) RSI (Sliding Sleeves) positioned inside the 330ft Hard line. Centralizer program will be determined by Wellbore condition and when Lateral is evaluated by Geoscientists and Reservoir Engineers. Set seals on Liner Hanger. Test TOL to 1500 psi for 15 minutes.
4. **TIE-BACK CASING:** None

C. CEMENTING:

(Note: Volumes may be adjusted onsite due to actual conditions)

1. **SURFACE:** 10 bbl Fr Water Spacer + 190 sx (222.3 cu.ft.) of "Premium Cement" + 2% Calcium Chloride Cement + 0.125# pps of Poly-E-Flake, 15.8 #/gal (1.17 cu ft./sk, Vol 39.58 Bbls.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 600psi. Total Volume: (222.3 cu-ft/190 sx/39.6 Bbls). TOC at Surface.
2. **INTERMEDIATE:** 20 bbl (112 cu-ft) Mud Flush Ill 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 Ill + 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 (310 sx / 536.3 cu ft / 95.5

bbls). Mix Foamed Cement w/ +/- 75,000 SCF Nitrogen. Est. TOC +/- 5,378 ft.

IV. COMPLETION

A. CBL

1. Run CCL for perforating.

B. PRESSURE TEST

1. Pressure test 4-1/2" casing to 4500 psi max, hold at 1500 psi for 30 minutes. Increase pressure to Open RSI sleeves.

C. STIMULATION

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

D. RUNNING TUBING

1. Production Tubing: Run 2-7/8", 6.5#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing near Top of Liner point of curve (~5,800' MD).

- Although this horizontal well will be drilled past the applicable setbacks, an unorthodox location application is not required because the completed interval in this well, as defined by 19.15.16.7 B(1) NMAC, will be entirely within the applicable setbacks. This approach complies with all applicable rules, including 19.15.16.14 A(3) NMAC, 19.15.16.14 B(2) NMAC, 19.15.16.15 B(2) NMAC, and 19.15.16.15 B(4) NMAC.

NOTE:

Installation of RSI sleeves at Toe of Lateral.

Proposed Operations:

A 4-1/2" 11.6# N-80 Liner will be run to TD and landed +/- 150 ft. into the 7" 23# K-55 Intermediate casing (set at 5,828 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,678 ft. (MD) +/- 79 degree angle. TOC: +/- 5,378 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.

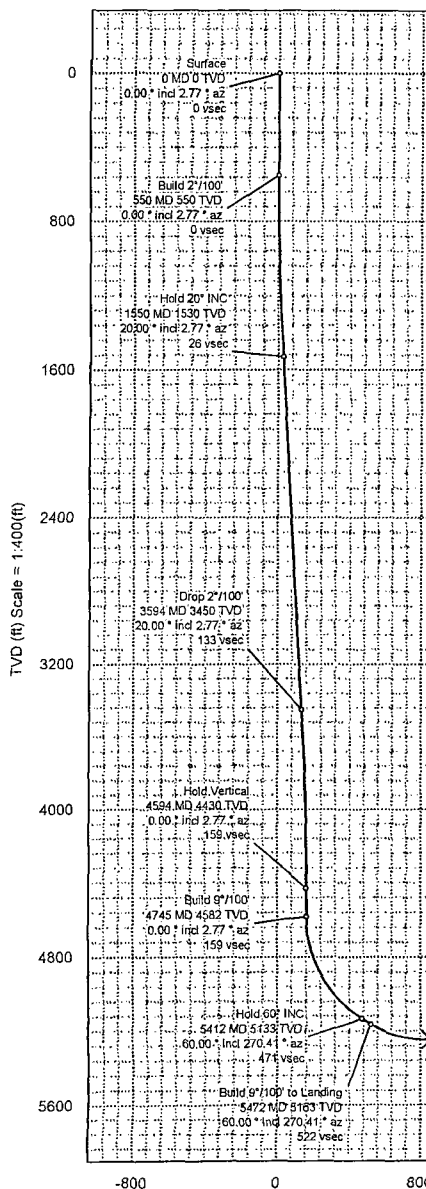
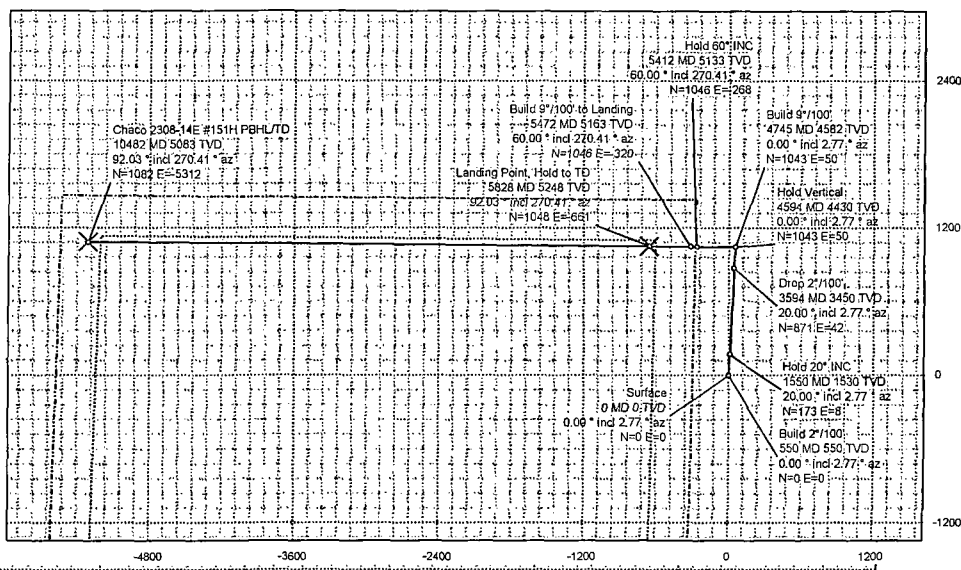
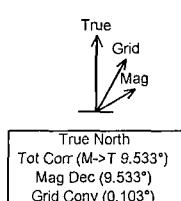
Note: Changes to formation tops, casing landing points, well TD and Directional Plan.

Borehole:	Well:	Field:	Structure:
Original Hole	Chaco 2308-14E #151H	NM San Juan County NAD27	Sec 14-23N-8W

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: BGGM 2013 Dip: 62.994° Date: 22-Nov-2013	NAD27 New Mexico State Plane, Western Zone, US Feet	Slot: Chaco 2308-14E #151H
MagDec: 9.533° FS: 50153.278mT Gravity FS: 998.92mgn (9.80665 Based)	Lat: N 36 13 49.26 Northing: 1903135.575 Grid Conv: 0.1034°	TVD Ref: RKB(6903ft above MSL)
	Lon: W 107 39 30.38 Easting: 551581.637mU Scale Fact: 0.99991971	Plan: Chaco 2308-14E #151H R1 mdv 11Mar14

Proposal

EW (ft) Scale = 1:600(ft)



Surface Location								
Northing: 1903135.575			Easting: 551581.637		Latitude: N 36 13 49.26		Longitude: W 107 39 30.38	
							VSec Azimuth: 281.51	
Target Description		Grid Coord					Local Coord	
Target Name	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)S(-)	E(+)W(-)
Chaco 2308-14E #151H PBHL/TD	N 36 13 58.95	W 107 40 35.22	1904207.61	546268.16	5083.00	5420.99	1081.70	-5311.97
Chaco 2308-14E #151H POE	N 36 13 59.63	W 107 39 38.45	1904182.75	550919.12	5248.00	856.60	1048.45	-660.68
Chaco 2308-14E #151H Section Line	N 36 13 49.32	W 107 39 30.29	1903142.14	551589.38	6903.00	-6.29	6.55	7.76
Chaco 2308-14E #151H 330° Setback	N 36 13 49.32	W 107 39 30.29	1903142.14	551589.38	6903.00	-6.29	6.55	7.76
Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)S(-)	E(+)W(-)	DLS
Surface	0.00	0.00	2.77	0.00	0.00	0.00	0.00	
Build 2°/100'	550.00	0.00	2.77	550.00	0.00	0.00	0.00	0.00
Hold 20° INC	1550.12	20.00	2.77	1529.93	26.27	172.61	8.34	2.00
Drop 2°/100'	3593.53	20.00	2.77	3450.07	132.51	870.76	42.09	0.00
Hold Vertical	4593.64	0.00	2.77	4430.00	158.77	1043.36	50.44	2.00
Build 9°/100'	4745.42	0.00	2.77	4581.78	158.77	1043.36	50.44	0.00
Hold 60° INC	5412.09	60.00	270.41	5133.11	471.13	1045.64	-267.87	9.00
Build 9°/100' to Landing	5472.09	60.00	270.41	5163.11	522.12	1046.01	-319.83	0.00
Landing Point, Hold to TD	5827.98	92.03	270.41	5248.00	856.60	1048.45	-660.68	9.00
Chaco 2308-14E #151H PBHL/TD	10482.32	92.03	270.41	5083.00	5420.99	1081.70	-5311.97	0.00

Vertical Section (ft) Azim = 281.51° Scale = 1:400(ft) Origin = 0N-S, 0E-W



Chaco 2308-14E #151H R1 mdv 11Mar14 Proposal Geodetic Report

(Def Plan)

Report Date: March 11, 2014 - 02:42 PM
Client: WPX Energy
Field: NM San Juan County NAD27
Structure / Slot: WPX Sec 14-23N-8W (Chaco 2308-14E #151H) / Chaco 2308-14E #151H
Well: Chaco 2308-14E #151H
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Chaco 2308-14E #151H R1 mdv 11Mar14
Survey Date: November 22, 2013
Tort / AHD / DDI / ERD Ratio: 132.038 * / 6407.128 ft / 6.228 / 1.221
Coordinate Reference System: NAD27 New Mexico State Plane, Western Zone, US Feet
Location Lat / Long: N 36° 13' 49.26000", W 107° 39' 30.38400"
Location Grid N/E Y/X: N 1903135.575 ftUS, E 551581.637 ftUS
CRS Grid Convergence Angle: 0.1034 *
Grid Scale Factor: 0.99991971
Version / Patch: 2.7.1043.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 281.510 * (True North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 6903.000 ft above MSL
Seabed / Ground Elevation: 6889.000 ft above MSL
Magnetic Declination: 9.533 *
Total Gravity Field Strength: 998.9202mgn (9.80665 Based)
Gravity Model: DOX
Total Magnetic Field Strength: 50153.278 nT
Magnetic Dip Angle: 62.994 *
Declination Date: November 22, 2013
Magnetic Declination Model: BGGM 2013
North Reference: True North
Grid Convergence Used: 0.0000 *
Total Corr Mag North->True North: 9.5327 *
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	2.77	0.00	0.00	0.00	0.00	N/A	1903135.58	551581.64	N 36 13 49.26	W 107 39 30.38
	100.00	0.00	2.77	100.00	0.00	0.00	0.00	0.00	1903135.58	551581.64	N 36 13 49.26	W 107 39 30.38
	200.00	0.00	2.77	200.00	0.00	0.00	0.00	0.00	1903135.58	551581.64	N 36 13 49.26	W 107 39 30.38
	300.00	0.00	2.77	300.00	0.00	0.00	0.00	0.00	1903135.58	551581.64	N 36 13 49.26	W 107 39 30.38
	400.00	0.00	2.77	400.00	0.00	0.00	0.00	0.00	1903135.58	551581.64	N 36 13 49.26	W 107 39 30.38
	500.00	0.00	2.77	500.00	0.00	0.00	0.00	0.00	1903135.58	551581.64	N 36 13 49.26	W 107 39 30.38
Build 2°/100'	550.00	0.00	2.77	550.00	0.00	0.00	0.00	0.00	1903135.58	551581.64	N 36 13 49.26	W 107 39 30.38
	600.00	1.00	2.77	600.00	0.07	0.44	0.02	2.00	1903136.01	551581.66	N 36 13 49.26	W 107 39 30.38
	700.00	3.00	2.77	699.93	0.80	3.92	0.19	2.00	1903139.50	551581.62	N 36 13 49.30	W 107 39 30.38
	800.00	5.00	2.77	799.68	1.66	10.89	0.53	2.00	1903146.46	551582.14	N 36 13 49.37	W 107 39 30.38
	900.00	7.00	2.77	899.13	3.25	21.33	1.03	2.00	1903156.90	551582.63	N 36 13 49.47	W 107 39 30.37
	1000.00	9.00	2.77	998.15	5.36	35.23	1.70	2.00	1903170.80	551583.28	N 36 13 49.61	W 107 39 30.36
	1100.00	11.00	2.77	1096.63	8.00	52.57	2.54	2.00	1903188.15	551584.08	N 36 13 49.78	W 107 39 30.35
	1200.00	13.00	2.77	1194.44	11.16	73.34	3.55	2.00	1903208.91	551585.05	N 36 13 49.99	W 107 39 30.34
	1300.00	15.00	2.77	1291.46	14.84	97.50	4.71	2.00	1903233.08	551586.17	N 36 13 50.22	W 107 39 30.33
	1400.00	17.00	2.77	1387.58	19.03	125.03	6.04	2.00	1903260.61	551587.45	N 36 13 50.50	W 107 39 30.31
	1500.00	19.00	2.77	1482.68	23.72	155.90	7.54	2.00	1903291.47	551588.89	N 36 13 50.80	W 107 39 30.29
Hold 20° INC	1550.12	20.00	2.77	1529.93	26.27	172.61	8.34	2.00	1903308.18	551589.67	N 36 13 50.87	W 107 39 30.28
	1600.00	20.00	2.77	1576.80	28.86	189.65	9.17	0.00	1903325.23	551590.46	N 36 13 51.14	W 107 39 30.27
	1700.00	20.00	2.77	1670.77	34.06	223.82	10.82	0.00	1903359.39	551592.05	N 36 13 51.47	W 107 39 30.25
	1800.00	20.00	2.77	1764.74	39.26	257.98	12.47	0.00	1903393.56	551593.64	N 36 13 51.81	W 107 39 30.23
	1900.00	20.00	2.77	1858.70	44.46	292.15	14.12	0.00	1903427.72	551595.23	N 36 13 52.15	W 107 39 30.21
	2000.00	20.00	2.77	1952.67	49.66	326.31	15.77	0.00	1903461.89	551596.82	N 36 13 52.49	W 107 39 30.19
	2100.00	20.00	2.77	2046.64	54.86	360.48	17.43	0.00	1903496.06	551598.41	N 36 13 52.82	W 107 39 30.17
	2200.00	20.00	2.77	2140.61	60.05	394.65	19.08	0.00	1903530.22	551600.00	N 36 13 53.16	W 107 39 30.15
	2300.00	20.00	2.77	2234.57	65.25	428.81	20.73	0.00	1903564.39	551601.59	N 36 13 53.50	W 107 39 30.13
	2400.00	20.00	2.77	2328.54	70.45	462.98	22.38	0.00	1903598.55	551603.18	N 36 13 53.84	W 107 39 30.11
	2500.00	20.00	2.77	2422.51	75.65	497.14	24.03	0.00	1903632.72	551604.77	N 36 13 54.18	W 107 39 30.09
	2600.00	20.00	2.77	2516.48	80.85	531.31	25.68	0.00	1903666.89	551606.36	N 36 13 54.51	W 107 39 30.07
	2700.00	20.00	2.77	2610.45	86.05	565.48	27.33	0.00	1903701.05	551607.95	N 36 13 54.85	W 107 39 30.05
	2800.00	20.00	2.77	2704.41	91.25	599.64	28.99	0.00	1903735.22	551609.54	N 36 13 55.19	W 107 39 30.03
	2900.00	20.00	2.77	2798.38	96.45	633.81	30.64	0.00	1903769.39	551611.13	N 36 13 55.53	W 107 39 30.01
	3000.00	20.00	2.77	2892.35	101.65	667.97	32.29	0.00	1903803.55	551612.72	N 36 13 55.87	W 107 39 29.99
	3100.00	20.00	2.77	2986.32	106.85	702.14	33.94	0.00	1903837.72	551614.31	N 36 13 56.20	W 107 39 29.97
	3200.00	20.00	2.77	3080.28	112.05	736.31	35.59	0.00	1903871.88	551615.90	N 36 13 56.54	W 107 39 29.95
	3300.00	20.00	2.77	3174.25	117.25	770.47	37.24	0.00	1903906.05	551617.49	N 36 13 56.88	W 107 39 29.93
	3400.00	20.00	2.77	3268.22	122.44	804.64	38.90	0.00	1903940.22	551619.08	N 36 13 57.22	W 107 39 29.91
	3500.00	20.00	2.77	3362.19	127.64	838.80	40.55	0.00	1903974.38	551620.67	N 36 13 57.55	W 107 39 29.89
Drop 2°/100'	3593.53	20.00	2.77	3450.07	132.51	870.76	42.09	0.00	1904006.34	551622.15	N 36 13 57.87	W 107 39 29.87
	3600.00	19.87	2.77	3456.16	132.84	872.96	42.20	2.00	1904008.54	551622.26	N 36 13 57.89	W 107 39 29.87
	3700.00	17.87	2.77	3550.78	137.76	905.27	43.76	2.00	1904040.85	551623.76	N 36 13 58.21	W 107 39 29.85
	3800.00	15.87	2.77	3646.47	142.17	934.26	45.16	2.00	1904069.84	551625.11	N 36 13 58.50	W 107 39 29.83
	3900.00	13.87	2.77	3743.11	146.07	959.90	46.40	2.00	1904095.48	551626.30	N 36 13 58.75	W 107 39 29.82
	4000.00	11.87	2.77	3840.59	149.48	982.15	47.48	2.00	1904117.73	551627.34	N 36 13 58.97	W 107 39 29.80
	4100.00	9.87	2.77	3938.79	152.32	1000.99	48.39	2.00	1904136.57	551628.21	N 36 13 59.16	W 107 39 29.79
	4200.00	7.87	2.77	4037.58	154.67	1016.39	49.13	2.00	1904151.97	551628.93	N 36 13 59.31	W 107 39 29.78
	4300.00	5.87	2.77	4136.87	156.49	1028.35	49.71	2.00	1904163.92	551629.49	N 36 13 59.43	W 107 39 29.78
	4400.00	3.87	2.77	4236.50	157.78	1038.83	50.12	2.00	1904172.41	551629.88	N 36 13 59.51	W 107 39 29.77
	4500.00	1.87	2.77	4336.37	158.54	1041.84	50.36	2.00	1904177.42	551630.11	N 36 13 59.56	W 107 39 29.77
Hold Vertical	4593.64	0.00	2.77	4430.00	158.77	1043.37	50.44	2.00	1904178.94	551630.19	N 36 13 59.58	W 107 39 29.77
	4600.00	0.00	2.77	4436.36	158.77	1043.37	50.44	0.00	1904178.94	551630.19	N 36 13 59.58	W 107 39 29.77
	4700.00	0.00	2.77	4536.36	158.77	1043.37	50.44	0.00	1904178.94	551630.19	N 36 13 59.58	W 107 39 29.77
Build 9°/100'	4745.42	0.00	2.77	4581.78	158.77	1043.37	50.44	0.00	1904178.94	551630.19	N 36 13 59.58	W 107 39 29.77
	4800.00	4.91	270.41	4636.29	161.07	1043.38	48.10	9.00	1904178.96	551627.85	N 36 13 59.58	W 107 39 29.80
	4900.00	13.91	270.41	4734.84	177.10	1043.50	31.76	9.00	1904179.04	551611.51	N 36 13 59.58	W 107 39 30.00
	5000.00	22.91	270.41	4829.62	208.06	1043.72	0.21	9.00	1904179.21	551579.96	N 36 13 59.58	W 107 39 30.38
	5100.00	31.91	270.41	4918.31	253.19	1044.05	-45.78	9.00	1904179.48	551533.88	N 36 13 59.58	W 107 39 30.94
	5200.00	40.91	270.41	4998.70	311.38	1044.48	-105.08	9.00	1904179.78	551474.69	N 36 13 59.59	W 107 39 31.67
	5300.00	49.91	270.41	5068.83	381.19	1044.99	-176.22	9.00	1904180.16	551403.55	N 36 13 59.59	W 107 39 32.53
	5400.00	58.91	270.41	5126.96	460.91	1045.57	-257.45	9.00	1904180.59	551322.32	N 36 13 59.60	W 107 39 33.53
	5412.09	60.00	270.41	5133.11	471.13	1045.64	-267.87	9.00	1904180.65	551311.91	N 36 13 59.60	W 107 39 33.65
Hold 60° INC Build 9°/100' to Landing	5472.09	60.00	270.41	5163.11	522.12	1046.01	-319.83	0.00	1904180.93	551259.95	N 36 13 59.60	W 107 39 34.29
	5500.00	62.51	270.41	5176.53	548.13	1046.19	-344.29	9.00	1904181.06	551235.48	N 36 13 59.61	W 107 39 34.59
	5600.00	71.51	270.41	5215.54	638.37	1046.85	-436.26	9.00	1904181.55	551143.53	N 36 13 59.61	W 107 39 35.71
	5700.00	80.51	270.41	5239.69	731.49	1047.54	-533.19	9.00	1904182.07	551046.60	N 36 13 59.62	W 107 39 36.89
	5800.00	89.51	270.41	5248.38	829.15	1048.25	-632.70	9.00	1904182.60	550947.10	N 36 13 59.63	W 107 39 38.11
Landing Point, Hold to TD	5827.98	92.03	270.41	5248.00	856.60	1048.45	-660.68	9.00	1904182.75	550919.12	N 36 13 59.63	W 107 39 38.45
	5900.00	92.03	270.41	5245.45	927.23	1048.97	-732.65	0.00	1904183.13	550847.15	N 36 13 59.63	W 107 39 39.33
	6000.00	92.03	270.41	5241.91	1025.30	1049.68	-832.59	0.00	1904183.67	550747.23	N 36 13 59.64	W 107 39 40.55
	6100.00	92.03	270.41	5238.36	1123.36	1050.40	-932.52	0.00	1904184.20	550647.30	N 36 13 59.65	W 107 39 41.77
	6200.00	92.03	270.41	5234.82	1221.43	1051.11	-1032.46	0.00	1904184.74	550547.37	N 36 13 59.65	W 107 39 42.99
	6300.00	92.03	270.41	5231.28	1319.50	1051.83	-1132.39	0.00	1904185.27	550447.44	N 36 13 59.66	W 1

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 ° ' ")
	6700.00	92.03	270.41	5217.11	1711.77	1054.69	-1532.13	0.00	1904187.41	550047.73	N 36 13 59.69	W 107 39 49.08
	6800.00	92.03	270.41	5213.56	1809.84	1055.40	-1632.06	0.00	1904187.95	549947.81	N 36 13 59.70	W 107 39 50.30
	6900.00	92.03	270.41	5210.02	1907.90	1056.12	-1732.00	0.00	1904188.48	549847.88	N 36 13 59.70	W 107 39 51.52
	7000.00	92.03	270.41	5208.48	2005.97	1056.83	-1831.93	0.00	1904189.01	549747.95	N 36 13 59.71	W 107 39 52.74
	7100.00	92.03	270.41	5202.93	2104.04	1057.55	-1931.87	0.00	1904189.55	549648.02	N 36 13 59.72	W 107 39 53.96
	7200.00	92.03	270.41	5199.39	2202.11	1058.26	-2031.80	0.00	1904190.08	549548.10	N 36 13 59.72	W 107 39 55.18
	7300.00	92.03	270.41	5195.84	2300.18	1058.98	-2131.74	0.00	1904190.62	549448.17	N 36 13 59.73	W 107 39 56.40
	7400.00	92.03	270.41	5192.30	2398.24	1059.69	-2231.67	0.00	1904191.15	549348.24	N 36 13 59.74	W 107 39 57.62
	7500.00	92.03	270.41	5188.76	2496.31	1060.41	-2331.61	0.00	1904191.69	549248.31	N 36 13 59.75	W 107 39 58.84
	7600.00	92.03	270.41	5185.21	2594.38	1061.12	-2431.54	0.00	1904192.22	549148.39	N 36 13 59.75	W 107 40 0.06
	7700.00	92.03	270.41	5181.67	2692.44	1061.84	-2531.48	0.00	1904192.76	549048.46	N 36 13 59.76	W 107 40 1.28
	7800.00	92.03	270.41	5178.12	2790.51	1062.55	-2631.41	0.00	1904193.29	548948.53	N 36 13 59.77	W 107 40 2.50
	7900.00	92.03	270.41	5174.58	2888.58	1063.26	-2731.34	0.00	1904193.82	548848.60	N 36 13 59.77	W 107 40 3.72
	8000.00	92.03	270.41	5171.03	2986.65	1063.98	-2831.28	0.00	1904194.36	548748.68	N 36 13 59.78	W 107 40 4.94
	8100.00	92.03	270.41	5167.49	3084.71	1064.69	-2931.21	0.00	1904194.89	548648.75	N 36 13 59.79	W 107 40 6.16
	8200.00	92.03	270.41	5163.94	3182.78	1065.41	-3031.15	0.00	1904195.43	548548.82	N 36 13 59.79	W 107 40 7.38
	8300.00	92.03	270.41	5160.40	3280.85	1066.12	-3131.08	0.00	1904195.96	548448.89	N 36 13 59.80	W 107 40 8.60
	8400.00	92.03	270.41	5156.85	3378.92	1066.84	-3231.02	0.00	1904196.49	548348.97	N 36 13 59.81	W 107 40 9.82
	8500.00	92.03	270.41	5153.31	3476.98	1067.55	-3330.95	0.00	1904197.03	548249.04	N 36 13 59.82	W 107 40 11.04
	8600.00	92.03	270.41	5149.76	3575.05	1068.27	-3430.89	0.00	1904197.56	548149.11	N 36 13 59.82	W 107 40 12.26
	8700.00	92.03	270.41	5146.22	3673.12	1068.98	-3530.82	0.00	1904198.10	548049.18	N 36 13 59.83	W 107 40 13.48
	8800.00	92.03	270.41	5142.67	3771.19	1069.69	-3630.76	0.00	1904198.63	547949.26	N 36 13 59.84	W 107 40 14.70
	8900.00	92.03	270.41	5139.12	3869.25	1070.41	-3730.69	0.00	1904199.16	547849.33	N 36 13 59.84	W 107 40 15.92
	9000.00	92.03	270.41	5135.58	3967.32	1071.12	-3830.62	0.00	1904199.70	547749.40	N 36 13 59.85	W 107 40 17.14
	9100.00	92.03	270.41	5132.03	4065.39	1071.84	-3930.56	0.00	1904200.23	547649.47	N 36 13 59.86	W 107 40 18.36
	9200.00	92.03	270.41	5128.49	4163.46	1072.55	-4030.49	0.00	1904200.76	547549.55	N 36 13 59.86	W 107 40 19.58
	9300.00	92.03	270.41	5124.94	4261.52	1073.26	-4130.43	0.00	1904201.30	547449.62	N 36 13 59.87	W 107 40 20.80
	9400.00	92.03	270.41	5121.39	4359.59	1073.98	-4230.36	0.00	1904201.83	547349.69	N 36 13 59.88	W 107 40 22.02
	9500.00	92.03	270.41	5117.85	4457.66	1074.69	-4330.30	0.00	1904202.37	547249.76	N 36 13 59.88	W 107 40 23.24
	9600.00	92.03	270.41	5114.30	4555.73	1075.41	-4430.23	0.00	1904202.90	547149.84	N 36 13 59.89	W 107 40 24.46
	9700.00	92.03	270.41	5110.75	4653.79	1076.12	-4530.17	0.00	1904203.43	547049.91	N 36 13 59.90	W 107 40 25.68
	9800.00	92.03	270.41	5107.21	4751.86	1076.83	-4630.10	0.00	1904203.97	546949.98	N 36 13 59.91	W 107 40 26.90
	9900.00	92.03	270.41	5103.66	4849.93	1077.55	-4730.04	0.00	1904204.50	546850.05	N 36 13 59.91	W 107 40 28.12
	10000.00	92.03	270.41	5100.11	4947.99	1078.26	-4829.97	0.00	1904205.03	546750.13	N 36 13 59.92	W 107 40 29.34
	10100.00	92.03	270.41	5096.56	5046.06	1078.98	-4929.90	0.00	1904205.57	546650.20	N 36 13 59.93	W 107 40 30.56
	10200.00	92.03	270.41	5093.02	5144.13	1079.69	-5029.84	0.00	1904206.10	546550.27	N 36 13 59.93	W 107 40 31.78
	10300.00	92.03	270.41	5089.47	5242.20	1080.40	-5129.77	0.00	1904206.63	546450.35	N 36 13 59.94	W 107 40 33.00
	10400.00	92.03	270.41	5085.92	5340.26	1081.12	-5229.71	0.00	1904207.17	546350.42	N 36 13 59.95	W 107 40 34.22
Chaco 2308-14E #151H PBHL/TD	10482.32	92.03	270.41	5083.00	5420.99	1081.70	-5311.97	0.00	1904207.61	546268.16	N 36 13 59.95	W 107 40 35.22

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	30.000	30.000	SLB_MWD-STD-Depth Only	Original Hole / Chaco 2308-14E #151H R1 mdv 11Mar14
	1	14.000	10482.319	1/100.000	30.000	30.000	SLB_MWD-STD	Original Hole / Chaco 2308-14E #151H R1 mdv 11Mar14