

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary-Designate

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

Jami Bailey, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions
listed below are made in accordance with OCD Rule 19.15.7.11
and are in addition to the actions approved by BLM on the
following 3160-4 or 3160-5 form.

Operator Signature Date: 6/18/14

Application Type:

☐ P&A ☒ Drilling/Casing Change ☐ Recomplete/DHC
☒ Location Change ☒ Other: Project area

Well information:

API-WELL #	Well-Name	Well #	Operator-Name	Type	Stat	County	Surf. Owner	UL	Sec	Twp	N/S	Rng	W/E
30-039-31208-00-00	CHACO 2307 131	187H	WPX ENERGY PRODUCTION, LLC	O	N	Rio Arriba	F	I	13	23	N	7	W

Conditions of Approval:

Notify NMOCD 24hrs prior to beginning operations

Hold C104 for NSL, NSP, as drilled plat, directional survey

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.

Cement volumes need to be adjusted for longer measured depth

NMOCD Approved by Signature

6-27-14
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

JUN 18 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.

5. Lease Serial No.

NMSF-078360

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.

Chaco 2307-131 #187H

9. API Well No.

30-039-31208

10. Field and Pool or Exploratory Area
Lybrook Gallup

11. Country or Parish, State
Rio Arriba, NM

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)

505-333-1822

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

Sur: 1742' FSL & 296' FEL, sec 13, T23N, R7W - BHL: 1884' FNL & 330' FEL, Sec 14, T23N, R7W

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

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment Notice

☐ Acidize

☐ Alter Casing

☐ Casing Repair

☐ Change Plans

☐ Convert to Injection

☐ Deepen

☐ Fracture Treat

☐ New Construction

☐ Plug and Abandon

☐ Plug Back

☐ Production
(Start/Resume)

☐ Reclamation

☐ Recomplete

☐ Temporarily
Abandon

☐ Water Disposal

☐ Water Shut-Off

☐ Well Integrity

☒ Other Realign Lateral

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 plans to realign the lateral on this well as per attached C-102, operations plan and directional plan. No new surface disturbance is required. This well is located within the 9,238 acre Project Area that was approved by NMOCD in Order No. R-13817, therefore, NSL approval is not required. As of the date of this request, the CA agreement that is a part of this Order has not been finalized but is expected to be prior to first delivery of this well.

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

OIL CONS. DIV. DIST. 3
JUN 27 2014

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)

Heather Riley

Title Regulatory Team Lead

Signature

Date 6/18/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

William Tambekou

Petroleum

Title Engineer

Date 6/24/2014

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)

JUN 26 2014

NMOCD
OPERATOR

WPX

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

OIL CONSERVATION DIVISION

1220 South St. Francis Drive
Santa Fe, NM 87505

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT

RECEIVED

JUN 18 2014

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-029-3/208	*Pool Code 42289	*Pool Name LYBROOK GALLUP
*Property Code 313124	*Property Name CHACO 2307-13I	*Well Number 187H
*GRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC	*Elevation 6926'

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
I	13	23N	7W		1742	SOUTH	296	EAST	RIO ARRIBA

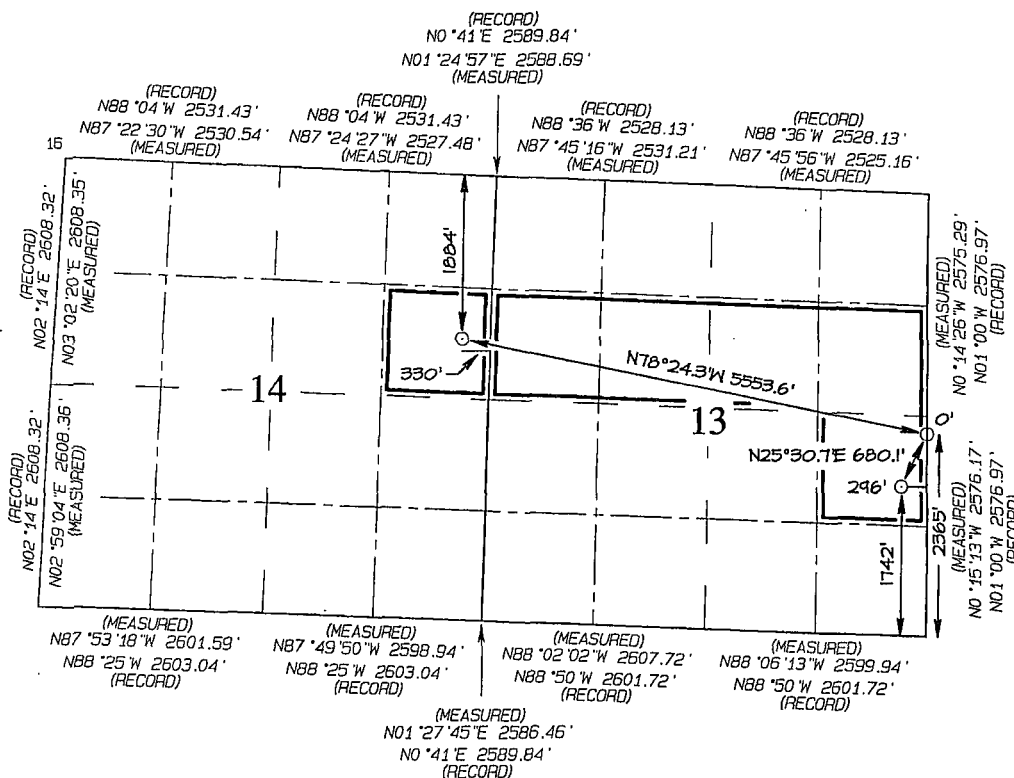
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idh	Feet from the	North/South line	Feet from the	East/West line	County
H	14	23N	7W		1884	NORTH	330	EAST	RIO ARRIBA

¹² Dedicated Acres 240 SE/4 NE/4 - Section 14 S/2 N/2 & NE/4 SE/4 - Section 13	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

OIL CONS. DIV. DIST. 3
JUN 27 2014



END-OF-LATERAL
1884' FNL 330' FEL
SECTION 14, T23N, R7W
LAT: 36.22756°N
LONG: 107.53650°W
DATUM: NAD1927

LAT: 36.22757°N
LONG: 107.53711°W
DATUM: NAD1983

POINT-OF-ENTRY
2365' FSL 0' FEL
SECTION 13, T23N, R7W
LAT: 36.22469 °N
LONG: 107.51801 °W
DATUM: NAD1927

LAT: 36.22470 °N
LONG: 107.51862 °W
DATUM: NAD1983

SURFACE LOCATION
1742' FSL 296' FEL
SECTION 13, T23N, R7W
LAT: 36.22299 °N
LONG: 107.51898 °W
DATUM: NAD1927

LAT: 36.22300 °N
LONG: 107.51959 °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 CARRY HIGGINS Date 4/21/14

Printed Name CARRY HIGGINS

E-mail Address CARRY.HIGGINS@OWPXE

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: JUNE 17, 2014	
Date of Survey: AUGUST 2, 2012	
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: 6/12/2014 **FIELD:** Lybrook (Gallup)

WELL NAME: Chaco 2307-13I #187H **SURFACE:** BLM

SH Location: NESE Sec 13 -23N -07W **ELEVATION:** 6925' GR

BH Location: SENE Sec 14 -23N -07W **MINERALS:** BLM
Rio Arriba Co, NM

MEASURED DEPTH: 11,631' **LEASE #:** NMFS 078360

I. GEOLOGY: Surface formation – San Jose

A. FORMATION TOPS: (KB)

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1331	1325	Point Lookout	4325	4212
Kirtland	1651	1634	Mancos	4521	4401
Picture Cliffs	1958	1930	Kickoff Point	4857	4725
Lewis	2068	2036	Top Target	5733	5446
Chacra	2390	2347	Landing Point	6076	5529
Cliff House	3513	3429	Base Target	6076	5529
Menefee	3546	3461			
			TD	11631	5419

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

C. LOGGING PROGRAM: LWD GR from surface casing to TD.

D. NATURAL GAUGES: Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

II. DRILLING

A. MUD PROGRAM: LSND mud (WBM) will be used to drill the 12-1/4" Surface hole, the 8 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 +/- 4,857' (MD) / 4,725' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 6,076' (MD) / 5,529' (TVD). 7 in. csg will be set at this point. A 6-1/8" Lateral will be drilled as per the attached Directional Plan to +/- 11,631' (MD) / 5,419' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,926 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'+	9.625"	36#	J-55
Intermediate	8.75"	6,076'	7"	23#	K-55
Prod. Liner	6.125"	5,926' - 11,631'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5,926'	4-1/2"	11.6#	N-80

B. FLOAT EQUIPMENT:

1. SURFACE CASING: 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.
2. INTERMEDIATE CASING: 7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install (1) centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) centralizer at 2,700 ft., 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft.
3. PRODUCTION LINER: Run 4-1/2" Liner with cement nose guide Float Shoe + 2jts. of 4-1/2" casing + Landing Collar + 4-1/2" pup joint + (2) RSI (Sliding Sleeves) positioned inside the 330ft Hard line. Centralizer program will be determined by Wellbore condition and when Lateral is evaluated by Geoscientists and Reservoir Engineers. Set seals on Liner Hanger. Test TOL to 1500 psi for 15 minutes.
4. TIE-BACK CASING: None

C. CEMENTING:

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

1. SURFACE: 10 bbl Fr Water Spacer + 190 sx (222.3 cu.ft.) of "Premium Cement" + 2% Calcium Chloride Cement + 0.125# pps of Poly-E-Flake, 15.8 #/gal (1.17 cu ft./sk, Vol 39.58 Bbls.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 600psi. Total Volume: (222.3 cu-ft/190 sx/39.6 Bbls). TOC at Surface.
2. INTERMEDIATE: 20 bbl (112 cu-ft) Mud Flush III spacer + Lead: 850 sx Foamed 50/50 Poz Cement. 13.0 ppg + 0.1% Halad 766 + 0.2% Versaset + 1.5% Chem-Foamer 760 (Yield :1.43 cu-ft/ sk. / Vol: 1216 cu-ft / 216.5 Bbls.) + TAIL: 100 sx 13.5 #/gal. + 0.2% Versaset + 0.15% HALAD-766 (Yield: 1.28 cu-ft / sk / Vol: 128 cu-ft / 22.8 Bbls.). + Fresh Water Displacement (1,362 cu-ft / +/- 242 Bbls) + 100 sx Top-Out Cement Premium: Yield: (1.17 cu-ft/ sk / (Vol: 117 cu-ft / 20.8 Bbls). Test Casing to 1500 PSI for 30 minutes. Total Cement Volume: (1050 sx / 1461 cu-ft / 260 bbls). Mix with +/- 84,000 SCF Nitrogen. TOC at surface.
3. PRODUCTION LINER: **STAGE 1:** 10 bbl (56 cu-ft) Fr Water Spacer. **STAGE 2:** 40 bbl 9.5 ppg (224.6 cu-ft) Tuned Spacer III + 0.5 gal/bbl Musol + 38.75 ppb Barite + 0.5 gal/bbl SEM-7. **STAGE 3:** 10 bbl Fr Water Spacer. **STAGE 4: Lead Cement:** 50 / 50 Poz Premium + 0.2% Versaset + 0.2% Halad -766, Yield 1.43 cu ft/sk, 13.0 ppg, (10 sx / 14.3 cu ft. / 2.5 bbls). **STAGE 5:** 200 sx. Foamed Lead Cement: 50 / 50 Poz Standard + 0.2% Versaset + 0.2% HALAD-766 + 1.5% Chem-Foamer 760. Yield 1.97 cu-ft/sk. 13.0 ppg (200 sx / 394 cu-ft. / 70.2 bbls.). **STAGE 6:** Tail Cement : 100 sx. 50/50 Poz Standard + 0.2% Versaset + 0.05% HALAD-766 + .05% SA-1015, Weight: 13.5 ppg (100 sx / Yield 1.28 cu ft/sk. / 128 cu ft. / 22.8 bbls) **STAGE 7:** Displace w/ +/- 137 bbl Fr Water. Total Cement (563.3 cu ft / 95.5 bbls). Mix Foamed Cement w/ +/- 75,000 SCF Nitrogen. Est. TOC +/- 5,626 ft.

IV. COMPLETION

A. CBL

1. Run CCL for perforating.

B. PRESSURE TEST

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

C. STIMULATION

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

D. RUNNING TUBING

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

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

NOTE:

Installation of RSI sleeves at Toe of Lateral.

Proposed Operations:

A 4-1/2" 11.6# N-80 Liner will be run to TD and landed +/- 150 ft. into the 7" 23# K-55 Intermediate casing (set at 6,076 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,926 ft. (MD) +/- 78 degree angle. TOC: +/- 5,626 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.

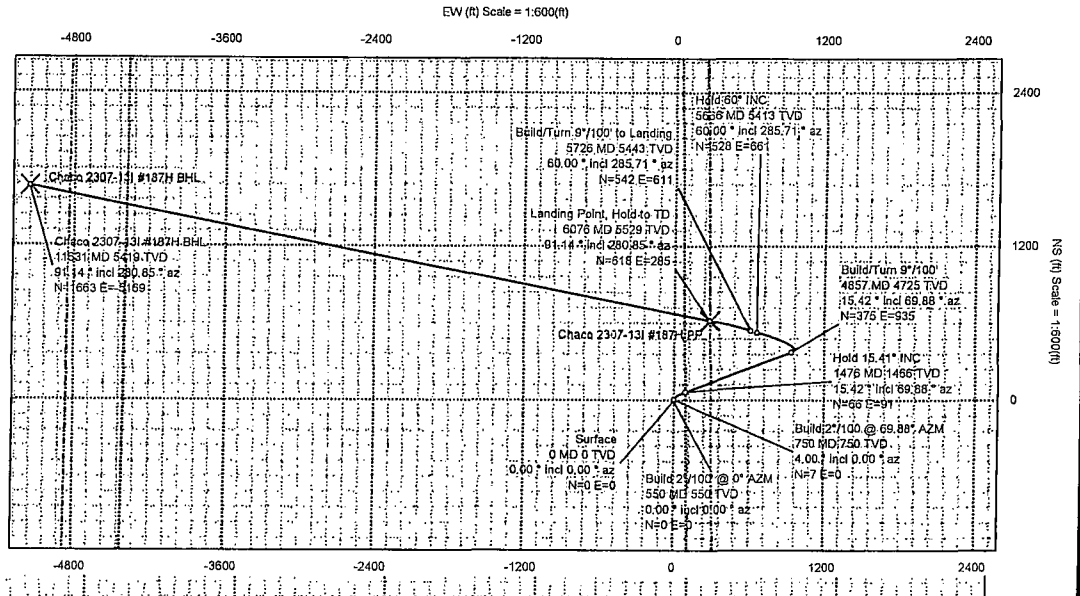
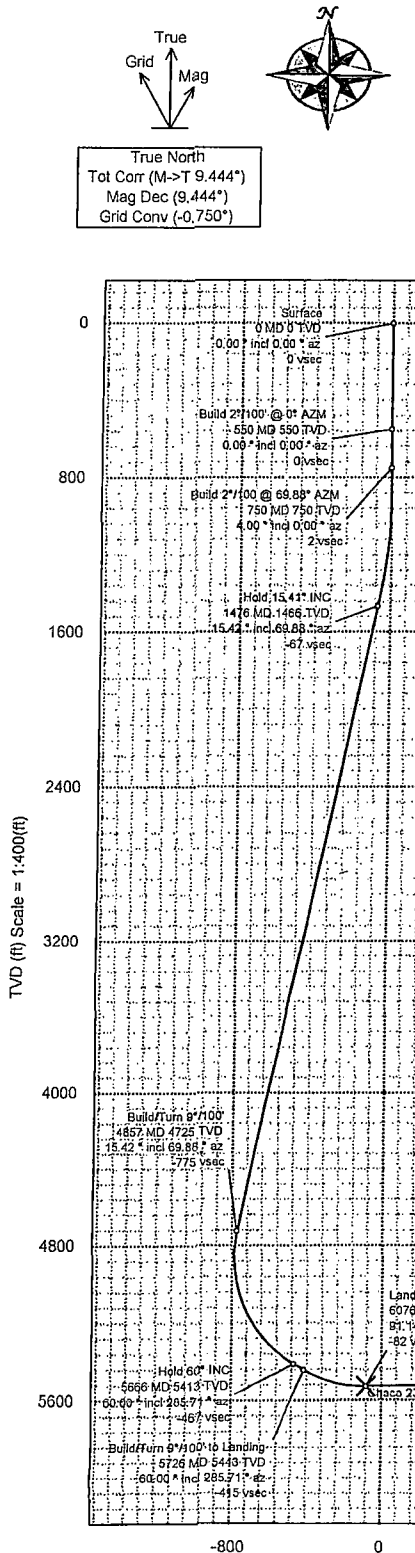
The Drilling Rig will be rigged down at this point and Completion operations will begin. After Stimulation and Testing operations are complete the 4-1/2" tie-back string will be removed from the well.

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

Borehole:	Well:	Field:	Structure:
Original Hole	Chaco 2307-131 #187H	NM, Rio Arriba (NAD 27 CZ)	Sec 13-23N-7W

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: BGGM 2014 Dip: 63.006° Date: 09-Jun-2014	NAD27 New Mexico State Plane, Central Zone, US Feet	Chaco 2307-131 #187H
MagDec: 9.444° FS: 50933.935nT Gravity FS: 998.918mgN (9.80665 Based)	Lat: N 36 13 22.76 Northing: 1902827.864ft Grid Conv: -0.75°	TVD Ref: RKB(6939ft above MSL)
	Lon: W 107 31 8.33 Easting: 125699.248ft Scale Fact: 1.00006032	Plan: Chaco 2307-131 #187H R1 mdy 09Jun14

Proposal



Surface Location								
Northing: 1902827.864		Easting: 125699.248		Latitude: N 36 13 22.76		Longitude: W 107 31 8.33		VSec Azimuth: 287.832
Target Description		Grid Coord					Local Coord	
Target Name	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)/S(-)	E(+)/W(-)
Chaco 2307-131 #187H BHL	N 36 13 39.20	W 107 32 11.42	1904558.32	120552.07	5419.00	5429.96	1662.84	-5169.09
Chaco 2307-131 #187H PP	N 36 13 28.87	W 107 31 4.85	1903441.87	125992.58	5529.00	-82.37	617.76	285.25
Chaco 2307-131 Pad Sec 13	N 36 13 22.76	W 107 31 8.33	1902827.86	125699.25	6939.00	0.00	0.00	0.00
Chaco 2307-131 Pad Sec 13 330' Setback	N 36 13 22.76	W 107 31 8.33	1902827.86	125699.25	6939.00	0.00	0.00	0.00
Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Build 2°/100' @ 0° AZM	550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00
Build 2°/100' @ 69.88° AZM	750.00	4.00	0.00	749.84	2.14	6.98	0.00	2.00
Hold 15.41° INC	1476.03	15.41	69.88	1465.76	-66.56	65.81	91.09	2.00
Build/Turn 9°/100'	4857.35	15.41	69.88	4725.45	-775.24	375.00	935.00	0.00
Hold 60° INC	5665.46	60.00	285.71	5412.84	-467.31	528.03	660.75	9.00
Build/Turn 9°/100' to Landing	5726.46	60.00	285.71	5442.84	-415.38	542.10	610.73	0.00
Landing Point, Hold to TD	6076.22	91.13	280.84	5529.00	-82.06	817.93	284.98	9.00
Chaco 2307-131 #187H BHL	11630.57	91.13	280.85	5419.00	5429.96	1662.84	-5169.09	0.00



Chaco 2307-131 #187H R1 mdv 09Jun14 Proposal Geodetic Report



(Def Plan)

Report Date: June 10, 2014 - 09:36 AM
Client: WPX Energy
Field: NM, Rio Arriba (NAD 27 CZ)
Structure / Slot: WPX Sec 13-23N-7W (Chaco 2307-131 Pad) / Chaco 2307-131 #187H
Well: Chaco 2307-131 #187H
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Chaco 2307-131 #187H R1 mdv 09Jun14
Survey Date: December 11, 2013
Tort / AHD / DDI / ERD Ratio: 122.820 * / 7318.232 ft / 6.277 / 1.324
Coordinate Reference System: NAD27 New Mexico State Plane, Central Zone, US Feet
Location Lat / Long: N 36° 13' 22.76400", W 107° 31' 8.32800"
Location Grid N/E Y/X: N 1902827.864 ftUS, E 125699.248 ftUS
CRS Grid Convergence Angle: -0.7500 *
Grid Scale Factor: 1.00006032
Version / Patch: 2.7.1043.0
Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 287.832 * (True North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 6939.000 ft above MSL
Seabed / Ground Elevation: 6925.000 ft above MSL
Magnetic Declination: 9.444 *
Total Gravity Field Strength: 998.9183mgn (9.80665 Based)
Gravity Model: DOX
Total Magnetic Field Strength: 50093.935 nT
Magnetic Dip Angle: 63.006 *
Declination Date: June 09, 2014
Magnetic Declination Model: BGGM 2014
North Reference: True North
Grid Convergence Used: 0.0000 *
Total Corr Mag North->True: 9.4439 *
North: Well Head
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	0.00	0.00	0.00	0.00	0.00	N/A	1902827.86	125699.25	N 36 13 22.76	W 107 31 8.33
	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	1902827.86	125699.25	N 36 13 22.76	W 107 31 8.33
	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	1902827.86	125699.25	N 36 13 22.76	W 107 31 8.33
	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	1902827.86	125699.25	N 36 13 22.76	W 107 31 8.33
	400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	1902827.86	125699.25	N 36 13 22.76	W 107 31 8.33
	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	1902827.86	125699.25	N 36 13 22.76	W 107 31 8.33
Build 2"/100' @ 0° AZM	550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00	1902827.86	125699.25	N 36 13 22.76	W 107 31 8.33
	600.00	1.00	0.00	600.00	0.13	0.44	0.00	2.00	1902828.30	125699.25	N 36 13 22.77	W 107 31 8.33
	700.00	3.00	0.00	699.93	1.20	3.93	0.00	2.00	1902831.79	125699.30	N 36 13 22.80	W 107 31 8.33
Build 2"/100' @ 69.88° AZM	750.00	4.00	0.00	749.84	2.14	6.98	0.00	2.00	1902834.84	125699.34	N 36 13 22.83	W 107 31 8.33
	800.00	4.21	13.67	799.71	2.80	10.51	0.43	2.00	1902838.37	125699.82	N 36 13 22.87	W 107 31 8.32
	900.00	5.22	34.91	899.38	1.73	17.81	3.91	2.00	1902845.62	125703.39	N 36 13 22.94	W 107 31 8.28
	1000.00	6.69	48.11	998.84	-2.54	25.44	10.85	2.00	1902853.16	125710.43	N 36 13 23.02	W 107 31 8.20
	1100.00	8.38	56.31	1097.97	-10.02	33.37	21.26	2.00	1902860.95	125720.94	N 36 13 23.09	W 107 31 8.07
	1200.00	10.19	61.71	1196.66	-20.68	41.60	35.11	2.00	1902869.01	125734.90	N 36 13 23.18	W 107 31 7.90
	1300.00	12.05	65.47	1294.78	-34.52	50.13	52.39	2.00	1902877.31	125752.30	N 36 13 23.26	W 107 31 7.69
	1400.00	13.95	68.23	1392.22	-51.53	58.93	73.09	2.00	1902885.84	125773.11	N 36 13 23.35	W 107 31 7.44
Hold 15.41° INC	1476.03	15.41	69.88	1465.76	-66.56	65.81	91.09	2.00	1902892.48	125791.20	N 36 13 23.41	W 107 31 7.22
	1500.00	15.41	69.88	1488.87	-71.58	68.00	97.07	0.00	1902894.59	125797.21	N 36 13 23.44	W 107 31 7.14
	1600.00	15.41	69.88	1585.27	-92.54	77.15	122.03	0.00	1902903.41	125822.28	N 36 13 23.53	W 107 31 6.84
	1700.00	15.41	69.88	1681.67	-113.50	86.29	146.99	0.00	1902912.23	125847.36	N 36 13 23.62	W 107 31 6.53
	1800.00	15.41	69.88	1778.08	-134.46	95.43	171.95	0.00	1902921.05	125872.44	N 36 13 23.71	W 107 31 6.23
	1900.00	15.41	69.88	1874.48	-155.42	104.58	196.90	0.00	1902929.86	125897.52	N 36 13 23.80	W 107 31 5.92
	2000.00	15.41	69.88	1970.88	-176.38	113.72	221.86	0.00	1902938.68	125922.59	N 36 13 23.89	W 107 31 5.62
	2100.00	15.41	69.88	2067.28	-197.34	122.87	246.82	0.00	1902947.50	125947.67	N 36 13 23.98	W 107 31 5.32
	2200.00	15.41	69.88	2163.69	-218.29	132.01	271.78	0.00	1902956.31	125972.75	N 36 13 24.07	W 107 31 5.01
	2300.00	15.41	69.88	2260.09	-239.25	141.15	296.74	0.00	1902965.13	125997.82	N 36 13 24.16	W 107 31 4.71
	2400.00	15.41	69.88	2356.49	-260.21	150.30	321.69	0.00	1902973.95	126022.90	N 36 13 24.25	W 107 31 4.40
	2500.00	15.41	69.88	2452.90	-281.17	159.44	346.65	0.00	1902982.76	126047.98	N 36 13 24.34	W 107 31 4.10
	2600.00	15.41	69.88	2549.30	-302.13	168.59	371.61	0.00	1902991.58	126073.05	N 36 13 24.43	W 107 31 3.79
	2700.00	15.41	69.88	2645.70	-323.09	177.73	396.57	0.00	1903000.40	126098.13	N 36 13 24.52	W 107 31 3.49
	2800.00	15.41	69.88	2742.10	-344.05	186.87	421.53	0.00	1903009.22	126123.21	N 36 13 24.61	W 107 31 3.18
	2900.00	15.41	69.88	2838.51	-365.01	196.02	446.48	0.00	1903018.03	126148.29	N 36 13 24.70	W 107 31 2.88
	3000.00	15.41	69.88	2934.91	-385.96	205.16	471.44	0.00	1903026.85	126173.36	N 36 13 24.79	W 107 31 2.57
	3100.00	15.41	69.88	3031.31	-406.92	214.31	496.40	0.00	1903035.67	126198.44	N 36 13 24.88	W 107 31 2.27
	3200.00	15.41	69.88	3127.71	-427.88	223.45	521.36	0.00	1903044.48	126223.52	N 36 13 24.97	W 107 31 1.97
	3300.00	15.41	69.88	3224.12	-448.84	232.59	546.32	0.00	1903053.30	126248.59	N 36 13 25.06	W 107 31 1.66
	3400.00	15.41	69.88	3320.52	-469.80	241.74	571.27	0.00	1903062.12	126273.67	N 36 13 25.15	W 107 31 1.36
	3500.00	15.41	69.88	3416.92	-490.76	250.88	596.23	0.00	1903070.94	126298.75	N 36 13 25.24	W 107 31 1.05
	3600.00	15.41	69.88	3513.33	-511.72	260.03	621.19	0.00	1903079.75	126323.82	N 36 13 25.34	W 107 31 0.75
	3700.00	15.41	69.88	3609.73	-532.67	269.17	646.15	0.00	1903088.57	126348.90	N 36 13 25.43	W 107 31 0.44
	3800.00	15.41	69.88	3706.13	-553.63	278.32	671.11	0.00	1903097.39	126373.98	N 36 13 25.52	W 107 31 0.14
	3900.00	15.41	69.88	3802.53	-574.59	287.46	696.06	0.00	1903106.20	126399.06	N 36 13 25.61	W 107 30 59.83
	4000.00	15.41	69.88	3898.94	-595.55	296.60	721.02	0.00	1903115.02	126424.13	N 36 13 25.70	W 107 30 59.53
	4100.00	15.41	69.88	3995.34	-616.51	305.75	745.98	0.00	1903123.84	126449.21	N 36 13 25.79	W 107 30 59.22
	4200.00	15.41	69.88	4091.74	-637.47	314.89	770.94	0.00	1903132.66	126474.29	N 36 13 25.88	W 107 30 58.92
	4300.00	15.41	69.88	4188.14	-658.43	324.04	795.90	0.00	1903141.47	126499.36	N 36 13 25.97	W 107 30 58.61
	4400.00	15.41	69.88	4284.55	-679.39	333.18	820.85	0.00	1903150.29	126524.44	N 36 13 26.06	W 107 30 58.31
	4500.00	15.41	69.88	4380.95	-700.34	342.32	845.81	0.00	1903159.11	126549.52	N 36 13 26.15	W 107 30 58.01
	4600.00	15.41	69.88	4477.35	-721.30	351.47	870.77	0.00	1903167.92	126574.59	N 36 13 26.24	W 107 30 57.70
	4700.00	15.41	69.88	4573.76	-742.26	360.61	895.73	0.00	1903176.74	126599.67	N 36 13 26.33	W 107 30 57.40
	4800.00	15.41	69.88	4670.16	-763.22	369.76	920.69	0.00	1903185.56	126624.75	N 36 13 26.42	W 107 30 57.09
Build/Turn 9"/100'	4857.35	15.41	69.88	4725.45	-775.24	375.00	935.00	0.00	1903190.61	126639.13	N 36 13 26.47	W 107 30 56.92
	4900.00	12.33	60.30	4766.85	-782.79	379.21	944.28	9.00	1903194.70	126648.47	N 36 13 26.51	W 107 30 56.80
	5000.00	8.11	13.23	4865.40	-789.44	391.39	955.19	9.00	1903206.74	126659.53	N 36 13 26.63	W 107 30 56.67
	5100.00	11.86	323.71	4964.04	-780.53	406.58	950.71	9.00	1903221.98	126655.26	N 36 13 26.78	W 107 30 56.73
	5200.00	19.40	304.86	5060.33	-756.27	424.39	930.96	9.00	1903240.05	126635.74	N 36 13 26.96	W 107 30 56.97
	5300.00	27.80	296.67	5151.91	-717.27	444.39	896.42	9.00	1903260.51	126601.46	N 36 13 27.16	W 107 30 57.39
	5400.00	36.47	292.10	5236.51	-664.47	466.08	847.94	9.00	1903282.84	126553.27	N 36 13 27.37	W 107 30 57.98
	5500.00	45.26	289.11	5312.07	-599.19	488.94	785.72	9.00	1903306.49	126492.35	N 36 13 27.60	W 107 30 58.73
	5600.00	54.10	286.91	5376.71	-523.03	512.40	714.26	9.00	1903330.90	126420.20	N 36 13 27.83	W 107 30 59.61
Hold 60° INC	5666.46	60.00	285.71	5412.84	-467.31	528.03	660.75	9.00	1903347.23	126366.90	N 36 13 27.99	W 107 31 0.26
	5700.00	60.00	285.71	5429.61	-438.28	535.90	632.79	0.00	1903355.46	126339.04	N 36 13 28.06	W 107 31 0.61
Build/Turn 9"/100' to Landing	5726.46	60.00	285.71	5442.84	-415.38	542.10	610.73	0.00	1903361.96	126317.06	N 36 13 28.12	W 107 31 0.87
	5800.00	66.54	284.54	5475.91	-349.81	559.21	547.36	9.00	1903379.90	126253.91	N 36 13 28.29	W 107 31 1.65
	5900.00	75.44	283.12	5508.45	-255.60	581.76	455.64	9.00	1903403.64	126162.49	N 36 13 28.52	W 107 31 2.77
	6000.00	84.34	281.81	5525.99	-157.68	602.97	359.81	9.00	1903426.12	126066.74	N 36 13 28.73	W 107 31 3.94
Landing Point, Hold to TD	6076.22	91.13	280.85	5529.00	-82.06	617.93	284.98	9.00	1903442.04	125992.31	N 36 13 28.87	W 107 31 4.85
	6100.00	91.13	280.85	5528.53	-58.46	622.40	261.63	0.00	1903446.82	125969.02	N 36 13 28.92	W 107 31 5.13
	6200.00	91.13	280.85	5528.55	40.78	641.21	163.44	0.00	1903466.82	125871.07	N 36 13 29.10	W 107 31 6.33
	6300.00	91.13	280.85	5524.57	140.01	660.02	65.24	0.00	1903487.01	125773.13	N 36 13 29.29	W 107 31 7.53

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 ° ° °)
	8400.00	91.13	280.85	5522.59	239.25	678.83	-32.95	0.00	1903507.11	125675.18	N 36 13 29.48	W 107 31 8.73
	8500.00	91.13	280.85	5520.60	338.49	697.65	-131.15	0.00	1903527.21	125577.24	N 36 13 29.66	W 107 31 9.93
	8600.00	91.13	280.85	5518.62	437.73	716.46	-229.34	0.00	1903547.30	125479.29	N 36 13 29.85	W 107 31 11.13
	8700.00	91.13	280.85	5516.64	536.97	735.27	-327.54	0.00	1903567.40	125381.34	N 36 13 30.04	W 107 31 12.33
	8800.00	91.13	280.85	5514.66	636.20	754.08	-425.73	0.00	1903587.50	125283.40	N 36 13 30.22	W 107 31 13.52
	8900.00	91.13	280.85	5512.68	735.44	772.89	-523.93	0.00	1903607.59	125185.45	N 36 13 30.41	W 107 31 14.72
	9000.00	91.13	280.85	5510.70	834.68	791.70	-622.12	0.00	1903627.69	125087.51	N 36 13 30.59	W 107 31 15.92
	9100.00	91.13	280.85	5508.72	933.92	810.52	-720.32	0.00	1903647.79	124989.56	N 36 13 30.78	W 107 31 17.12
	9200.00	91.13	280.85	5506.74	1033.16	829.33	-818.51	0.00	1903667.88	124891.62	N 36 13 30.97	W 107 31 18.32
	9300.00	91.13	280.85	5504.76	1132.39	848.14	-916.71	0.00	1903687.98	124793.67	N 36 13 31.15	W 107 31 19.52
	9400.00	91.13	280.85	5502.78	1231.63	866.95	-1014.90	0.00	1903708.08	124695.72	N 36 13 31.34	W 107 31 20.71
	9500.00	91.13	280.85	5500.80	1330.87	885.76	-1113.10	0.00	1903728.17	124597.78	N 36 13 31.52	W 107 31 21.91
	9600.00	91.13	280.85	5498.82	1430.11	904.58	-1211.29	0.00	1903748.27	124499.83	N 36 13 31.71	W 107 31 23.11
	9700.00	91.13	280.85	5496.84	1529.34	923.39	-1309.48	0.00	1903768.37	124401.89	N 36 13 31.90	W 107 31 24.31
	9800.00	91.13	280.85	5494.86	1628.58	942.20	-1407.68	0.00	1903788.46	124303.94	N 36 13 32.08	W 107 31 25.51
	9900.00	91.13	280.85	5492.88	1727.82	961.01	-1505.87	0.00	1903808.56	124206.00	N 36 13 32.27	W 107 31 26.71
	10000.00	91.13	280.85	5490.90	1827.06	979.83	-1604.07	0.00	1903828.66	124108.05	N 36 13 32.45	W 107 31 27.90
	10100.00	91.13	280.85	5488.92	1926.30	998.64	-1702.26	0.00	1903848.76	124010.10	N 36 13 32.64	W 107 31 29.10
	10200.00	91.13	280.85	5486.94	2025.53	1017.45	-1800.46	0.00	1903868.85	123912.16	N 36 13 32.82	W 107 31 30.30
	10300.00	91.13	280.85	5484.96	2124.77	1036.26	-1898.65	0.00	1903888.95	123814.21	N 36 13 33.01	W 107 31 31.50
	10400.00	91.13	280.85	5482.97	2224.01	1055.07	-1996.85	0.00	1903909.05	123716.27	N 36 13 33.20	W 107 31 32.70
	10500.00	91.13	280.85	5480.99	2323.25	1073.89	-2095.04	0.00	1903929.14	123618.32	N 36 13 33.38	W 107 31 33.90
	10600.00	91.13	280.85	5479.01	2422.49	1092.70	-2193.24	0.00	1903949.24	123520.38	N 36 13 33.57	W 107 31 35.10
	10700.00	91.13	280.85	5477.03	2521.72	1111.51	-2291.43	0.00	1903969.34	123422.43	N 36 13 33.75	W 107 31 36.29
	10800.00	91.13	280.85	5475.05	2620.96	1130.32	-2389.62	0.00	1903989.44	123324.48	N 36 13 33.94	W 107 31 37.49
	10900.00	91.13	280.85	5473.07	2720.20	1149.14	-2487.82	0.00	1904009.53	123226.54	N 36 13 34.13	W 107 31 38.69
	11000.00	91.13	280.85	5471.09	2819.44	1167.95	-2586.01	0.00	1904029.63	123128.59	N 36 13 34.31	W 107 31 39.89
	11100.00	91.13	280.85	5469.11	2918.68	1186.76	-2684.21	0.00	1904049.73	123030.65	N 36 13 34.50	W 107 31 41.09
	11200.00	91.13	280.85	5467.13	3017.91	1205.57	-2782.40	0.00	1904069.83	122932.70	N 36 13 34.68	W 107 31 42.29
	11300.00	91.13	280.85	5465.15	3117.15	1224.39	-2880.60	0.00	1904089.92	122834.76	N 36 13 34.87	W 107 31 43.48
	11400.00	91.13	280.85	5463.17	3216.39	1243.20	-2978.79	0.00	1904110.02	122736.81	N 36 13 35.06	W 107 31 44.68
	11500.00	91.13	280.85	5461.19	3315.63	1262.01	-3076.99	0.00	1904130.12	122638.87	N 36 13 35.24	W 107 31 45.88
	11600.00	91.13	280.85	5459.21	3414.87	1280.83	-3175.18	0.00	1904150.22	122540.92	N 36 13 35.43	W 107 31 47.08
	11700.00	91.13	280.85	5457.23	3514.10	1299.64	-3273.38	0.00	1904170.31	122442.97	N 36 13 35.61	W 107 31 48.28
	11800.00	91.13	280.85	5455.25	3613.34	1318.45	-3371.57	0.00	1904190.41	122345.03	N 36 13 35.80	W 107 31 49.48
	11900.00	91.13	280.85	5453.27	3712.58	1337.26	-3469.76	0.00	1904210.51	122247.08	N 36 13 35.99	W 107 31 50.68
	12000.00	91.13	280.85	5451.29	3811.82	1356.08	-3567.96	0.00	1904230.61	122149.14	N 36 13 36.17	W 107 31 51.87
	12100.00	91.13	280.85	5449.31	3911.06	1374.89	-3666.15	0.00	1904250.71	122051.19	N 36 13 36.36	W 107 31 53.07
	12200.00	91.13	280.85	5447.33	4010.29	1393.70	-3764.35	0.00	1904270.80	121953.25	N 36 13 36.54	W 107 31 54.27
	12300.00	91.13	280.85	5445.35	4109.53	1412.52	-3862.54	0.00	1904290.90	121855.30	N 36 13 36.73	W 107 31 55.47
	12400.00	91.13	280.85	5443.37	4208.77	1431.33	-3960.74	0.00	1904311.00	121757.36	N 36 13 36.92	W 107 31 56.67
	12500.00	91.13	280.85	5441.39	4308.01	1450.14	-4058.93	0.00	1904331.10	121659.41	N 36 13 37.10	W 107 31 57.87
	12600.00	91.13	280.85	5439.41	4407.25	1468.96	-4157.13	0.00	1904351.19	121561.47	N 36 13 37.29	W 107 31 59.06
	12700.00	91.13	280.85	5437.43	4506.48	1487.77	-4255.32	0.00	1904371.29	121463.52	N 36 13 37.47	W 107 32 0.26
	12800.00	91.13	280.85	5435.45	4605.72	1506.58	-4353.51	0.00	1904391.39	121365.57	N 36 13 37.66	W 107 32 1.46
	12900.00	91.13	280.85	5433.47	4704.96	1525.40	-4451.71	0.00	1904411.49	121267.63	N 36 13 37.85	W 107 32 2.66
	13000.00	91.13	280.85	5431.49	4804.20	1544.21	-4549.90	0.00	1904431.59	121169.68	N 36 13 38.03	W 107 32 3.86
	13100.00	91.13	280.85	5429.51	4903.44	1563.02	-4648.10	0.00	1904451.69	121071.74	N 36 13 38.22	W 107 32 5.06
	13200.00	91.13	280.85	5427.53	5002.67	1581.84	-4746.29	0.00	1904471.78	120973.79	N 36 13 38.40	W 107 32 6.25
	13300.00	91.13	280.85	5425.55	5101.91	1600.65	-4844.49	0.00	1904491.88	120875.85	N 36 13 38.59	W 107 32 7.45
	13400.00	91.13	280.85	5423.57	5201.15	1619.46	-4942.68	0.00	1904511.98	120777.90	N 36 13 38.77	W 107 32 8.65
	13500.00	91.13	280.85	5421.59	5300.39	1638.28	-5040.87	0.00	1904532.08	120679.96	N 36 13 38.96	W 107 32 9.85
	13600.00	91.13	280.85	5419.61	5399.63	1657.09	-5139.07	0.00	1904552.18	120582.01	N 36 13 39.15	W 107 32 11.05
Chaco 2307-131 #187H BHL	11630.57	91.13	280.85	5419.00	5429.96	1662.84	-5169.09	0.00	1904558.32	120552.07	N 36 13 39.20	W 107 32 11.42

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 2307-131 #187H R1 mdv 09Jun14
	1	14.000	11630.571	1/100.000	30.000	30.000	SLB_MWD-STD	Original Hole / Chaco 2307-131 #187H R1 mdv 09Jun14