State of New Mexico
Energy, Minerals and Natural Resources Department

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: January 15th, 2014

Application Type:

☐ P&A ☒ Drilling/Casing Change ☐ Recomplete/DHC

☒ Location Change ☐ Other: _____

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E
30-039-31197-00-00	CHACO 2307 13L	174H	WPX ENERGY PRODUCTION, LLC	O	N	Rio Arriba	F	L	13	23	N	7	W

Conditions of Approval:

Notify NMOCD 24hrs prior to beginning operations

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

Wesley Hypa

NMOCD Approved by Signature

1-30-14
Date

RECEIVED

JAN 15 2014

Farmington Field Office
Bureau of Land Management

Form 3160-5
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
Chaco 2307-13L #174H

2. Name of Operator
WPX Energy Production, LLC

9. API Well No.
30-039-31197

3a. Address
PO Box 640 Aztec, NM 87410

3b. Phone No. *(include area code)*
505-333-1808

10. Field and Pool or Exploratory Area
Lybrook Gallup

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
Sur: 1519' FSL & 90' FWL, sec 13, T23N, R7W – BHL:1531' FSL & 230' FWL, Sec 14, T23N, R7W

11. Country or Parish, State
Rio Arriba County, 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
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other: Csg chg. Sur chg,
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

RCVD JAN 30'14
OIL CONS. DIV.
DIST. 3

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 recomplete 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 recompletion 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 move surface location slightly, change casing design and extend the lateral on this well to maximize the producing interval as per attached C-102, operation plan and directional plan. The entire well bore will now be drilled with WBM. The plug back TD of this well will be the RSI tool which will be two joints up from landing depth. 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.

Centralize 7.0" Intermediate as per NTL-FRA-90-1

14. I hereby certify that the foregoing is true and correct.
Name *(Printed/Typed)*
Larry Higgins

Title Regulatory Specialist

Signature

Date 1/15/2014

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

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by
Wayne Townsend

Title Pet Eng

Date 1/29/14

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

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)

NMOCD

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

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

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

AMENDED REPORT

RECEIVED

JAN 15 2014

Farmington Field Office
Bureau of Land Management

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-31197	42289	LYBROOK GALLUP

[4] Property Code	[5] Property Name	[6] Well Number
400669	CHACO 2307-13L	174H

[7] OGRID No.	[8] Operator Name	[9] Elevation
120782	WPX ENERGY PRODUCTION, LLC	7046'

[10] Surface Location

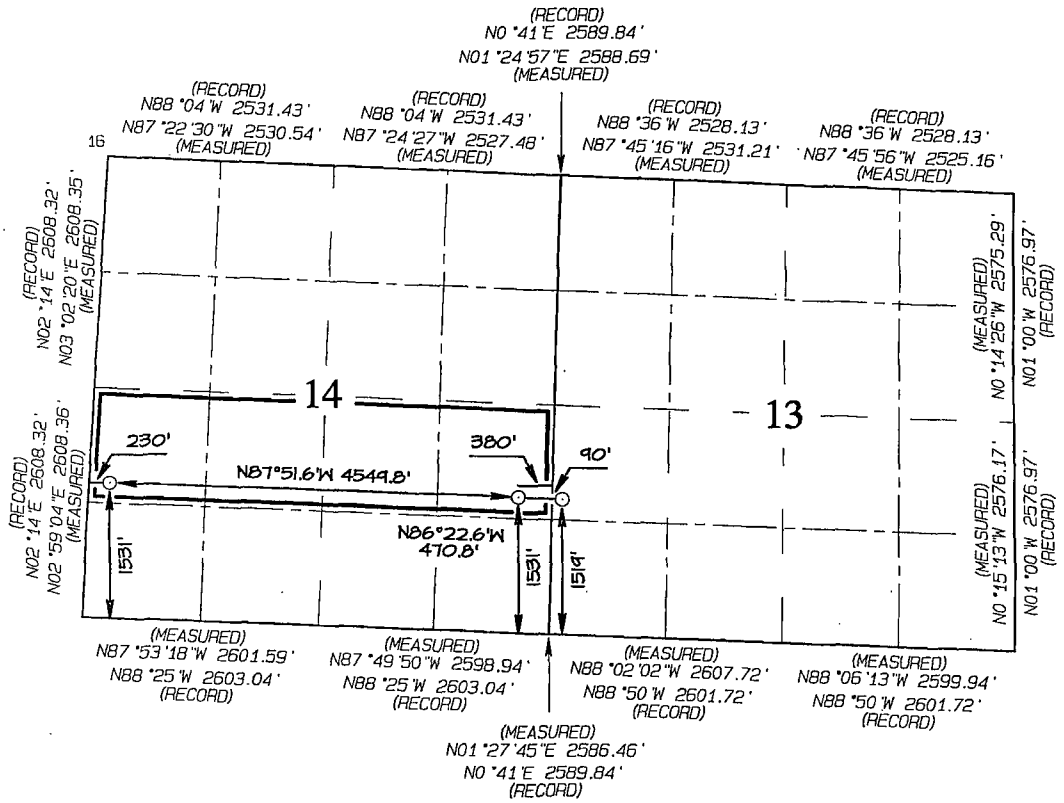
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	13	23N	7W		1519	SOUTH	90	WEST	RIO ARRIBA

[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
L	14	23N	7W		1531	SOUTH	230	WEST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
160.0 Acres N/2 S/2 - Section 14			RCVD JAN 30 '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
1531' FSL 230' FWL
SECTION 14, T23N, R7W
LAT: 36.22301 'N
LONG: 107.55216 'W
DATUM: NAD1927

LAT: 36.22303 'N
LONG: 107.55277 'W
DATUM: NAD1983

POINT-OF-ENTRY
1531' FSL 380' FEL
SECTION 14, T23N, R7W
LAT: 36.22271 'N
LONG: 107.53675 'W
DATUM: NAD1927

LAT: 36.22273 'N
LONG: 107.53735 'W
DATUM: NAD1983

SURFACE LOCATION
1519' FSL 90' FWL
SECTION 13, T23N, R7W
LAT: 36.22265 'N
LONG: 107.53515 'W
DATUM: NAD1927

LAT: 36.22266 'N
LONG: 107.53576 '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 Date 1/15/14

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: JANUARY 14, 2014
Date of Survey: JULY 5, 2012

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

WPXENERGY

WPX ENERGY

Operations Plan

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

DATE:	1/7/2013	**FIELD:**	Lybrook (Gallup)
WELL NAME:	**Chaco 2307-13L #174H**	**SURFACE:**	BLM
SH Location:	NWSW Sec 13-23N-7W	**ELEVATION:**	7,046' GR
BH Location:	NWSW Sec 14-23N-7W Rio Arriba Co, NM	**MINERALS:**	BLM
MEASURED DEPTH:	**10,547'**	**LEASE #:**	NMSF-078360

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

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

Name		MD	TVD		Name		MD	TVD
Ojo Alamo		1,371	1,367		Point Lookout		4,314	4,301
Kirtland		1,689	1,682		Mancos		4,469	4,456
Pictured Cliffs		2,010	2,001		**Kickoff Point**		**4,927**	**4,913**
Lewis		2,117	2,107		Target Top		5,734	5,529
Chacra		2,420	2,408		**Landing Point**		**5,997**	**5,580**
Cliff House		3,511	3,498		Target Base		5,997	5,580
Menefee		3,535	3,522					
					TD		**10,547**	**5,504**

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 ¾" 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 +/- 4,927' (MD) / 4,913' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 5,997' (MD) / 5,580' (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 +/- 10,547' (MD) / 5,504' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,847 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 5/8	36#	J-55
Intermediate	8.75"	5,997'	7	23#	K-55
Prod. Liner	6.125"	5,847' - 10,547'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5,847'	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).

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 +/- 5,547 ft.

IV. COMPLETION

A. CBL

1. Run CCL for perforating.

B. PRESSURE TEST

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

C. STIMULATION

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

D. RUNNING TUBING

1. *Production Tubing:* Run 2-7/8", 6.5#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing near Top of Liner point of curve (~5,900' 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 5,997ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,847 ft. (MD) +/- 74 degree angle. TOC: +/- 5,547 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

WPXENERGY

WPX Energy

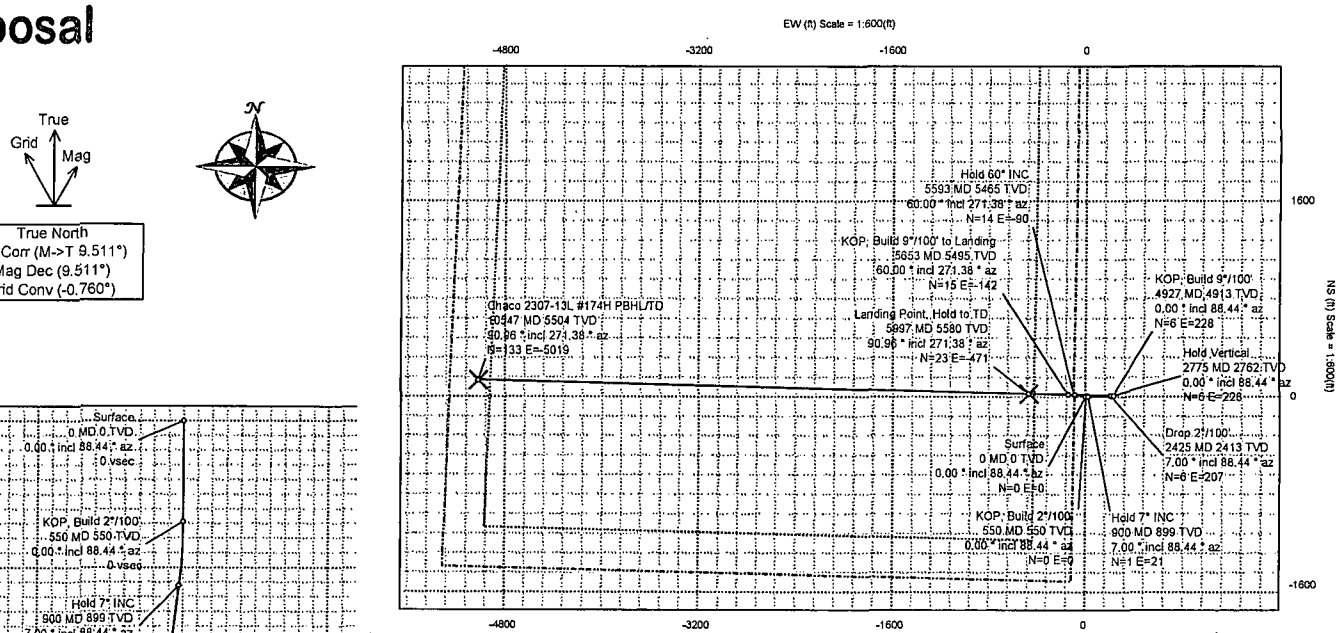
Rev 2

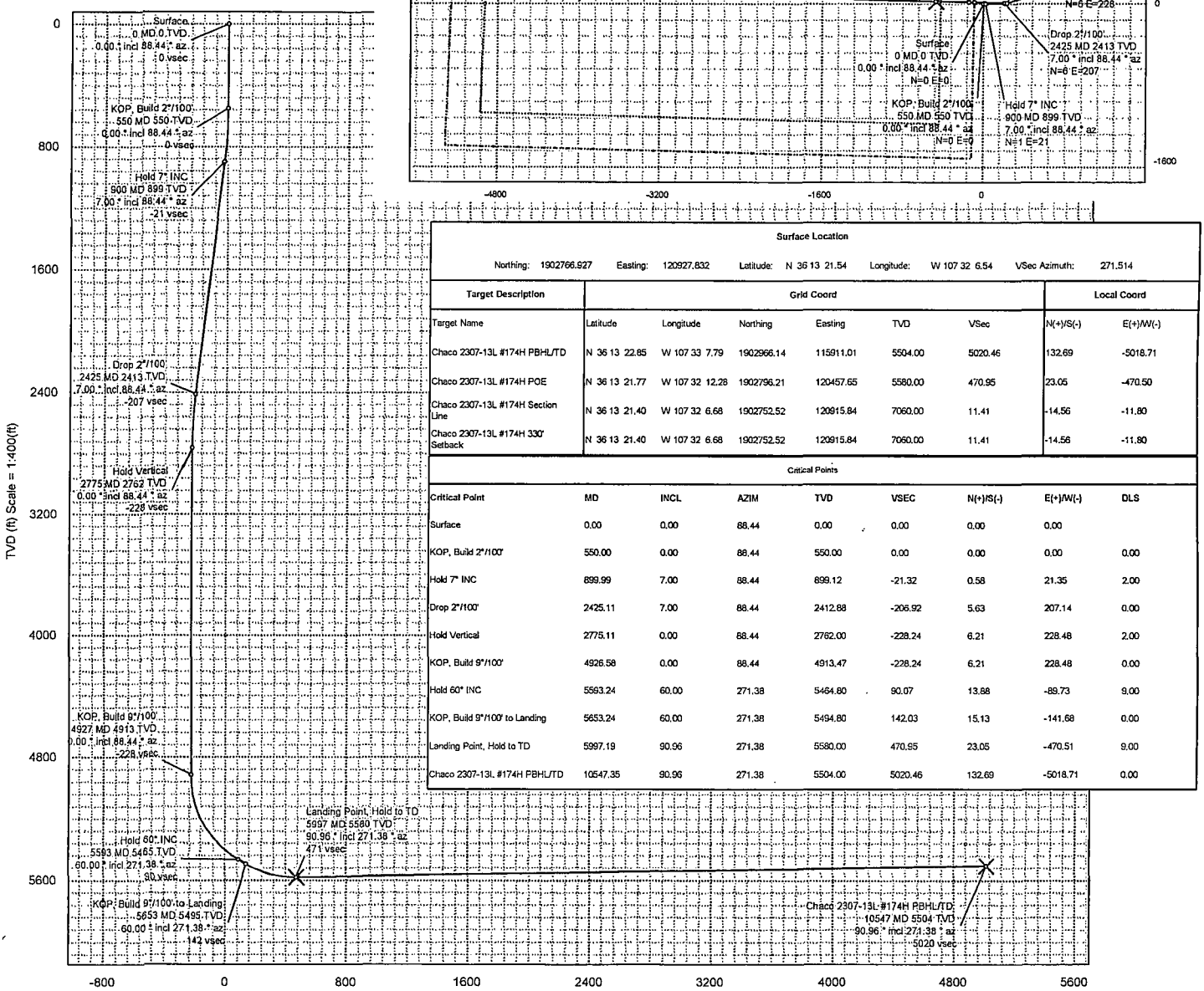
PATHFINDER
A Schlumberger Company

Borehole:	Well:	Field:	Structure:
Original Hole	Chaco 2307-13L #174H	NM, Rio Arriba (NAD 27 CZ)	Sec 13-23N-7W

Gravity & Magnetic Parameters	Surface Location NAD27 New Mexico State Plane, Central Zone, US Feet	Miscellaneous
Model: BGGM 2013 Dip: 63.017° Date: 14-Aug-2013	Lat: N 36 13 21.54 Northing: 1902766.927ft US Grid Conv: -0.7595°	Slot: Chaco 2307-13L #174H TVD Ref: RKB(7060ft above MSL)
MagDec: 9.511° FS: 50195.939nT Gravity FS: 998.914mgn (9.80665 Based)	Lon: W 107 32 6.54 Easting: 120927.832ftUS Scale Fact: 1.00006444	Plan: Chaco 2307-13L #174H R2 mdv 03Jan14

Proposal





True North
Tot Corr (M->T 9.511°)
Mag Dec (9.511°)
Grid Conv (-0.760°)

Surface Location

Northing: 1902766.927 Easting: 120927.832 Latitude: N 36 13 21.54 Longitude: W 107 32 6.54 VSec Azimuth: 271.514

Target Description	Grid Coord						Local Coord	
Target Name	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)/S(-)	E(+)/W(-)
Chaco 2307-13L #174H PBHL/TD	N 36 13 22.85	W 107 33 7.79	1902966.14	115911.01	5504.00	5020.46	132.69	-5018.71
Chaco 2307-13L #174H POE	N 36 13 21.77	W 107 32 12.28	1902796.21	120457.65	5580.00	470.95	23.05	-470.50
Chaco 2307-13L #174H Section Line	N 36 13 21.40	W 107 32 6.68	1902752.52	120915.84	7060.00	11.41	-14.56	-11.80
Chaco 2307-13L #174H 330' Setback	N 36 13 21.40	W 107 32 6.68	1902752.52	120915.84	7060.00	11.41	-14.56	-11.80

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Surface	0.00	0.00	88.44	0.00	0.00	0.00	0.00	
KOP, Build 2°/100'	550.00	0.00	88.44	550.00	0.00	0.00	0.00	0.00
Hold 7° INC	899.99	7.00	88.44	899.12	-21.32	0.58	21.35	2.00
Drop 2°/100'	2425.11	7.00	88.44	2412.88	-206.92	5.63	207.14	0.00
Hold Vertical	2775.11	0.00	88.44	2762.00	-228.24	6.21	228.48	2.00
KOP, Build 9°/100'	4926.58	0.00	88.44	4913.47	-228.24	6.21	228.48	0.00
Hold 60° INC	5593.24	60.00	271.38	5464.80	90.07	13.88	-89.73	9.00
KOP, Build 9°/100' to Landing	5653.24	60.00	271.38	5494.80	142.03	15.13	-141.68	0.00
Landing Point, Hold to TD	5997.19	90.96	271.38	5580.00	470.95	23.05	-470.51	9.00
Chaco 2307-13L #174H PBHL/TD	10547.35	90.96	271.38	5504.00	5020.46	132.69	-5018.71	0.00

Vertical Section (ft) Azim = 271.514° Scale = 1:400(ft) Origin = 0N/-S, 0E/-W

WPXENERGY

PATHFINDER
A Schlumberger Company

Chaco 2307-13L #174H R2 mdv 03Jan14 Proposal Geodetic Report

(Def Plan)

Report Date:	January 03, 2014 - 12:38 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	WPX Energy	**Vertical Section Azimuth:**	271.514 ° (True North)
Field:	NM, Rio Arriba (NAD 27 CZ)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	WPX Energy 13-23N-7W (Chaco 2307-13L #174H) / Chaco 2307-13L #174H	**TVD Reference Datum:**	RKB
Well:	Chaco 2307-13L #174H	**TVD Reference Elevation:**	7060.000 ft above MSL
Borehole:	Original Hole	**Seabed / Ground Elevation:**	7046.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	9.511 °
Survey Name:	Chaco 2307-13L #174H R2 mdv 03Jan14	**Total Gravity Field Strength:**	998.9141mgn (9.80665 Based)
Survey Date:	August 14, 2013	**Gravity Model:**	DOX
Tort / AHD / DDI / ERD Ratio:	104.959 ° / 5477.287 ft / 6.036 / 0.982	**Total Magnetic Field Strength:**	50195.939 nT
Coordinate Reference System:	NAD27 New Mexico State Plane, Central Zone, US Feet	**Magnetic Dip Angle:**	63.017 °
Location Lat / Long:	N 36° 13' 21.54000", W 107° 32' 6.54000"	**Declination Date:**	August 14, 2013
Location Grid N/E Y/X:	N 1902766.927 ftUS, E 120927.832 ftUS	**Magnetic Declination Model:**	BGGM 2013
CRS Grid Convergence Angle:	-0.7595 °	**North Reference:**	True North
Grid Scale Factor:	1.00006444	**Grid Convergence Used:**	0.0000 °
Version / Patch:	2.7.1043.0	**Total Corr Mag North->True North:**	9.5107 °
		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	88.44	0.00	0.00	0.00	0.00	N/A	1902766.93	120927.83	N 36 13 21.54	W 107 32 6.54
	100.00	0.00	88.44	100.00	0.00	0.00	0.00	0.00	1902766.93	120927.83	N 36 13 21.54	W 107 32 6.54
	200.00	0.00	88.44	200.00	0.00	0.00	0.00	0.00	1902766.93	120927.83	N 36 13 21.54	W 107 32 6.54
	300.00	0.00	88.44	300.00	0.00	0.00	0.00	0.00	1902766.93	120927.83	N 36 13 21.54	W 107 32 6.54
	400.00	0.00	88.44	400.00	0.00	0.00	0.00	0.00	1902766.93	120927.83	N 36 13 21.54	W 107 32 6.54
	500.00	0.00	88.44	500.00	0.00	0.00	0.00	0.00	1902766.93	120927.83	N 36 13 21.54	W 107 32 6.54
KOP, Build 2°/100'	550.00	0.00	88.44	550.00	0.00	0.00	0.00	0.00	1902766.93	120927.83	N 36 13 21.54	W 107 32 6.54
	600.00	1.00	88.44	600.00	-0.44	0.01	0.44	2.00	1902766.93	120928.27	N 36 13 21.54	W 107 32 6.53
	700.00	3.00	88.44	699.93	-3.92	0.11	3.92	2.00	1902766.98	120931.76	N 36 13 21.54	W 107 32 6.49
	800.00	5.00	88.44	799.68	-10.89	0.30	10.90	2.00	1902767.08	120938.73	N 36 13 21.54	W 107 32 6.41
Hold 7° INC	899.99	7.00	88.44	899.12	-21.32	0.58	21.35	2.00	1902767.22	120949.18	N 36 13 21.55	W 107 32 6.28
	1000.00	7.00	88.44	998.38	-33.49	0.91	33.53	0.00	1902767.39	120961.37	N 36 13 21.55	W 107 32 6.13
	1100.00	7.00	88.44	1097.64	-45.66	1.24	45.71	0.00	1902767.56	120973.56	N 36 13 21.55	W 107 32 5.98
	1200.00	7.00	88.44	1196.89	-57.83	1.57	57.89	0.00	1902767.73	120985.74	N 36 13 21.56	W 107 32 5.83
	1300.00	7.00	88.44	1296.15	-70.00	1.90	70.07	0.00	1902767.90	120997.93	N 36 13 21.56	W 107 32 5.68
	1400.00	7.00	88.44	1395.40	-82.17	2.24	82.26	0.00	1902768.07	121010.12	N 36 13 21.56	W 107 32 5.54
	1500.00	7.00	88.44	1494.66	-94.34	2.57	94.44	0.00	1902768.24	121022.30	N 36 13 21.57	W 107 32 5.39
	1600.00	7.00	88.44	1593.91	-106.51	2.90	106.62	0.00	1902768.41	121034.49	N 36 13 21.57	W 107 32 5.24
	1700.00	7.00	88.44	1693.17	-118.68	3.23	118.80	0.00	1902768.58	121046.68	N 36 13 21.57	W 107 32 5.09
	1800.00	7.00	88.44	1792.42	-130.85	3.56	130.99	0.00	1902768.75	121058.86	N 36 13 21.58	W 107 32 4.94
	1900.00	7.00	88.44	1891.68	-143.02	3.89	143.17	0.00	1902768.92	121071.05	N 36 13 21.58	W 107 32 4.79
	2000.00	7.00	88.44	1990.93	-155.18	4.22	155.35	0.00	1902769.09	121083.23	N 36 13 21.58	W 107 32 4.64
	2100.00	7.00	88.44	2090.19	-167.35	4.55	167.53	0.00	1902769.26	121095.42	N 36 13 21.59	W 107 32 4.50
	2200.00	7.00	88.44	2189.44	-179.52	4.88	179.72	0.00	1902769.43	121107.61	N 36 13 21.59	W 107 32 4.35
	2300.00	7.00	88.44	2288.69	-191.69	5.22	191.90	0.00	1902769.60	121119.79	N 36 13 21.59	W 107 32 4.20
	2400.00	7.00	88.44	2387.95	-203.86	5.55	204.08	0.00	1902769.77	121131.98	N 36 13 21.59	W 107 32 4.05
Drop 2°/100'	2425.11	7.00	88.44	2412.88	-206.92	5.63	207.14	0.00	1902769.81	121135.04	N 36 13 21.60	W 107 32 4.01
	2500.00	5.50	88.44	2487.31	-215.06	5.85	215.29	2.00	1902769.92	121143.19	N 36 13 21.60	W 107 32 3.91
	2600.00	3.50	88.44	2587.00	-222.90	6.06	223.14	2.00	1902770.03	121151.04	N 36 13 21.60	W 107 32 3.82
	2700.00	1.50	88.44	2686.90	-227.26	6.18	227.50	2.00	1902770.09	121155.41	N 36 13 21.60	W 107 32 3.76
Hold Vertical	2775.11	0.00	88.44	2762.00	-228.24	6.21	228.48	2.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	2800.00	0.00	88.44	2786.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	2900.00	0.00	88.44	2886.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	3000.00	0.00	88.44	2986.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	3100.00	0.00	88.44	3086.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	3200.00	0.00	88.44	3186.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	3300.00	0.00	88.44	3286.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	3400.00	0.00	88.44	3386.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	3500.00	0.00	88.44	3486.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	3600.00	0.00	88.44	3586.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	3700.00	0.00	88.44	3686.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	3800.00	0.00	88.44	3786.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	3900.00	0.00	88.44	3886.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	4000.00	0.00	88.44	3986.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	4100.00	0.00	88.44	4086.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	4200.00	0.00	88.44	4186.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	4300.00	0.00	88.44	4286.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	4400.00	0.00	88.44	4386.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	4500.00	0.00	88.44	4486.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	4600.00	0.00	88.44	4586.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	4700.00	0.00	88.44	4686.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	4800.00	0.00	88.44	4786.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	4900.00	0.00	88.44	4886.89	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
KOP, Build 9°/100'	4926.58	0.00	88.44	4913.47	-228.24	6.21	228.48	0.00	1902770.11	121156.39	N 36 13 21.60	W 107 32 3.75
	5000.00	6.61	271.38	4986.73	-224.01	6.31	224.26	9.00	1902770.27	121152.17	N 36 13 21.60	W 107 32 3.80
	5100.00	15.61	271.38	5084.76	-204.76	6.78	205.02	9.00	1902770.98	121132.93	N 36 13 21.61	W 107 32 4.04
	5200.00	24.61	271.38	5178.56	-170.42	7.60	170.68	9.00	1902772.27	121098.61	N 36 13 21.62	W 107 32 4.46
	5300.00	33.61	271.38	5265.84	-121.83	8.77	122.10	9.00	1902774.08	121050.04	N 36 13 21.63	W 107 32 5.05
	5400.00	42.61	271.38	5344.45	-60.17	10.26	60.47	9.00	1902776.38	120988.43	N 36 13 21.64	W 107 32 5.80
	5500.00	51.61	271.38	5412.44	13.01	12.02	-12.70	9.00	1902779.11	120915.29	N 36 13 21.66	W 107 32 6.69
Hold 60° INC	5593.24	60.00	271.38	5464.80	90.07	13.88	-89.73	9.00	1902781.99	120838.28	N 36 13 21.68	W 107 32 7.64
	5600.00	60.00	271.38	5468.18	95.92	14.02	-95.58	0.00	1902782.21	120832.44	N 36 13 21.68	W 107 32 7.71
KOP, Build 9°/100' to Landing	5653.24	60.00	271.38	5494.80	142.03	15.13	-141.68	0.00	1902783.93	120786.36	N 36 13 21.69	W 107 32 8.27
	5700.00	64.21	271.38	5516.67	183.34	16.12	-182.98	9.00	1902785.47	120745.07	N 36 13 21.70	W 107 32 8.77
	5800.00	73.21	271.38	5552.94	276.42	18.36	-276.03	9.00	1902788.95	120652.05	N 36 13 21.72	W 107 32 9.91
	5900.00	82.21	271.38	5574.21	374.03	20.71	-373.61	9.00	1902792.59	120554.50	N 36 13 21.74	W 107 32 11.10
Landing Point, Hold to TD	5997.19	90.96	271.38	5580.00	470.95	23.05	-470.51	9.00	1902796.21	120457.64	N 36 13 21.77	W 107 32 12.28
	6000.00	90.96	271.38	5579.95	473.76	23.12	-473.32	0.00	1902796.32	120454.84	N 36 13 21.77	W 107 32 12.32
	6100.00	90.96	271.38	5578.29	573.75	25.52	-573.27	0.00	1902800.05	120354.91	N 36 13 21.79	W 107 32 13.54
	6200.00	90.96	271.38	5576.62	673.73	27.93	-673.23	0.00	1902803.78	120254.99	N 36 13 21.82	W 107 32 14.76
	6300.00	90.96	271.38	5574.95	773.72	30.34	-773.19	0.00	1902807.52	120155.07	N 36 13 21.84	W 107 32 15.98
	6400.00	90.96	271.38	5573.29	873.70	32.75	-873.14	0.00	1902811.25	120055.14	N 36 13 21.86	W 107 32 17.20

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 ° ' ")
	6500.00	90.96	271.38	5571.62	973.69	35.16	-973.10	0.00	1902814.98	119955.22	N 36 13 21.89	W 107 32 18.42
	6600.00	90.96	271.38	5569.95	1073.68	37.57	-1073.06	0.00	1902818.72	119855.30	N 36 13 21.91	W 107 32 19.64
	6700.00	90.96	271.38	5568.28	1173.66	39.97	-1173.01	0.00	1902822.45	119755.38	N 36 13 21.94	W 107 32 20.86
	6800.00	90.96	271.38	5566.62	1273.65	42.38	-1272.97	0.00	1902826.18	119655.45	N 36 13 21.96	W 107 32 22.08
	6900.00	90.96	271.38	5564.95	1373.63	44.79	-1372.93	0.00	1902829.92	119555.53	N 36 13 21.98	W 107 32 23.30
	7000.00	90.96	271.38	5563.28	1473.62	47.20	-1472.89	0.00	1902833.65	119455.61	N 36 13 22.01	W 107 32 24.52
	7100.00	90.96	271.38	5561.61	1573.60	49.61	-1572.84	0.00	1902837.38	119355.69	N 36 13 22.03	W 107 32 25.73
	7200.00	90.96	271.38	5559.94	1673.59	52.02	-1672.80	0.00	1902841.12	119255.76	N 36 13 22.05	W 107 32 26.95
	7300.00	90.96	271.38	5558.27	1773.58	54.43	-1772.76	0.00	1902844.85	119155.84	N 36 13 22.08	W 107 32 28.17
	7400.00	90.96	271.38	5556.60	1873.56	56.84	-1872.71	0.00	1902848.59	119055.92	N 36 13 22.10	W 107 32 29.39
	7500.00	90.96	271.38	5554.94	1973.55	59.24	-1972.67	0.00	1902852.32	118956.00	N 36 13 22.13	W 107 32 30.61
	7600.00	90.96	271.38	5553.27	2073.53	61.65	-2072.63	0.00	1902856.05	118856.07	N 36 13 22.15	W 107 32 31.83
	7700.00	90.96	271.38	5551.60	2173.52	64.06	-2172.59	0.00	1902859.79	118756.15	N 36 13 22.17	W 107 32 33.05
	7800.00	90.96	271.38	5549.93	2273.51	66.47	-2272.54	0.00	1902863.52	118656.23	N 36 13 22.20	W 107 32 34.27
	7900.00	90.96	271.38	5548.26	2373.49	68.88	-2372.50	0.00	1902867.26	118556.31	N 36 13 22.22	W 107 32 35.49
	8000.00	90.96	271.38	5546.59	2473.48	71.29	-2472.46	0.00	1902870.99	118456.38	N 36 13 22.24	W 107 32 36.71
	8100.00	90.96	271.38	5544.92	2573.46	73.70	-2572.41	0.00	1902874.73	118356.46	N 36 13 22.27	W 107 32 37.93
	8200.00	90.96	271.38	5543.25	2673.45	76.11	-2672.37	0.00	1902878.46	118256.54	N 36 13 22.29	W 107 32 39.15
	8300.00	90.96	271.38	5541.58	2773.43	78.52	-2772.33	0.00	1902882.19	118156.62	N 36 13 22.32	W 107 32 40.37
	8400.00	90.96	271.38	5539.91	2873.42	80.93	-2872.28	0.00	1902885.93	118056.69	N 36 13 22.34	W 107 32 41.59
	8500.00	90.96	271.38	5538.24	2973.41	83.34	-2972.24	0.00	1902889.66	117956.77	N 36 13 22.36	W 107 32 42.81
	8600.00	90.96	271.38	5536.57	3073.39	85.75	-3072.20	0.00	1902893.40	117856.85	N 36 13 22.39	W 107 32 44.03
	8700.00	90.96	271.38	5534.90	3173.38	88.16	-3172.16	0.00	1902897.13	117756.93	N 36 13 22.41	W 107 32 45.25
	8800.00	90.96	271.38	5533.22	3273.36	90.57	-3272.11	0.00	1902900.87	117657.00	N 36 13 22.43	W 107 32 46.47
	8900.00	90.96	271.38	5531.55	3373.35	92.98	-3372.07	0.00	1902904.60	117557.08	N 36 13 22.46	W 107 32 47.69
	9000.00	90.96	271.38	5529.88	3473.33	95.39	-3472.03	0.00	1902908.34	117457.16	N 36 13 22.48	W 107 32 48.91
	9100.00	90.96	271.38	5528.21	3573.32	97.80	-3571.98	0.00	1902912.07	117357.24	N 36 13 22.50	W 107 32 50.13
	9200.00	90.96	271.38	5526.54	3673.31	100.21	-3671.94	0.00	1902915.81	117257.31	N 36 13 22.53	W 107 32 51.35
	9300.00	90.96	271.38	5524.87	3773.29	102.62	-3771.90	0.00	1902919.54	117157.39	N 36 13 22.55	W 107 32 52.57
	9400.00	90.96	271.38	5523.19	3873.28	105.03	-3871.85	0.00	1902923.28	117057.47	N 36 13 22.58	W 107 32 53.79
	9500.00	90.96	271.38	5521.52	3973.26	107.44	-3971.81	0.00	1902927.02	116957.55	N 36 13 22.60	W 107 32 55.01
	9600.00	90.96	271.38	5519.85	4073.25	109.85	-4071.77	0.00	1902930.75	116857.62	N 36 13 22.62	W 107 32 56.23
	9700.00	90.96	271.38	5518.18	4173.23	112.26	-4171.73	0.00	1902934.49	116757.70	N 36 13 22.65	W 107 32 57.45
	9800.00	90.96	271.38	5516.51	4273.22	114.67	-4271.68	0.00	1902938.22	116657.78	N 36 13 22.67	W 107 32 58.67
	9900.00	90.96	271.38	5514.83	4373.21	117.08	-4371.64	0.00	1902941.96	116557.86	N 36 13 22.69	W 107 32 59.89
	10000.00	90.96	271.38	5513.16	4473.19	119.49	-4471.60	0.00	1902945.69	116457.93	N 36 13 22.72	W 107 33 1.11
	10100.00	90.96	271.38	5511.49	4573.18	121.90	-4571.55	0.00	1902949.43	116358.01	N 36 13 22.74	W 107 33 2.33
	10200.00	90.96	271.38	5509.81	4673.16	124.32	-4671.51	0.00	1902953.17	116258.09	N 36 13 22.77	W 107 33 3.55
	10300.00	90.96	271.38	5508.14	4773.15	126.73	-4771.47	0.00	1902956.90	116158.17	N 36 13 22.79	W 107 33 4.77
	10400.00	90.96	271.38	5506.47	4873.14	129.14	-4871.42	0.00	1902960.64	116058.24	N 36 13 22.81	W 107 33 5.99
	10500.00	90.96	271.38	5504.79	4973.12	131.55	-4971.38	0.00	1902964.37	115958.32	N 36 13 22.84	W 107 33 7.21
Chaco 2307-13L #174H PBHL/TD	10547.35	90.96	271.38	5504.00	5020.46	132.69	-5018.71	0.00	1902966.14	115911.01	N 36 13 22.85	W 107 33 7.79

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 2307-13L #174H R2 mdv 03Jan14
	1	14.000	10547.350	1/100.000	30.000	30.000	SLB_MWD-STD	Original Hole / Chaco 2307-13L #174H R2 mdv 03Jan14