

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: January 15th, 2014

Application Type:

☐ P&A ☒ Drilling/Casing Change ☐ Recomplete/DHC
☐ Location Change ☒ Other: new total depth__

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf. Owner	UL	Sec	Twp	N/S	Rng
30-045-35497-00-00	CHACO 2308 04P	150H	WPX ENERGY PRODUCTION, LLC	O	N	San Juan	F	P	4	23	N	8

Conditions of Approval:

Notify NMOCD 24hrs prior to beginning operations
Hold C104 for directional survey and "as drilled plat"

NMOCD Approved by Signature

2-4-14
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

JAN 15 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.

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 2308-04P #150H

9. API Well No.

30-045-35497

10. Field and Pool or Exploratory Area

Nageezi Gallup

11. Country or Parish, State

San Juan, NM

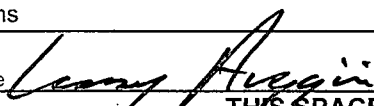
12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

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>Mud chg</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 now drill this entire well with WBM. See attached operation and directional plans.

RCVD JAN 31 '14
OIL CONS. DIV.
DIST. 3

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) Larry Higgins	Title Regulatory Specialist
Signature 	Date 1/15/14

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by Original Signed: Stephen Mason	Title	Date JAN 30 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	

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

WPX ENERGY

Operations Plan

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

DATE: 1/13/2014 **FIELD:** Nageezi (Gallup)

WELL NAME: Chaco 2308-04P #150H **SURFACE:** BLM

SH Location: SESE Sec 4-23N-8W **ELEVATION:** 6,870' GR

BH Location: SESE Sec 3-23N-8W
San Juan Co, NM **MINERALS:** BLM

MEASURED DEPTH: 10,465' **LEASE #:** NMNM18463

I. GEOLOGY: Surface formation – Nacimiento

A. FORMATION TOPS: (KB)

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1,086	1,083	Point Lookout	4,065	4,001
Kirtland	1,272	1,265	Mancos	4,285	4,216
Pictured Cliffs	1,640	1,626	Kickoff Point	4,763	4,684
Lewis	1,759	1,742	Target Top	5,362	5,187
Chacra	2,050	2,027	Landing Point	5,842	5,339
Cliff House	3,154	3,108	Target Base	5,842	5,339
Menefee	3,203	3,156			
			TD	10,465	5,214

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

C. LOGGING PROGRAM: LWD GR from surface casing to TD. LWD GR / E- Sonic will be run in Lateral.

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

II. DRILLING

A. MUD PROGRAM: LSND mud (WBM) will be used to drill the 12-1/4" Surface hole, the 8 3/4" Directional Vertical hole, the curve portion of the wellbore. LSND (WBM) or (OBM) will be used to drill the lateral portion of well. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.

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

NOTE: Vertical portion of the well (8-3/4 in.) will be directionally drilled as per attached Directional Plan to +/- 4,763' (MD) / 4,684' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 5,842' (MD) / 5,339' (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 +/- 10,465' (MD) / 5,214' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,692 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"	5,842'	7	23#	K-55
Prod. Liner	6.125"	5,692' - 10,465'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5,692'	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 +/- 5,392 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 (~5,700' MD).

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

NOTE:

Installation of RSI sleeves at Toe of Lateral.

Proposed Operations:

A 4-1/2" 11.6# N-80 Liner will be run to TD and landed +/- 150 ft. into the 7" 23# K-55 Intermediate casing (set at 5,842 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,692 ft. (MD) +/- 77 degree angle. TOC: +/- 5,392 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.

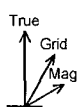
The Drilling Rig will be rigged down at this point and Completion operations will begin. After Stimulation and Testing operations are complete the 4-1/2" tie-back string will be removed from the well.

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

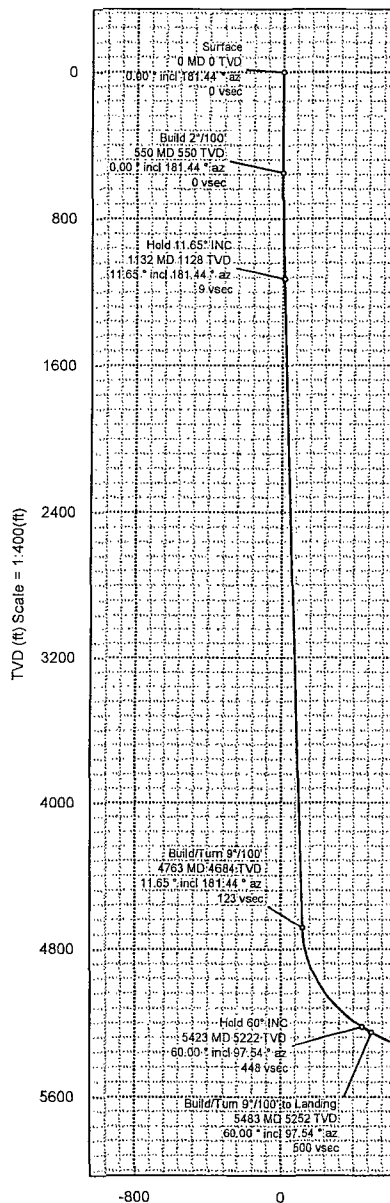
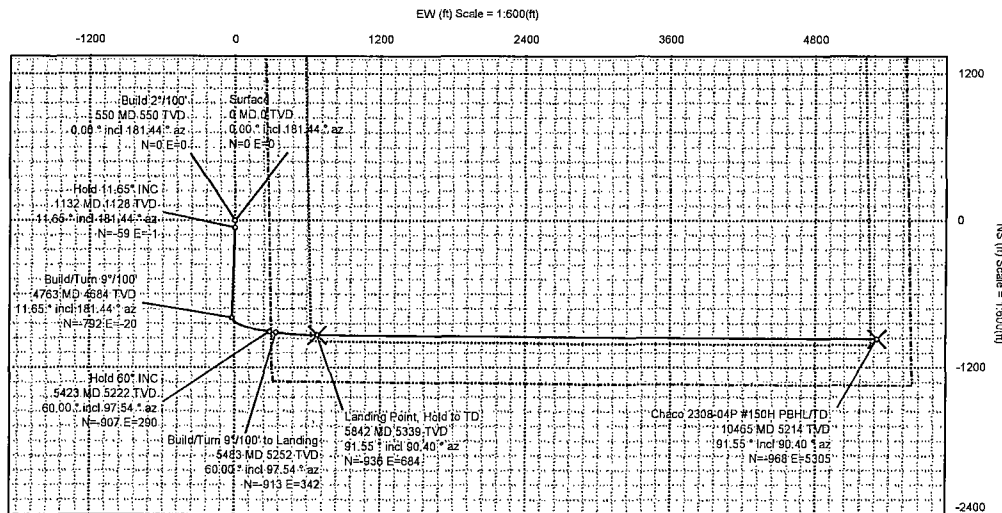
Borehole:	Well:	Field:	Structure:
Original Hole	Chaco 2308-04P #150H	NM San Juan County NAD27	Sec 4-23N-8W

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: BGGM 2013 Dip: 63.015° Date: 10-Sep-2013	NAD27 New Mexico State Plane, Western Zone, US Feet	Chaco 2308-04P #150H
MagDec: 9.565° FS: 50187.081nT Gravity FS: 998.923mgm (9.80665 Based)	Lat: N 36 15 9.22 Northing: 1911210.343R Grid Conv: 0.0917°	TVD Ref: RKB(6884ft above MSL)
	Lon: W 107 40 41.95 Easting: 545705.453RU Scale Fact: 0.99991906	Plan: Chaco 2308-04P #150H R1 mdy 10Jan14

Proposal



True North
Tot Corr (M→T 9.565°)
Mag Dec (9.565°)
Grid Conv (0.092°)



Surface Location										
Northing: 1911210.343			Easting: 545705.453		Latitude: N 36 15 9.22		Longitude: W 107 40 41.95		VSec Azimuth: 100.34	
Target Description		Grid Coord						Local Coord		
Target Name	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)S(-)	E(+)W(-)		
Chaco 2308-04P #150H PBHL/TD	N 36 14 59.64	W 107 39 37.19	1910251.04	551011.51	5214.00	5392.53	-967.87	5304.96		
Chaco 2308-04P #150H POE	N 36 14 59.96	W 107 40 33.60	1910275.93	546391.02	5339.00	840.95	-935.59	684.13		
Chaco 2308-04P #150H 330' Setback	N 36 15 9.22	W 107 40 41.95	1911210.34	545705.45	6884.00	0.00	0.00	0.00		
Chaco 2308-04P #150H Section Line	N 36 15 9.22	W 107 40 41.95	1911210.34	545705.45	6884.00	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	181.44	0.00	0.00	0.00	0.00			
Build 2°/100'	550.00	0.00	181.44	550.00	0.00	0.00	0.00	0.00		
Hold 11.65° INC	1132.50	11.65	181.44	1128.49	9.13	-59.00	-1.48	2.00		
Build/Turn 9°/100'	4762.91	11.65	181.44	4684.12	122.53	-791.86	-19.92	0.00		
Hold 60° INC	5423.48	60.00	97.54	5221.87	448.30	-906.54	290.31	9.00		
Build/Turn 9°/100' to Landing	5483.48	60.00	97.54	5251.87	500.20	-913.36	341.82	0.00		
Landing Point, Hold to TD	5842.12	91.55	90.40	5339.00	840.94	-935.58	684.12	9.00		
Chaco 2308-04P #150H PBHL/TD	10464.75	91.55	90.40	5214.00	5392.53	-967.87	5304.96	0.00		



Chaco 2308-04P #150H R1 mdv 10Jan14 Proposal Geodetic Report

(Def Plan)

Report Date: January 10, 2014 - 01:09 PM
Client: WPX Energy
Field: NM San Juan County NAD27
Structure / Slot: WPX Sec 4-23N-8W (Chaco 2308-04P #150H) / Chaco 2308-04P #150H
Well: Chaco 2308-04P #150H
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Chaco 2308-04P #150H R1 mdv 10Jan14
Survey Date: September 10, 2013
Tort / AHD / DDI / ERD Ratio: 103.379 * / 6152.173 ft / 6.096 / 1.152
Coordinate Reference System: NAD27 New Mexico State Plane, Western Zone, US Feet
Location Lat / Long: N 36° 15' 9.21600", W 107° 40' 41.95200"
Location Grid N/E Y/X: N 1911210.343 ftUS, E 545705.453 ftUS
CRS Grid Convergence Angle: 0.0917 *
Grid Scale Factor: 0.99991906
Version / Patch: 2.7.1043.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 100.340 * (True North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 6884.000 ft above MSL
Seabed / Ground Elevation: 6870.000 ft above MSL
Magnetic Declination: 9.565 *
Total Gravity Field Strength: 998.9228mgn (9.80665 Based)
Gravity Model: DOX
Total Magnetic Field Strength: 50187.081 nT
Magnetic Dip Angle: 63.015 *
Declination Date: September 10, 2013
Magnetic Declination Model: BGGM 2013
North Reference: True North
Grid Convergence Used: 0.0000 *
Total Corr Mag North->True North: 9.5652 *
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	181.44	0.00	0.00	0.00	0.00	N/A	1911210.34	545705.45	N 36 15 9.22	W 107 40 41.95
	100.00	0.00	181.44	100.00	0.00	0.00	0.00	0.00	1911210.34	545705.45	N 36 15 9.22	W 107 40 41.95
	200.00	0.00	181.44	200.00	0.00	0.00	0.00	0.00	1911210.34	545705.45	N 36 15 9.22	W 107 40 41.95
	300.00	0.00	181.44	300.00	0.00	0.00	0.00	0.00	1911210.34	545705.45	N 36 15 9.22	W 107 40 41.95
	400.00	0.00	181.44	400.00	0.00	0.00	0.00	0.00	1911210.34	545705.45	N 36 15 9.22	W 107 40 41.95
	500.00	0.00	181.44	500.00	0.00	0.00	0.00	0.00	1911210.34	545705.45	N 36 15 9.22	W 107 40 41.95
Build 2"/100'	550.00	0.00	181.44	550.00	0.00	0.00	0.00	0.00	1911210.34	545705.45	N 36 15 9.22	W 107 40 41.95
	600.00	1.00	181.44	600.00	0.07	-0.44	-0.01	2.00	1911209.91	545705.44	N 36 15 9.21	W 107 40 41.95
	700.00	3.00	181.44	699.93	0.61	-3.92	-0.10	2.00	1911206.42	545705.36	N 36 15 9.18	W 107 40 41.95
	800.00	5.00	181.44	799.68	1.69	-10.90	-0.27	2.00	1911199.45	545705.20	N 36 15 9.11	W 107 40 41.96
	900.00	7.00	181.44	899.13	3.30	-21.35	-0.54	2.00	1911189.00	545704.95	N 36 15 9.00	W 107 40 41.96
	1000.00	9.00	181.44	998.15	5.46	-35.26	-0.89	2.00	1911175.09	545704.62	N 36 15 8.87	W 107 40 41.96
	1100.00	11.00	181.44	1096.63	8.14	-52.62	-1.32	2.00	1911157.73	545704.21	N 36 15 8.70	W 107 40 41.97
Hold 11.65° INC	1132.50	11.65	181.44	1128.49	9.13	-59.00	-1.48	2.00	1911151.35	545704.06	N 36 15 8.63	W 107 40 41.97
	1200.00	11.65	181.44	1194.60	11.24	-72.62	-1.83	0.00	1911137.72	545703.74	N 36 15 8.50	W 107 40 41.97
	1300.00	11.65	181.44	1292.54	14.36	-92.81	-2.33	0.00	1911117.54	545703.27	N 36 15 8.30	W 107 40 41.98
	1400.00	11.65	181.44	1390.48	17.48	-113.00	-2.84	0.00	1911097.35	545702.79	N 36 15 8.10	W 107 40 41.99
	1500.00	11.65	181.44	1488.42	20.61	-133.18	-3.35	0.00	1911077.16	545702.32	N 36 15 7.90	W 107 40 41.99
	1600.00	11.65	181.44	1586.36	23.73	-153.37	-3.86	0.00	1911056.98	545701.84	N 36 15 7.70	W 107 40 42.00
	1700.00	11.65	181.44	1684.30	26.86	-173.56	-4.37	0.00	1911036.79	545701.37	N 36 15 7.50	W 107 40 42.01
	1800.00	11.65	181.44	1782.24	29.98	-193.74	-4.87	0.00	1911016.61	545700.89	N 36 15 7.30	W 107 40 42.01
	1900.00	11.65	181.44	1880.18	33.10	-213.93	-5.38	0.00	1910996.42	545700.41	N 36 15 7.10	W 107 40 42.02
	2000.00	11.65	181.44	1978.12	36.23	-234.12	-5.89	0.00	1910976.24	545699.94	N 36 15 6.90	W 107 40 42.02
	2100.00	11.65	181.44	2076.06	39.35	-254.30	-6.40	0.00	1910956.05	545699.46	N 36 15 6.70	W 107 40 42.03
	2200.00	11.65	181.44	2174.00	42.47	-274.49	-6.91	0.00	1910935.86	545698.99	N 36 15 6.50	W 107 40 42.04
	2300.00	11.65	181.44	2271.94	45.60	-294.68	-7.41	0.00	1910915.68	545698.51	N 36 15 6.30	W 107 40 42.04
	2400.00	11.65	181.44	2369.88	48.72	-314.86	-7.92	0.00	1910895.49	545698.04	N 36 15 6.10	W 107 40 42.05
	2500.00	11.65	181.44	2467.82	51.84	-335.05	-8.43	0.00	1910875.31	545697.56	N 36 15 5.90	W 107 40 42.05
	2600.00	11.65	181.44	2565.76	54.97	-355.24	-8.94	0.00	1910855.12	545697.09	N 36 15 5.70	W 107 40 42.06
	2700.00	11.65	181.44	2663.70	58.09	-375.42	-9.44	0.00	1910834.93	545696.61	N 36 15 5.50	W 107 40 42.07
	2800.00	11.65	181.44	2761.64	61.22	-395.61	-9.95	0.00	1910814.75	545696.14	N 36 15 5.30	W 107 40 42.07
	2900.00	11.65	181.44	2859.58	64.34	-415.80	-10.46	0.00	1910794.56	545695.66	N 36 15 5.10	W 107 40 42.08
	3000.00	11.65	181.44	2957.52	67.46	-435.99	-10.97	0.00	1910774.38	545695.18	N 36 15 4.90	W 107 40 42.09
	3100.00	11.65	181.44	3055.46	70.59	-456.17	-11.48	0.00	1910754.19	545694.71	N 36 15 4.70	W 107 40 42.09
	3200.00	11.65	181.44	3153.40	73.71	-476.36	-11.98	0.00	1910734.01	545694.23	N 36 15 4.51	W 107 40 42.10
	3300.00	11.65	181.44	3251.34	76.83	-496.55	-12.49	0.00	1910713.82	545693.76	N 36 15 4.31	W 107 40 42.10
	3400.00	11.65	181.44	3349.28	79.96	-516.73	-13.00	0.00	1910693.63	545693.28	N 36 15 4.11	W 107 40 42.11
	3500.00	11.65	181.44	3447.22	83.08	-536.92	-13.51	0.00	1910673.45	545692.81	N 36 15 3.91	W 107 40 42.12
	3600.00	11.65	181.44	3545.16	86.20	-557.11	-14.01	0.00	1910653.26	545692.33	N 36 15 3.71	W 107 40 42.12
	3700.00	11.65	181.44	3643.10	89.33	-577.29	-14.52	0.00	1910633.08	545691.86	N 36 15 3.51	W 107 40 42.13
	3800.00	11.65	181.44	3741.04	92.45	-597.48	-15.03	0.00	1910612.89	545691.38	N 36 15 3.31	W 107 40 42.14
	3900.00	11.65	181.44	3838.98	95.57	-617.67	-15.54	0.00	1910592.70	545690.90	N 36 15 3.11	W 107 40 42.14
	4000.00	11.65	181.44	3936.92	98.70	-637.85	-16.05	0.00	1910572.52	545690.43	N 36 15 2.91	W 107 40 42.15
	4100.00	11.65	181.44	4034.86	101.82	-658.04	-16.55	0.00	1910552.33	545689.95	N 36 15 2.71	W 107 40 42.15
	4200.00	11.65	181.44	4132.80	104.95	-678.23	-17.06	0.00	1910532.15	545689.48	N 36 15 2.51	W 107 40 42.16
	4300.00	11.65	181.44	4230.74	108.07	-698.41	-17.57	0.00	1910511.96	545689.00	N 36 15 2.31	W 107 40 42.17
	4400.00	11.65	181.44	4328.68	111.19	-718.60	-18.08	0.00	1910491.77	545688.53	N 36 15 2.11	W 107 40 42.17
	4500.00	11.65	181.44	4426.62	114.32	-738.79	-18.58	0.00	1910471.59	545688.05	N 36 15 1.91	W 107 40 42.18
	4600.00	11.65	181.44	4524.56	117.44	-758.97	-19.09	0.00	1910451.40	545687.58	N 36 15 1.71	W 107 40 42.19
	4700.00	11.65	181.44	4622.50	120.56	-779.16	-19.60	0.00	1910431.22	545687.10	N 36 15 1.51	W 107 40 42.19
Build/Turn 9"/100'	4762.91	11.65	181.44	4684.12	122.53	-791.86	-19.92	0.00	1910418.52	545686.60	N 36 15 1.39	W 107 40 42.20
	4800.00	12.07	165.28	4720.43	124.75	-799.36	-19.03	9.00	1910411.02	545687.71	N 36 15 1.31	W 107 40 42.18
	4900.00	16.80	133.77	4817.39	141.27	-819.51	-5.91	9.00	1910390.89	545700.86	N 36 15 1.11	W 107 40 42.02
	5000.00	24.05	118.22	4911.10	172.79	-839.18	22.54	9.00	1910371.27	545729.33	N 36 15 0.92	W 107 40 41.68
	5100.00	32.16	109.84	4999.27	218.53	-857.89	65.62	9.00	1910352.63	545772.44	N 36 15 0.73	W 107 40 41.15
	5200.00	40.61	104.61	5079.72	277.36	-875.17	122.26	9.00	1910335.44	545829.11	N 36 15 0.56	W 107 40 40.46
	5300.00	49.24	100.94	5150.47	347.83	-890.60	191.08	9.00	1910320.12	545897.94	N 36 15 0.41	W 107 40 39.62
	5400.00	57.95	98.12	5209.77	428.21	-903.81	270.38	9.00	1910307.05	545977.26	N 36 15 0.28	W 107 40 38.65
	5423.48	60.00	97.54	5221.87	448.30	-906.54	290.31	9.00	1910304.34	545997.19	N 36 15 0.25	W 107 40 38.41
Hold 60° INC Build/Turn 9"/100' to Landing	5483.48	60.00	97.54	5251.87	500.20	-913.36	341.82	0.00	1910297.60	546048.71	N 36 15 0.18	W 107 40 37.78
	5500.00	61.45	97.15	5259.95	514.60	-915.20	356.11	9.00	1910295.79	546063.00	N 36 15 0.17	W 107 40 37.60
	5600.00	70.22	94.96	5300.85	605.48	-924.76	446.75	9.00	1910286.38	546153.65	N 36 15 0.07	W 107 40 36.50
	5700.00	79.02	93.01	5327.35	701.20	-931.41	542.84	9.00	1910279.88	546249.74	N 36 15 0.01	W 107 40 35.32
	5800.00	87.84	91.16	5338.77	799.41	-935.01	642.02	9.00	1910276.44	546348.92	N 36 14 59.97	W 107 40 34.11
Landing Point, Hold to TD	5842.12	91.55	90.40	5339.00	840.94	-935.58	684.12	9.00	1910275.93	546391.02	N 36 14 59.96	W 107 40 33.60
	5900.00	91.55	90.40	5337.43	897.93	-935.99	741.99	0.00	1910275.62	546448.87	N 36 14 59.96	W 107 40 32.89
	6000.00	91.55	90.40	5334.73	996.39	-936.69	841.95	0.00	1910275.08	546548.83	N 36 14 59.95	W 107 40 31.67
	6100.00	91.55	90.40	5332.03	1094.86	-937.38	941.91	0.00	1910274.54	546648.78	N 36 14 59.95	W 107 40 30.45
	6200.00	91.55	90.40	5329.32	1193.32	-938.08	1041.87	0.00	1910274.01	546748.73	N 36 14 59.94	W 107 40 29.23
	6300.00	91.55	90.40	5326.62	1291.78	-938.78	1141.83	0.00	1910273.47	546848.69	N 36 14 59.93	W 107 40 28.01
	6400.00	91.55	90.40	5323.91	1390.25	-939.48	1241.79	0.00	1910272.93	546948.64	N 36 14 59.93	W 107 40 26.79
	6500.00	91.55	90.40	5321.21	1488.71	-940.18	1341.75	0.00	1910272.39	547048.60	N 36 14 59.92	W 107 40 25.57
	6600.00	91.55	90									

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	91.55	90.40	5315.80	1685.63	-941.57	1541.87	0.00	1910271.31	547248.50	N 36 14 59.90	W 107 40 23.13
	6800.00	91.55	90.40	5313.10	1784.10	-942.27	1641.63	0.00	1910270.78	547348.46	N 36 14 59.90	W 107 40 21.91
	6900.00	91.55	90.40	5310.39	1882.56	-942.97	1741.60	0.00	1910270.24	547448.41	N 36 14 59.89	W 107 40 20.69
	7000.00	91.55	90.40	5307.69	1981.02	-943.67	1841.56	0.00	1910269.70	547548.36	N 36 14 59.88	W 107 40 19.47
	7100.00	91.55	90.40	5304.99	2079.49	-944.37	1941.52	0.00	1910269.16	547648.32	N 36 14 59.88	W 107 40 18.25
	7200.00	91.55	90.40	5302.28	2177.95	-945.07	2041.48	0.00	1910268.62	547748.27	N 36 14 59.87	W 107 40 17.03
	7300.00	91.55	90.40	5299.58	2276.41	-945.76	2141.44	0.00	1910268.08	547848.23	N 36 14 59.86	W 107 40 15.81
	7400.00	91.55	90.40	5296.87	2374.88	-946.46	2241.40	0.00	1910267.55	547948.18	N 36 14 59.86	W 107 40 14.59
	7500.00	91.55	90.40	5294.17	2473.34	-947.16	2341.36	0.00	1910267.01	548048.13	N 36 14 59.85	W 107 40 13.37
	7600.00	91.55	90.40	5291.47	2571.80	-947.86	2441.32	0.00	1910266.47	548148.09	N 36 14 59.84	W 107 40 12.15
	7700.00	91.55	90.40	5288.76	2670.27	-948.56	2541.28	0.00	1910265.93	548248.04	N 36 14 59.83	W 107 40 10.93
	7800.00	91.55	90.40	5286.06	2768.73	-949.26	2641.24	0.00	1910265.39	548347.99	N 36 14 59.83	W 107 40 9.71
	7900.00	91.55	90.40	5283.35	2867.19	-949.96	2741.21	0.00	1910264.85	548447.95	N 36 14 59.82	W 107 40 8.49
	8000.00	91.55	90.40	5280.65	2965.66	-950.65	2841.17	0.00	1910264.31	548547.90	N 36 14 59.81	W 107 40 7.27
	8100.00	91.55	90.40	5277.94	3064.12	-951.35	2941.13	0.00	1910263.78	548647.85	N 36 14 59.81	W 107 40 6.05
	8200.00	91.55	90.40	5275.24	3162.58	-952.05	3041.09	0.00	1910263.24	548747.81	N 36 14 59.80	W 107 40 4.83
	8300.00	91.55	90.40	5272.54	3261.04	-952.75	3141.05	0.00	1910262.70	548847.76	N 36 14 59.79	W 107 40 3.61
	8400.00	91.55	90.40	5269.83	3359.51	-953.45	3241.01	0.00	1910262.16	548947.72	N 36 14 59.79	W 107 40 2.39
	8500.00	91.55	90.40	5267.13	3457.97	-954.15	3340.97	0.00	1910261.62	549047.67	N 36 14 59.78	W 107 40 1.16
	8600.00	91.55	90.40	5264.42	3556.43	-954.84	3440.93	0.00	1910261.08	549147.62	N 36 14 59.77	W 107 39 59.94
	8700.00	91.55	90.40	5261.72	3654.90	-955.54	3540.89	0.00	1910260.55	549247.58	N 36 14 59.76	W 107 39 58.72
	8800.00	91.55	90.40	5259.02	3753.36	-956.24	3640.85	0.00	1910260.01	549347.53	N 36 14 59.76	W 107 39 57.50
	8900.00	91.55	90.40	5256.31	3851.82	-956.94	3740.82	0.00	1910259.47	549447.48	N 36 14 59.75	W 107 39 56.28
	9000.00	91.55	90.40	5253.61	3950.29	-957.64	3840.78	0.00	1910258.93	549547.44	N 36 14 59.74	W 107 39 55.06
	9100.00	91.55	90.40	5250.90	4048.75	-958.34	3940.74	0.00	1910258.39	549647.39	N 36 14 59.74	W 107 39 53.84
	9200.00	91.55	90.40	5248.20	4147.21	-959.03	4040.70	0.00	1910257.85	549747.35	N 36 14 59.73	W 107 39 52.62
	9300.00	91.55	90.40	5245.50	4245.68	-959.73	4140.66	0.00	1910257.31	549847.30	N 36 14 59.72	W 107 39 51.40
	9400.00	91.55	90.40	5242.79	4344.14	-960.43	4240.62	0.00	1910256.78	549947.25	N 36 14 59.72	W 107 39 50.18
	9500.00	91.55	90.40	5240.09	4442.60	-961.13	4340.58	0.00	1910256.24	550047.21	N 36 14 59.71	W 107 39 48.96
	9600.00	91.55	90.40	5237.38	4541.06	-961.83	4440.54	0.00	1910255.70	550147.16	N 36 14 59.70	W 107 39 47.74
	9700.00	91.55	90.40	5234.68	4639.53	-962.53	4540.50	0.00	1910255.16	550247.11	N 36 14 59.69	W 107 39 46.52
	9800.00	91.55	90.40	5231.98	4737.99	-963.23	4640.46	0.00	1910254.62	550347.07	N 36 14 59.69	W 107 39 45.30
	9900.00	91.55	90.40	5229.27	4836.45	-963.92	4740.43	0.00	1910254.08	550447.02	N 36 14 59.68	W 107 39 44.08
	10000.00	91.55	90.40	5226.57	4934.92	-964.62	4840.39	0.00	1910253.55	550546.98	N 36 14 59.67	W 107 39 42.86
	10100.00	91.55	90.40	5223.86	5033.38	-965.32	4940.35	0.00	1910253.01	550646.93	N 36 14 59.67	W 107 39 41.64
	10200.00	91.55	90.40	5221.16	5131.84	-966.02	5040.31	0.00	1910252.47	550746.88	N 36 14 59.66	W 107 39 40.42
	10300.00	91.55	90.40	5218.46	5230.31	-966.72	5140.27	0.00	1910251.93	550846.84	N 36 14 59.65	W 107 39 39.20
	10400.00	91.55	90.40	5215.75	5328.77	-967.42	5240.23	0.00	1910251.39	550946.79	N 36 14 59.64	W 107 39 37.98
Chaco 2308-04P #150H PBHL/TD	10464.75	91.55	90.40	5214.00	5392.53	-967.87	5304.96	0.00	1910251.04	551011.51	N 36 14 59.64	W 107 39 37.19

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 2308-04P #150H R1 mdy 10Jan14
	1	14.000	10464.752	1/100.000	30.000	30.000	SLB_MWD-STD	Original Hole / Chaco 2308-04P #150H R1 mdy 10Jan14