

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised August 1, 2011

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

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-043-21167
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐		5. Indicate Type of Lease STATE ☒ FEE ☐
2. Name of Operator WPX Energy Production, LLC		6. State Oil & Gas Lease No. V09209
3. Address of Operator P. O. Box 640, Aztec, NM 87410 (505) 333-1808		7. Lease Name or Unit Agreement Name Chaco 2206-02P
4. Well Location Unit Letter <u>P</u> <u>614'</u> feet from the <u>South</u> line and <u>817'</u> feet from the <u>East</u> line Section <u>2</u> Township <u>22N</u> Range <u>6W</u> NMPM County <u>Sandoval</u>		8. Well Number <u>#227H</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 6944' GR		9. OGRID Number 120782
		10. Pool name or Wildcat Lybrook Gallup

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☒
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: ~~SPUD/SURFACE CASING~~ ☐

RCVD OCT 25 '13
OIL CONS. DIV.
DIST. 3

Hold C104
for Directional Survey
and "As Drilled" plat

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

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 plug back TD of this well will be the float collar 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.

HOLD C104 FOR NSL

BLM NOTIFICATION REQUIRED

CONFIDENTIAL

Hold C104

for Directional Survey
and "As Drilled" plat

Spud Date:

Rig Release Date:

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

SIGNATURE Larry Higgins TITLE Permit Suprv DATE 10/25/13

Type or print name Larry Higgins E-mail address: larry.higgins@wpxenergy.com PHONE: (505) 333-1808
For State Use Only

APPROVED BY: Walter Higgs TITLE Deputy Oil & Gas Inspector, DATE OCT 25 2013
Conditions of Approval (if any): AV
AV

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Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-043-21167	² Pool Code 42289	³ Pool Name LYBROOK GALLUP
⁴ Property Code 039910	⁵ Property Name CHACO 2206-02P	⁶ Well Number 227H
⁷ GRID No. 120782	⁸ Operator Name WPX ENERGY PRODUCTION, LLC	⁹ Elevation 6944'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot	Feet from the	North/South line	Feet from the	East/West line	County
P	2	22N	6W		614	SOUTH	817	EAST	SANDOVAL

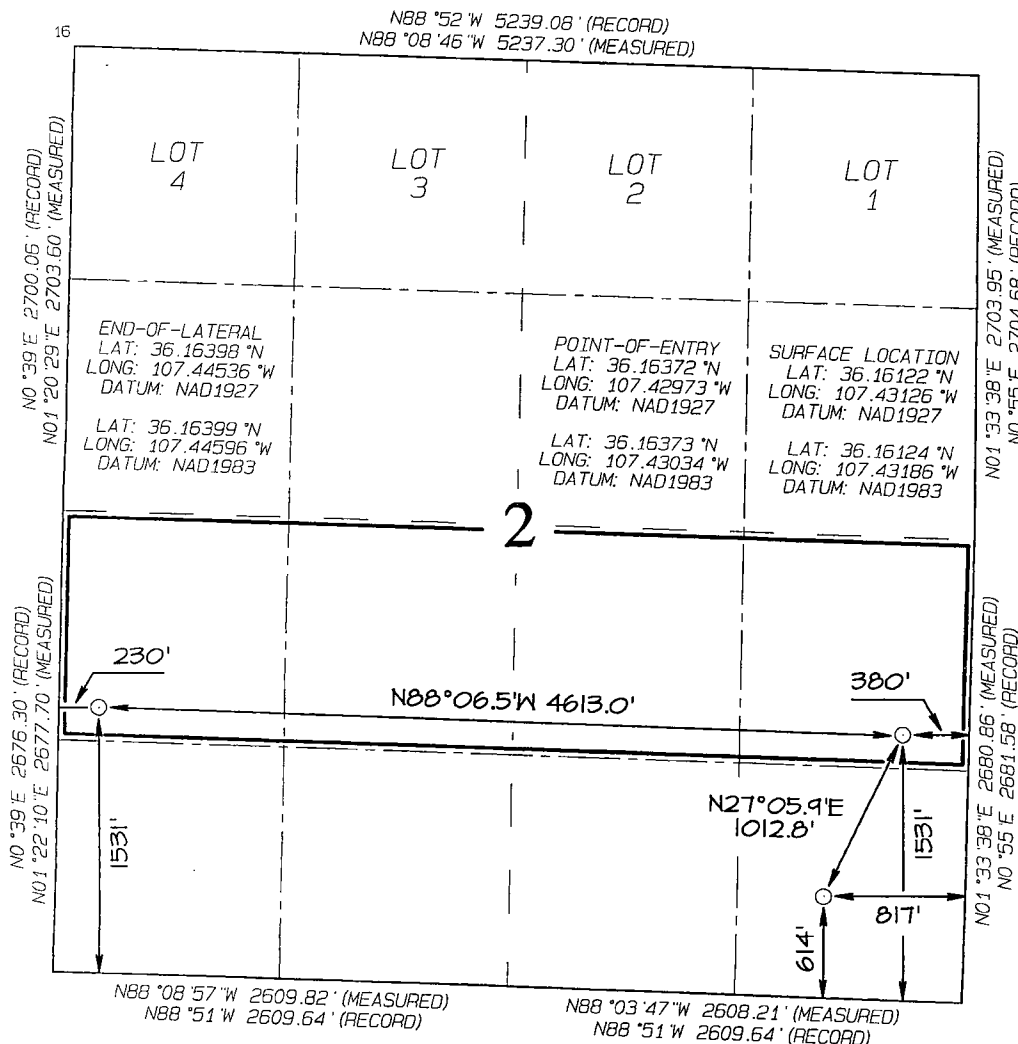
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot	Feet from the	North/South line	Feet from the	East/West line	County
L	2	22N	6W		1531	SOUTH	230	WEST	SANDOVAL

¹² Dedicated Acres 160.0 Acres - (N/2 S/2)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. RCVD OCT 25 '13 OIL CONS. DIV.
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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

DIST. 3



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.

Larry Higgins 10/25/13
Signature Date

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: OCTOBER 25, 2013

Date of Survey: JUNE 8, 2012

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269

WPX ENERGY**Operations Plan**RCVD OCT 25 '13
OIL CONS. DIV.
DIST. 3*(Note: This procedure will be adjusted on site based upon actual conditions)*

DATE: 10/24/13 Rev (1) **FIELD:** Lybrook (Gallup)

WELL NAME: Chaco 2206-02P #227H **SURFACE:** State

SH Location: SESE Sec 2-22N-6W **ELEVATION:** 6,944' GR

BH Location: NWSW Sec 2-22N-6W **MINERALS:** State
Sandoval Co, NM

MEASURED DEPTH: 10,641' **LEASE #:** V09209

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

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1,270	1,262	Point Lookout	4,288	4,073
Kirtland	1,533	1,514	Mancos	4,474	4,246
Pictured Cliffs	1,852	1,811	Kickoff Point	4,756	4,506
Lewis	1,964	1,915	Target Top	5,830	5,332
Chacra	2,302	2,229	Landing Point	6,027	5,361
Cliff House	3,474	3,317	Target Base	6,027	5,361
Menefee	3,505	3,346			
			TD	10,641	5,298

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 +/- 4,757' (MD) / 4,509' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 6,026' (MD) / 5,361' (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 +/- 10,640' (MD) / 5,298' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,876 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"	6,027'	7	23#	K-55
Prod. Liner	6.125"	5,876' - 10,641'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5,876'	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 +/- 5,490 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 (~5,680' 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 6,027 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,876 ft. (MD) +/- 78 degree angle. TOC: +/- 5,576 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.

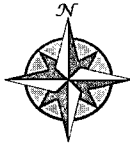
The Drilling Rig will be rigged down at this point and Completion operations will begin. After Stimulation and Testing operations are complete the 4-1/2" tie-back string will be removed from the well.

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

WELL	Chaco 2206-02P #227H	FIELD	NM Sandoval County NAD27	STRUCTURE	WPX Sec 2-22N-6W
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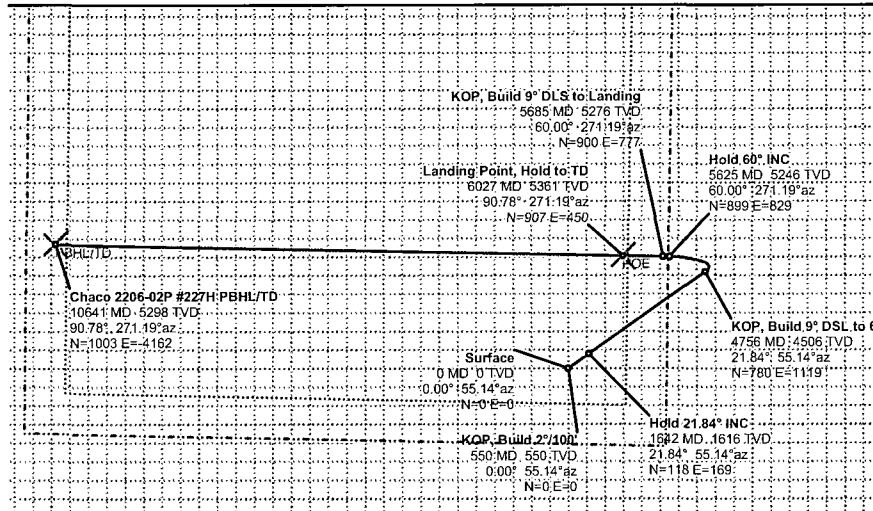
Magnetic Parameters	Surface Location	NAD27 New Mexico State Plane, Central Zone, US Feet	Miscellaneous
Model: BGGM 2013	Lat: N 36 9 40.406	Northing: 1880016.14 ftUS	Slot: Chaco 2206-02P #227H
Dip: 62.583°	Lon: W 107 25 52.434	Grid Conv: -0.697"	TVD Ref: RKB(6958ft above MSL)
Mag Dec: 9.462°		Scale Fact: 1.00003914	Plan: R4 mov 24Oct13
			Srvy Date: August 08, 2013

Proposal



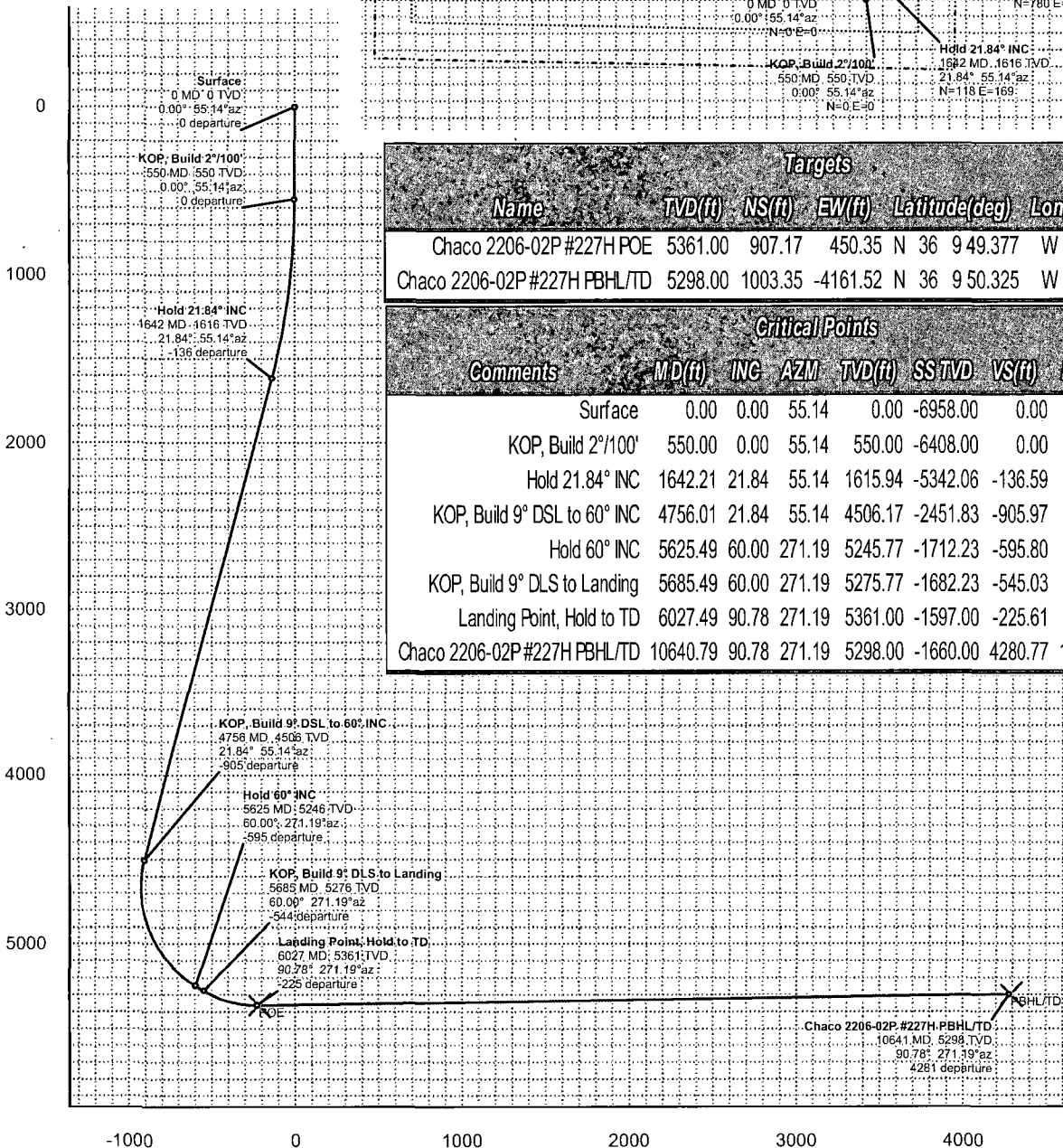
True North
Tot Corr (M-T 9.4625°)
Mag Dec (9.462°)
Grid Conv (-0.697°)

<<< W Scale = 1:1500(ft) E >>>
-4500 -3000 -1500 0 1500



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

TVD Scale = 1:1000(ft)



Targets						
Name	TVD(ft)	NS(ft)	EW(ft)	Latitude(deg)	Longitude(deg)	Shape
Chaco 2206-02P #227H POE	5361.00	907.17	450.35	N 36 9 49.377	W 107 25 47.042	POINT
Chaco 2206-02P #227H PBHL/TD	5298.00	1003.35	-4161.52	N 36 9 50.325	W 107 26 43.283	POINT

Critical Points								
Comments	MD(ft)	INC	AZM	TVD(ft)	SS TVD	VS(ft)	NS(ft)	EW(ft)
Surface	0.00	0.00	55.14	0.00	-6958.00	0.00	0.00	0.00
KOP, Build 2°/100'	550.00	0.00	55.14	550.00	-6408.00	0.00	0.00	0.00
Hold 21.84° INC	1642.21	21.84	55.14	1615.94	-5342.06	-136.59	117.57	168.78
KOP, Build 9° DSL to 60° INC	4756.01	21.84	55.14	4506.17	-2451.83	-905.97	779.79	1119.47
Hold 60° INC	5625.49	60.00	271.19	5245.77	-1712.23	-595.80	899.27	829.20
KOP, Build 9° DSL to Landing	5685.49	60.00	271.19	5275.77	-1682.23	-545.03	900.36	777.25
Landing Point, Hold to TD	6027.49	90.78	271.19	5361.00	-1597.00	-225.61	907.17	450.34
Chaco 2206-02P #227H PBHL/TD	10640.79	90.78	271.19	5298.00	-1660.00	4280.77	1003.35	-4161.52

Vertical Section (ft) Azim = 283.53° Scale = 1:1000(ft) Origin = 0 N-S, 0 E-W



Chaco 2206-02P #227H R4 mdv 24Oct13 Proposal Geodetic Report



(Def Plan)

Report Date: October 24, 2013 - 02:18 PM
Client: WPX Energy
Field: NM Sandoval County NAD27

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 283.530 ° (True North)
Vertical Section Origin: 0.000 ft, 0.000 ft

Structure / Slot: WPX Sec 2-22N-6W (Chaco 2206-02P #227H) / Chaco 2206-02P #227H
Well: Chaco 2206-02P #227H
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Chaco 2206-02P #227H R4 mdv 24Oct13
Survey Date: August 08, 2013
Tort / AHD / DDI / ERD Ratio: 130.882 ° / 6753.152 ft / 6.244 / 1.260
Coordinate Reference System: NAD27 New Mexico State Plane, Central Zone, US Feet
Location Lat / Long: N 36° 9' 40.40590", W 107° 25' 52.53400"
Location Grid N/E Y/X: N 1880016.273 RUS, E 151300.858 RUS
CRS Grid Convergence Angle: -0.6971 °
Grid Scale Factor: 1.00003914

TVD Reference Datum: RKB
TVD Reference Elevation: 6958.000 ft above MSL
Seabed / Ground Elevation: 6944.000 ft above MSL
Magnetic Declination: 9.482 °
Total Gravity Field Strength: 998.4843mgn (9.80665 Based)
Total Magnetic Field Strength: 50177.171 nT
Magnetic Dip Angle: 62.983 °
Declination Date: August 08, 2013
Magnetic Declination Model: BGGM 2013
North Reference: True North
Grid Convergence Used: 0.0000 °
Total Corr Mag North->True North: 9.4625 °
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	55.14	0.00	0.00	0.00	0.00	N/A	1880016.27	151300.86	N 36° 9' 40.41"	W 107° 25' 52.53"	
KOP, Build 2°/100'	100.00	0.00	55.14	100.00	0.00	0.00	0.00	0.00	1880016.27	151300.86	N 36° 9' 40.41"	W 107° 25' 52.53"	
	200.00	0.00	55.14	200.00	0.00	0.00	0.00	0.00	1880016.27	151300.86	N 36° 9' 40.41"	W 107° 25' 52.53"	
	300.00	0.00	55.14	300.00	0.00	0.00	0.00	0.00	1880016.27	151300.86	N 36° 9' 40.41"	W 107° 25' 52.53"	
	400.00	0.00	55.14	400.00	0.00	0.00	0.00	0.00	1880016.27	151300.86	N 36° 9' 40.41"	W 107° 25' 52.53"	
	500.00	0.00	55.14	500.00	0.00	0.00	0.00	0.00	1880016.27	151300.86	N 36° 9' 40.41"	W 107° 25' 52.53"	
	550.00	0.00	55.14	550.00	0.00	0.00	0.00	0.00	1880016.27	151300.86	N 36° 9' 40.41"	W 107° 25' 52.53"	
	600.00	1.00	55.14	600.00	-0.29	0.25	0.36	2.00	1880016.52	151301.22	N 36° 9' 40.41"	W 107° 25' 52.53"	
	700.00	3.00	55.14	699.93	-2.61	2.24	3.22	2.00	1880018.48	151304.11	N 36° 9' 40.43"	W 107° 25' 52.49"	
	800.00	5.00	55.14	799.68	-7.24	6.23	8.95	2.00	1880022.39	151309.88	N 36° 9' 40.47"	W 107° 25' 52.42"	
	900.00	7.00	55.14	899.13	-14.18	12.21	17.52	2.00	1880028.26	151318.53	N 36° 9' 40.53"	W 107° 25' 52.32"	
	1000.00	9.00	55.14	998.15	-23.42	20.16	28.94	2.00	1880036.08	151330.04	N 36° 9' 40.61"	W 107° 25' 52.18"	
	1100.00	11.00	55.14	1096.63	-34.95	30.08	43.19	2.00	1880045.83	151344.41	N 36° 9' 40.70"	W 107° 25' 52.01"	
	1200.00	13.00	55.14	1194.44	-48.76	41.97	60.25	2.00	1880057.51	151361.61	N 36° 9' 40.82"	W 107° 25' 51.80"	
	1300.00	15.00	55.14	1291.46	-64.82	55.79	80.10	2.00	1880071.09	151381.63	N 36° 9' 40.96"	W 107° 25' 51.56"	
	1400.00	17.00	55.14	1387.58	-83.12	71.55	102.71	2.00	1880086.57	151404.44	N 36° 9' 41.11"	W 107° 25' 51.28"	
	Hold 21.84° INC	1500.00	19.00	55.14	1482.68	-103.64	89.21	128.07	2.00	1880103.92	151430.01	N 36° 9' 41.29"	W 107° 25' 50.97"
1600.00		21.00	55.14	1576.65	-126.36	108.76	156.13	2.00	1880123.13	151458.31	N 36° 9' 41.48"	W 107° 25' 50.63"	
1642.21		21.84	55.14	1615.94	-136.59	117.57	168.78	2.00	1880131.78	151471.07	N 36° 9' 41.57"	W 107° 25' 50.48"	
1700.00		21.84	55.14	1669.58	-150.87	129.86	186.43	0.00	1880143.86	151488.86	N 36° 9' 41.69"	W 107° 25' 50.26"	
1800.00		21.84	55.14	1762.40	-175.58	151.13	216.96	0.00	1880164.75	151519.65	N 36° 9' 41.90"	W 107° 25' 49.89"	
1900.00		21.84	55.14	1855.22	-200.29	172.39	247.49	0.00	1880185.65	151550.44	N 36° 9' 42.11"	W 107° 25' 49.52"	
2000.00		21.84	55.14	1948.04	-225.00	193.66	278.02	0.00	1880206.54	151581.23	N 36° 9' 42.32"	W 107° 25' 49.14"	
2100.00		21.84	55.14	2040.86	-249.71	214.93	308.55	0.00	1880227.44	151612.01	N 36° 9' 42.53"	W 107° 25' 48.77"	
2200.00		21.84	55.14	2133.68	-274.41	236.20	339.08	0.00	1880248.33	151642.80	N 36° 9' 42.74"	W 107° 25' 48.40"	
2300.00		21.84	55.14	2226.50	-299.12	257.46	369.62	0.00	1880269.23	151673.59	N 36° 9' 42.95"	W 107° 25' 48.03"	
2400.00		21.84	55.14	2319.32	-323.83	278.73	400.15	0.00	1880290.12	151704.38	N 36° 9' 43.16"	W 107° 25' 47.65"	
2500.00		21.84	55.14	2412.14	-348.54	300.00	430.68	0.00	1880311.02	151735.17	N 36° 9' 43.37"	W 107° 25' 47.28"	
2600.00		21.84	55.14	2504.96	-373.25	321.27	461.21	0.00	1880331.91	151765.96	N 36° 9' 43.58"	W 107° 25' 46.91"	
2700.00		21.84	55.14	2597.78	-397.96	342.53	491.74	0.00	1880352.81	151796.75	N 36° 9' 43.79"	W 107° 25' 46.54"	
2800.00		21.84	55.14	2690.60	-422.67	363.80	522.27	0.00	1880373.70	151827.54	N 36° 9' 44.00"	W 107° 25' 46.17"	
2900.00		21.84	55.14	2783.42	-447.37	385.07	552.81	0.00	1880394.60	151858.33	N 36° 9' 44.21"	W 107° 25' 45.79"	
3000.00		21.84	55.14	2876.24	-472.08	406.33	583.34	0.00	1880415.49	151889.12	N 36° 9' 44.42"	W 107° 25' 45.42"	
3100.00		21.84	55.14	2969.06	-496.79	427.60	613.87	0.00	1880436.39	151919.91	N 36° 9' 44.63"	W 107° 25' 45.05"	
3200.00		21.84	55.14	3061.88	-521.50	448.87	644.40	0.00	1880457.29	151950.69	N 36° 9' 44.84"	W 107° 25' 44.68"	
3300.00		21.84	55.14	3154.70	-546.21	470.14	674.93	0.00	1880478.18	151981.48	N 36° 9' 45.05"	W 107° 25' 44.30"	
3400.00		21.84	55.14	3247.52	-570.92	491.40	705.46	0.00	1880499.08	152012.27	N 36° 9' 45.27"	W 107° 25' 43.93"	
3500.00		21.84	55.14	3340.34	-595.62	512.67	735.99	0.00	1880519.97	152043.06	N 36° 9' 45.48"	W 107° 25' 43.56"	
3600.00		21.84	55.14	3433.16	-620.33	533.94	766.53	0.00	1880540.87	152073.85	N 36° 9' 45.69"	W 107° 25' 43.19"	
3700.00		21.84	55.14	3525.98	-645.04	555.21	797.06	0.00	1880561.76	152104.64	N 36° 9' 45.90"	W 107° 25' 42.81"	
3800.00		21.84	55.14	3618.80	-669.75	576.47	827.59	0.00	1880582.66	152135.43	N 36° 9' 46.11"	W 107° 25' 42.44"	
3900.00		21.84	55.14	3711.62	-694.46	597.74	858.12	0.00	1880603.55	152166.22	N 36° 9' 46.32"	W 107° 25' 42.07"	
4000.00		21.84	55.14	3804.44	-719.17	619.01	888.65	0.00	1880624.45	152197.01	N 36° 9' 46.53"	W 107° 25' 41.70"	
4100.00		21.84	55.14	3897.26	-743.88	640.27	919.18	0.00	1880645.34	152227.80	N 36° 9' 46.74"	W 107° 25' 41.32"	
4200.00		21.84	55.14	3990.08	-768.58	661.54	949.71	0.00	1880666.24	152258.59	N 36° 9' 46.95"	W 107° 25' 40.95"	
4300.00		21.84	55.14	4082.90	-793.29	682.81	980.25	0.00	1880687.13	152289.37	N 36° 9' 47.16"	W 107° 25' 40.58"	
4400.00		21.84	55.14	4175.72	-818.00	704.08	1010.78	0.00	1880708.03	152320.16	N 36° 9' 47.37"	W 107° 25' 40.21"	
4500.00		21.84	55.14	4268.54	-842.71	725.34	1041.31	0.00	1880728.92	152350.95	N 36° 9' 47.58"	W 107° 25' 39.84"	
4600.00	21.84	55.14	4361.36	-867.42	746.61	1071.84	0.00	1880749.82	152381.74	N 36° 9' 47.79"	W 107° 25' 39.46"		
4700.00	21.84	55.14	4454.18	-892.13	767.88	1102.37	0.00	1880770.71	152412.53	N 36° 9' 48.00"	W 107° 25' 39.09"		
KOP, Build 9° DSL to 60° INC	4756.01	21.84	55.14	4506.17	-905.97	779.79	1119.47	0.00	1880782.41	152429.78	N 36° 9' 48.12"	W 107° 25' 38.88"	
Hold 60° INC	4800.00	18.57	48.66	4547.45	-915.44	789.10	1131.45	9.00	1880791.58	152441.87	N 36° 9' 48.21"	W 107° 25' 38.74"	
	4900.00	12.63	22.87	4643.83	-926.40	809.73	1147.69	9.00	1880812.01	152458.36	N 36° 9' 48.41"	W 107° 25' 38.54"	
	5000.00	11.58	339.20	4741.81	-922.50	829.23	1148.38	9.00	1880831.50	152459.28	N 36° 9' 48.61"	W 107° 25' 38.53"	
	5100.00	16.39	306.83	4838.96	-903.85	847.10	1133.49	9.00	1880849.55	152444.62	N 36° 9' 48.78"	W 107° 25' 38.71"	
	5200.00	23.72	291.35	4932.90	-870.90	862.91	1103.41	9.00	1880865.73	152414.72	N 36° 9' 48.94"	W 107° 25' 39.08"	
	5300.00	31.89	283.15	5021.31	-824.46	876.27	1058.86	9.00	1880879.63	152370.34	N 36° 9' 49.07"	W 107° 25' 39.62"	
	5400.00	40.38	278.07	5102.01	-765.68	886.85	1000.94	9.00	1880890.91	152312.55	N 36° 9' 49.18"	W 107° 25' 40.33"	
	5500.00	49.03	274.52	5173.03	-696.00	894.39	931.09	9.00	1880899.30	152242.79	N 36° 9' 49.25"	W 107° 25' 41.18"	
	5600.00	57.77	271.80	5232.60	-617.14	898.70	851.01	9.00	1880904.59	152162.77	N 36° 9' 49.29"	W 107° 25' 42.16"	
	5625.49	60.00	271.19	5245.77	-595.80	899.27	829.20	9.00	1880905.42	152140.97	N 36° 9' 49.30"	W 107° 25' 42.42"	
	KOP, Build 9° DLS to Landing	5685.49	60.00	271.19	5275.77	-545.03	900.36	777.25	0.00	1880907.14	152089.03	N 36° 9' 49.31"	W 107° 25' 43.06"
	5700.00	61.31	271.19	5282.88	-532.68	900.62	764.60	9.00	1880907.56	152076.39	N 36° 9' 49.31"	W 107° 25' 43.21"	
	5800.00	70.31	271.19	5323.82	-443.66	902.52	673.50	9.00	1880910.57	151985.31	N 36° 9' 49.33"	W 107° 25' 44.32"	
	5900.00	79.31	271.19	5350.00	-349.48	904.53	577.12	9.00	1880913.75	151888.96	N 36° 9' 49.35"	W 107° 25' 45.50"	
	6000.00	88.31	271.19	5360.78	-252.46	906.60	477.82	9.00	1880917.03	151789.69	N 36° 9' 49.37"	W 107° 25' 46.71"	
	Landing Point, Hold to TD	6027.49	90.78	271.19	5361.00	-225.61	907.17	450.34	9.00	1880917.93	151762.22	N 36° 9' 49.38"	W 107° 25' 47.04"
	6100.00	90.78	271.19	5360.01	-154.78	908.68	377.86	0.00	1880920.33	151689.75	N 36° 9' 49.39"	W 107° 25' 47.93"	
	6200.00	90.78	271.19	5358.65	-57.09	910.77	277.89	0.00	1880923.63	151589.81	N 36° 9' 49.41"	W 107° 25' 49.15"	
	6300.00	90.78	271.19	5357.29	40.59	912.85	177.92	0.00	1880926.93	151489.87	N 36° 9' 49.43"	W 10	

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7000.00	90.78	271.19	5347.75	724.36	927.45	-521.87	0.00	1880950.03	150790.30	N 36 9 49.58	W 107 25 58.90
	7100.00	90.78	271.19	5346.39	822.05	929.53	-621.83	0.00	1880953.33	150690.36	N 36 9 49.60	W 107 26 0.12
	7200.00	90.78	271.19	5345.03	919.73	931.61	-721.80	0.00	1880956.63	150590.42	N 36 9 49.62	W 107 26 1.34
	7300.00	90.78	271.19	5343.66	1017.41	933.70	-821.77	0.00	1880959.94	150490.48	N 36 9 49.64	W 107 26 2.56
	7400.00	90.78	271.19	5342.30	1115.09	935.78	-921.74	0.00	1880963.24	150390.54	N 36 9 49.66	W 107 26 3.77
	7500.00	90.78	271.19	5340.94	1212.78	937.87	-1021.71	0.00	1880966.54	150290.60	N 36 9 49.68	W 107 26 4.99
	7600.00	90.78	271.19	5339.57	1310.46	939.95	-1121.68	0.00	1880969.84	150190.66	N 36 9 49.70	W 107 26 6.21
	7700.00	90.78	271.19	5338.21	1408.14	942.04	-1221.65	0.00	1880973.14	150090.72	N 36 9 49.72	W 107 26 7.43
	7800.00	90.78	271.19	5336.84	1505.82	944.12	-1321.62	0.00	1880976.44	149990.78	N 36 9 49.74	W 107 26 8.65
	7900.00	90.78	271.19	5335.48	1603.50	946.21	-1421.59	0.00	1880979.74	149890.84	N 36 9 49.76	W 107 26 9.87
	8000.00	90.78	271.19	5334.11	1701.19	948.29	-1521.55	0.00	1880983.04	149790.90	N 36 9 49.78	W 107 26 11.09
	8100.00	90.78	271.19	5332.75	1798.87	950.38	-1621.52	0.00	1880986.34	149690.96	N 36 9 49.80	W 107 26 12.31
	8200.00	90.78	271.19	5331.38	1896.55	952.46	-1721.49	0.00	1880989.64	149591.02	N 36 9 49.82	W 107 26 13.53
	8300.00	90.78	271.19	5330.02	1994.23	954.55	-1821.46	0.00	1880992.94	149491.08	N 36 9 49.84	W 107 26 14.75
	8400.00	90.78	271.19	5328.65	2091.92	956.63	-1921.43	0.00	1880996.25	149391.14	N 36 9 49.87	W 107 26 15.97
	8500.00	90.78	271.19	5327.29	2189.60	958.72	-2021.40	0.00	1880999.55	149291.20	N 36 9 49.89	W 107 26 17.18
	8600.00	90.78	271.19	5325.92	2287.28	960.80	-2121.37	0.00	1881002.85	149191.26	N 36 9 49.91	W 107 26 18.40
	8700.00	90.78	271.19	5324.55	2384.96	962.89	-2221.34	0.00	1881006.15	149091.32	N 36 9 49.93	W 107 26 19.62
	8800.00	90.78	271.19	5323.19	2482.64	964.97	-2321.31	0.00	1881009.45	148991.38	N 36 9 49.95	W 107 26 20.84
	8900.00	90.78	271.19	5321.82	2580.33	967.06	-2421.28	0.00	1881012.75	148891.44	N 36 9 49.97	W 107 26 22.06
	9000.00	90.78	271.19	5320.45	2678.01	969.14	-2521.24	0.00	1881016.05	148791.50	N 36 9 49.99	W 107 26 23.28
	9100.00	90.78	271.19	5319.09	2775.69	971.23	-2621.21	0.00	1881019.35	148691.56	N 36 9 50.01	W 107 26 24.50
	9200.00	90.78	271.19	5317.72	2873.37	973.31	-2721.18	0.00	1881022.65	148591.62	N 36 9 50.03	W 107 26 25.72
	9300.00	90.78	271.19	5316.35	2971.06	975.40	-2821.15	0.00	1881025.96	148491.68	N 36 9 50.05	W 107 26 26.94
	9400.00	90.78	271.19	5314.98	3068.74	977.48	-2921.12	0.00	1881029.26	148391.74	N 36 9 50.07	W 107 26 28.16
	9500.00	90.78	271.19	5313.62	3166.42	979.57	-3021.09	0.00	1881032.56	148291.80	N 36 9 50.09	W 107 26 29.38
	9600.00	90.78	271.19	5312.25	3264.10	981.65	-3121.06	0.00	1881035.86	148191.86	N 36 9 50.11	W 107 26 30.59
	9700.00	90.78	271.19	5310.88	3361.79	983.74	-3221.03	0.00	1881039.16	148091.92	N 36 9 50.13	W 107 26 31.81
	9800.00	90.78	271.19	5309.51	3459.47	985.82	-3321.00	0.00	1881042.46	147991.98	N 36 9 50.15	W 107 26 33.03
	9900.00	90.78	271.19	5308.14	3557.15	987.91	-3420.96	0.00	1881045.76	147892.04	N 36 9 50.17	W 107 26 34.25
	10000.00	90.78	271.19	5306.77	3654.83	989.99	-3520.93	0.00	1881049.07	147792.10	N 36 9 50.19	W 107 26 35.47
	10100.00	90.78	271.19	5305.41	3752.51	992.08	-3620.90	0.00	1881052.37	147692.16	N 36 9 50.21	W 107 26 36.69
	10200.00	90.78	271.19	5304.04	3850.20	994.16	-3720.87	0.00	1881055.67	147592.22	N 36 9 50.23	W 107 26 37.91
	10300.00	90.78	271.19	5302.67	3947.88	996.25	-3820.84	0.00	1881058.97	147492.28	N 36 9 50.26	W 107 26 39.13
	10400.00	90.78	271.19	5301.30	4045.56	998.33	-3920.81	0.00	1881062.27	147392.34	N 36 9 50.28	W 107 26 40.35
	10500.00	90.78	271.19	5299.93	4143.24	1000.42	-4020.78	0.00	1881065.57	147292.40	N 36 9 50.30	W 107 26 41.57
	10600.00	90.78	271.19	5298.56	4240.93	1002.50	-4120.75	0.00	1881068.87	147192.46	N 36 9 50.32	W 107 26 42.79
Chaco 2206-02P #227H PBHL/TD	10640.79	90.78	271.19	5298.00	4280.77	1003.35	-4161.52	0.00	1881070.22	147151.70	N 36 9 50.33	W 107 26 43.28

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	14.000	1/100.000	30.000	30.000	SLB_MWD-STD-Depth Only	Original Hole / Chaco 2206-02P #227H R4 mdv 24Oct13
	14.000	10640.789	1/100.000	30.000	30.000	SLB_MWD-STD	Original Hole / Chaco 2206-02P #227H R4 mdv 24Oct13