

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

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: 7/16/14

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf. Owner	UL	Sec	Twp	N/S	Rng	W/E
30-039-31224-00-00	CHACO 2307 13A	184H	WPX ENERGY PRODUCTION, LLC	O	N	Rio Arriba	F	A	13	23	N	7	W

Application Type:

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

Conditions of Approval:

Notify NMOCD 24hrs prior to beginning operations
Hold C104 for directional survey, as drilled plat, NSL, NSP

NMOCD Approved by Signature

7/31/2014

Date

12

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

JUL 16 2014

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

SUBMIT IN TRIPLICATE – Other instructions on page 2.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMSF-078359
2. Name of Operator WPX Energy Production, LLC		6. If Indian, Allottee or Tribe Name
3a. Address PO Box 640 Aztec, NM 87410	3b. Phone No. (include area code) 505-333-1808	7. If Unit of CA/Agreement, Name and/or No. NMNM 132829(CA)
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sur: 929' FNL & 18' FEL, sec 13, T23N, R7W – BHL: 376' FSL & 1840' FWL, Sec 11, T23N, R7W		8. Well Name and No. Chaco 2307-13A #184H
		9. API Well No. 30-039-31224
		10. Field and Pool or Exploratory Area Lybrook Gallup
		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
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other <u>Realign lateral</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 recomplate 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 plans to realign the lateral on this well as per attached C-102, operations plan and directional plan. Although this horizontal well will be drilled past the applicable setbacks, an unorthodox location application is not required because the completed interval in this well, as defined by 19.15.16.7 B(1) NMAC, will be entirely within the applicable setbacks. This approach complies with all applicable rules, including 19.15.16.14 A(3) NMAC, 19.15.16.14 B(2) NMAC, 19.15.16.15 B(2)NMAC, and 19.15.16.15. B(4) NMAC. This well will be in Northeast Chaco Communitized Area, NMNM 132829CA.

CONDITIONS OF APPROVAL

OIL CONS. DIV DIST. 3

Adhere to previously issued stipulations

JUL 23 2014

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) Larry Higgins		Title Regulatory Specialist
Signature		Date 7/16/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by 	Petroleum Title Engineer	Date 7/17/2014
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 FFD	

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)

NMOC

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: (505) 748-1283 Fax: (505) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

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

AMENDED REPORT

JUL 23 2014

WELL LOCATION AND ACREAGE DEDICATION PLAT

JUL 16 2014

*API Number 30-039-31224	*Pool Code 42289	*Pool Name LYBROOK GALLUP
*Property Code	*Property Name CHACO 2307-13A	*Well Number 184H
*GRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC	*Elevation 6991'

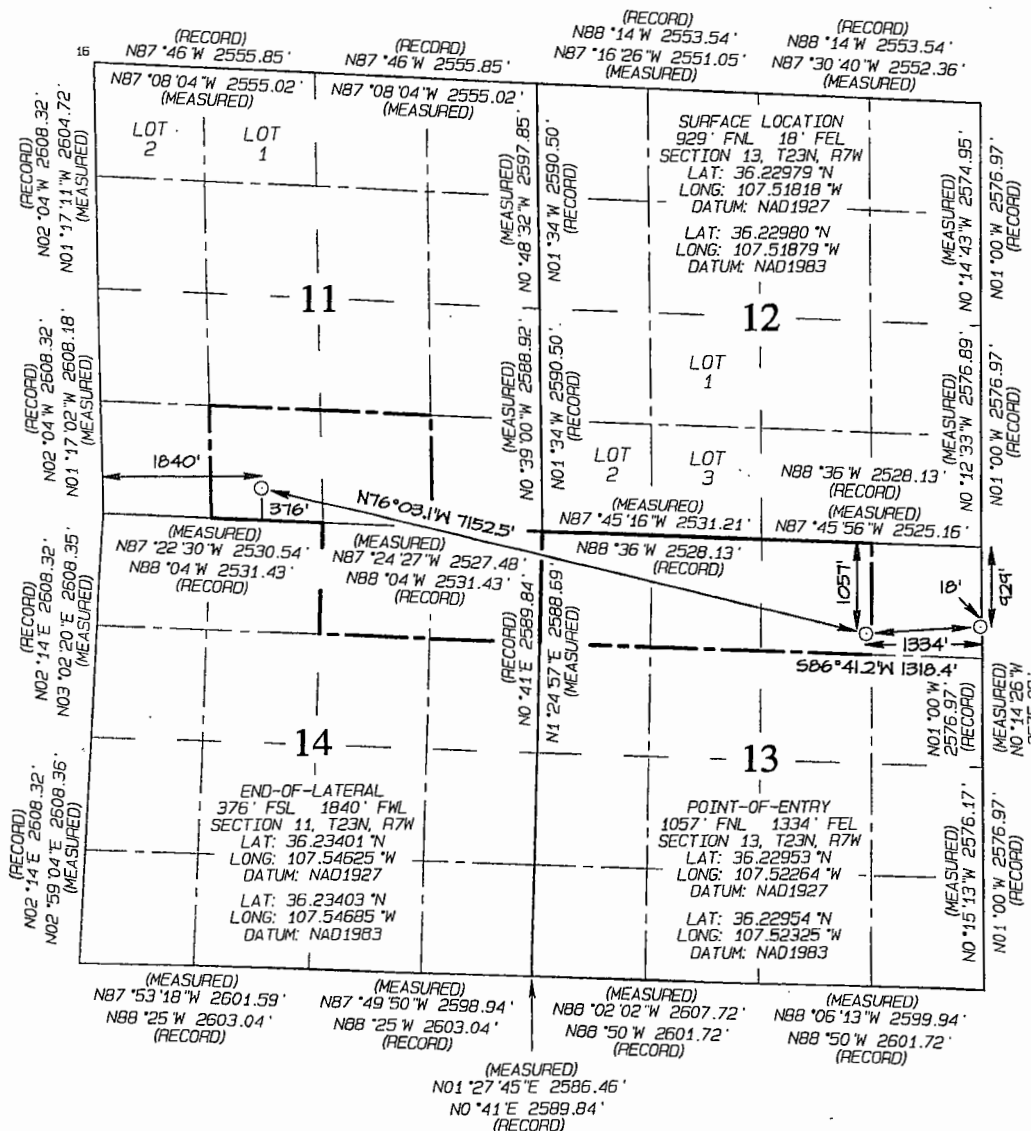
10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	13	23N	7W		929	NORTH	1B	EAST	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
N	11	23N	7W		376	SOUTH	1840	WEST	RIO ARriba

12 Dedicated Acres 280.0 SW/4 SE/4, SE/4 SW/4 (11) NW/4 NE/4, N/2 NW/4 (13) N/2 NE/4 (14)	13 Joint or Infill	14 Consolidation Code	15 Order No.
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NO ALLOWABLE WILL BE ASSIGNED
TO THIS COMPLETION UNTIL ALL
INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN
APPROVED BY THE DIVISION

17 OPERATOR CERTIFICATION

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

Signature: *Larry Higgins* Date: 7/16/14

Printed Name: Larry Higgins

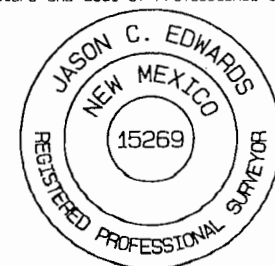
E-mail Address: larry.higgins@wpxenergy.com

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Revised: JULY 16, 2014
Date of Survey: MARCH 4, 2013

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269

WPX ENERGY**Operations Plan***(Note: This procedure will be adjusted on site based upon actual conditions)*

DATE: 7/10/2014 **FIELD:** Lybrook (Gallup)

WELL NAME: Chaco 2307-13A #184H **SURFACE:** BLM

SH Location: NENE Sec 13-23N-07W **ELEVATION:** 6991' GR

BH Location: SESW Sec 11-23N-07W **MINERALS:** BLM
Rio Arriba, NM

MEASURED DEPTH: 10,503' **LEASE #:** NMSF 078359

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

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1390	1382	Point Lookout	4320	4266
Kirtland	1704	1691	Mancos	4527	4471
Picture Cliffs	2018	2000	Kickoff Point	4957	4899
Lewis	2104	2085	Top Target	5776	5519
Chacra	2484	2459	Landing Point	6025	5566
Cliff House	3539	3498	Base Target	6011	5566
Menefee	3584	3542			
			TD	13177	5486

B. MUD LOGGING PROGRAM: Mudlogger on location from surface csg to TD.**C. LOGGING PROGRAM:** LWD GR from surface casing to TD.**D. NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.**II. DRILLING****A. MUD PROGRAM:** LSND mud (WBM) will be used to drill the 12-1/4" Surface hole, the 8 3/4" Directional Vertical hole, and the curve portion of the wellbore. A LSND (WBM) or (OBM) will be used to drill the lateral portion of well. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.**B. BOP TESTING:** While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The anticipated reservoir is expected to be less than 1300 psi, so the BOPE will be tested to **250 psi (Low) for 5 minutes** and **1500 psi (High) for 10 minutes**. Pressure test surface casing to **600 psi for 30 minutes** and intermediate casing to **1500 psi for 30 minutes**. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. **All tests and inspections will be recorded in the tour book as to time and results.**

NOTE: Vertical portion of the well (8-3/4 in.) will be directionally drilled as per attached Directional Plan to +/- 4,957' (MD) / 4,899' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 6,025 (MD) / 5,566' (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 +/- 13,177' (MD) / 5,566' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,875 ft. to TD and cemented. Liner will be tied back to surface w / 4-1/2" Casing for stimulation / testing, then removed from the well.

III. MATERIALS

A. CASING PROGRAM:

<u>CASING TYPE</u>	<u>OH SIZE (IN)</u>	<u>DEPTH (MD) (FT)</u>	<u>CASING SIZE (IN)</u>	<u>WEIGHT(LB)</u>	<u>GRADE</u>
Surface	12.25"	400'+	9.625"	36#	J-55
Intermediate	8.75"	6,025'	7"	23#	K-55
Prod. Liner	6.125"	5,875' - 13,177'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5,898'	4-1/2"	11.6#	N-80

B. FLOAT EQUIPMENT:

1. SURFACE CASING: 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.
2. INTERMEDIATE CASING: 7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install (1) centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) centralizer at 2,700 ft., 2,500 ft., 2,300ft., and 2,000ft. Additionally run 1 turbolizing centralizer on every other joint from 100' below the top of the Kirtland to 100' above the top of the Ojo Alamo, as referenced in Formation Tops in Section I-A.
3. PRODUCTION LINER: Run 4-1/2" Liner with cement nose guide Float Shoe + 2jts. of 4-1/2" casing + Landing Collar + 4-1/2" pup joint + (2) RSI (Sliding Sleeves) positioned inside the 330ft Hard line. Centralizer program will be determined by Wellbore condition and when Lateral is evaluated by Geoscientists and Reservoir Engineers. Set seals on Liner Hanger. Test TOL to 1500 psi for 15 minutes.
4. TIE-BACK CASING: None

C. CEMENTING:

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

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

Foamed Cement w/ +/- 75,000 SCF Nitrogen. Est. TOC +/- 5,575 ft.

IV. COMPLETION

A. CBL

1. Run CCL for perforating.

B. PRESSURE TEST

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

C. STIMULATION

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

D. RUNNING TUBING

1. Production Tubing: Run 2-7/8", 6.5#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing near Top of Liner point of curve (~5,800' MD).
- Although this horizontal well will be drilled past the applicable setbacks, an unorthodox location application is not required because the completed interval in this well, as defined by 19.15.16.7 B(1) NMAC, will be entirely within the applicable setbacks. This approach complies with all applicable rules, including 19.15.16.14 A(3) NMAC, 19.15.16.14 B(2) NMAC, 19.15.16.15 B(2) NMAC, and 19.15.16.15 B(4) NMAC.

NOTE:

Installation of RSI sleeves at Toe of Lateral.

Proposed Operations:

A 4-1/2" 11.6# N-80 Liner will be run to TD and landed +/- 150 ft. into the 7" 23# K-55 Intermediate casing (set at 6,025 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,875 ft. (MD) +/- 78 degree angle. TOC: +/- 5,575 ft. (MD).

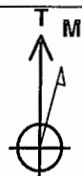
After cementing and TOL clean up operations are complete, the TOL will be tested to 1500 psi (per BLM).

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 Name: Chaco 2307-13A #184H
 Surface Location: Chaco 2307-13A
 NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution), New Mexico Central 3002
 Ground Elevation: 6991.00
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.00 0.00 1905300.20313 125967.61519 36.22979 -107.51818 184H
 WELL @ 7005.00usft (Original Well Elev)



Azimuths to True North
 Magnetic North: 9.36°
 Magnetic Field
 Strength: 50167.6snT
 Dip Angle: 63.00°
 Date: 7/7/2014
 Model: IGRF2010

Project: SJ 13-23N-07W
 Site: Chaco 2307-13A
 Well: Chaco 2307-13A #184H
 Design #1 07Jul14 kjs

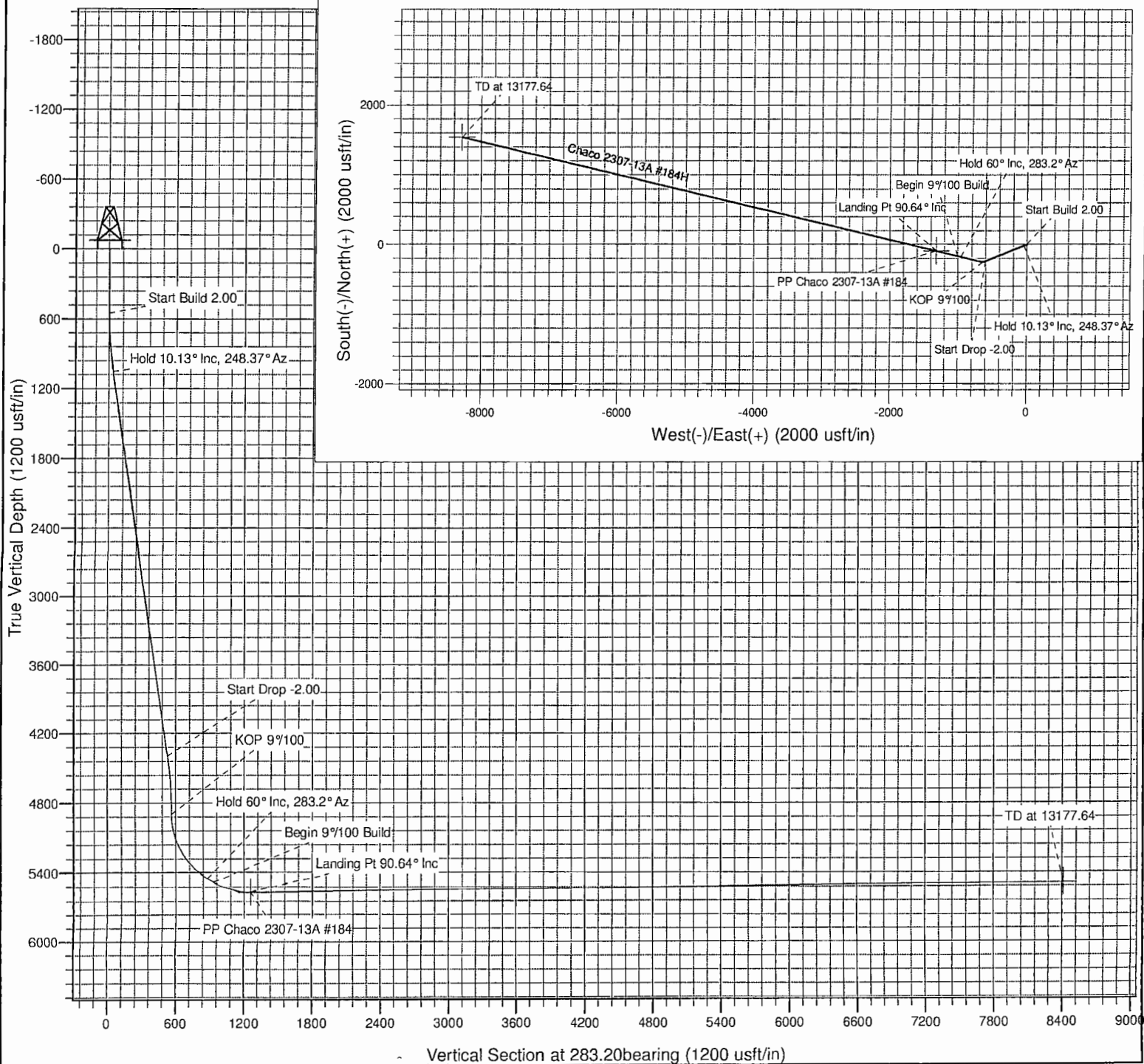
ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
550.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1053.97	1056.61	10.13	248.37	-16.47	-41.53	36.67	44.68	Hold 10.13° Inc, 248.37° Az
4395.45	4451.02	10.13	248.37	-236.61	-596.62	526.83	641.82	Start Drop -2.00
4899.42	4957.63	0.00	0.00	-253.08	-638.15	563.50	686.50	KOP 9°/100
5450.75	5624.30	60.00	283.20	-180.40	-948.05	881.81	1004.81	Hold 60° Inc, 283.2° Az
5480.75	5684.30	60.00	283.20	-168.54	-998.64	933.77	1056.77	Begin 9°/100 Build
5566.00	6024.75	90.64	283.20	-94.23	-1315.47	1259.20	1382.20	Landing Pt 90.64° Inc
5486.01	13176.64	90.64	283.20	1538.68	-8278.00	8410.64	8533.65	TD at 13177.64

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TD / PBHL Chaco 2307-13A #184	5486.00	1538.90	-8278.97	1906947.29486	117709.49026	36.23401	-107.54625	Point
PP Chaco 2307-13A #184	5566.00	-94.23	-1315.47	1905223.19649	124651.02570	36.22953	-107.52264	Point

- plan hits target center
 - plan misses target center by 0.01usft at 6024.75usft MD (5566.00 TVD, -94.23 N, -1315.47 E)





SAN JUAN BASIN

SJ 13-23N-07W

Chaco 2307-13A

Chaco 2307-13A #184H - Slot 184H

Wellbore #1

Plan: Design #1 07Jul14 kjs

Standard Planning Report - Geographic

08 July, 2014



WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well Chaco 2307-13A #184H - Slot 184H
Company:	SAN JUAN BASIN	TVD Reference:	WELL @ 7005.00usft (Original Well Elev)
Project:	SJ 13-23N-07W	MD Reference:	WELL @ 7005.00usft (Original Well Elev)
Site:	Chaco 2307-13A	North Reference:	True
Well:	Chaco 2307-13A #184H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 07Jul14 kjs		

Project	SJ 13-23N-07W, Rio Arriba County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Site	Chaco 2307-13A			
Site Position:		Northing:	1,905,300.20313 usft	Latitude: 36.22979
From:	Lat/Long	Easting:	125,967.61519 usft	Longitude: -107.51818
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -0.75 °

Well	Chaco 2307-13A #184H - Slot 184H			
Well Position	+N/-S	0.00 usft	Northing: 1,905,300.20313 usft	Latitude: 36.22979
	+E/-W	0.00 usft	Easting: 125,967.61519 usft	Longitude: -107.51818
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level: 6,991.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/7/2014	9.36	63.00	50,168

Design	Design #1 07Jul14 kjs			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(bearing)
	0.00	0.00	0.00	283.20

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,056.61	10.13	248.37	1,053.97	-16.47	-41.53	2.00	2.00	0.00	248.37	
4,451.02	10.13	248.37	4,395.45	-236.61	-596.62	0.00	0.00	0.00	0.00	
4,957.63	0.00	0.00	4,899.42	-253.08	-638.15	2.00	-2.00	0.00	180.00	
5,624.30	60.00	283.20	5,450.75	-180.40	-948.05	9.00	9.00	0.00	283.20	
5,684.30	60.00	283.20	5,480.75	-168.54	-998.64	0.00	0.00	0.00	0.00	
6,024.75	90.64	283.20	5,566.00	-94.23	-1,315.47	9.00	9.00	0.00	0.00	
13,177.64	90.64	283.20	5,486.00	1,538.90	-8,278.97	0.00	0.00	0.00	0.00	TD / PBHL Chaco 230

Database: COMPASS-PICEANCE
Company: SAN JUAN BASIN
Project: SJ 13-23N-07W
Site: Chaco 2307-13A
Well: Chaco 2307-13A #184H
Wellbore: Wellbore #1
Design: Design #1 07Jul14 kjs

Local Co-ordinate Reference: Well Chaco 2307-13A #184H - Slot 184H
TVD Reference: WELL @ 7005.00usft (Original Well Elev)
MD Reference: WELL @ 7005.00usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,905,300.20313	125,967.61519	36.22979	-107.51818
200.00	0.00	0.00	200.00	0.00	0.00	1,905,300.20313	125,967.61519	36.22979	-107.51818
400.00	0.00	0.00	400.00	0.00	0.00	1,905,300.20313	125,967.61519	36.22979	-107.51818
550.00	0.00	0.00	550.00	0.00	0.00	1,905,300.20313	125,967.61519	36.22979	-107.51818
Start Build 2.00									
600.00	1.00	248.37	600.00	-0.16	-0.41	1,905,300.04760	125,967.20753	36.22979	-107.51818
800.00	5.00	248.37	799.68	-4.02	-10.13	1,905,296.31725	125,957.42990	36.22978	-107.51822
1,000.00	9.00	248.37	998.15	-13.00	-32.79	1,905,287.63076	125,934.66174	36.22976	-107.51829
1,056.61	10.13	248.37	1,053.97	-16.47	-41.53	1,905,284.27726	125,925.87190	36.22975	-107.51832
Hold 10.13° Inc, 248.37° Az									
1,200.00	10.13	248.37	1,195.13	-25.77	-64.98	1,905,275.28561	125,902.30389	36.22972	-107.51840
1,400.00	10.13	248.37	1,392.01	-38.74	-97.69	1,905,262.74397	125,869.43100	36.22968	-107.51851
1,600.00	10.13	248.37	1,588.89	-51.71	-130.39	1,905,250.20232	125,836.55811	36.22965	-107.51862
1,800.00	10.13	248.37	1,785.77	-64.68	-163.10	1,905,237.66068	125,803.68522	36.22961	-107.51874
2,000.00	10.13	248.37	1,982.65	-77.65	-195.80	1,905,225.11904	125,770.81233	36.22958	-107.51885
2,200.00	10.13	248.37	2,179.53	-90.62	-228.51	1,905,212.57739	125,737.93944	36.22954	-107.51896
2,400.00	10.13	248.37	2,376.41	-103.59	-261.22	1,905,200.03575	125,705.06655	36.22951	-107.51907
2,600.00	10.13	248.37	2,573.29	-116.56	-293.92	1,905,187.49411	125,672.19367	36.22947	-107.51918
2,800.00	10.13	248.37	2,770.17	-129.54	-326.63	1,905,174.95246	125,639.32078	36.22944	-107.51929
3,000.00	10.13	248.37	2,967.06	-142.51	-359.33	1,905,162.41082	125,606.44789	36.22940	-107.51940
3,200.00	10.13	248.37	3,163.94	-155.48	-392.04	1,905,149.86917	125,573.57500	36.22936	-107.51951
3,400.00	10.13	248.37	3,360.82	-168.45	-424.75	1,905,137.32753	125,540.70210	36.22933	-107.51962
3,600.00	10.13	248.37	3,557.70	-181.42	-457.45	1,905,124.78589	125,507.82921	36.22929	-107.51973
3,800.00	10.13	248.37	3,754.58	-194.39	-490.16	1,905,112.24424	125,474.95632	36.22926	-107.51984
4,000.00	10.13	248.37	3,951.46	-207.36	-522.86	1,905,099.70260	125,442.08343	36.22922	-107.51996
4,200.00	10.13	248.37	4,148.34	-220.33	-555.57	1,905,087.16096	125,409.21054	36.22919	-107.52007
4,400.00	10.13	248.37	4,345.22	-233.30	-588.28	1,905,074.61931	125,376.33765	36.22915	-107.52018
4,451.02	10.13	248.37	4,395.45	-236.61	-596.62	1,905,071.41998	125,367.95188	36.22914	-107.52021
Start Drop -2.00									
4,600.00	7.15	248.37	4,542.72	-244.86	-617.43	1,905,063.44088	125,347.03788	36.22912	-107.52028
4,800.00	3.15	248.37	4,741.87	-251.48	-634.12	1,905,057.03957	125,330.25940	36.22910	-107.52033
4,957.63	0.00	0.00	4,899.42	-253.08	-638.15	1,905,055.49411	125,326.20860	36.22910	-107.52035
KOP 9°/100									
5,000.00	3.81	283.20	4,941.76	-252.76	-639.52	1,905,055.83384	125,324.84076	36.22910	-107.52035
5,200.00	21.81	283.20	5,135.98	-242.67	-682.53	1,905,066.48145	125,281.97065	36.22912	-107.52050
5,400.00	39.81	283.20	5,307.04	-219.38	-781.86	1,905,091.07474	125,182.95156	36.22919	-107.52083
5,600.00	57.81	283.20	5,438.20	-185.15	-927.80	1,905,127.20634	125,037.47617	36.22928	-107.52133
5,624.30	60.00	283.20	5,450.75	-180.40	-948.05	1,905,132.22134	125,017.28447	36.22930	-107.52140
Hold 60° Inc, 283.2° Az									
5,684.30	60.00	283.20	5,480.75	-168.54	-998.64	1,905,144.74644	124,966.85509	36.22933	-107.52157
Begin 9°/100 Build									
5,800.00	70.41	283.20	5,529.20	-144.59	-1,100.76	1,905,170.03066	124,865.05464	36.22939	-107.52191
6,000.00	88.41	283.20	5,565.80	-99.88	-1,291.38	1,905,217.22525	124,675.03977	36.22952	-107.52256
6,024.75	90.64	283.20	5,566.00	-94.23	-1,315.47	1,905,223.19014	124,651.02412	36.22953	-107.52264
Landing Pt 90.64° Inc - PP Chaco 2307-13A #184									
6,200.00	90.64	283.20	5,564.04	-54.22	-1,486.08	1,905,265.43227	124,480.95026	36.22964	-107.52322
6,400.00	90.64	283.20	5,561.80	-8.56	-1,680.79	1,905,313.63949	124,286.85991	36.22977	-107.52388
6,600.00	90.64	283.20	5,559.57	37.11	-1,875.49	1,905,361.84671	124,092.76958	36.22989	-107.52454
6,800.00	90.64	283.20	5,557.33	82.77	-2,070.20	1,905,410.05394	123,898.67923	36.23002	-107.52520
7,000.00	90.64	283.20	5,555.09	128.44	-2,264.90	1,905,458.26115	123,704.58889	36.23014	-107.52586
7,200.00	90.64	283.20	5,552.86	174.10	-2,459.61	1,905,506.46838	123,510.49855	36.23027	-107.52652
7,400.00	90.64	283.20	5,550.62	219.76	-2,654.31	1,905,554.67560	123,316.40821	36.23039	-107.52718
7,600.00	90.64	283.20	5,548.38	265.43	-2,849.01	1,905,602.88283	123,122.31787	36.23052	-107.52784
7,800.00	90.64	283.20	5,546.15	311.09	-3,043.72	1,905,651.09005	122,928.22753	36.23064	-107.52850



WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well Chaco 2307-13A #184H - Slot 184H
Company:	SAN JUAN BASIN	TVD Reference:	WELL @ 7005.00usft (Original Well Elev)
Project:	SJ 13-23N-07W	MD Reference:	WELL @ 7005.00usft (Original Well Elev)
Site:	Chaco 2307-13A	North Reference:	True
Well:	Chaco 2307-13A #184H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 07Jul14 kjs		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,000.00	90.64	283.20	5,543.91	356.75	-3,238.42	1,905,699.29727	122,734.13719	36.23077	-107.52916
8,200.00	90.64	283.20	5,541.67	402.42	-3,433.13	1,905,747.50450	122,540.04685	36.23090	-107.52982
8,400.00	90.64	283.20	5,539.43	448.08	-3,627.83	1,905,795.71172	122,345.95651	36.23102	-107.53048
8,600.00	90.64	283.20	5,537.20	493.75	-3,822.54	1,905,843.91894	122,151.86617	36.23115	-107.53114
8,800.00	90.64	283.20	5,534.96	539.41	-4,017.24	1,905,892.12616	121,957.77583	36.23127	-107.53180
9,000.00	90.64	283.20	5,532.72	585.07	-4,211.95	1,905,940.33339	121,763.68549	36.23140	-107.53246
9,200.00	90.64	283.20	5,530.49	630.74	-4,406.65	1,905,988.54061	121,569.59515	36.23152	-107.53312
9,400.00	90.64	283.20	5,528.25	676.40	-4,601.35	1,906,036.74783	121,375.50481	36.23165	-107.53378
9,600.00	90.64	283.20	5,526.01	722.06	-4,796.06	1,906,084.95506	121,181.41447	36.23177	-107.53444
9,800.00	90.64	283.20	5,523.78	767.73	-4,990.76	1,906,133.16228	120,987.32413	36.23190	-107.53510
10,000.00	90.64	283.20	5,521.54	813.39	-5,185.47	1,906,181.36951	120,793.23379	36.23202	-107.53576
10,200.00	90.64	283.20	5,519.30	859.05	-5,380.17	1,906,229.57672	120,599.14345	36.23215	-107.53642
10,400.00	90.64	283.20	5,517.07	904.72	-5,574.88	1,906,277.78395	120,405.05311	36.23227	-107.53708
10,600.00	90.64	283.20	5,514.83	950.38	-5,769.58	1,906,325.99117	120,210.96277	36.23240	-107.53774
10,800.00	90.64	283.20	5,512.59	996.05	-5,964.29	1,906,374.19839	120,016.87243	36.23253	-107.53840
11,000.00	90.64	283.20	5,510.36	1,041.71	-6,158.99	1,906,422.40562	119,822.78209	36.23265	-107.53906
11,200.00	90.64	283.20	5,508.12	1,087.37	-6,353.69	1,906,470.61284	119,628.69175	36.23278	-107.53972
11,400.00	90.64	283.20	5,505.88	1,133.04	-6,548.40	1,906,518.82007	119,434.60141	36.23290	-107.54038
11,600.00	90.64	283.20	5,503.64	1,178.70	-6,743.10	1,906,567.02729	119,240.51107	36.23303	-107.54104
11,800.00	90.64	283.20	5,501.41	1,224.36	-6,937.81	1,906,615.23451	119,046.42073	36.23315	-107.54170
12,000.00	90.64	283.20	5,499.17	1,270.03	-7,132.51	1,906,663.44173	118,852.33039	36.23328	-107.54236
12,200.00	90.64	283.20	5,496.93	1,315.69	-7,327.22	1,906,711.64895	118,658.24005	36.23340	-107.54302
12,400.00	90.64	283.20	5,494.70	1,361.36	-7,521.92	1,906,759.85618	118,464.14971	36.23353	-107.54368
12,600.00	90.64	283.20	5,492.46	1,407.02	-7,716.63	1,906,808.06340	118,270.05937	36.23365	-107.54434
12,800.00	90.64	283.20	5,490.22	1,452.68	-7,911.33	1,906,856.27063	118,075.96903	36.23378	-107.54500
13,000.00	90.64	283.20	5,487.99	1,498.35	-8,106.03	1,906,904.47785	117,881.87869	36.23390	-107.54566
13,177.64	90.64	283.20	5,486.00	1,538.90	-8,278.97	1,906,947.29486	117,709.49026	36.23401	-107.54625

TD at 13177.64 - TD / PBHL Chaco 2307-13A #184

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
TD / PBHL Chaco 2307-	0.00	0.00	5,486.00	1,538.90	-8,278.97	1,906,947.29486	117,709.49026	36.23401	-107.54625
- plan hits target center									
- Point									
PP Chaco 2307-13A #184	0.00	0.00	5,566.00	-94.23	-1,315.47	1,905,223.19649	124,651.02570	36.22953	-107.52264
- plan misses target center by 0.01usft at 6024.75usft MD (5566.00 TVD, -94.23 N, -1315.47 E)									
- Point									



WPX

Planning Report - Geographic

Database: COMPASS-PICEANCE
Company: SAN JUAN BASIN
Project: SJ 13-23N-07W
Site: Chaco 2307-13A
Well: Chaco 2307-13A #184H
Wellbore: Wellbore #1
Design: Design #1 07Jul14 kjs

Local Co-ordinate Reference: Well Chaco 2307-13A #184H - Slot 184H
TVD Reference: WELL @ 7005.00usft (Original Well Elev)
MD Reference: WELL @ 7005.00usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
550.00	550.00	0.00	0.00	Start Build 2.00
1,056.61	1,053.97	-16.47	-41.53	Hold 10.13° Inc, 248.37° Az
4,451.02	4,395.45	-236.61	-596.62	Start Drop -2.00
4,957.63	4,899.42	-253.08	-638.15	KOP 9°/100
5,624.30	5,450.75	-180.40	-948.05	Hold 60° Inc, 283.2° Az
5,684.30	5,480.75	-168.54	-998.64	Begin 9°/100 Build
6,024.75	5,566.00	-94.23	-1,315.47	Landing Pt 90.64° Inc
13,177.64	5,486.00	1,538.90	-8,278.97	TD at 13177.64