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

David R. Catanach 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 3160-3 APD form.

Operator Signature Date: 7-16-15
Well information;
Operator WPX, Well Name and Number NE Chaco Com #100H
API# 30-039-31335, Section 6, Township 23 (N)/S, Range 6 E/(W)

Conditions of Approval:
(See the below checked and handwritten conditions)

- ✓ Notify Aztec OCD 24hrs prior to casing & cement.
- ✓ Hold C-104 for directional survey & "As Drilled" Plat
- ○ Hold C-104 for NSL, NSP, DHC
- ○ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ○ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
  - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
  - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
  - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- ○ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ✓ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ✓ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ✓ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

Charlie Perrin
NMOCD Approved by Signature

8-12-2015
Date

KC

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3460 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

OIL CONS. DIV DIST. 3

AUG 03 2015

Form 3160-3
(September 2001)

FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
JUL 17 2015
Farmington Field Office
Bureau of Land Management

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMSF-0078362

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No. NMNM 132829(CA)

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. NE Chaco Com #100H

2. Name of Operator: WPX Energy Production, LLC

9. API Well No. 30-039-31335

3a. Address: P.O. Box 640 Aztec, NM 87410

3b. Phone No. (include area code): (505) 333-1849

10. Field and Pool, or Exploratory: Chaco Unit NE HZ (Oil)

4. Location of Well (Report location clearly and in accordance with any State requirements. *)
At surface D 1143' FNL & 773' FWL, sec 6, T23N, R6W NWNW
At proposed prod. zone E 1,958' FNL & 1' FWL, sec 5, T23N, R6W SWNW

11. Sec., T., R., M., or Blk. and Survey or Area
Sur: Sec 6, T23N, R6W
BHL: Sec 5, T23N, R6W

14. Distance in miles and direction from nearest town or post office*: Approximately 2 miles northeast of Lybrook, New Mexico

12. County or Parish: Rio Arriba County

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 773'

16. No. of Acres in lease: 2530.37 ~~9,237.3 acres~~

17. Spacing Unit dedicated to this well: 645.28 acres

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 22'

19. Proposed Depth: 10,397' MD / 5,723' TVD

20. BLM/BIA Bond No. on file: UTB000178

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 6,979' GR

22. Approximate date work will start*: September 1, 2015

23. Estimated duration: 1 month

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name (Printed/Typed)	Date
[signature]	Andrea Felix	7/16/2015
Title: Regulatory Specialist Senior		
Approved by (Signature) [signature]	Name (Printed/Typed)	Date 7/30/15
Title AFM	Office FFO	

Application approval 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.
Conditions of approval, if any, are attached.

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 reverse)

WPX Energy Production, LLC, proposes to develop the Chaco Unit NE HZ (Oil) formation at the above described location in accordance with the attached drilling and surface use plans.

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

The well pad surface is on lease under jurisdiction of the BLM.

This location has been archaeologically surveyed by La Plata Archaeological Consultants. Copies of their report have been submitted directly to the BLM.

This well shares this location with the NE Chaco Com #176H and the NE Chaco Com #177H.

The access road is existing, no new road access is needed.

The pipeline is approved, no new pipeline approval is needed.

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

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"

NMOCD AV

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-039-31335	98088	CHACO UNIT NE HZ (OIL)

4 Property Code	5 Property Name	6 Well Number
313800	NE CHACO COM	100H

7 OGRID No.	8 Operator Name	9 Elevation
120782	WPX ENERGY PRODUCTION, LLC	6979'

10 Surface Location

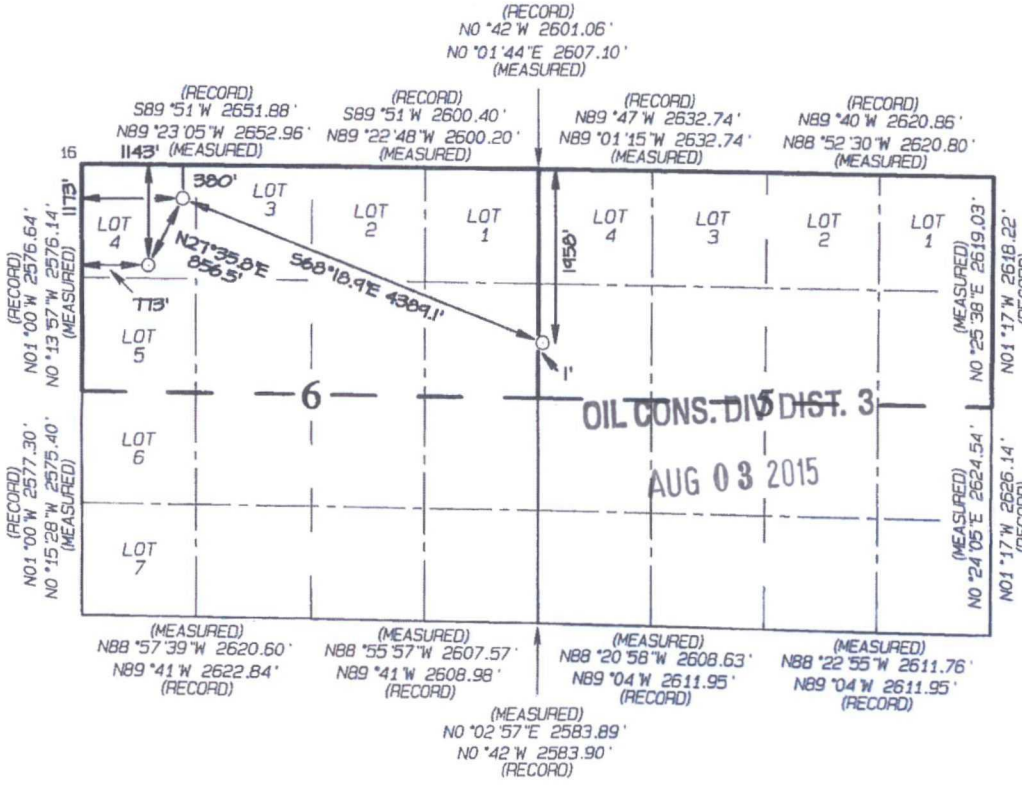
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	6	23N	6W	4	1143	NORTH	773	WEST	RIO ARRIBA

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
E	5	23N	6W		1958	NORTH	1	WEST	RIO ARRIBA

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
645.28 Acres N/2 - Sections 6 & 5			R-13817A 9,237.3 acres

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OIL CONS. DIV DIST. 3
AUG 03 2015

SURFACE LOCATION
1143' FNL 773' FWL
SECTION 6, T23N, R6W
LAT: 36.257500 °N
LONG: 107.516089 °W
DATUM: NAD1927

LAT: 36.257513 °N
LONG: 107.516695 °W
DATUM: NAD1983

POINT-OF-ENTRY
380' FNL 1773' FWL
SECTION 6, T23N, R6W
LAT: 36.259599 °N
LONG: 107.514778 °W
DATUM: NAD1927

LAT: 36.259612 °N
LONG: 107.515383 °W
DATUM: NAD1983

END-OF-LATERAL
1958' FNL 1' FWL
SECTION 5, T23N, R6W
LAT: 36.255290 °N
LONG: 107.500876 °W
DATUM: NAD1927

LAT: 36.255303 °N
LONG: 107.501481 °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 7-16-15 Date

Andrea Felix
Printed Name

andrea.felix@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: JULY 2, 2015
Survey Date: SEPTEMBER 19, 2013

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: 07/14/2015 **FIELD:** CHACO UNIT NE HZ (OIL)

WELL NAME: NE CHACO COM 100H **SURFACE:**

SH Location: NWNW Section 6 23N-06W **ELEVATION:** 6979'

BH Location: SWNW Section 5 23N-06W **MINERALS:**
Rio Arriba CO, NM

MEASURED DEPTH: 10,397'

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

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

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1579	1563	Point Lookout	4461	4382
Kirtland	1841	1819	Mancos	4695	4611
Picture Cliffs	2153	2125	Gallup	5113	5021
Lewis	2260	2229	**Kickoff Point**	**5040**	4949
Chacra	2595	2557	Top Target	5853	5602
Cliff House	3731	3668	**Landing Point**	**6164**	5680
Menefee	3765	3702	Base Target	6164	5680
			TD	10397	5723

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 ¾" 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.**

III. **MATERIALS**

A. **CASING PROGRAM:**

CASING TYPE	OH SIZE (IN)	DEPTH (MD) (FT)	CASING SIZE (IN)	WEIGHT(LB)	GRADE
Surface	12.25"	320'	9.625"	36#	J-55
Intermediate	8.75"	6,164	7"	23#	K-55
Prod. Liner	6.125"	6014' - 10397'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 6014'	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 + 1 RSI (Sliding Sleeve) 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: 5 bbl Fresh Water Spacer, 100 sx (160 cu.ft.) of 14.5 ppg Type I-II (Neat G) + 20% Fly Ash cement w/ 7.41 gal/sack mix water ratio @ 1.61 cu ft/sx yield. Calculated @ volume + 50% excess. WOC 12 hours. Test csg to 600psi. Total Volume: (160 cu-ft/100 sx/ Bbls).TOC at Surface.

2. INTERMEDIATE: 20 bbl (112 cu-ft) Mud Flush III spacer + Lead: +/- 700 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: 1001 cu-ft / 178.3 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). WOC 12 hrs. Test Casing to 1500 PSI for 30 minutes. Total Cement Volume: (900 sx / 1246 cu-ft / 222 bbls). Mix with +/- 84,000 SCF Nitrogen. TOC at surface.

3. PRODUCTION LINER: **Spacer #1:**10 bbl (56.cu-ft) Water Spacer. **Spacer #2:** 40 bbl 9.5 ppg (224.6 cu-ft) Tuned Spacer III. **Spacer #3:** 10 bbl Water Spacer. **Lead Cement:** Extencem ™ System. Yield 1.36 cu ft/sk, 13.5 ppg, (349 sx / 475 cu ft. / 85 bbls). **Tail Spacer:** 20 BBL of MMCR. **Displacement**: Displace w/ +/- 140 bbl Fr Water. Total Cement (475 cu ft / 85 bbls).

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.

- 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 with a Liner Hanger and pack-off assembly then cemented to top of liner hanger.

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. After Stimulation and Testing operations are complete the 4-1/2" tie-back string will be removed from the well.

WPX Energy

T23N R6W
Chaco 2306-06D
NE Chaco COM #100H

Wellbore #1

Plan: Design #1 9July15 sam

Standard Planning Report

10 July, 2015

WPX

Planning Report

Database:	San Juan	**Local Co-ordinate Reference:**	Well NE Chaco COM #100H
Company:	WPX Energy	**TVD Reference:**	KB @ 6993.00usft (Aztec 920)
Project:	T23N R6W	**MD Reference:**	KB @ 6993.00usft (Aztec 920)
Site:	Chaco 2306-06D	**North Reference:**	True
Well:	NE Chaco COM #100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 9July15 sam		

Project	T23N R6W		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		

Site	Chaco 2306-06D				
Site Position:		**Northing:**	1,913,146.87 usft	**Latitude:**	36.2575600
From:	Lat/Long	**Easting:**	593,494.56 usft	**Longitude:**	-107.5162200
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.20 in	**Grid Convergence:**	0.19 °

Well	NE Chaco COM #100H					
Well Position	**+N/-S**	-21.84 usft	**Northing:**	1,913,125.16 usft	**Latitude:**	36.2575000
	+E/-W	38.62 usft	**Easting:**	593,533.25 usft	**Longitude:**	-107.5160890
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	6,979.00 usft

Wellbore	Wellbore #1			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	7/9/2015	9.24	63.00	50,085

Design	Design #1 9July15 sam			
Audit Notes:				
Version:	**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.00	0.00	0.00	100.16

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	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	
450.00	0.00	0.00	450.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,048.53	11.97	351.50	1,044.19	61.61	-9.21	2.00	2.00	0.00	351.50	
5,040.09	11.97	351.50	4,948.94	880.41	-131.54	0.00	0.00	0.00	0.00	
5,777.48	60.00	110.92	5,564.37	837.07	192.47	9.00	6.51	16.19	124.57	Start 60 deg tan #100
5,837.48	60.00	110.92	5,594.37	818.52	241.01	0.00	0.00	0.00	0.00	End 60 deg tan #100H
5,997.29	74.38	110.92	5,656.16	766.05	378.24	9.00	9.00	0.00	0.00	
6,164.30	89.41	110.92	5,679.63	707.18	532.24	9.00	9.00	0.00	0.00	POE #100H
10,396.74	89.41	110.92	5,723.00	-804.13	4,485.42	0.00	0.00	0.00	0.00	BHL #100H

Database:	San Juan	**Local Co-ordinate Reference:**	Well NE Chaco COM #100H
Company:	WPX Energy	**TVD Reference:**	KB @ 6993.00usft (Aztec 920)
Project:	T23N R6W	**MD Reference:**	KB @ 6993.00usft (Aztec 920)
Site:	Chaco 2306-06D	**North Reference:**	True
Well:	NE Chaco COM #100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 9July15 sam		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320.00	0.00	0.00	320.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8" 36# J-55									
450.00	0.00	0.00	450.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
500.00	1.00	351.50	500.00	0.43	-0.06	-0.14	2.00	2.00	0.00
1,000.00	11.00	351.50	996.63	52.06	-7.78	-16.84	2.00	2.00	0.00
1,048.53	11.97	351.50	1,044.19	61.61	-9.21	-19.93	2.00	2.00	0.00
Hold 11.97 Inclination									
1,500.00	11.97	351.50	1,485.84	154.22	-23.04	-49.90	0.00	0.00	0.00
2,000.00	11.97	351.50	1,974.96	256.79	-38.37	-83.08	0.00	0.00	0.00
2,500.00	11.97	351.50	2,464.09	359.36	-53.69	-116.26	0.00	0.00	0.00
3,000.00	11.97	351.50	2,953.22	461.92	-69.02	-149.45	0.00	0.00	0.00
3,500.00	11.97	351.50	3,442.35	564.49	-84.34	-182.63	0.00	0.00	0.00
4,000.00	11.97	351.50	3,931.47	667.06	-99.67	-215.81	0.00	0.00	0.00
4,500.00	11.97	351.50	4,420.60	769.62	-114.99	-249.00	0.00	0.00	0.00
5,000.00	11.97	351.50	4,909.73	872.19	-130.32	-282.18	0.00	0.00	0.00
5,040.09	11.97	351.50	4,948.94	880.41	-131.54	-284.84	0.00	0.00	0.00
Start Build DLS 9.00 TFO 124.57									
5,500.00	35.74	102.73	5,379.44	898.81	-1.89	-160.47	9.00	5.17	24.18
5,777.48	60.00	110.92	5,564.37	837.07	192.47	41.74	9.00	8.74	2.95
Hold 60.00 Inclination									
5,837.48	60.00	110.92	5,594.37	818.52	241.01	92.79	0.00	0.00	0.00
Start Build DLS 9.00 TFO 0.00									
5,997.29	74.38	110.92	5,656.16	766.05	378.24	237.13	9.00	9.00	0.00
Start DLS 9.00 TFO 0.00									
6,000.00	74.63	110.92	5,656.88	765.12	380.68	239.69	9.00	9.00	0.00
6,164.30	89.41	110.92	5,679.63	707.18	532.24	399.10	9.00	9.00	0.00
POE at 89.41 Inc 110.92 deg - 7" 23# J-55									
6,500.00	89.41	110.92	5,683.07	587.31	845.79	728.88	0.00	0.00	0.00
7,000.00	89.41	110.92	5,688.19	408.77	1,312.80	1,220.07	0.00	0.00	0.00
7,500.00	89.41	110.92	5,693.32	230.23	1,779.81	1,711.25	0.00	0.00	0.00
8,000.00	89.41	110.92	5,698.44	51.69	2,246.82	2,202.44	0.00	0.00	0.00
8,500.00	89.41	110.92	5,703.56	-126.85	2,713.83	2,693.63	0.00	0.00	0.00
9,000.00	89.41	110.92	5,708.69	-305.38	3,180.84	3,184.81	0.00	0.00	0.00
9,500.00	89.41	110.92	5,713.81	-483.92	3,647.85	3,676.00	0.00	0.00	0.00
10,000.00	89.41	110.92	5,718.93	-662.46	4,114.86	4,167.18	0.00	0.00	0.00
10,396.74	89.41	110.92	5,723.00	-804.13	4,485.42	4,556.93	0.00	0.00	0.00
TD at 10396.74									

Database:	San Juan	**Local Co-ordinate Reference:**	Well NE Chaco COM #100H
Company:	WPX Energy	**TVD Reference:**	KB @ 6993.00usft (Aztec 920)
Project:	T23N R6W	**MD Reference:**	KB @ 6993.00usft (Aztec 920)
Site:	Chaco 2306-06D	**North Reference:**	True
Well:	NE Chaco COM #100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 9July15 sam		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Start 60 deg tan #100H - plan hits target center - Point	0.00	0.00	5,564.37	837.07	192.47	1,913,962.85	593,722.98	36.2597995	-107.5154362
End 60 deg tan #100H - plan misses target center by 0.01usft at 5837.49usft MD (5594.37 TVD, 818.51 N, 241.01 E) - Point	0.00	0.00	5,594.37	818.52	241.01	1,913,944.46	593,771.58	36.2597485	-107.5152716
POE #100H - plan hits target center - Point	0.00	0.00	5,679.63	707.18	532.24	1,913,834.08	594,063.17	36.2594427	-107.5142838
BHL #100H - plan hits target center - Point	0.00	0.00	5,723.00	-804.13	4,485.42	1,912,335.72	598,021.28	36.2552900	-107.5008760

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
320.00	320.00	9 5/8" 36# J-55	9.62	12.25
6,164.30	5,679.63	7" 23# J-55	7.00	8.75

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
450.00	450.00	0.00	0.00	Start Build 2.00
1,048.53	1,044.19	61.61	-9.21	Hold 11.97 Inclination
5,040.09	4,948.94	880.41	-131.54	Start Build DLS 9.00 TFO 124.57
5,777.48	5,564.37	837.07	192.47	Hold 60.00 Inclination
5,837.48	5,594.37	818.52	241.01	Start Build DLS 9.00 TFO 0.00
5,997.29	5,656.16	766.05	378.24	Start DLS 9.00 TFO 0.00
6,164.30	5,679.63	707.18	532.24	POE at 89.41 Inc 110.92 deg
10,396.74	5,723.00	-804.13	4,485.42	TD at 10396.74

WPXENERGY

Well Name: NE Chaco COM #100H
Surface Location: Chaco 2306-06D
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003
Ground Elevation: 6979.00

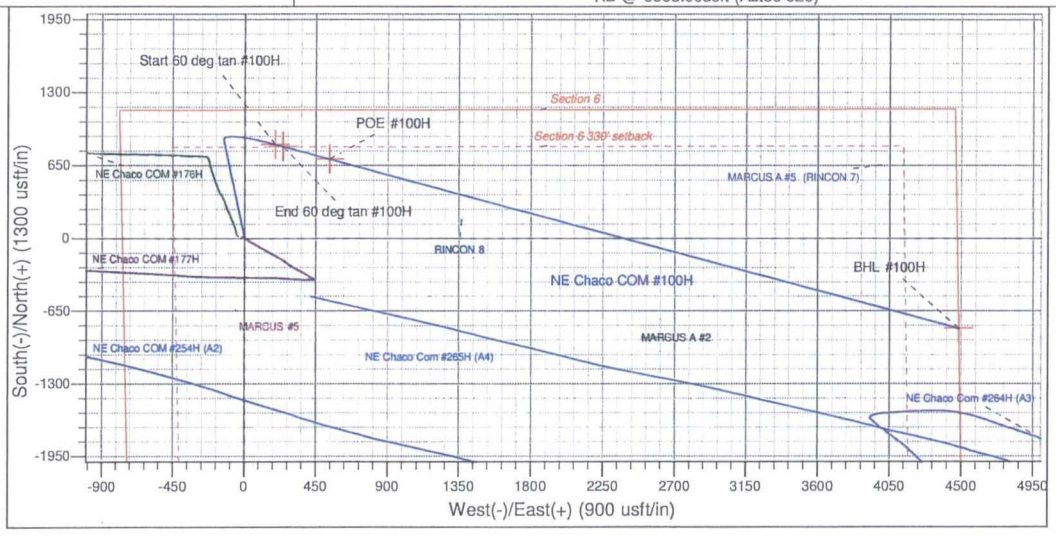
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
0.00	0.00	1913125.16	593533.25	36.2575000	-107.5160890	

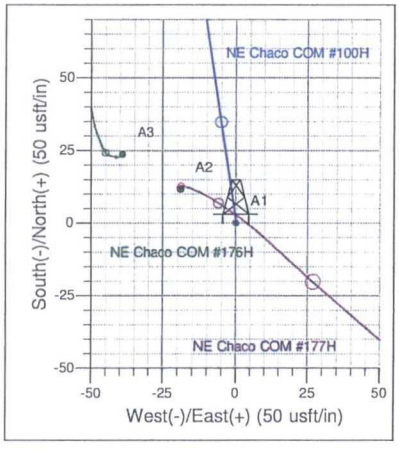
KB @ 6993.00usft (Aztec 920)

T M

Azimuths to True North
Magnetic North: 9.24°

Magnetic Field
Strength: 50084.9snT
Dip Angle: 63.00°
Date: 7/9/2015
Model: IGRF2010





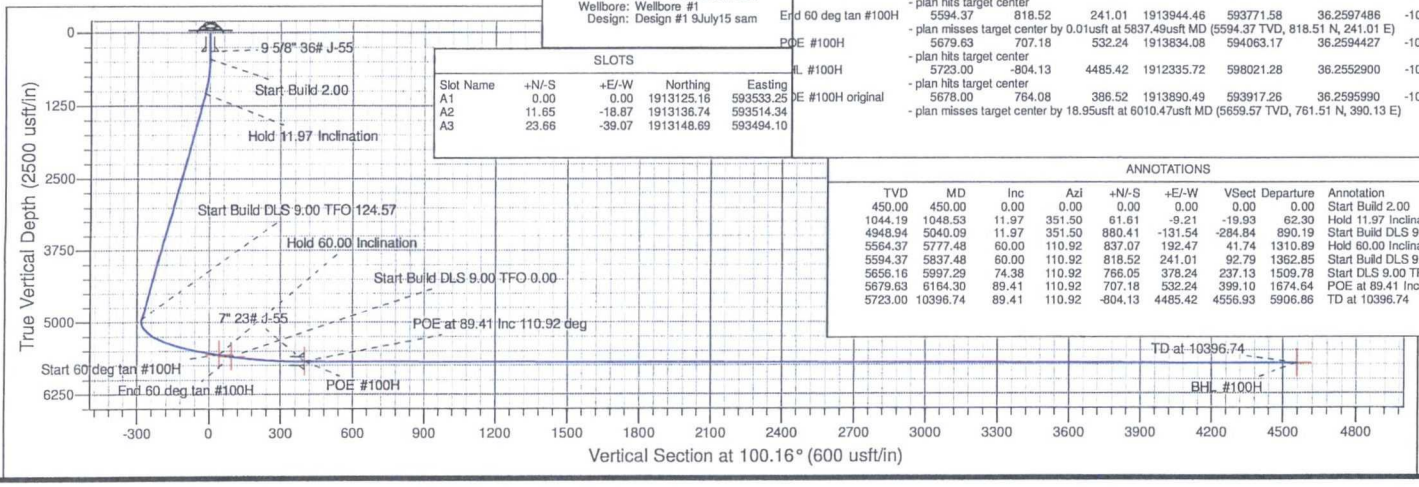
Project: T23N R6W
Site: Chaco 2306-06D
Well: NE Chaco COM #100H
Wellbore: Wellbore #1
Design: Design #1 9July15 sam

SLOTS

Slot Name	+N/-S	+E/-W	Northing	Easting
A1	0.00	0.00	1913125.16	593533.25
A2	11.65	-18.87	1913136.74	593514.34
A3	23.66	-39.07	1913148.69	593494.10

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Start 60 deg tan #100H	5564.37	837.07	192.47	1913962.85	593722.98	36.2597995	-107.5154362	Point
- plan hits target center								
End 60 deg tan #100H	5594.37	818.52	241.01	1913944.46	593771.58	36.2597486	-107.5152715	Point
- plan misses target center by 0.01usft at 5837.49usft MD (5594.37 TVD, 818.51 N, 241.01 E)								
POE #100H	5679.63	707.18	532.24	1913834.08	594063.17	36.2594427	-107.5142837	Point
- plan hits target center								
BHL #100H	5723.00	-804.13	4485.42	1912335.72	598021.28	36.2552900	-107.5008760	Point
- plan hits target center								
POE #100H original	5678.00	764.08	386.52	1913890.49	593917.26	36.2595990	-107.5147780	Point
- plan misses target center by 18.95usft at 6010.47usft MD (5659.57 TVD, 761.51 N, 390.13 E)								



ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
450.00	450.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1044.19	1048.53	11.97	351.50	61.61	-9.21	-19.93	62.30	Hold 11.97 Inclination
4948.94	5040.09	11.97	351.50	880.41	-131.54	-284.84	890.19	Start Build DLS 9.00 TFO 124.57
5564.37	5777.48	60.00	110.92	837.07	192.47	41.74	1310.89	Hold 60.00 Inclination
5594.37	5837.48	60.00	110.92	818.52	241.01	92.79	1362.85	Start Build DLS 9.00 TFO 0.00
5656.16	5997.29	74.38	110.92	766.05	378.24	237.13	1509.78	Start DLS 9.00 TFO 0.00
5679.63	6164.30	89.41	110.92	707.18	532.24	399.10	1674.64	POE at 89.41 Inc 110.92 deg
5723.00	10396.74	89.41	110.92	-804.13	4485.42	4556.93	5906.86	TD at 10396.74

7.0 Methods for Handling Waste

A. Cuttings

1. Drilling operations will utilize a closed-loop system. Drilling of the horizontal lateral will be accomplished with water-based mud. All cuttings will be placed in roll-off bins and hauled to a commercial disposal facility or land farm. WPX will follow Onshore Oil and Gas Order No. 1 regarding the placement, operation, and removal of closed-loop systems. No blow pit will be used.
2. Closed-loop tanks will be adequately sized for containment of all fluids.

B. Drilling Fluids

1. Drilling fluids will be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids will be recycled and transferred to other permitted closed-loop systems or returned to the vendor for reuse, as practical. All residual fluids will be hauled to a commercial disposal facility.

C. Spills

1. Any spills of non-freshwater fluids will be immediately cleaned up and removed to an approved disposal site.

D. Sewage

1. Portable toilets will be provided and maintained during construction, as needed (see Figure 4 in Appendix B for the location of toilets).

E. Garbage and other water material

1. All garbage and trash will be placed in a metal trash basket. The trash and garbage will be hauled off site and dumped in an approved landfill, as needed.

F. Hazardous Waste

1. No chemicals subject to reporting under Superfund Amendments and Reauthorization Act Title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of these wells.
2. No extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of these wells.
3. All fluids (i.e., scrubber cleaners) used during washing of production equipment will be properly disposed of to avoid ground contamination or hazard to livestock or wildlife.

G. Produced Water:

1. WPX Energy will dispose of produced water from this well at one of the following facilities:
    a. Lybrook Yard WDW #1, API #30-039-27533, NMOCD permit #SWD-907, operated by Elm Ridge Resources, located in NE ¼, Section 14, Township 23 North, Range 7 West
    b. Jillson Federal #1, NMOCD order #R-10168, operated by ConocoPhillips, located in NW ¼, Section 8, Township 24 North, Range 3 West
    c. Rosa Unit SWD #001, API #30-039-27055, NMOCD permit SWD-916, operated by WPX Energy, located in SE ¼, Section 23, Township 31 North, Range 6 West
    d. Rosa Unit SWD #002, API #30-039-30182, NMOCD permit SWD-1236, operated by WPX Energy, located in NW ¼, Section 25, Township 31 North, Range 5 West
    e. Basin Disposal, permit #NM-01-005, located in the NW ¼, Section 3, Township 29 North, Range 11 West

Directions from the Intersection of US Hwy 550 & US Hwy 64

in Bloomfield, NM to WPX Energy Production, LLC NE Chaco Com #100H

1143' FNL & 773' FWL, Section 6, T23N, R6W, N.M.P.M., Rio Arriba County, NM

Latitude: 36.257513°N Longitude: 107.516695°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 48.3 miles to Mile Marker 102.9;

Go Left (Northerly) on County Road #378 for 1.1 miles to fork in roadway;

Go Right (Northerly) for 0.1 miles to fork in roadway;

Go Left (North-easterly) which is straight for 1.3 miles to fork in roadway;

Go Right (Easterly) for 0.2 miles to fork in roadway;

Go Left (North-easterly) for 0.1 miles to existing access road on left-hand side which continues to staked WPX NE Chaco Com #100H location which overlaps existing WPX NE Chaco Com #176H wellpad.

3000 PSI BOP Schematic