

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: April 15, 2014

Application Type:

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

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf. Owner	UL	Sec	Twp	N/S	Rng	W/E
30-043-21188-00-00	CHACO 2306 19E	189H	WPX ENERGY PRODUCTION, LLC	O	N	Sandoval	F	E	19	23	N	6	W

Conditions of Approval:

Notify NMOCD 24hrs prior to beginning operations

Hold C-104 for directional survey, As Drilled Plat & NSL

NMOCD Approved by Signature

4-21-14

Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

JUN 05 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.
NMSF078360

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

8. Well Name and No.
Chaco 2306-19E #189H

9. API Well No.
30-043-21188

10. Field and Pool or Exploratory Area
Lybrook Gallup

11. Country or Parish, State
Sandoval, NM

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
WPX Energy Production, LLC

3a. Address
PO Box 640 Aztec, NM 87410

3b. Phone No. (include area code)
505-333-1822

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sur: 1757' FNL & 303' FWL, sec 19, T23N, R6W – BHL: 2189' FNL & 230' FWL, Sec 24, T23N, R7W

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>SHL Change</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.)

Due to a mix up in rigging up on the wrong preset surface casing on this location, WPX requests to change the surface location slightly. Attached is a revised C-102 and directional plan. Engineering/cementing will remain essentially the same as on file. This confirms verbal approval from Jim Lovatto, BLM and Charlie Perrin, NMOCD

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

OIL CONS. DIV DIST. 3
JUN 12 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 6/4/14

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Troy Salyers

Title PE

Date 6/4/2014

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 FFO

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

NMOCD

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

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

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3452

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
RECEIVED

JUN 05 2014

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-043-21188	*Pool Code 42289	*Pool Name LYBROOK GALLUP
*Property Code	*Property Name CHACO 2306-19E	*Well Number 189H
*GRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC	*Elevation 6965'

10 Surface Location

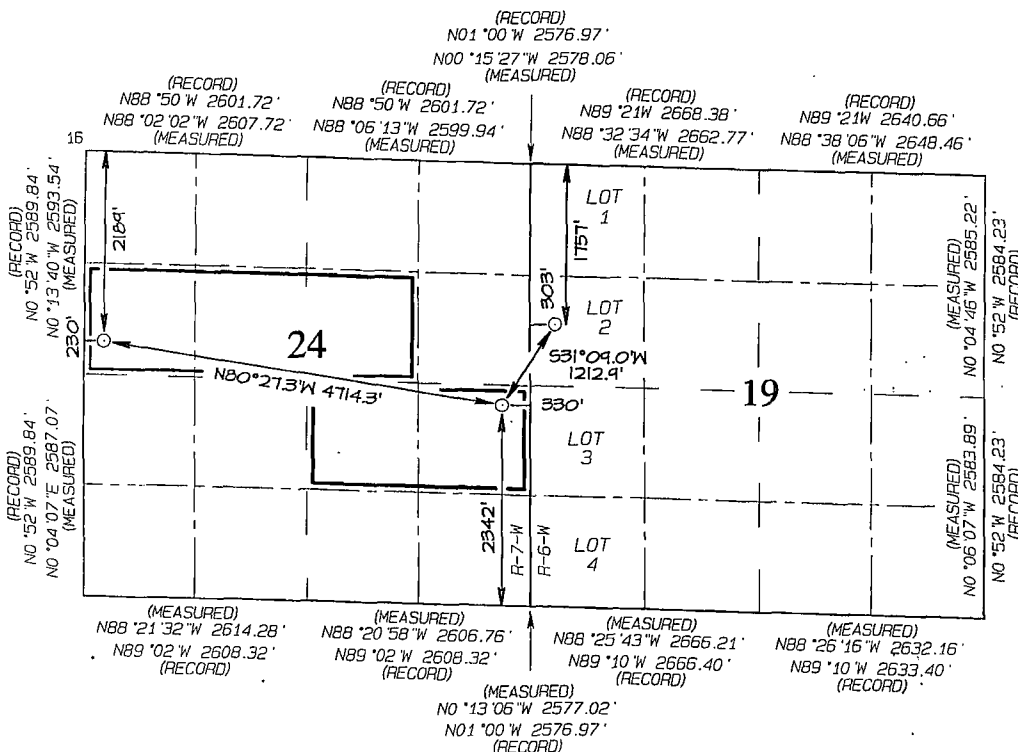
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	19	23N	6W	2	1757	NORTH	303	WEST	SANDOVAL

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	24	23N	7W		2189	NORTH	230	WEST	SANDOVAL

12 Dedicated Acres 200.0 Acres - Section 24 N/2 SE/4 - S/2 NW/4 - SW/4 NE/4	13 Joint or Infill	14 Consolidation Code	15 Order No. R-13817
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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: 6/4/14
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: JUNE 4, 2014
Date of Survey: JULY 10, 2012
Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

WPX ENERGY

Company: WPX Energy Rocky Mountain
Project: Sandoval County, NM NAD27
Site: Chaco 2306-19E
Well: Chaco 2306-19E #189H
Wellbore: OH
Design: Plan #2

PROJECT DETAILS: Sandoval County, NM NAD27

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico Central 3002
System Datum: Mean Sea Level
Local North: True



Azimuths to True North
Magnetic North: 9.45°
Magnetic Field
Strength: 50095.8nT
Dip Angle: 63.00°
Date: 5/19/2014
Model: BGM2014

WELL DETAILS: Chaco 2306-19E #189H

GL 6965' & RKB 14' @ 6979.00ft (Aztec 730)

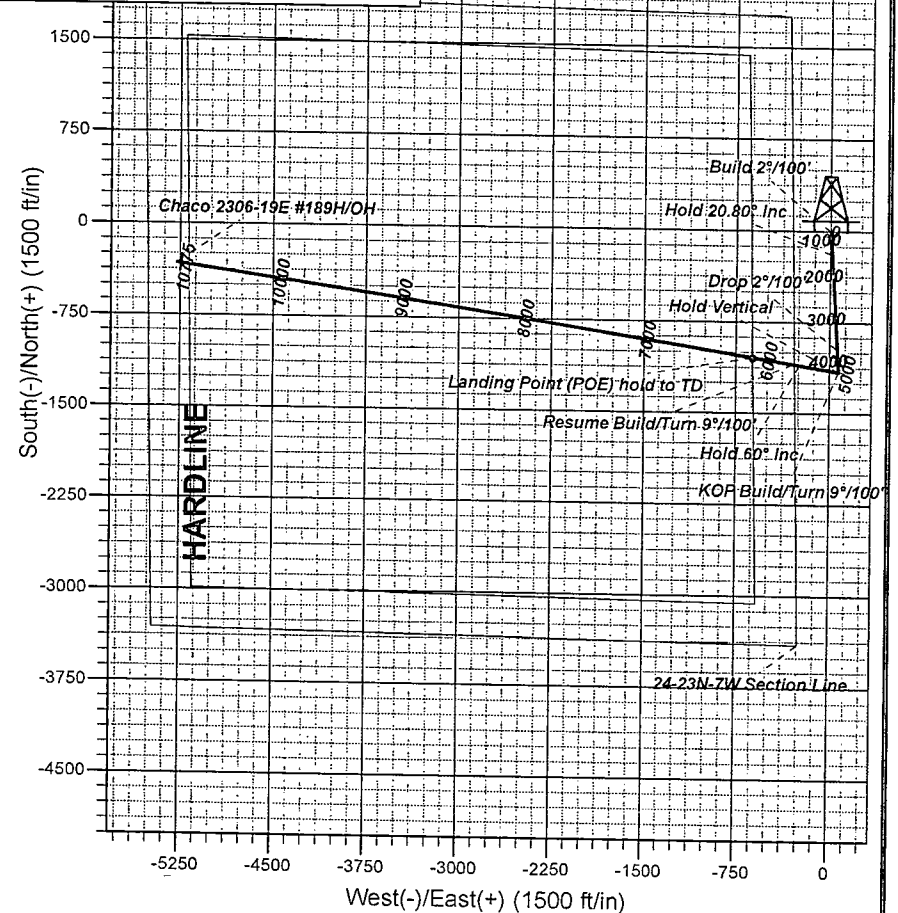
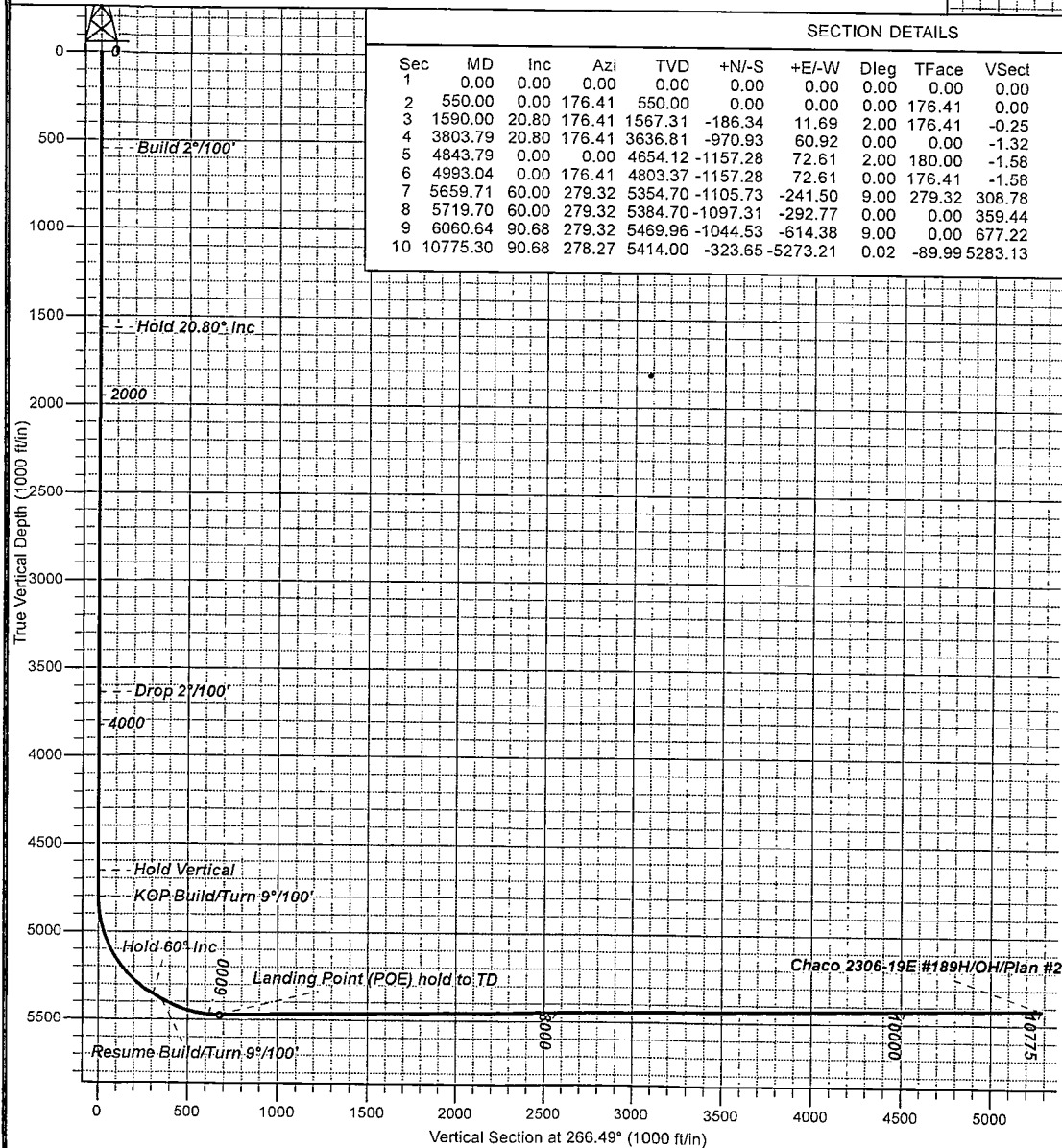
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1899309.95	126314.15	36° 12' 48.060 N	107° 31' 0.264 W

Plan: Plan #2 (Chaco 2306-19E #189H/OH)

Created By: Janie Collins Date: 10:33, May 30 2014

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	550.00	0.00	176.41	550.00	0.00	0.00	0.00	176.41	0.00		Build 2°/100'
3	1590.00	20.80	176.41	1567.31	-186.34	11.69	2.00	176.41	-0.25		Hold 20.80° Inc
4	3803.79	20.80	176.41	3636.81	-970.93	60.92	0.00	0.00	-1.32		Drop 2°/100'
5	4843.79	0.00	0.00	4654.12	-1157.28	72.61	2.00	180.00	-1.58		Hold Vertical
6	4993.04	0.00	176.41	4803.37	-1157.28	72.61	0.00	176.41	-1.58		KOP Build/Turn 9°/100'
7	5659.71	60.00	279.32	5354.70	-1105.73	-241.50	9.00	279.32	308.78		Hold 60° Inc
8	5719.70	60.00	279.32	5384.70	-1097.31	-292.77	0.00	0.00	359.44		Resume Build/Turn 9°/100'
9	6060.64	90.68	279.32	5469.96	-1044.53	-614.38	9.00	0.00	677.22		Landing Point (POE) hold to TD
10	10775.30	90.68	278.27	5414.00	-323.65	-5273.21	0.02	-89.99	5283.13		Chaco 2306-19E #189H BHL



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Chaco 2306-19E #189H
Company:	WPX Energy Rocky Mountain, LLC	TVD Reference:	GL 6965' & RKB 14' @ 6979.00ft (Aztec 730)
Project:	Sandoval County, NM NAD27	MD Reference:	GL 6965' & RKB 14' @ 6979.00ft (Aztec 730)
Site:	Chaco 2306-19E	North Reference:	True
Well:	Chaco 2306-19E #189H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Project	Sandoval County, NM NAD27		
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 2306-19E		
Site Position:		Northing:	1,899,266.26 usft
From:	Lat/Long	Easting:	126,313.58 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	36° 12' 47.628 N
		Longitude:	107° 31' 0.264 W
		Grid Convergence:	-0.75 °

Well	Chaco 2306-19E #189H		
Well Position	+N/-S	0.00 ft	Northing: 1,899,309.95 usft
	+E/-W	0.00 ft	Easting: 126,314.15 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	36° 12' 48.060 N
		Longitude:	107° 31' 0.264 W
		Ground Level:	6,965.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	5/19/2014	9.45	63.00	50,096

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	266.49

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	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	176.41	550.00	0.00	0.00	0.00	0.00	0.00	176.41	
1,590.00	20.80	176.41	1,567.31	-186.34	11.69	2.00	2.00	0.00	176.41	
3,803.79	20.80	176.41	3,636.81	-970.93	60.92	0.00	0.00	0.00	0.00	
4,843.79	0.00	0.00	4,654.12	-1,157.28	72.61	2.00	-2.00	0.00	180.00	
4,993.04	0.00	176.41	4,803.37	-1,157.28	72.61	0.00	0.00	0.00	176.41	
5,659.71	60.00	279.32	5,354.70	-1,105.73	-241.50	9.00	9.00	0.00	279.32	
5,719.70	60.00	279.32	5,384.70	-1,097.31	-292.77	0.00	0.00	0.00	0.00	
6,060.64	90.68	279.32	5,469.96	-1,044.53	-614.38	9.00	9.00	0.00	0.00	
10,775.30	90.68	278.27	5,414.00	-323.65	-5,273.21	0.02	0.00	-0.02	-89.99	Chaco 2306-19E #189H

Database: Grand Junction District
Company: WPX Energy Rocky Mountain, LLC
Project: Sandoval County, NM NAD27
Site: Chaco 2306-19E
Well: Chaco 2306-19E #189H
Wellbore: OH
Design: Plan #2

Local Co-ordinate Reference: Well Chaco 2306-19E #189H
TVD Reference: GL 6965' & RKB 14' @ 6979.00ft (Aztec 730)
MD Reference: GL 6965' & RKB 14' @ 6979.00ft (Aztec 730)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,899,309.95	126,314.15	36° 12' 48.060 N	107° 31' 0.264 W
100.00	0.00	176.41	100.00	0.00	0.00	1,899,309.95	126,314.15	36° 12' 48.060 N	107° 31' 0.264 W
200.00	0.00	176.41	200.00	0.00	0.00	1,899,309.95	126,314.15	36° 12' 48.060 N	107° 31' 0.264 W
300.00	0.00	176.41	300.00	0.00	0.00	1,899,309.95	126,314.15	36° 12' 48.060 N	107° 31' 0.264 W
400.00	0.00	176.41	400.00	0.00	0.00	1,899,309.95	126,314.15	36° 12' 48.060 N	107° 31' 0.264 W
500.00	0.00	176.41	500.00	0.00	0.00	1,899,309.95	126,314.15	36° 12' 48.060 N	107° 31' 0.264 W
550.00	0.00	176.41	550.00	0.00	0.00	1,899,309.95	126,314.15	36° 12' 48.060 N	107° 31' 0.264 W
Build 2°/100'									
600.00	1.00	176.41	600.00	-0.44	0.03	1,899,309.51	126,314.17	36° 12' 48.056 N	107° 31' 0.264 W
700.00	3.00	176.41	699.93	-3.92	0.25	1,899,306.03	126,314.34	36° 12' 48.021 N	107° 31' 0.261 W
800.00	5.00	176.41	799.68	-10.88	0.68	1,899,299.06	126,314.69	36° 12' 47.952 N	107° 31' 0.256 W
900.00	7.00	176.41	899.13	-21.31	1.34	1,899,288.62	126,315.21	36° 12' 47.849 N	107° 31' 0.248 W
1,000.00	9.00	176.41	998.15	-35.20	2.21	1,899,274.72	126,315.90	36° 12' 47.712 N	107° 31' 0.237 W
1,100.00	11.00	176.41	1,096.63	-52.53	3.30	1,899,257.38	126,316.76	36° 12' 47.541 N	107° 31' 0.224 W
1,200.00	13.00	176.41	1,194.44	-73.28	4.60	1,899,236.61	126,317.79	36° 12' 47.335 N	107° 31' 0.208 W
1,300.00	15.00	176.41	1,291.46	-97.42	6.11	1,899,212.45	126,318.99	36° 12' 47.097 N	107° 31' 0.189 W
1,400.00	17.00	176.41	1,387.58	-124.93	7.84	1,899,184.92	126,320.35	36° 12' 46.825 N	107° 31' 0.168 W
1,500.00	19.00	176.41	1,482.68	-155.77	9.77	1,899,154.06	126,321.89	36° 12' 46.520 N	107° 31' 0.145 W
1,590.00	20.80	176.41	1,567.31	-186.34	11.69	1,899,123.47	126,323.40	36° 12' 46.217 N	107° 31' 0.121 W
Hold 20.80° Inc									
1,600.00	20.80	176.41	1,576.65	-189.89	11.91	1,899,119.92	126,323.58	36° 12' 46.182 N	107° 31' 0.119 W
1,700.00	20.80	176.41	1,670.14	-225.33	14.14	1,899,084.45	126,325.34	36° 12' 45.832 N	107° 31' 0.092 W
1,800.00	20.80	176.41	1,763.62	-260.77	16.36	1,899,048.99	126,327.10	36° 12' 45.481 N	107° 31' 0.064 W
1,900.00	20.80	176.41	1,857.10	-296.21	18.58	1,899,013.52	126,328.86	36° 12' 45.131 N	107° 31' 0.037 W
2,000.00	20.80	176.41	1,950.59	-331.65	20.81	1,898,978.05	126,330.62	36° 12' 44.780 N	107° 31' 0.010 W
2,100.00	20.80	176.41	2,044.07	-367.09	23.03	1,898,942.59	126,332.38	36° 12' 44.430 N	107° 30' 59.983 W
2,200.00	20.80	176.41	2,137.55	-402.53	25.25	1,898,907.12	126,334.14	36° 12' 44.080 N	107° 30' 59.956 W
2,300.00	20.80	176.41	2,231.03	-437.98	27.48	1,898,871.65	126,335.90	36° 12' 43.729 N	107° 30' 59.929 W
2,400.00	20.80	176.41	2,324.52	-473.42	29.70	1,898,836.18	126,337.66	36° 12' 43.379 N	107° 30' 59.902 W
2,500.00	20.80	176.41	2,418.00	-508.86	31.93	1,898,800.72	126,339.42	36° 12' 43.028 N	107° 30' 59.874 W
2,600.00	20.80	176.41	2,511.48	-544.30	34.15	1,898,765.25	126,341.18	36° 12' 42.678 N	107° 30' 59.847 W
2,700.00	20.80	176.41	2,604.96	-579.74	36.37	1,898,729.78	126,342.94	36° 12' 42.327 N	107° 30' 59.820 W
2,800.00	20.80	176.41	2,698.45	-615.18	38.60	1,898,694.32	126,344.70	36° 12' 41.977 N	107° 30' 59.793 W
2,900.00	20.80	176.41	2,791.93	-650.62	40.82	1,898,658.85	126,346.47	36° 12' 41.626 N	107° 30' 59.766 W
3,000.00	20.80	176.41	2,885.41	-686.06	43.04	1,898,623.38	126,348.23	36° 12' 41.276 N	107° 30' 59.739 W
3,100.00	20.80	176.41	2,978.89	-721.50	45.27	1,898,587.92	126,349.99	36° 12' 40.926 N	107° 30' 59.712 W
3,200.00	20.80	176.41	3,072.38	-756.94	47.49	1,898,552.45	126,351.75	36° 12' 40.575 N	107° 30' 59.685 W
3,300.00	20.80	176.41	3,165.86	-792.39	49.71	1,898,516.98	126,353.51	36° 12' 40.225 N	107° 30' 59.657 W
3,400.00	20.80	176.41	3,259.34	-827.83	51.94	1,898,481.51	126,355.27	36° 12' 39.874 N	107° 30' 59.630 W
3,500.00	20.80	176.41	3,352.82	-863.27	54.16	1,898,446.05	126,357.03	36° 12' 39.524 N	107° 30' 59.603 W
3,600.00	20.80	176.41	3,446.31	-898.71	56.38	1,898,410.58	126,358.79	36° 12' 39.173 N	107° 30' 59.576 W
3,700.00	20.80	176.41	3,539.79	-934.15	58.61	1,898,375.11	126,360.55	36° 12' 38.823 N	107° 30' 59.549 W
3,800.00	20.80	176.41	3,633.27	-969.59	60.83	1,898,339.65	126,362.31	36° 12' 38.472 N	107° 30' 59.522 W
3,803.79	20.80	176.41	3,636.81	-970.93	60.92	1,898,338.30	126,362.38	36° 12' 38.459 N	107° 30' 59.521 W
Drop 2°/100'									
3,900.00	18.88	176.41	3,727.31	-1,003.52	62.96	1,898,305.69	126,363.99	36° 12' 38.137 N	107° 30' 59.496 W
4,000.00	16.88	176.41	3,822.48	-1,034.15	64.88	1,898,275.04	126,365.52	36° 12' 37.834 N	107° 30' 59.472 W
4,100.00	14.88	176.41	3,918.66	-1,061.45	66.59	1,898,247.72	126,366.87	36° 12' 37.564 N	107° 30' 59.451 W
4,200.00	12.88	176.41	4,015.74	-1,085.39	68.10	1,898,223.77	126,368.06	36° 12' 37.327 N	107° 30' 59.433 W
4,300.00	10.88	176.41	4,113.59	-1,105.92	69.39	1,898,203.21	126,369.08	36° 12' 37.124 N	107° 30' 59.417 W
4,400.00	8.88	176.41	4,212.10	-1,123.04	70.46	1,898,186.09	126,369.93	36° 12' 36.955 N	107° 30' 59.404 W
4,500.00	6.88	176.41	4,311.16	-1,136.72	71.32	1,898,172.40	126,370.61	36° 12' 36.820 N	107° 30' 59.394 W
4,600.00	4.88	176.41	4,410.62	-1,146.93	71.96	1,898,162.18	126,371.12	36° 12' 36.719 N	107° 30' 59.386 W
4,700.00	2.88	176.41	4,510.39	-1,153.68	72.38	1,898,155.43	126,371.45	36° 12' 36.652 N	107° 30' 59.381 W

Database: Grand Junction District
Company: WPX Energy Rocky Mountain, LLC
Project: Sandoval County, NM NAD27
Site: Chaco 2306-19E
Well: Chaco 2306-19E #189H
Wellbore: OH
Design: Plan #2

Local Co-ordinate Reference: Well Chaco 2306-19E #189H
TVD Reference: GL 6965' & RKB 14' @ 6979.00ft (Aztec 730)
MD Reference: GL 6965' & RKB 14' @ 6979.00ft (Aztec 730)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,800.00	0.88	176.41	4,610.33	-1,156.94	72.59	1,898,152.16	126,371.61	36° 12' 36.620 N	107° 30' 59.378 W
4,843.61	0.00	176.41	4,653.94	-1,157.28	72.61	1,898,151.82	126,371.63	36° 12' 36.616 N	107° 30' 59.378 W
Hold Vertical									
4,843.79	0.00	0.00	4,654.12	-1,157.28	72.61	1,898,151.82	126,371.63	36° 12' 36.616 N	107° 30' 59.378 W
4,900.00	0.00	176.41	4,710.33	-1,157.28	72.61	1,898,151.82	126,371.63	36° 12' 36.616 N	107° 30' 59.378 W
4,993.04	0.00	176.41	4,803.37	-1,157.28	72.61	1,898,151.82	126,371.63	36° 12' 36.616 N	107° 30' 59.378 W
KOP Build/Turn 9°/100'									
5,000.00	0.63	279.32	4,810.33	-1,157.27	72.57	1,898,151.83	126,371.59	36° 12' 36.616 N	107° 30' 59.379 W
5,100.00	9.63	279.32	4,909.83	-1,155.83	63.76	1,898,153.39	126,362.80	36° 12' 36.631 N	107° 30' 59.486 W
5,200.00	18.63	279.32	5,006.70	-1,151.88	39.70	1,898,157.65	126,338.80	36° 12' 36.670 N	107° 30' 59.780 W
5,300.00	27.63	279.32	5,098.57	-1,145.52	0.98	1,898,164.51	126,300.17	36° 12' 36.733 N	107° 31' 0.252 W
5,400.00	36.63	279.32	5,183.17	-1,136.92	-51.44	1,898,173.80	126,247.86	36° 12' 36.818 N	107° 31' 0.892 W
5,500.00	45.63	279.32	5,258.42	-1,126.28	-116.28	1,898,185.29	126,183.17	36° 12' 36.923 N	107° 31' 1.683 W
5,600.00	54.63	279.32	5,322.47	-1,113.86	-191.93	1,898,198.69	126,107.68	36° 12' 37.046 N	107° 31' 2.606 W
5,659.71	60.00	279.32	5,354.70	-1,105.73	-241.50	1,898,207.47	126,058.22	36° 12' 37.126 N	107° 31' 3.211 W
Hold 60° Inc									
5,700.00	60.00	279.32	5,374.85	-1,100.08	-275.94	1,898,213.57	126,023.87	36° 12' 37.182 N	107° 31' 3.631 W
5,719.70	60.00	279.32	5,384.70	-1,097.31	-292.77	1,898,216.55	126,007.07	36° 12' 37.209 N	107° 31' 3.836 W
Resume Build/Turn 9°/100'									
5,800.00	67.23	279.32	5,420.36	-1,085.67	-363.71	1,898,229.12	125,936.29	36° 12' 37.324 N	107° 31' 4.702 W
5,900.00	76.22	279.32	5,451.69	-1,070.31	-457.31	1,898,245.70	125,842.89	36° 12' 37.476 N	107° 31' 5.844 W
6,000.00	85.22	279.32	5,467.79	-1,054.34	-554.60	1,898,262.94	125,745.82	36° 12' 37.634 N	107° 31' 7.031 W
6,053.56	90.04	279.32	5,470.00	-1,045.68	-607.40	1,898,272.29	125,693.14	36° 12' 37.720 N	107° 31' 7.675 W
Chaco 2306-19E #189H POE									
6,060.64	90.68	279.32	5,469.96	-1,044.53	-614.38	1,898,273.53	125,686.17	36° 12' 37.731 N	107° 31' 7.760 W
Landing Point (POE) hold to TD									
6,100.00	90.68	279.31	5,469.49	-1,038.16	-653.22	1,898,280.41	125,647.42	36° 12' 37.794 N	107° 31' 8.234 W
6,200.00	90.68	279.29	5,468.30	-1,022.00	-751.90	1,898,297.86	125,548.96	36° 12' 37.954 N	107° 31' 9.438 W
6,300.00	90.68	279.27	5,467.11	-1,005.88	-850.58	1,898,315.27	125,450.50	36° 12' 38.113 N	107° 31' 10.642 W
6,400.00	90.68	279.24	5,465.93	-989.80	-949.28	1,898,332.64	125,352.03	36° 12' 38.272 N	107° 31' 11.846 W
6,500.00	90.68	279.22	5,464.74	-973.75	-1,047.97	1,898,349.97	125,253.55	36° 12' 38.431 N	107° 31' 13.051 W
6,600.00	90.68	279.20	5,463.55	-957.75	-1,146.68	1,898,367.26	125,155.06	36° 12' 38.589 N	107° 31' 14.255 W
6,700.00	90.68	279.18	5,462.37	-941.78	-1,245.39	1,898,384.52	125,056.57	36° 12' 38.747 N	107° 31' 15.459 W
6,800.00	90.68	279.16	5,461.18	-925.85	-1,344.10	1,898,401.74	124,958.07	36° 12' 38.905 N	107° 31' 16.664 W
6,900.00	90.68	279.13	5,459.99	-909.96	-1,442.82	1,898,418.92	124,859.56	36° 12' 39.062 N	107° 31' 17.868 W
7,000.00	90.68	279.11	5,458.81	-894.11	-1,541.55	1,898,436.06	124,761.05	36° 12' 39.218 N	107° 31' 19.073 W
7,100.00	90.68	279.09	5,457.62	-878.29	-1,640.29	1,898,453.16	124,662.53	36° 12' 39.375 N	107° 31' 20.278 W
7,200.00	90.68	279.07	5,456.43	-862.51	-1,739.03	1,898,470.23	124,564.01	36° 12' 39.531 N	107° 31' 21.483 W
7,300.00	90.68	279.04	5,455.25	-846.78	-1,837.77	1,898,487.25	124,465.47	36° 12' 39.686 N	107° 31' 22.687 W
7,400.00	90.68	279.02	5,454.06	-831.08	-1,936.53	1,898,504.24	124,366.93	36° 12' 39.841 N	107° 31' 23.892 W
7,500.00	90.68	279.00	5,452.87	-815.41	-2,035.29	1,898,521.19	124,268.39	36° 12' 39.996 N	107° 31' 25.097 W
7,600.00	90.68	278.98	5,451.69	-799.79	-2,134.05	1,898,538.10	124,169.84	36° 12' 40.151 N	107° 31' 26.303 W
7,700.00	90.68	278.96	5,450.50	-784.21	-2,232.82	1,898,554.98	124,071.28	36° 12' 40.305 N	107° 31' 27.508 W
7,800.00	90.68	278.93	5,449.31	-768.66	-2,331.60	1,898,571.81	123,972.71	36° 12' 40.458 N	107° 31' 28.713 W
7,900.00	90.68	278.91	5,448.13	-753.15	-2,430.38	1,898,588.61	123,874.14	36° 12' 40.612 N	107° 31' 29.918 W
8,000.00	90.68	278.89	5,446.94	-737.68	-2,529.17	1,898,605.37	123,775.56	36° 12' 40.764 N	107° 31' 31.124 W
8,100.00	90.68	278.87	5,445.75	-722.25	-2,627.97	1,898,622.09	123,676.98	36° 12' 40.917 N	107° 31' 32.329 W
8,200.00	90.68	278.84	5,444.56	-706.86	-2,726.77	1,898,638.77	123,578.39	36° 12' 41.069 N	107° 31' 33.535 W
8,300.00	90.68	278.82	5,443.38	-691.50	-2,825.57	1,898,655.42	123,479.79	36° 12' 41.221 N	107° 31' 34.740 W
8,400.00	90.68	278.80	5,442.19	-676.19	-2,924.39	1,898,672.02	123,381.18	36° 12' 41.372 N	107° 31' 35.946 W
8,500.00	90.68	278.78	5,441.00	-660.91	-3,023.21	1,898,688.59	123,282.57	36° 12' 41.523 N	107° 31' 37.152 W
8,600.00	90.68	278.76	5,439.82	-645.67	-3,122.03	1,898,705.12	123,183.96	36° 12' 41.674 N	107° 31' 38.357 W
8,700.00	90.68	278.73	5,438.63	-630.47	-3,220.86	1,898,721.61	123,085.33	36° 12' 41.824 N	107° 31' 39.563 W
8,800.00	90.68	278.71	5,437.44	-615.30	-3,319.70	1,898,738.07	122,986.70	36° 12' 41.974 N	107° 31' 40.769 W

Database:	Grand Junction District	Local Co-ordinate Reference:	Well Chaco 2306-19E #189H
Company:	WPX Energy Rocky Mountain, LLC	TVD Reference:	GL 6965' & RKB 14' @ 6979.00ft (Aztec 730)
Project:	Sandoval County, NM NAD27	MD Reference:	GL 6965' & RKB 14' @ 6979.00ft (Aztec 730)
Site:	Chaco 2306-19E	North Reference:	True
Well:	Chaco 2306-19E #189H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,900.00	90.68	278.69	5,436.26	-600.18	-3,418.54	1,898,754.48	122,888.07	36° 12' 42.123 N	107° 31' 41.975 W
9,000.00	90.68	278.67	5,435.07	-585.09	-3,517.39	1,898,770.86	122,789.42	36° 12' 42.272 N	107° 31' 43.182 W
9,100.00	90.68	278.64	5,433.88	-570.04	-3,616.24	1,898,787.20	122,690.78	36° 12' 42.421 N	107° 31' 44.388 W
9,200.00	90.68	278.62	5,432.70	-555.03	-3,715.10	1,898,803.50	122,592.12	36° 12' 42.569 N	107° 31' 45.594 W
9,300.00	90.68	278.60	5,431.51	-540.06	-3,813.97	1,898,819.76	122,493.46	36° 12' 42.717 N	107° 31' 46.800 W
9,400.00	90.68	278.58	5,430.32	-525.13	-3,912.84	1,898,835.98	122,394.79	36° 12' 42.865 N	107° 31' 48.007 W
9,500.00	90.68	278.56	5,429.14	-510.23	-4,011.72	1,898,852.17	122,296.12	36° 12' 43.012 N	107° 31' 49.213 W
9,600.00	90.68	278.53	5,427.95	-495.38	-4,110.60	1,898,868.31	122,197.44	36° 12' 43.159 N	107° 31' 50.420 W
9,700.00	90.68	278.51	5,426.76	-480.56	-4,209.49	1,898,884.42	122,098.75	36° 12' 43.305 N	107° 31' 51.626 W
9,800.00	90.68	278.49	5,425.58	-465.78	-4,308.38	1,898,900.49	122,000.06	36° 12' 43.451 N	107° 31' 52.833 W
9,900.00	90.68	278.47	5,424.39	-451.04	-4,407.28	1,898,916.52	121,901.36	36° 12' 43.597 N	107° 31' 54.040 W
10,000.00	90.68	278.44	5,423.20	-436.34	-4,506.19	1,898,932.52	121,802.65	36° 12' 43.742 N	107° 31' 55.247 W
10,100.00	90.68	278.42	5,422.01	-421.67	-4,605.10	1,898,948.47	121,703.94	36° 12' 43.887 N	107° 31' 56.454 W
10,200.00	90.68	278.40	5,420.83	-407.05	-4,704.02	1,898,964.39	121,605.22	36° 12' 44.031 N	107° 31' 57.661 W
10,300.00	90.68	278.38	5,419.64	-392.46	-4,802.94	1,898,980.27	121,506.50	36° 12' 44.175 N	107° 31' 58.868 W
10,400.00	90.68	278.36	5,418.45	-377.91	-4,901.87	1,898,996.11	121,407.77	36° 12' 44.319 N	107° 32' 0.075 W
10,500.00	90.68	278.33	5,417.27	-363.40	-5,000.81	1,899,011.91	121,309.03	36° 12' 44.462 N	107° 32' 1.282 W
10,600.00	90.68	278.31	5,416.08	-348.93	-5,099.75	1,899,027.67	121,210.29	36° 12' 44.605 N	107° 32' 2.489 W
10,700.00	90.68	278.29	5,414.89	-334.49	-5,198.69	1,899,043.40	121,111.54	36° 12' 44.748 N	107° 32' 3.697 W
10,775.30	90.68	278.27	5,414.00	-323.65	-5,273.21	1,899,055.22	121,037.18	36° 12' 44.855 N	107° 32' 4.606 W

Chaco 2306-19E #189H BHL

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Chaco 2306-19E #189H	0.00	0.00	5,414.00	-323.65	-5,273.21	1,899,055.22	121,037.18	36° 12' 44.855 N	107° 32' 4.606 W
- plan hits target center									
- Point									
Chaco 2306-19E #189H	0.00	0.00	5,470.00	-1,088.07	-614.35	1,898,229.99	125,685.64	36° 12' 37.301 N	107° 31' 7.760 W
- plan misses target center by 42.96ft at 6053.56ft MD (5470.00 TVD, -1045.68 N, -607.39 E)									
- Point									

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
550.00	550.00	0.00	0.00	Build 2°/100'
1,590.00	1,567.31	-186.34	11.69	Hold 20.80° Inc
3,803.79	3,636.81	-970.93	60.92	Drop 2°/100'
4,843.61	4,653.94	-1,157.28	72.61	Hold Vertical
4,993.04	4,803.37	-1,157.28	72.61	KOP Build/Turn 9°/100'
5,659.71	5,354.70	-1,105.73	-241.50	Hold 60° Inc
5,719.70	5,384.70	-1,097.31	-292.77	Resume Build/Turn 9°/100'
6,060.64	5,469.96	-1,044.53	-614.38	Landing Point (POE) hold to TD