

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 3160-4 or 3160-5 form.

Operator Signature Date: 10/8/2015

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E
30-043-21245-00-00	S CHACO UNIT	2471 9614	WPX ENERGY PRODUCTION, LLC	O	N	Sandoval	F	A	2	22	N	7	W

Drilling/Casing Change

Conditions of Approval:

(See the below checked and additional 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

☐ Ensure compliance with 19.15.17

☐ 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.

Additional requirements

NMOCD Approved by Signature

10/27/15
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

OCT 08 2015

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.

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

OIL CONS. DIV DIST. 3

2. Name of Operator

WPX Energy Production, LLC

OCT 26 2015

3a. Address

PO Box 640 Aztec, NM 87410

3b. Phone No. (include area code)

505-333-1808

4. Location of Well (Footage/Sec., T., R., M., or Survey Description)

SHL: 1371' FNL & 200' FWL SEC 2 T22N 7W
BHL: 2083' FSL & 330' FWL SEC 35 T23N 7W

5. Lease Serial No.

NO-G-1311-1795

6. If Indian, Allottee or Tribe Name

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

NMNM133321X

8. Well Name and No.

S. Chaco UT #907H

9. API Well No.

30-043-21245

10. Field and Pool or Exploratory Area

Lybrook Gallup

11. Country or Parish, State

Sandoval, 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
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Name & Lateral Change
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

WPX Energy request to change well name from S. Chaco UT #347H to S. Chaco UT #907H. The lateral will also, change on the Directional Drill & OPS plan.

Attached: C-102, Directional Drill & OPS Plan.

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations.

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)

Marie E. Jaramillo

Title Permit Tech

Signature

Date 10/8/10

Approved by

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Title

PE

Date

10/21/15

Office

FFO

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.

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.

NMOCDAV



WPX Energy

Operations Plan

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

<u>DATE:</u>	October 20, 2015	<u>FIELD:</u>	Basin Mancos
<u>WELL NAME:</u>	S Chaco UT 907H	<u>SURFACE:</u>	Indian Allotted
<u>SH Location:</u>	SENE Sec 2-22N-07W	<u>ELEVATION:</u>	7034' GR
<u>BH Location:</u>	NWSW Sec 35-23N-07W	<u>MINERALS:</u>	Indian Allotted

MEASURED DEPTH: 11,860.05

I. GEOLOGY: SURFACE FORMATION - NACIMIENTO

A. FORMATION TOPS (KB)

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	1252	1243	POINT LOOKOUT	4256	4027
KIRTLAND	1534	1512	MANCOS	4440	4197
PICTURED CLIFFS	1867	1820	GALLUP	4812	4557
LEWIS	5079	4786	KICKOFF POINT	4,416.28	4,174.91
CHACRA	2188	2116	TOP TARGET	8771	5057
CLIFF HOUSE	3384	3221	LANDING POINT	5,682.95	5,037.00
MENEFEE	3415	3250	BASE TARGET	5,682.95	5,037.00
			TD	11,860.05	5,077.00

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.**

III. MATERIALS

A. CASING PROGRAM:

CASING TYPE	OH SIZE (IN)	DEPTH (MD)	CSG SIZE	WEIGHT	GRADE
SURFACE	12.25"	365'	9.625"	36 LBS	J-55 - STC
INTERMEDIATE	8.75"	5,682.95	7"	23 LBS	J-55 - LTC
PRODUCTION	6.125"	5532.95 - 11,860.05	4.5"	11.6 LBS	P-110 - LTC
TIE BACK	6.125	Surf. - 5532.95	4.5"	11.6 LBS	P-110 - LTC

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.

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. PROD. 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 cuft/sk 13.3 ppg (620 sx /843 cuft /150 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/- 140 bbl Fr Water. Total Cement (620 sx /843bbls).

I. COMPLETION

A. CBL

Run CCL for perforating

A. 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.

B. 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.

C. 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:

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).

No Tie back string will be ran in this well. All stimulation will be performed down the 7" casing.

WPX Energy

T22N R7W

Chaco 2207-02A

S Chaco UT #907H - Slot A1

Wellbore #1

Plan: Design #1 2Sept15 sam

Standard Planning Report

03 September, 2015

WPX Planning Report

Database:	San Juan	Local Co-ordinate Reference:	Well S Chaco UT #907H (A1) - Slot A1
Company:	WPX Energy	TVD Reference:	KB @ 7059.00usft (Aztec 1000)
Project:	T22N R7W	MD Reference:	KB @ 7059.00usft (Aztec 1000)
Site:	Chaco 2207-02A	North Reference:	True
Well:	S Chaco UT #907H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2Sept15 sam		

Project	T22N R7W		
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 2207-02A			
Site Position:		Northing:	1,881,980.93 usft	Latitude:	36.1719920
From:	Map	Easting:	587,898.06 usft	Longitude:	-107.5355265
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.18 °

Well	S Chaco UT #907H - Slot A1					
Well Position	+N/-S	-22.21 usft	Northing:	1,881,958.72 usft	Latitude:	36.1719310
	+E/-W	-0.15 usft	Easting:	587,897.97 usft	Longitude:	-107.5355271
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	7,034.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/23/2014	9.32	62.94	50,103

Design	Design #1 2Sept15 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	280.98

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	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,625.56	22.51	170.26	1,596.83	-215.14	36.94	2.00	2.00	0.00	170.26	
4,416.28	22.51	170.26	4,174.91	-1,268.19	217.77	0.00	0.00	0.00	0.00	
5,293.74	60.00	314.95	4,921.72	-1,145.17	-69.70	9.00	4.27	16.49	149.34	Start 60 tan #907H
5,353.74	60.00	314.95	4,951.72	-1,108.46	-106.47	0.00	0.00	0.00	0.00	End 60 tan #907H
5,515.03	74.51	314.95	5,013.91	-1,003.64	-211.46	9.00	9.00	0.00	0.00	
5,682.95	89.63	314.95	5,037.00	-886.48	-328.81	9.00	9.00	0.00	0.01	POE #907H
11,860.05	89.63	314.95	5,077.00	3,477.87	-4,700.03	0.00	0.00	0.00	0.00	BHL #907H

WPX Planning Report

Database: San Juan
Company: WPX Energy
Project: T22N R7W
Site: Chaco 2207-02A
Well: S Chaco UT #907H
Wellbore: Wellbore #1
Design: Design #1 2Sept15 sam

Local Co-ordinate Reference: Well S Chaco UT #907H (A1) - Slot A1
TVD Reference: KB @ 7059.00usft (Aztec 1000)
MD Reference: KB @ 7059.00usft (Aztec 1000)
North Reference: True
Survey Calculation Method: Minimum Curvature

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"									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,000.00	10.00	170.26	997.47	-42.89	7.37	-15.40	2.00	2.00	0.00
1,500.00	20.00	170.26	1,479.82	-170.28	29.24	-61.14	2.00	2.00	0.00
1,625.56	22.51	170.26	1,596.83	-215.14	36.94	-77.24	2.00	2.00	0.00
Hold 22.51 Inclination									
2,000.00	22.51	170.26	1,942.73	-356.43	61.21	-127.97	0.00	0.00	0.00
2,500.00	22.51	170.26	2,404.64	-545.10	93.60	-195.71	0.00	0.00	0.00
3,000.00	22.51	170.26	2,866.54	-733.77	126.00	-263.45	0.00	0.00	0.00
3,500.00	22.51	170.26	3,328.44	-922.44	158.40	-331.19	0.00	0.00	0.00
4,000.00	22.51	170.26	3,790.34	-1,111.11	190.80	-398.93	0.00	0.00	0.00
4,416.28	22.51	170.26	4,174.91	-1,268.19	217.77	-455.33	0.00	0.00	0.00
Start Build DLS 9.00 TFO 149.34									
4,500.00	16.46	183.90	4,253.83	-1,295.86	219.68	-462.48	9.00	-7.23	16.30
5,000.00	34.58	304.77	4,723.84	-1,285.06	91.66	-334.74	9.00	3.62	24.17
5,293.74	60.00	314.95	4,921.72	-1,145.17	-69.70	-149.69	9.00	8.65	3.47
Hold 60.00 Inclination									
5,353.74	60.00	314.95	4,951.72	-1,108.46	-106.47	-106.60	0.00	0.00	0.00
Start Build DLS 9.00 TFO 0.00									
5,500.00	73.16	314.95	5,009.72	-1,013.84	-201.24	4.46	9.00	9.00	0.00
5,515.03	74.51	314.95	5,013.91	-1,003.64	-211.46	16.43	9.00	9.00	0.00
Start DLS 9.00 TFO 0.01									
5,682.95	89.63	314.95	5,037.00	-886.48	-328.81	153.95	9.00	9.00	0.00
POE at 89.63 Inc 314.95 deg									
5,683.00	89.63	314.95	5,037.00	-886.44	-328.85	153.99	0.00	0.00	0.00
7"									
6,000.00	89.63	314.95	5,039.05	-662.47	-553.17	416.87	0.00	0.00	0.00
6,500.00	89.63	314.95	5,042.29	-309.20	-907.00	831.50	0.00	0.00	0.00
7,000.00	89.63	314.95	5,045.53	44.07	-1,260.82	1,246.14	0.00	0.00	0.00
7,500.00	89.63	314.95	5,048.77	397.34	-1,614.65	1,660.77	0.00	0.00	0.00
8,000.00	89.63	314.95	5,052.00	750.60	-1,968.47	2,075.40	0.00	0.00	0.00
8,500.00	89.63	314.95	5,055.24	1,103.87	-2,322.30	2,490.03	0.00	0.00	0.00
9,000.00	89.63	314.95	5,058.48	1,457.14	-2,676.12	2,904.67	0.00	0.00	0.00
9,500.00	89.63	314.95	5,061.72	1,810.41	-3,029.94	3,319.30	0.00	0.00	0.00
10,000.00	89.63	314.95	5,064.96	2,163.67	-3,383.77	3,733.93	0.00	0.00	0.00
10,500.00	89.63	314.95	5,068.19	2,516.94	-3,737.59	4,148.56	0.00	0.00	0.00
11,000.00	89.63	314.95	5,071.43	2,870.21	-4,091.42	4,563.20	0.00	0.00	0.00
11,500.00	89.63	314.95	5,074.67	3,223.48	-4,445.24	4,977.83	0.00	0.00	0.00
11,860.05	89.63	314.95	5,077.00	3,477.87	-4,700.03	5,276.41	0.00	0.00	0.00
TD at 11860.05									

WPX Planning Report

Database:	San Juan	Local Co-ordinate Reference:	Well S Chaco UT #907H (A1) - Slot A1
Company:	WPX Energy	TVD Reference:	KB @ 7059.00usft (Aztec 1000)
Project:	T22N R7W	MD Reference:	KB @ 7059.00usft (Aztec 1000)
Site:	Chaco 2207-02A	North Reference:	True
Well:	S Chaco UT #907H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 2Sept15 sam		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Start 60 tan #907H - plan hits target center - Point	0.00	0.00	4,921.72	-1,145.17	-69.70	1,880,813.34	587,831.79	36.1687850	-107.5357632
End 60 tan #907H - plan hits target center - Point	0.00	0.00	4,951.72	-1,108.46	-106.47	1,880,849.94	587,794.90	36.1688859	-107.5358878
POE #907H - plan hits target center - Point	0.00	0.00	5,037.00	-886.48	-328.81	1,881,071.24	587,571.88	36.1694957	-107.5366411
BHL #907H - plan hits target center - Point	0.00	0.00	5,077.00	3,477.87	-4,700.03	1,885,422.15	583,187.29	36.1814842	-107.5514530

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
320.00	320.00	9 5/8"	9.62	12.25	
5,683.00	5,037.00	7"	7.00	8.75	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
500.00	500.00	0.00	0.00	Start Build 2.00
1,625.56	1,596.83	-215.14	36.94	Hold 22.51 Inclination
4,416.28	4,174.91	-1,268.19	217.77	Start Build DLS 9.00 TFO 149.34
5,293.74	4,921.72	-1,145.17	-69.70	Hold 60.00 Inclination
5,353.74	4,951.72	-1,108.46	-106.47	Start Build DLS 9.00 TFO 0.00
5,515.03	5,013.91	-1,003.64	-211.46	Start DLS 9.00 TFO 0.01
5,682.95	5,037.00	-886.48	-328.81	POE at 89.63 Inc 314.95 deg
11,860.05	5,077.00	3,477.87	-4,700.03	TD at 11860.05

ANNOTATIONS									
TVD	MD	Inc	Adj	N-S	+E-W	Vsect	0.00	Departure	0.00
500.00	500.00	0.00	0.00	0.00	0.00			Start Build 2.00	
1596.83	1625.56	22.51	170.28	-215.14	36.94	-77.24	218.28	Hold 22.51 Inclination	
4174.91	4416.28	22.51	170.28	-1288.19	217.77	-455.33	1286.75	Start Build DLS 9.00 TFO 149.34	
5093.74	5093.74	0.00	0.00	0.00	0.00	-68.70	0.00	Start Build DLS 9.00 TFO 149.34	
4951.72	5353.74	60.00	314.95	-1108.48	-106.47	-106.80	1907.06	Start Build DLS 9.00 TFO 149.34	
5013.91	5515.03	74.51	314.95	-1003.64	-211.46	16.43	2395.41	Start DLS 9.00 TFO 0.01	
5037.00	5682.55	83.03	314.95	-896.48	-157.05	153.95	2221.24	POE at 5683 Inc 314.95 Deg 83.03	
5077.00	5986.05	89.93	314.95	3477.87	-1450.03	5276.41	8398.22	End at 11660.05	

WPX Energy

T22N R7W

Chaco 2207-02A

S Chaco UT #907H

Wellbore #1

Design #1 2Sept15 sam

Anticollision Summary Report

03 September, 2015

WPX
Anticollision Summary Report

Company:	WPX Energy	Local Co-ordinate Reference:	Well S Chaco UT #907H (A1) - Slot A1
Project:	T22N R7W	TVD Reference:	KB @ 7059.00usft (Aztec 1000)
Reference Site:	Chaco 2207-02A	MD Reference:	KB @ 7059.00usft (Aztec 1000)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	S Chaco UT #907H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	San Juan
Reference Design:	Design #1 2Sept15 sam	Offset TVD Reference:	Offset Datum

Reference Design #1 2Sept15 sam

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 30.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 5,000.00 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program Date 9/3/2015

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	11,860.05	Design #1 2Sept15 sam (Wellbore #1)	MWD	MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Chaco 2207-02A						
S Chaco UT #342H (A3) - Wellbore #1 - Design #1 03Nov1	480.00	480.00	44.19	42.31	23.546	CC
S Chaco UT #342H (A3) - Wellbore #1 - Design #1 03Nov1	510.00	510.00	44.21	42.20	22.002	ES
S Chaco UT #342H (A3) - Wellbore #1 - Design #1 03Nov1	870.00	872.86	54.89	51.36	15.568	SF
S Chaco UT #343H (A2) - Wellbore #1 - Design #2 17Aug1	480.00	480.00	22.21	20.33	11.833	CC
S Chaco UT #343H (A2) - Wellbore #1 - Design #2 17Aug1	570.00	570.43	22.37	20.11	9.925	ES
S Chaco UT #343H (A2) - Wellbore #1 - Design #2 17Aug1	9,240.00	9,910.80	251.96	136.27	2.178	SF
S Chaco UT #346H (A4) - Wellbore #1 - Design #2 11Jun1	480.00	480.00	66.58	64.70	35.476	CC
S Chaco UT #346H (A4) - Wellbore #1 - Design #2 11Jun1	510.00	510.00	66.60	64.59	33.146	ES
S Chaco UT #346H (A4) - Wellbore #1 - Design #2 11Jun1	7,920.00	4,850.00	1,868.82	1,786.81	22.787	SF
Chaco 2207-2P						
S Chaco UT #344H (A2) - Wellbore #1 - Design #1 17Aug1	10,903.71	11,975.96	938.74	636.33	3.104	CC
S Chaco UT #344H (A2) - Wellbore #1 - Design #1 17Aug1	10,920.00	11,975.96	938.88	636.07	3.101	ES
S Chaco UT #344H (A2) - Wellbore #1 - Design #1 17Aug1	10,980.00	11,975.96	941.83	637.57	3.096	SF
S Chaco UT #345H (A1) - Wellbore #1 - Design #1 17Aug1	9,771.53	11,497.60	2,124.83	1,862.51	8.100	CC
S Chaco UT #345H (A1) - Wellbore #1 - Design #1 17Aug1	9,810.00	11,497.60	2,125.18	1,861.91	8.072	ES
S Chaco UT #345H (A1) - Wellbore #1 - Design #1 17Aug1	10,200.00	11,497.60	2,167.60	1,894.71	7.943	SF
Chaco 2307-35P						
Chaco 2307-35P #339H - Wellbore #1 - Wellbore #1	11,730.00	10,354.89	330.28	158.61	1.924	SF
Chaco 2307-35P #339H - Wellbore #1 - Wellbore #1	11,860.05	10,463.73	289.38	148.08	2.048	CC, ES
Chaco 2307-35P #340H - Wellbore #1 - Wellbore #1	10,089.91	9,296.78	249.36	177.34	3.462	CC
Chaco 2307-35P #340H - Wellbore #1 - Wellbore #1	10,290.00	9,458.08	274.56	168.58	2.591	ES
Chaco 2307-35P #340H - Wellbore #1 - Wellbore #1	10,560.00	9,691.18	363.93	199.26	2.210	SF
Section 31 offsets						
Lybrook M31-2306 02H - Wellbore #1 - Wellbore #1	8,000.56	10,660.00	3,597.44	3,417.58	20.001	CC
Lybrook M31-2306 02H - Wellbore #1 - Wellbore #1	8,100.00	10,660.00	3,598.82	3,416.58	19.748	ES
Lybrook M31-2306 02H - Wellbore #1 - Wellbore #1	9,780.00	10,660.00	4,013.48	3,790.34	17.987	SF
Lybrook M31-2306 03H - Wellbore #1 - Wellbore #1	6,962.54	10,835.00	2,569.28	2,434.37	19.044	CC
Lybrook M31-2306 03H - Wellbore #1 - Wellbore #1	7,020.00	10,835.00	2,569.92	2,433.75	18.872	ES
Lybrook M31-2306 03H - Wellbore #1 - Wellbore #1	8,130.00	10,835.00	2,822.08	2,660.18	17.430	SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

WPX

Anticollision Summary Report

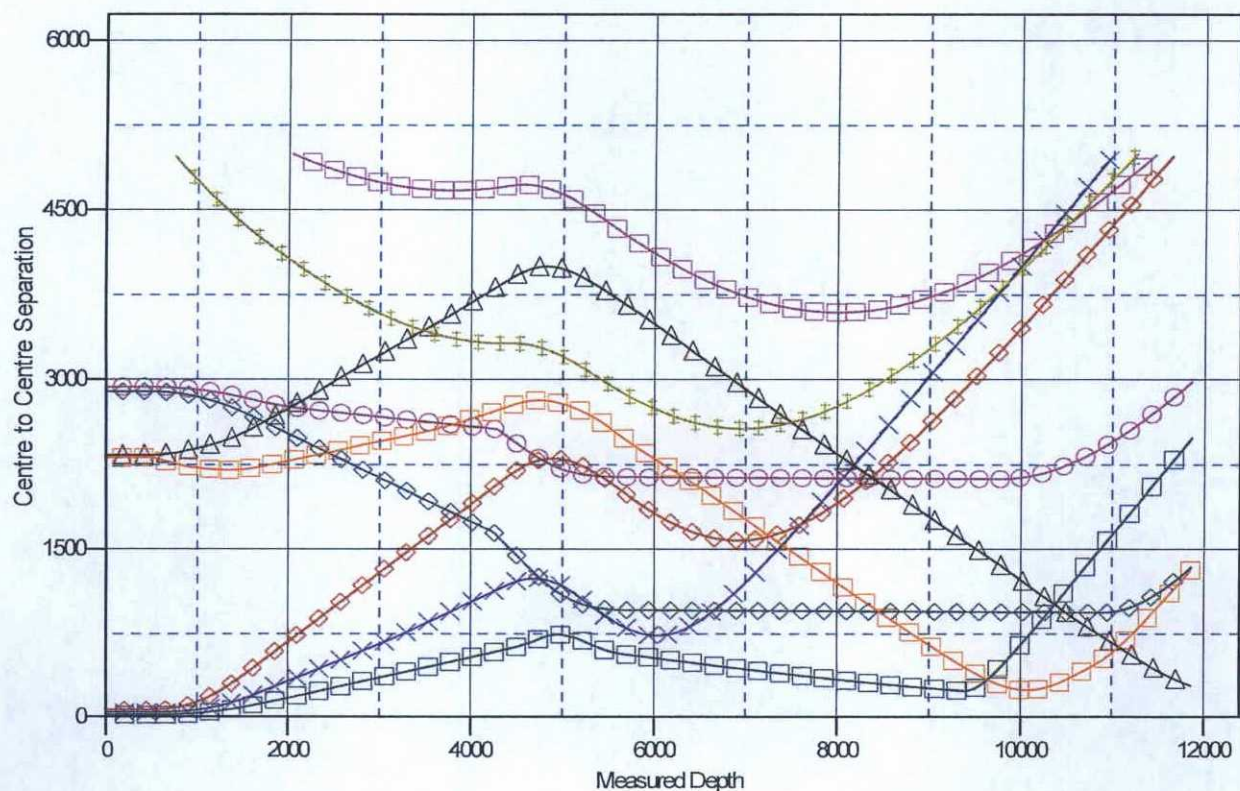
Company: WPX Energy
Project: T22N R7W
Reference Site: Chaco 2207-02A
Site Error: 0.00 usft
Reference Well: S Chaco UT #907H
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Design #1 2Sept15 sam

Local Co-ordinate Reference: Well S Chaco UT #907H (A1) - Slot A1
TVD Reference: KB @ 7059.00usft (Aztec 1000)
MD Reference: KB @ 7059.00usft (Aztec 1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: San Juan
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB @ 7059.00usft (Aztec 1000)
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.8333334

Coordinates are relative to: S Chaco UT #907H (A1) - Slot A1
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 3003
 Grid Convergence at Surface is: 0.18°

Ladder Plot



LEGEND

.3, Wellbore #1, Design #1 03Nov14 kjs V0	— S Chaco UT #344H (A2), Wellbore #1, Design #1 17Aug15 sam V0	— Chaco 2307-35P #340H, Wellbore #1, V
.2, Wellbore #1, Design #2 17Aug15 sam V0	— S Chaco UT #345H (A1), Wellbore #1, Design #1 17Aug15 sam V0	— Lybrook M31-2306 02H, Wellbore #1, V
.4, Wellbore #1, Design #2 11Jun15 sam V0	— Chaco 2307-35P #339H, Wellbore #1, Wellbore #1 V0	— Lybrook M31-2306 03H, Wellbore #1, V

WPX

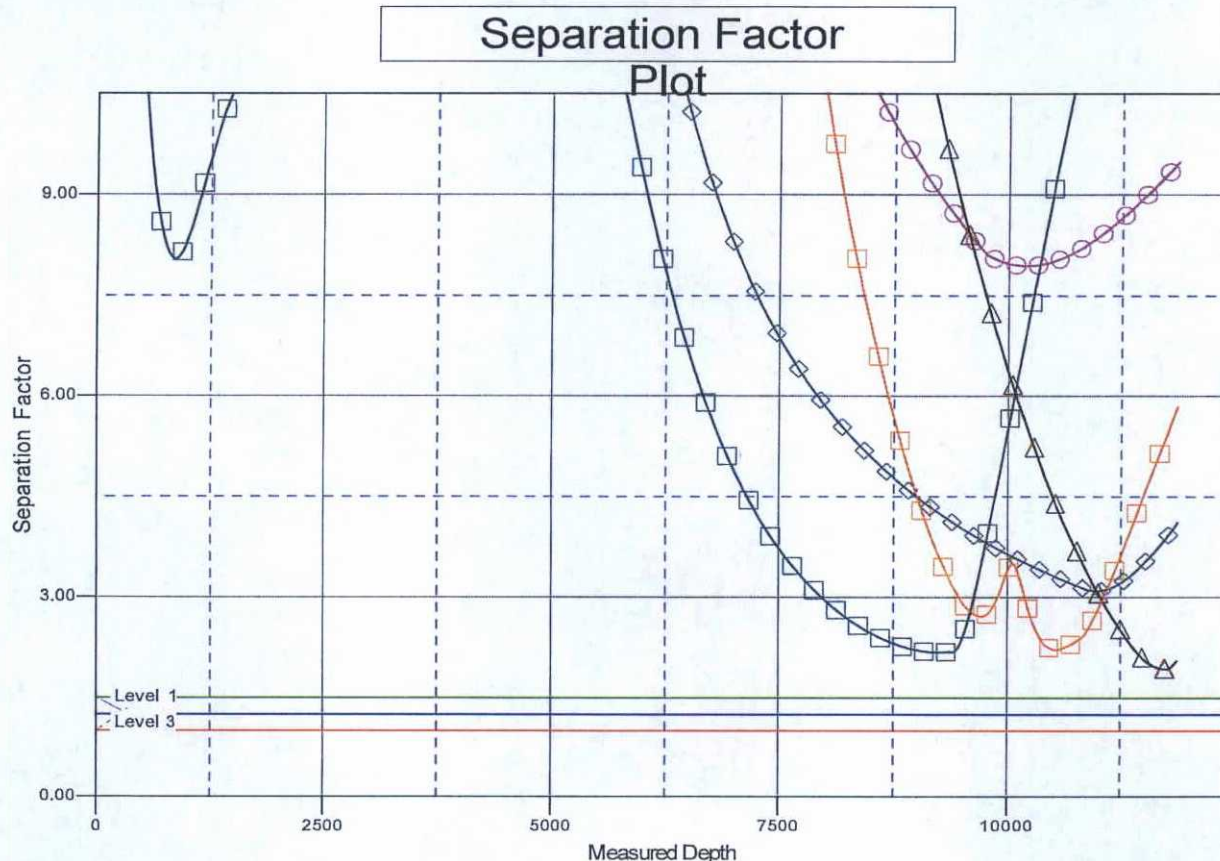
Anticollision Summary Report

Company: WPX Energy
Project: T22N R7W
Reference Site: Chaco 2207-02A
Site Error: 0.00 usft
Reference Well: S Chaco UT #907H
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Design #1 2Sept15 sam

Local Co-ordinate Reference: Well S Chaco UT #907H (A1) - Slot A1
TVD Reference: KB @ 7059.00usft (Aztec 1000)
MD Reference: KB @ 7059.00usft (Aztec 1000)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: San Juan
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB @ 7059.00usft (Aztec 1000)
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.833334

Coordinates are relative to: S Chaco UT #907H (A1) - Slot A1
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 3003
 Grid Convergence at Surface is: 0.18°



LEGEND

3) Wellbore #1, Design #1 03Nov14 kjs V0	◆ S Chaco UT #344H (A2), Wellbore #1, Design #1 17Aug15 sam V0	■ Chaco 2307-35P #340H, Wellbore #1, V
2) Wellbore #1, Design #2 17Aug15 sam V0	● S Chaco UT #345H (A1), Wellbore #1, Design #1 17Aug15 sam V0	■ Lybrook M31-2306 02H, Wellbore #1, V
4) Wellbore #1, Design #2 11Jun15 sam V0	▲ Chaco 2307-35P #339H, Wellbore #1, Wellbore #1 V0	■ Lybrook M31-2306 03H, Wellbore #1, V