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: 1-26-15
Well information;
Operator WPX, Well Name and Number Chaco 2308 06I # 398H
API# 30-045-35640, Section 6, Township 23 (N)/S, Range 8 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
- o Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- o 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
- o 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

3-6-2015
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

Form 3160-3
(September 2001)

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JAN 26 2015
Farmington Field Office
Bureau of Land Management

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER	5. Lease Serial No. NMNM109399
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone	6. If Indian, Allottee or Tribe Name
2. Name of Operator WPX Energy Production, LLC	7. If Unit or CA Agreement, Name and No.
3a. Address P.O. Box 640 Aztec, NM 87410	3b. Phone No. *(include area code)* (505) 333-1849
4. Location of Well *(Report location clearly and in accordance with any State requirements. *)* At surface I 2079' FSL & 318' FEL, sec 6, T23N, R8W At proposed prod. zone M 1158' FSL & 230' FWL, sec 6, T23N, R8W	8. Lease Name and Well No. Chaco 2308-061 #398H
	9. API Well No. 30-045-35640
	10. Field and Pool, or Exploratory Nageezi Gallup
	11. Sec., T., R., M., or Blk. and Survey or Area SHL: Section 6, T23N, R8W BHL: Section 6, T23N, R8W
14. Distance in miles and direction from nearest town or post office* approximately 1.5 miles east of Nageezi	12. County or Parish San Juan County / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 318'	16. No. of Acres in lease 977 acres / 17. Spacing Unit dedicated to this well 167.16 Acres S/2 S/2
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 22'	19. Proposed Depth 11,034' MD / 5,173' TVD / 20. BLM/BIA Bond No. on file UTB000178
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6899' GR	22. Approximate date work will start* March 1, 2015 / 23. Estimated duration 1 month

RECEIVED
FEB 27 2015
NMOCD
DISTRICT III

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)* Andrea Felix	Date 1-26-2015
Title Regulatory Specialist Senior		
Approved by *(Signature)* Maribel Manchego AFM	Name *(Printed/Typed)*	Date 2/25/15
Title	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 Nageezi Gallup pool at the above described location in accordance with the attached drilling and surface use plans.

The well pad surface is on lease under jurisdiction of BLM FFO and is co-located with the Chaco 2308-06I #397H.

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

New access road is approximately 2,017.9' on lease on BLM surface.

New pipeline is approximately 2,150.6' on lease on BLM surface.

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

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

NMOCD

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

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

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JAN 26 2015

WELL LOCATION AND ACREAGE DEDICATION PLAT

1API Number	2Pool Code	3Pool Name
30-045-35640	47540	NAGEEZI GALLUP

4Property Code	5Property Name	6Well Number
314227	CHACO 2308-06I	398H

7OGRID No.	8Operator Name	9Elevation
120782	WPX ENERGY PRODUCTION, LLC	6899'

10 Surface Location

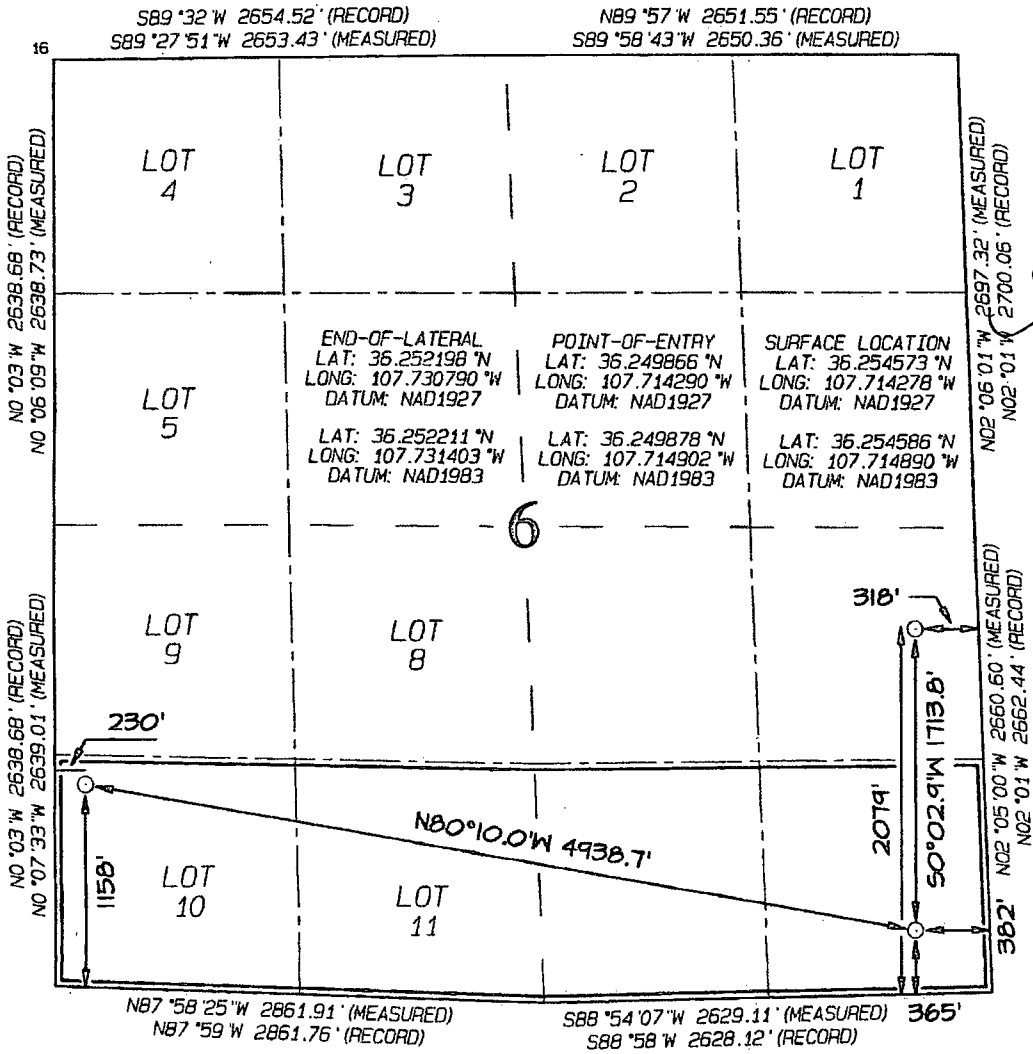
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	6	23N	8W		2079	SOUTH	318	EAST	SAN JUAN

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
M	6	23N	8W	10	1158	SOUTH	230	WEST	SAN JUAN

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
167.16 Acres - S/2 S/2			

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 1-26-15
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: DECEMBER 10, 2014
Date of Survey: AUGUST 29, 2014

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:	9/23/14	**FIELD:**	Nageezi Gallup
WELL NAME:	**Chaco 2308-06I #398H**	**SURFACE:**	BLM
SH Location:	NESE Sec 6 -23N -08W	**ELEVATION:**	6899' GR
BH Location:	SWSW Sec 6 -23N -08W San Juan Co., NM	**MINERALS:**	BLM
MEASURED DEPTH:	**11,034'**	**LEASE #:**	NMNM109399

I. GEOLOGY: Surface formation – Nacimiento

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

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1008	1006	Point Lookout	4361	3986
Kirtland	1210	1204	Mancos	4579	4175
Picture Cliffs	1575	1553	**Kickoff Point**	**4823**	4386
Lewis	1732	1698	Top Target	6093	5216
Chacra	2022	1958	**Landing Point**	**6097**	5216
Cliff House	3268	3038	Base Target	6097	5216
Menefee	3326	3089			
			TD	11034	5173

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.**

NOTE: Vertical portion of the well (8-3/4 in.) will be directionally drilled as per attached Directional Plan to +/- 4823' (MD) / 4,386' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 6,097' (MD) / 5,216' (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 +/- 11,034' (MD) / 5,173' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,947 ft. to TD and cemented. Liner will be tied back to surface w / 4-1/2" Casing for stimulation / testing, then removed from the well.

III. MATERIALS

A. CASING PROGRAM:

CASING TYPE	OH SIZE (IN)	DEPTH (MD) (FT)	CASING SIZE (IN)	WEIGHT(LB)	GRADE
Surface	12.25"	400'+	9.625"	36#	J-55
Intermediate	8.75"	6097'	7"	23#	K-55
Prod. Liner	6.125"	5,947' - 11,034'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5,947'	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: 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: +/- 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: 1216 cu-ft / 216.5 Bbls.) + TAIL: 100 sx 13.5 #/gal. + 0.2% Versaset + 0.15% HALAD-766 (Yield: 1.28 cu-ft / sk / Vol: 128 cu-ft / 22.8 Bbls.). + Fresh Water Displacement (1,362 cu-ft / +/- 242 Bbls) + 100 sx Top-Out Cement Premium: Yield: (1.17 cu-ft/ sk / (Vol: 117 cu-ft / 20.8 Bbls). Test Casing to 1500 PSI for 30 minutes. Total Cement Volume: (1050 sx / 1461 cu-ft / 260 bbls). Mix with +/- 84,000 SCF Nitrogen. TOC at surface.

3. PRODUCTION LINER: **STAGE 1**:10 bbl (56.cu-ft) Fr Water Spacer. **STAGE 2**:40 bbl 9.5 ppg (224.6 cu-ft) Tuned Spacer III + 0.5 gal/bbl Musol + 38.75 ppb Barite + 0.5 gal/bbl SEM-7. **STAGE 3**: 10 bbl Fr Water Spacer. **STAGE 4: Lead Cement:** 50 / 50 Poz Premium + 0.2% Versaset + 0.2% Halad -766, Yield 1.43 cu ft/sk, 13.0 ppg, (10 sx / 14.3 cu ft. / 2.5 bbls). **STAGE 5:** 200 sx. Foamed Lead Cement: 50 / 50 Poz Standard + 0.2% Versaset + 0.2% HALAD-766 + 1.5% Chem-Foamer 760. Yield 1.97 cu-ft/sk. 13.0 ppg (200 sx / 394 cu-ft. / 70.2 bbls.). **STAGE 6**: Tail Cement : 100 sx. 50/50 Poz Standard + 0.2% Versaset + 0.05% HALAD-766 + .05% SA-1015, Weight: 13.5 ppg (100 sx / Yield 1.28 cu ft/sk. / 128 cu ft. / 22.8 bbls) **STAGE 7**: Displace w/ +/- 137 bbl Fr Water. Total Cement (563.3 cu ft / 95.5 bbls). Mix Foamed Cement w/ +/- 75,000 SCF Nitrogen. Est. TOC +/- 5,644 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 6,094 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,944 ft. (MD) +/- 78 degree angle. TOC: +/- 5,644 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.

WPXENERGY SM

SAN JUAN BASIN

SJ 06-23N-08W
Chaco 2308-06I
Chaco 2308-06I #398H

Wellbore #1

Plan: Design #1 23Sep14 kjs

Standard Planning Report - Geographic

23 September, 2014

Database:	COMPASS-SANJUAN	**Local Co-ordinate Reference:**	Well Chaco 2308-06I #398H
Company:	SAN JUAN BASIN	**TVD Reference:**	WELL @ 6914.0usft (Original Well Elev)
Project:	SJ 06-23N-08W	**MD Reference:**	WELL @ 6914.0usft (Original Well Elev)
Site:	Chaco 2308-06I	**North Reference:**	True
Well:	Chaco 2308-06I #398H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 23Sep14 kjs		

Project	SJ 06-23N-08W		
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 2308-06I				
Site Position:		**Northing:**	1,911,949.21 usft	**Latitude:**	36.254631
From:	Map	**Easting:**	535,095.28 usft	**Longitude:**	-107.714302
Position Uncertainty:	0.0 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.07 °

Well	Chaco 2308-06I #398H					
Well Position	**+N/-S**	0.0 usft	**Northing:**	1,911,928.11 usft	**Latitude:**	36.254573
	+E/-W	0.0 usft	**Easting:**	535,102.38 usft	**Longitude:**	-107.714278
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	6,899.0 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	9/23/2014	9.42	62.98	50,136

Design	Design #1 23Sep14 kjs				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	279.90	

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
550.0	0.00	0.00	550.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,044.5	29.89	156.36	1,977.7	-349.1	152.8	2.00	2.00	0.00	156.36	
4,822.9	29.89	156.36	4,386.4	-1,617.5	708.0	0.00	0.00	0.00	0.00	
5,698.0	60.00	279.90	5,100.7	-1,778.2	366.7	9.00	3.44	14.12	132.62	
5,758.0	60.00	279.90	5,130.7	-1,769.3	315.5	0.00	0.00	0.00	0.00	
6,096.8	90.50	279.90	5,216.0	-1,713.6	-3.5	9.00	9.00	0.00	0.00	
11,035.6	90.50	279.90	5,173.0	-864.1	-4,868.5	0.00	0.00	0.00	0.00	TD / PBHL 2308-06I #

Database:	COMPASS-SANJUAN	**Local Co-ordinate Reference:**	Well Chaco 2308-06I #398H
Company:	SAN JUAN BASIN	**TVD Reference:**	WELL @ 6914.0usft (Original Well Elev)
Project:	SJ 06-23N-08W	**MD Reference:**	WELL @ 6914.0usft (Original Well Elev)
Site:	Chaco 2308-06I	**North Reference:**	True
Well:	Chaco 2308-06I #398H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 23Sep14 kjs		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	1,911,928.11	535,102.38	36.254573	-107.714278
200.0	0.00	0.00	200.0	0.0	0.0	1,911,928.11	535,102.38	36.254573	-107.714278
400.0	0.00	0.00	400.0	0.0	0.0	1,911,928.11	535,102.38	36.254573	-107.714278
550.0	0.00	0.00	550.0	0.0	0.0	1,911,928.11	535,102.38	36.254573	-107.714278
Start Build 2.00									
600.0	1.00	156.36	600.0	-0.4	0.2	1,911,927.71	535,102.56	36.254572	-107.714278
800.0	5.00	156.36	799.7	-10.0	4.4	1,911,918.13	535,106.77	36.254546	-107.714263
1,000.0	9.00	156.36	998.2	-32.3	14.1	1,911,895.82	535,116.57	36.254484	-107.714230
1,200.0	13.00	156.36	1,194.4	-67.3	29.4	1,911,860.89	535,131.91	36.254388	-107.714178
1,400.0	17.00	156.36	1,387.6	-114.7	50.2	1,911,813.50	535,152.72	36.254258	-107.714108
1,600.0	21.00	156.36	1,576.6	-174.3	76.3	1,911,753.90	535,178.90	36.254094	-107.714019
1,800.0	25.00	156.36	1,760.7	-245.9	107.6	1,911,682.36	535,210.32	36.253898	-107.713913
2,000.0	29.00	156.36	1,938.9	-329.0	144.0	1,911,599.25	535,246.82	36.253669	-107.713790
2,044.5	29.89	156.36	1,977.7	-349.1	152.8	1,911,579.20	535,255.63	36.253614	-107.713760
Hold 29.89° Inc, 156.36° Az									
2,200.0	29.89	156.36	2,112.4	-420.1	183.9	1,911,508.27	535,286.78	36.253419	-107.713655
2,400.0	29.89	156.36	2,285.8	-511.4	223.9	1,911,417.01	535,326.86	36.253168	-107.713519
2,600.0	29.89	156.36	2,459.2	-602.7	263.8	1,911,325.75	535,366.94	36.252917	-107.713384
2,800.0	29.89	156.36	2,632.6	-694.0	303.8	1,911,234.50	535,407.02	36.252667	-107.713248
3,000.0	29.89	156.36	2,806.0	-785.3	343.8	1,911,143.24	535,447.10	36.252416	-107.713112
3,200.0	29.89	156.36	2,979.4	-876.6	383.7	1,911,051.99	535,487.18	36.252165	-107.712977
3,400.0	29.89	156.36	3,152.8	-967.9	423.7	1,910,960.73	535,527.26	36.251914	-107.712841
3,600.0	29.89	156.36	3,326.2	-1,059.2	463.7	1,910,869.47	535,567.34	36.251663	-107.712706
3,800.0	29.89	156.36	3,499.6	-1,150.5	503.6	1,910,778.22	535,607.42	36.251412	-107.712570
4,000.0	29.89	156.36	3,673.0	-1,241.8	543.6	1,910,686.96	535,647.50	36.251162	-107.712435
4,200.0	29.89	156.36	3,846.4	-1,333.1	583.6	1,910,595.71	535,687.58	36.250911	-107.712299
4,400.0	29.89	156.36	4,019.8	-1,424.4	623.5	1,910,504.45	535,727.66	36.250660	-107.712164
4,600.0	29.89	156.36	4,193.2	-1,515.7	663.5	1,910,413.19	535,767.74	36.250409	-107.712028
4,800.0	29.89	156.36	4,366.6	-1,607.0	703.5	1,910,321.94	535,807.82	36.250158	-107.711892
4,822.9	29.89	156.36	4,386.4	-1,617.5	708.0	1,910,311.49	535,812.41	36.250130	-107.711877
KOP 9°/100 Build & Turn									
5,000.0	22.13	188.80	4,546.3	-1,691.4	720.7	1,910,237.63	535,825.18	36.249927	-107.711834
5,200.0	24.82	234.57	4,731.2	-1,753.4	680.4	1,910,175.51	535,784.96	36.249756	-107.711971
5,400.0	36.85	261.33	4,903.4	-1,787.1	586.2	1,910,141.75	535,690.73	36.249664	-107.712290
5,600.0	52.10	275.19	5,046.0	-1,789.0	447.1	1,910,139.65	535,551.72	36.249658	-107.712762
5,698.0	60.00	279.90	5,100.7	-1,778.2	366.7	1,910,150.36	535,471.27	36.249688	-107.713035
Hold 60° Inc for 60'									
5,758.0	60.00	279.90	5,130.7	-1,769.3	315.5	1,910,159.24	535,420.07	36.249713	-107.713208
Begin 9°/100 Build									
5,800.0	63.78	279.90	5,150.5	-1,762.9	279.0	1,910,165.57	535,383.54	36.249730	-107.713332
6,000.0	81.78	279.90	5,209.5	-1,730.2	91.6	1,910,198.07	535,196.08	36.249820	-107.713968
6,096.8	90.50	279.90	5,216.0	-1,713.6	-3.5	1,910,214.54	535,101.01	36.249866	-107.714290
Landing Pt 90.5° Inc, 279.9° Az									
6,200.0	90.50	279.90	5,215.1	-1,695.8	-105.1	1,910,232.17	534,999.33	36.249914	-107.714635
6,400.0	90.50	279.90	5,213.3	-1,661.4	-302.1	1,910,266.32	534,802.28	36.250009	-107.715303
6,600.0	90.50	279.90	5,211.6	-1,627.0	-499.2	1,910,300.48	534,605.23	36.250103	-107.715971
6,800.0	90.50	279.90	5,209.8	-1,592.6	-696.2	1,910,334.64	534,408.17	36.250198	-107.716639
7,000.0	90.50	279.90	5,208.1	-1,558.2	-893.2	1,910,368.79	534,211.12	36.250292	-107.717307
7,200.0	90.50	279.90	5,206.4	-1,523.8	-1,090.2	1,910,402.95	534,014.06	36.250387	-107.717976
7,400.0	90.50	279.90	5,204.6	-1,489.4	-1,287.2	1,910,437.10	533,817.01	36.250481	-107.718644
7,600.0	90.50	279.90	5,202.9	-1,455.0	-1,484.2	1,910,471.26	533,619.96	36.250576	-107.719312
7,800.0	90.50	279.90	5,201.1	-1,420.6	-1,681.2	1,910,505.42	533,422.90	36.250670	-107.719980
8,000.0	90.50	279.90	5,199.4	-1,386.2	-1,878.2	1,910,539.57	533,225.85	36.250765	-107.720648
8,200.0	90.50	279.90	5,197.7	-1,351.8	-2,075.3	1,910,573.73	533,028.79	36.250859	-107.721316

Database:	COMPASS-SANJUAN	**Local Co-ordinate Reference:**	Well Chaco 2308-06I #398H
Company:	SAN JUAN BASIN	**TVD Reference:**	WELL @ 6914.0usft (Original Well Elev)
Project:	SJ 06-23N-08W	**MD Reference:**	WELL @ 6914.0usft (Original Well Elev)
Site:	Chaco 2308-06I	**North Reference:**	True
Well:	Chaco 2308-06I #398H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 23Sep14 kjs		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,400.0	90.50	279.90	5,195.9	-1,317.4	-2,272.3	1,910,607.88	532,831.74	36.250954	-107.721985
8,600.0	90.50	279.90	5,194.2	-1,283.0	-2,469.3	1,910,642.04	532,634.68	36.251048	-107.722653
8,800.0	90.50	279.90	5,192.4	-1,248.6	-2,666.3	1,910,676.19	532,437.63	36.251143	-107.723321
9,000.0	90.50	279.90	5,190.7	-1,214.2	-2,863.3	1,910,710.35	532,240.58	36.251237	-107.723989
9,200.0	90.50	279.90	5,189.0	-1,179.8	-3,060.3	1,910,744.51	532,043.52	36.251331	-107.724657
9,400.0	90.50	279.90	5,187.2	-1,145.4	-3,257.3	1,910,778.66	531,846.47	36.251426	-107.725326
9,600.0	90.50	279.90	5,185.5	-1,111.1	-3,454.3	1,910,812.82	531,649.41	36.251520	-107.725994
9,800.0	90.50	279.90	5,183.7	-1,076.7	-3,651.3	1,910,846.97	531,452.36	36.251615	-107.726662
10,000.0	90.50	279.90	5,182.0	-1,042.3	-3,848.4	1,910,881.13	531,255.31	36.251709	-107.727330
10,200.0	90.50	279.90	5,180.3	-1,007.9	-4,045.4	1,910,915.29	531,058.25	36.251804	-107.727998
10,400.0	90.50	279.90	5,178.5	-973.5	-4,242.4	1,910,949.44	530,861.20	36.251898	-107.728667
10,600.0	90.50	279.90	5,176.8	-939.1	-4,439.4	1,910,983.60	530,664.14	36.251992	-107.729335
10,800.0	90.50	279.90	5,175.0	-904.7	-4,636.4	1,911,017.75	530,467.09	36.252087	-107.730003
11,000.0	90.50	279.90	5,173.3	-870.3	-4,833.4	1,911,051.91	530,270.03	36.252181	-107.730671
11,035.6	90.50	279.90	5,173.0	-864.1	-4,868.5	1,911,057.99	530,234.93	36.252198	-107.730790
TD at 11035.6									

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
TD / PBHL 2308-06I #39	0.00	0.00	5,173.0	-864.1	-4,868.5	1,911,057.99	530,234.93	36.252198	-107.730790
- plan hits target center									
- Point									
PP 2308-06I #398H	0.00	0.00	5,216.0	-1,713.6	-3.5	1,910,214.48	535,100.99	36.249866	-107.714290
- plan misses target center by 0.1usft at 6096.8usft MD (5216.0 TVD, -1713.6 N, -3.5 E)									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
550.0	550.0	0.0	0.0	Start Build 2.00
2,044.5	1,977.7	-349.1	152.8	Hold 29.89° Inc, 156.36° Az
4,822.9	4,386.4	-1,617.5	708.0	KOP 9°/100 Build & Turn
5,698.0	5,100.7	-1,778.2	366.7	Hold 60° Inc for 60'
5,758.0	5,130.7	-1,769.3	315.5	Begin 9°/100 Build
6,096.8	5,216.0	-1,713.6	-3.5	Landing Pt 90.5° Inc, 279.9° Az
11,035.6	5,173.0	-864.1	-4,868.5	TD at 11035.6

WPXENERGY

Well Name: Chaco 2308-06I #398H
Surface Location: Chaco 2308-06I
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003
Ground Elevation: 6899.0

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
0.0	0.0	1911928.11	535102.38	36.254573	-107.714278	

WELL @ 6914.0usft (Original Well Elev)

Azimuths to True North
Magnetic North: 9.42°

Magnetic Field
Strength: 50135.8snT
Dip Angle: 62.98°
Date: 9/23/2014
Model: IGRF2010

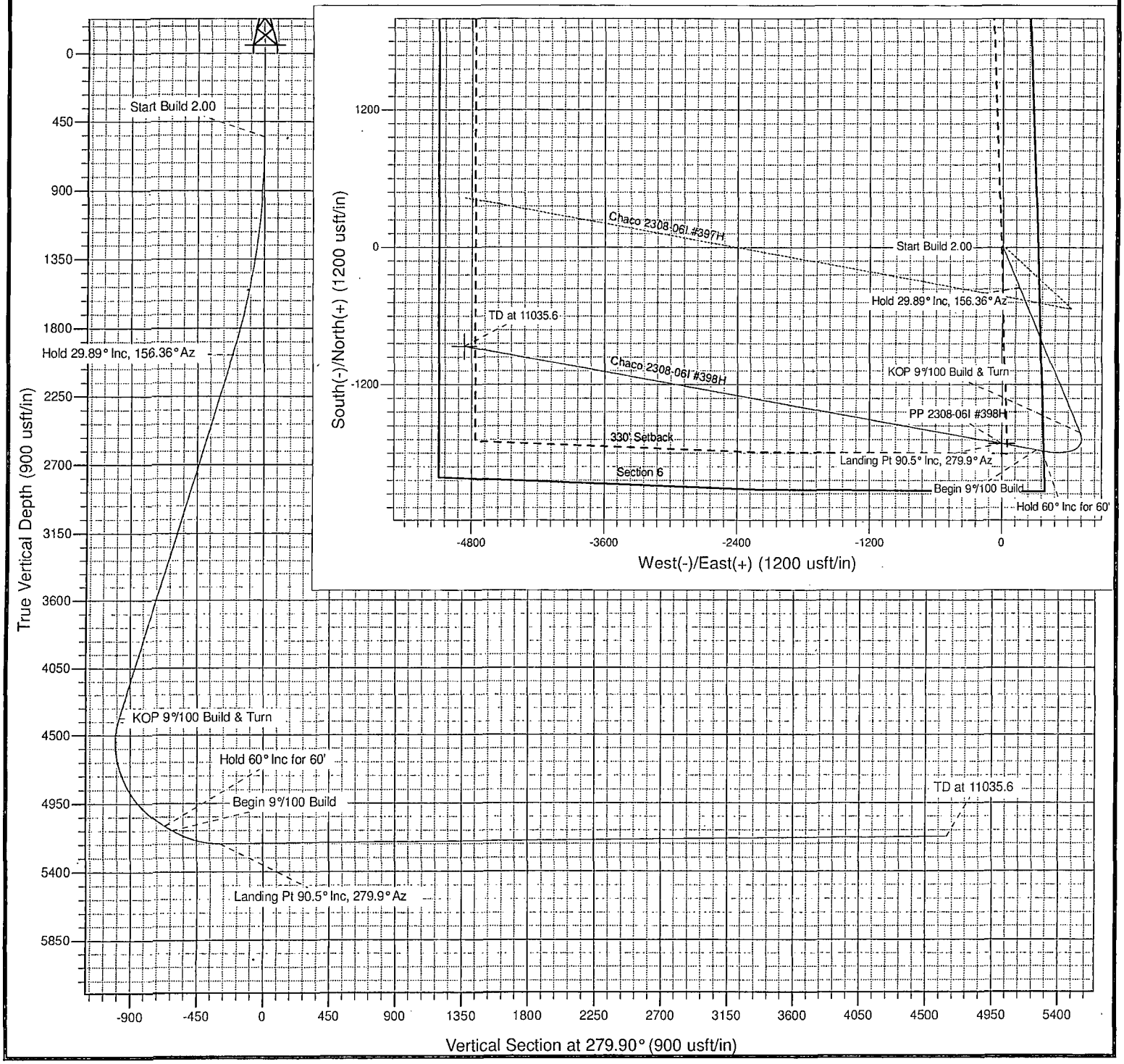
Project: SJ 06-23N-08W
Site: Chaco 2308-06I
Well: Chaco 2308-06I #398H
Design #1 23Sep14 kjs

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
550.0	550.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 2.00
1977.7	2044.5	29.89	156.36	-349.1	152.8	-210.6	381.1	Hold 29.89° Inc, 156.36° Az
4386.4	4822.9	29.89	156.36	-1617.5	708.0	-975.6	1765.7	KOP 9°/100 Build & Turn
5100.7	5698.0	60.00	279.90	-1778.2	366.7	-667.0	2239.7	Hold 60° Inc for 60'
5130.7	5758.0	60.00	279.90	-1769.3	315.5	-615.0	2291.7	Begin 9°/100 Build
5216.0	6096.8	90.50	279.90	-1713.6	-3.5	-291.2	2615.5	Landing Pt 90.5° Inc, 279.9° Az
5173.0	11034.6	90.50	279.90	-864.3	-4867.5	4646.4	7553.1	TD at 11035.6

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
TD / PBHL 2308-06I #398H	5173.0	-864.1	-4868.5	1911057.99	530234.93	36.252198	-107.730790
PP 2308-06I #398H	5216.0	-1713.6	-3.5	1910214.48	535100.99	36.249865	-107.714290



13 feet of fill to create a level well pad. No additional surfacing materials will be required for construction.

4. As determined during the onsite on October 29, 2014, the following best management practices will be implemented:
    a. Water will be diverted around the western edge of the well pad.
    b. A silt trap will be installed along the western edge of the well pad between corner 2 and where the access enters the well pad (PI 20+17.9) and will remain within the construction zone disturbance boundaries.
    c. No additional fill would be required to construct the pad.
5. All project activities will be confined to permitted areas only.
6. Construction equipment may include chain saws, a brush hog, scraper, maintainer, excavator, and a dozer.
7. If drilling has not been initiated on the well pad within 120 days of the well pad being constructed, the operator will consult with the BLM to address a site-stabilization plan.

D. Production Facilities
1. As practical, access will be a teardrop-shaped road through the production area so that the center may be revegetated.
2. Within 90 days of installation, production facilities would be painted Juniper Green to blend with the natural color of the landscape and would be located, to the extent practical, to reasonably minimize visual impact.
3. Berms will be constructed around all storage facilities sufficient in size to contain the storage capacity of tanks. Berm walls will be compacted with appropriate equipment to assure containment.

After the completion phases and pipeline installation, portions of the project area not needed for operation will be reclaimed. When the well is plugged, final reclamation will occur within the remainder of the project area. Reclamation is described in detail in the Reclamation Plan (Appendix C).

7.0 Methods for Handling Waste

A. Cuttings
1. Drilling operations will utilize a closed-loop system. Drilling of the horizontal laterals 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.

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

in Bloomfield, NM to WPX Energy Production, LLC Chaco 2308-06I #398H

2079' FSL & 318' FEL, Section 6, T23N, R8W, N.M.P.M., San Juan County, NM

- **Latitude: 36.254586°N Longitude: 107.714890°W Datum: NAD1983**

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 35.9 miles to Mile Marker 115.3;

Go Left (Easterly) on County Road #7800 for 1.3 miles to fork in road;

Go Right (Southerly) for 0.3 miles to new access on right-hand side of existing roadway which continues for 2017.9' to staked WPX Chaco 2308-06I #398H location.

3000 PSI BOP Schematic