

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 3160-3 APD form.

Operator Signature Date: 12/30/13

Well information;

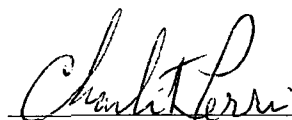
Operator WPX, Well Name and Number Chaco 2307-13I 187H

API# 30-039-31208, Section 13, Township 23 NS, Range 7 EW

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
- ☐ 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


NMOCD Approved by Signature

3-28-2014
Date AV

RECEIVED

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DEC 30 2013

APPLICATION FOR PERMIT TO DRILL OR REENTER

Formation Field Office

5. Lease Serial No.

NMSF-078360

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.

Chaco 2307-131 #187H

9. API Well No.

30-039-31208

10. Field and Pool, or Exploratory

Lybrook Gallup

11. Sec., T., R., M., or Blk. and Survey or Area

Section 13, T23N, R7W

12. County or Parish

Rio Arriba County

13. State

NM

1a. Type of Work: ☒ DRILL

☐ REENTER

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

☒ Single Zone ☐ Multiple Zone

2. Name of Operator

WPX Energy Production, LLC

3a. Address

P.O. Box 640 Aztec, NM 87410

3b. Phone No. (include area code)

(505) 333-1808

4. Location of Well (Report location clearly and in accordance with any State requirements. *)

At surface 1750' FSL & 423' FEL, sec 13, T23N, R7W

At proposed prod. zone 1206' FSL & 230' FWL, sec 13, T23N, R7W

14. Distance in miles and direction from nearest town or post office*

approximately 4 miles southeast of Lybrook, New Mexico

15. Distance from proposed*

location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 423'

16. No. of Acres in lease

2565.24

17. Spacing Unit dedicated to this well

160 acres

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 40'

19. Proposed Depth

10,592' MD / 5,409' TVD

20. BLM/BIA Bond No. on file

UTB000178

RCVD MAR 25 '14

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

6925' GR

22. Approximate date work will start*

March 1, 2014

23. Estimated duration

1 month

OIL CONS. DIV.

24. Attachments

DIST. 3

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

Larry Higgins

Name (Printed/Typed)

Larry Higgins

Date

12/30/13

Title

Permit Supervisor

Approved by (Signature)

Joe Hewitt

Name (Printed/Typed)

Joe Hewitt

Date

3-21-14

Title

Acting

Office

FFD

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 Lybrook Gallup formation at the above described location in accordance with the attached drilling and surface use plans.

The well pad surface is 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.

No new access road 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

NMOCDA

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

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

APD Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 30th day of December, 2013.

Name Larry Higgins

Position Title Permit Supervisor

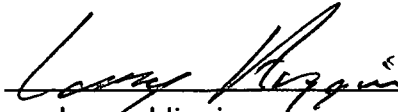
Address P.O. Box 640, Aztec, NM 87410

Telephone (505) 333-1808

Field representative (if not above signatory) _____

E-mail larry.higgins@wpxenergy.com

Date: 12/30/2013



Larry Higgins
Permit Suprv.
WPX Energy Production, LLC

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

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

DEC 30 2013

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-31208	*Pool Code 42289	*Pool Name LYBROOK GALLUP
*Property Code 313124	*Property Name CHACO 2307-13I	*Well Number 187H
*GRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC	*Elevation 6925'

10 Surface Location

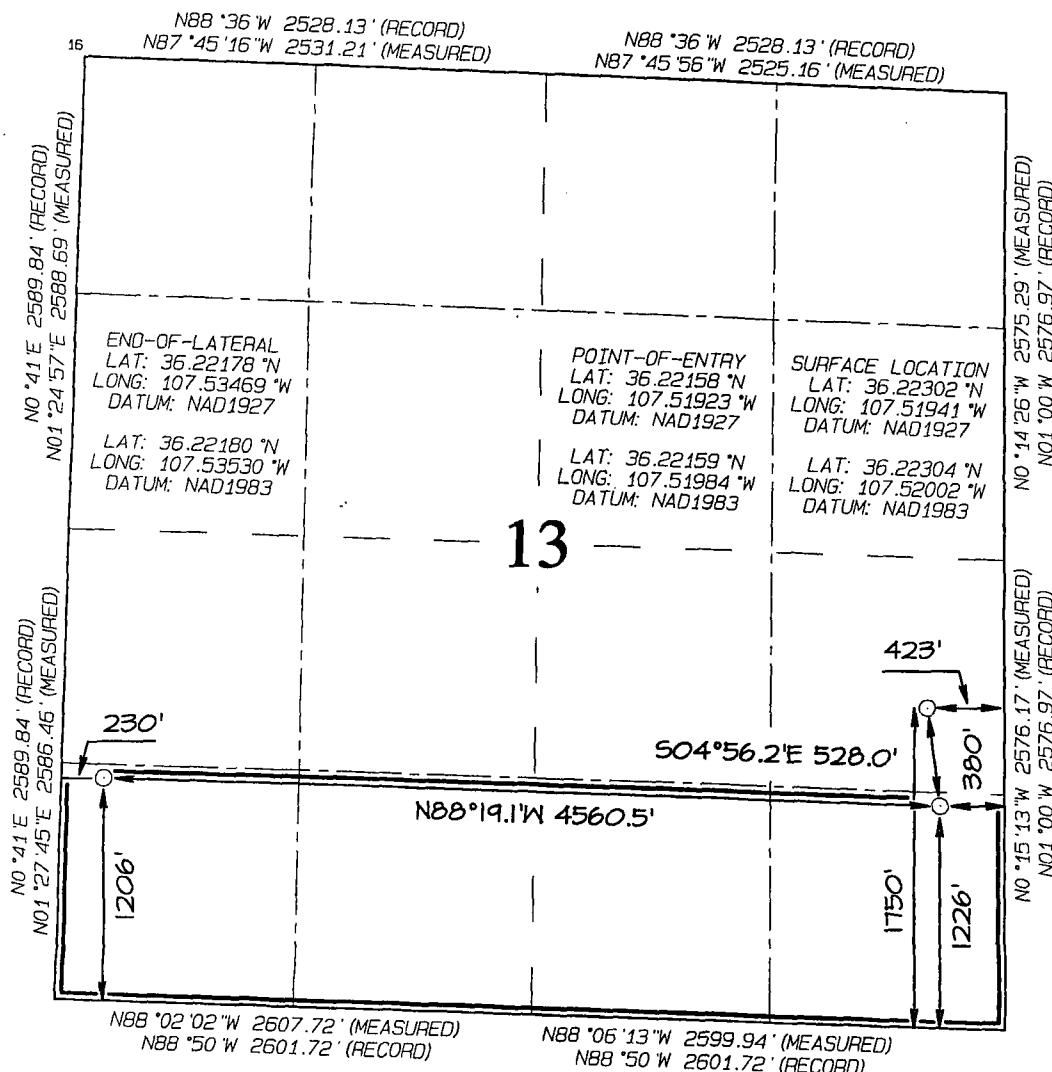
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	13	23N	7W		1750	SOUTH	423	EAST	RIO ARriba

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	13	23N	7W		1206	SOUTH	230	WEST	RIO ARriba

12 Dedicated Acres 160.0 Acres - (S/2 S/2)	13 Joint or Infill	14 Consolidation Code	15 Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



17 OPERATOR CERTIFICATION

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

Signature: *Larry Higgins* Date: 12/30/13

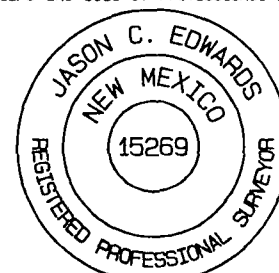
Printed Name: Larry Higgins
E-mail Address: larry.higgins@wpxenergy.com

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: DECEMBER 18, 2013
Date of Survey: AUGUST 2, 2012

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

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

DATE: 12/17/2013 **FIELD:** Lybrook (Gallup)

WELL NAME: Chaco 2307-131 #187H **SURFACE:** BLM

SH Location: NESE Sec 13 -23N -07W **ELEVATION:** 6925' GR

BH Location: SWSW Sec 13 -23N -07W **MINERALS:** BLM
Rio Arriba Co, NM

MEASURED DEPTH: 10,592' **LEASE #:** NMSF 078360

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

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1,312	1,303	Point Lookout	4,304	4,190
Kirtland	1,633	1,612	Mancos	4,495	4,379
Pictured Cliffs	1,940	1,908	Kickoff Point	4,957	4,841
Lewis	2,050	2,014	Target Top	5,688	5,424
Chacra	2,373	2,325	Landing Point	6,031	5,507
Cliff House	3,495	3,407	Target Base	6,031	5,507
Menefee	3,529	3,439			
			TD	10,592	5,409

B. MUD LOGGING PROGRAM: Mudlogger on location from surface csg to TD.**C. LOGGING PROGRAM:** LWD GR from surface casing to TD. LWD GR / E- Sonic will be run in Lateral.**D. NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.**II. DRILLING**

A. MUD PROGRAM: LSND mud (WBM) will be used to drill the 12-1/4" Surface hole, the 8 3/4" Directional Vertical hole, and the curve portion of the wellbore. A LSND (WBM) or (OBM) will be used to drill the lateral portion of well. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.

B. BOP TESTING: While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The anticipated reservoir is expected to be less than 1300 psi, so the BOPE will be tested to **250 psi (Low) for 5 minutes and 1500 psi (High) for 10 minutes**. Pressure test surface casing to **600 psi for 30 minutes** and intermediate casing to **1500 psi for 30 minutes**. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. **All tests and inspections will be recorded in the tour book as to time and results.**

NOTE: Vertical portion of the well (8-3/4 in.) will be directionally drilled as per attached Directional Plan to +/- 4,957' (MD) / 4,841' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 6,031' (MD) / 5,507' (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 +/- 10,592' (MD) / 5,409' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,881 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"	6,031'	7"	23#	K-55
Prod. Liner	6.125"	5,881' - 10,592'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5,881'	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 + (2) RSI (Sliding Sleeves) positioned inside the 330ft Hard line. Centralizer program will be determined by Wellbore condition and when Lateral is evaluated by Geoscientists and Reservoir Engineers. Set seals on Liner Hanger. Test TOL to 1500 psi for 15 minutes.
4. TIE-BACK CASING: None

C. CEMENTING:

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

1. SURFACE: 10 bbl Fr Water Spacer + 190 sx (222.3 cu.ft.) of "Premium Cement" + 2% Calcium Chloride Cement + 0.125# pps of Poly-E-Flake, 15.8 #/gal (1.17 cu ft./sk, Vol 39.58 Bbls.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 600psi. Total Volume: (222.3 cu-ft/190 sx/39.6 Bbls). TOC at Surface.
2. INTERMEDIATE: 20 bbl (112 cu-ft) Mud Flush III spacer + Lead: 850 sx Foamed 50/50 Poz Cement. 13.0 ppg + 0.1% Halad 766 + 0.2% Versaset + 1.5% Chem-Foamer 760 (Yield :1.43 cu-ft/ sk. / Vol: 1216 cu-ft / 216.5 Bbls.) + TAIL: 100 sx 13.5 #/gal. + 0.2% Versaset + 0.15% HALAD-766 (Yield: 1.28 cu-ft / sk / Vol: 128 cu-ft / 22.8 Bbls.). + Fresh Water Displacement (1,362 cu-ft / +/- 242 Bbls) + 100 sx Top-Out Cement Premium: Yield: (1.17 cu-ft/ sk / (Vol: 117 cu-ft / 20.8 Bbls). Test Casing to 1500 PSI for 30 minutes. Total Cement Volume: (1050 sx / 1461 cu-ft / 260 bbls). Mix with +/- 84,000 SCF Nitrogen. TOC at surface.
3. PRODUCTION LINER: **STAGE 1**:10 bbl (56.cu-ft) Fr Water Spacer. **STAGE 2**:40 bbl 9.5 ppg (224.6 cu-ft) 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 +/- 5,581 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 6,031 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,881 ft. (MD) +/- 74.6 degree angle. TOC: +/- 5,581 ft. (MD).

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

A 4-1/2" 11.6# N-80 tie-back string with seal assembly will be run and stung into the PBR of the liner hanger, tested to 1500 PSI and hung off at the surface.

The Drilling Rig will be rigged down at this point and Completion operations will begin. After Stimulation and Testing operations are complete the 4-1/2" tie-back string will be removed from the well.

Note: Changes to formation tops, casing landing points, well TD and Directional Plan.

WELL	Chaco 2307-131 #187H	FIELD	NM, Rio Arriba	STRUCTURE	Sec 13-23N-7W
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Magnetic Parameters	Dip: 63.011°	Date: December 11, 2013	Surface Location	NAD27 New Mexico State Plane, Central Zone, US Feet	Miscellaneous
Model: BGGM 2013	Mag Dec: 9.469°	FS: 50'60.5m	Lat: N 36 13 22.872	Northing: 192840.45 NUS	Site: Chaco 2307-131 #187H
			Long: W 107 31 9.876	Eastings: 125572.55 NUS	Plan: R0 mdv 11Dec13
				Scale Fact: 1.0000943	TVD Ref: RKB(6638) above MSL)
					Srvy Date: December 11, 2013

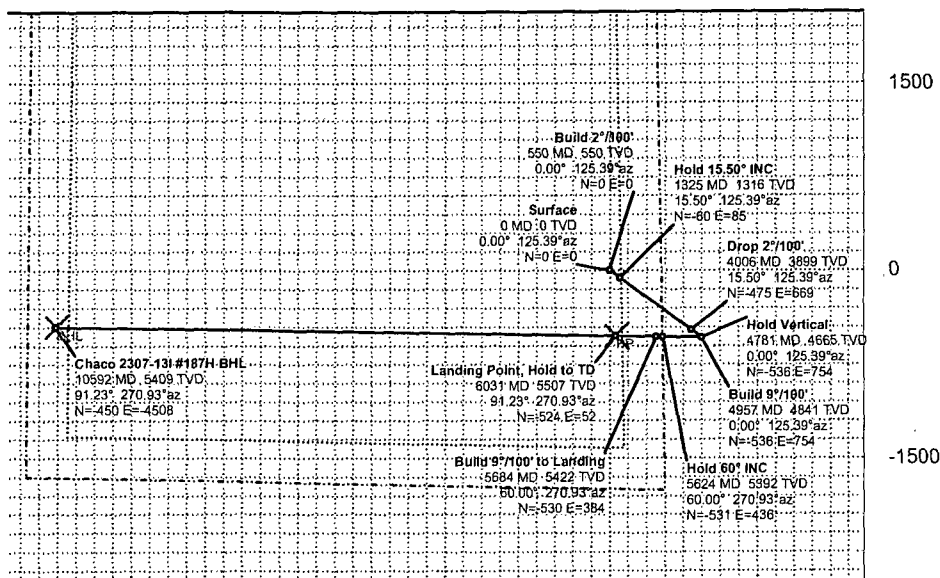
Proposal

<<< W Scale = 1:1500(ft) E >>>

-4500 -3000 -1500 0 1500



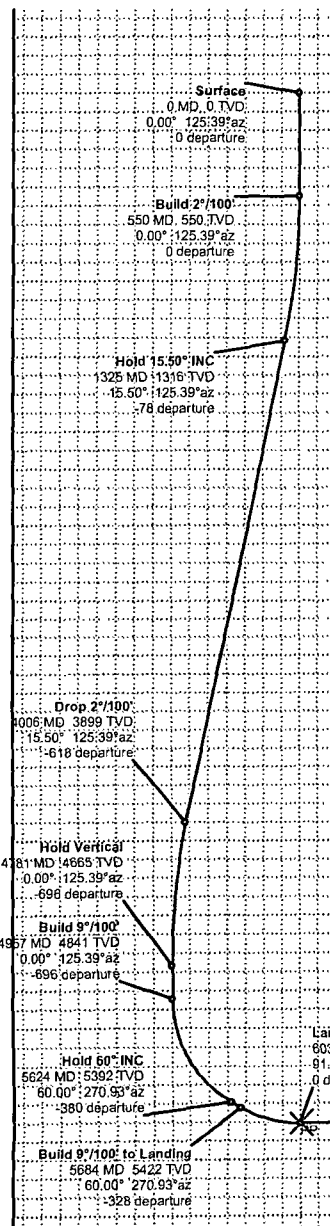
True North
Tot Corr (M->T) 9.4691°
Mag Dec (9.469°)
Grid Conv (-0.750°)



<<< S Scale = 1:1500(ft) N >>>

TVD Scale = 1:1000(ft)

0
1000
2000
3000
4000
5000
6000



-1000 0 1000 2000 3000 4000

Vertical Section (ft) Azim = 264.3° Scale = 1:1000(ft) Origin = 0 N/S, 0 E/W

Targets							
Name	TVD(ft)	NS(ft)	EW(ft)	Latitude(deg)	Longitude(deg)	Shape	
Chaco 2307-131#187H PP	5507.00	-524.33	51.83	N 36 13 17.687	W 107 31 9.243	POINT	
Chaco 2307-131#187H BHL	5409.00	-450.19	-4507.71	N 36 13 18.417	W 107 32 4.887	POINT	
Critical Points							
Comments	MD(ft)	INC	AZM	TVD(ft)	SS TVD	VS(ft)	DLS
Surface	0.00	0.00	125.39	0.00	-6939.00	0.00	0.00
Build 2°/100'	550.00	0.00	125.39	550.00	-6389.00	0.00	0.00
Hold 15.50° INC	1324.98	15.50	125.39	1315.57	-5623.43	-78.52	84.93
Drop 2°/100'	4006.37	15.50	125.39	3899.43	-3039.57	-618.52	669.07
Hold Vertical	4781.35	0.00	125.39	4665.00	-2274.00	-697.03	754.00
Build 9°/100'	4956.88	0.00	125.39	4840.53	-2098.47	-697.03	754.00
Hold 60° INC	5623.55	60.00	270.93	5391.86	-1547.14	-380.85	435.73
Build 9°/100' to Landing	5683.55	60.00	270.93	5421.86	-1517.14	-329.24	383.78
Landing Point, Hold to TD	6030.55	91.23	270.93	5507.00	-1432.00	0.51	51.85
Chaco 2307-131#187H BHL	10591.76	91.23	270.93	5409.00	-1530.00	4530.13	-450.19



Chaco 2307-131 #187H R0 mdv 11Dec13 Proposal Geodetic Report



(Def Plan)

Report Date: December 12, 2013 - 09:14 AM
Client: WPX Energy
Field: NM, Rio Arriba (NAD 27 CZ)
Structure / Slot: WPX Energy Sec 13-23N-7W (Chaco 2307-131 #187H) / Chaco 2307-131 #187H
Well: Chaco 2307-131 #187H
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Chaco 2307-131 #187H R0 mdv 11Dec13
Survey Date: December 11, 2013
Tort / AHD / DDI / ERD Ratio: 122.233 ° / 6187.331 ft / 6.163 / 1.124
Coordinate Reference System: NAD27 New Mexico State Plane, Central Zone, US Feet
Location Lat / Long: N 36° 13' 22.87200", W 107° 31' 9.87600"
Location Grid N/E Y/X: N 1902840.446 ftUS, E 125572.551 ftUS
CRS Grid Convergence Angle: -0.7502 °
Grid Scale Factor: 1.00006043

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 264.297 ° (True North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 6939.000 ft above MSL
Seabed / Ground Elevation: 6925.000 ft above MSL
Magnetic Declination: 9.469 °
Total Gravity Field Strength: 998.4916mgN (9.80665 Based)
Total Magnetic Field Strength: 50160.512 nT
Magnetic Dip Angle: 63.011 °
Declination Date: December 11, 2013
Magnetic Declination Model: BGGM 2013
North Reference: True North
Grid Convergence Used: 0.0000 °
Total Corr Mag North->True North: 9.4691 °
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	
Surface	0.00	0.00	125.39	0.00	0.00	0.00	0.00	N/A	1902840.45	125572.55	N 36 13 22.87	W 107 31 9.88	
Build 2"/100'	100.00	0.00	125.39	100.00	0.00	0.00	0.00	0.00	1902840.45	125572.55	N 36 13 22.87	W 107 31 9.88	
	200.00	0.00	125.39	200.00	0.00	0.00	0.00	0.00	1902840.45	125572.55	N 36 13 22.87	W 107 31 9.88	
	300.00	0.00	125.39	300.00	0.00	0.00	0.00	0.00	1902840.45	125572.55	N 36 13 22.87	W 107 31 9.88	
	400.00	0.00	125.39	400.00	0.00	0.00	0.00	0.00	1902840.45	125572.55	N 36 13 22.87	W 107 31 9.88	
	500.00	0.00	125.39	500.00	0.00	0.00	0.00	0.00	1902840.45	125572.55	N 36 13 22.87	W 107 31 9.88	
	550.00	0.00	125.39	550.00	0.00	0.00	0.00	0.00	1902840.45	125572.55	N 36 13 22.87	W 107 31 9.88	
	600.00	1.00	125.39	600.00	-0.33	-0.25	0.36	2.00	1902840.19	125572.90	N 36 13 22.87	W 107 31 9.87	
	700.00	3.00	125.39	699.93	-2.96	-2.27	3.20	2.00	1902838.13	125575.72	N 36 13 22.85	W 107 31 9.84	
	800.00	5.00	125.39	799.68	-8.22	-6.31	8.89	2.00	1902834.02	125581.36	N 36 13 22.81	W 107 31 9.77	
	900.00	7.00	125.39	899.13	-16.09	-12.37	17.41	2.00	1902827.85	125589.80	N 36 13 22.75	W 107 31 9.66	
Hold 15.50° INC	1000.00	9.00	125.39	998.15	-26.58	-20.43	28.75	2.00	1902819.64	125601.04	N 36 13 22.67	W 107 31 9.53	
	1100.00	11.00	125.39	1096.63	-39.67	-30.48	42.91	2.00	1902809.40	125615.06	N 36 13 22.57	W 107 31 9.35	
	1200.00	13.00	125.39	1194.44	-55.33	-42.53	59.86	2.00	1902797.14	125631.85	N 36 13 22.45	W 107 31 9.15	
	1300.00	15.00	125.39	1291.46	-73.56	-56.54	79.58	2.00	1902782.87	125651.38	N 36 13 22.31	W 107 31 8.90	
	1324.98	15.50	125.39	1315.57	-78.52	-60.34	84.93	2.00	1902778.99	125656.69	N 36 13 22.28	W 107 31 8.84	
	1400.00	15.50	125.39	1387.85	-93.62	-71.95	101.28	0.00	1902767.17	125672.88	N 36 13 22.16	W 107 31 8.64	
	1500.00	15.50	125.39	1484.22	-113.76	-87.43	123.06	0.00	1902751.41	125684.46	N 36 13 22.01	W 107 31 8.37	
	1600.00	15.50	125.39	1580.58	-133.90	-102.91	144.84	0.00	1902735.64	125716.04	N 36 13 21.85	W 107 31 8.11	
	1700.00	15.50	125.39	1676.94	-154.04	-118.39	166.63	0.00	1902719.88	125737.63	N 36 13 21.70	W 107 31 7.84	
	1800.00	15.50	125.39	1773.31	-174.18	-133.86	188.41	0.00	1902704.12	125758.21	N 36 13 21.55	W 107 31 7.58	
Drop 2"/100'	1900.00	15.50	125.39	1869.67	-194.32	-149.34	210.20	0.00	1902688.36	125780.79	N 36 13 21.40	W 107 31 7.31	
	2000.00	15.50	125.39	1966.03	-214.46	-164.82	231.98	0.00	1902672.59	125802.37	N 36 13 21.24	W 107 31 7.04	
	2100.00	15.50	125.39	2062.40	-234.60	-180.30	253.77	0.00	1902656.83	125823.95	N 36 13 21.09	W 107 31 6.78	
	2200.00	15.50	125.39	2158.76	-254.73	-195.77	275.55	0.00	1902641.07	125845.53	N 36 13 20.94	W 107 31 6.51	
	2300.00	15.50	125.39	2255.12	-274.87	-211.25	297.34	0.00	1902625.31	125867.12	N 36 13 20.78	W 107 31 6.25	
	2400.00	15.50	125.39	2351.49	-295.01	-226.73	319.12	0.00	1902609.54	125888.70	N 36 13 20.63	W 107 31 5.98	
	2500.00	15.50	125.39	2447.85	-315.15	-242.21	340.91	0.00	1902593.78	125910.28	N 36 13 20.48	W 107 31 5.72	
	2600.00	15.50	125.39	2544.21	-335.29	-257.68	362.69	0.00	1902578.02	125931.86	N 36 13 20.32	W 107 31 5.45	
	2700.00	15.50	125.39	2640.58	-355.43	-273.16	384.48	0.00	1902562.26	125953.44	N 36 13 20.17	W 107 31 5.18	
	2800.00	15.50	125.39	2736.94	-375.57	-288.64	406.26	0.00	1902546.49	125975.02	N 36 13 20.02	W 107 31 4.92	
Hold Vertical	2900.00	15.50	125.39	2833.30	-395.71	-304.12	428.05	0.00	1902530.73	125996.60	N 36 13 19.86	W 107 31 4.65	
	3000.00	15.50	125.39	2929.67	-415.84	-319.60	449.83	0.00	1902514.97	126018.19	N 36 13 19.71	W 107 31 4.39	
	3100.00	15.50	125.39	3026.03	-435.98	-335.07	471.62	0.00	1902499.21	126039.77	N 36 13 19.56	W 107 31 4.12	
	3200.00	15.50	125.39	3122.39	-456.12	-350.55	493.40	0.00	1902483.44	126061.35	N 36 13 19.41	W 107 31 3.85	
	3300.00	15.50	125.39	3218.75	-476.26	-366.03	515.19	0.00	1902467.68	126082.93	N 36 13 19.25	W 107 31 3.59	
	3400.00	15.50	125.39	3315.12	-496.40	-381.51	536.97	0.00	1902451.92	126104.51	N 36 13 19.10	W 107 31 3.32	
	3500.00	15.50	125.39	3411.48	-516.54	-396.98	558.76	0.00	1902436.16	126126.09	N 36 13 18.95	W 107 31 3.06	
	3600.00	15.50	125.39	3507.84	-536.68	-412.46	580.54	0.00	1902420.39	126147.68	N 36 13 18.79	W 107 31 2.79	
	3700.00	15.50	125.39	3604.21	-556.82	-427.94	602.33	0.00	1902404.63	126169.26	N 36 13 18.64	W 107 31 2.53	
	3800.00	15.50	125.39	3700.57	-576.96	-443.42	624.11	0.00	1902388.87	126190.84	N 36 13 18.49	W 107 31 2.26	
Build 9"/100'	3900.00	15.50	125.39	3796.93	-597.09	-458.89	645.89	0.00	1902373.11	126212.42	N 36 13 18.33	W 107 31 1.99	
	4000.00	15.50	125.39	3893.30	-617.23	-474.37	667.68	0.00	1902357.34	126234.00	N 36 13 18.16	W 107 31 1.73	
	4006.37	15.50	125.39	3899.43	-618.52	-475.36	669.07	0.00	1902356.34	126235.38	N 36 13 18.17	W 107 31 1.71	
	4100.00	13.63	125.39	3990.05	-636.26	-488.99	688.26	2.00	1902342.45	126254.39	N 36 13 18.04	W 107 31 1.48	
	4200.00	11.63	125.39	4087.63	-652.73	-501.65	706.08	2.00	1902329.56	126272.04	N 36 13 17.91	W 107 31 1.26	
	4300.00	9.63	125.39	4185.91	-666.63	-512.33	721.11	2.00	1902316.68	126286.93	N 36 13 17.81	W 107 31 1.08	
	4400.00	7.63	125.39	4284.77	-677.93	-521.02	733.34	2.00	1902309.84	126299.05	N 36 13 17.72	W 107 31 0.93	
	4500.00	5.63	125.39	4384.10	-686.63	-527.70	742.75	2.00	1902303.03	126308.37	N 36 13 17.65	W 107 31 0.81	
	4600.00	3.63	125.39	4483.77	-692.71	-532.38	749.32	2.00	1902298.27	126314.88	N 36 13 17.61	W 107 31 0.73	
	4700.00	1.63	125.39	4583.66	-696.16	-535.03	753.06	2.00	1902295.57	126318.58	N 36 13 17.58	W 107 31 0.69	
Build 9"/100' to Landing	4781.35	0.00	125.39	4665.00	-697.03	-535.70	754.00	2.00	1902294.89	126319.52	N 36 13 17.57	W 107 31 0.67	
	4800.00	0.00	125.39	4683.65	-697.03	-535.70	754.00	0.00	1902294.89	126319.52	N 36 13 17.57	W 107 31 0.67	
	4900.00	0.00	125.39	4783.65	-697.03	-535.70	754.00	0.00	1902294.89	126319.52	N 36 13 17.57	W 107 31 0.67	
	4956.88	0.00	125.39	4840.53	-697.03	-535.70	754.00	0.00	1902294.89	126319.52	N 36 13 17.57	W 107 31 0.67	
	5000.00	3.68	270.93	4883.61	-695.58	-535.68	752.54	9.00	1902294.93	126318.06	N 36 13 17.57	W 107 31 0.69	
	5100.00	12.88	270.93	4982.45	-681.12	-535.44	737.98	9.00	1902295.36	126303.50	N 36 13 17.58	W 107 31 0.87	
	5200.00	21.88	270.93	5077.78	-651.48	-534.96	708.15	9.00	1902296.23	126273.67	N 36 13 17.58	W 107 31 1.23	
	5300.00	30.88	270.93	5167.28	-607.39	-534.24	663.76	9.00	1902297.53	126229.30	N 36 13 17.59	W 107 31 1.78	
	5400.00	39.88	270.93	5248.72	-549.93	-533.30	605.93	9.00	1902299.23	126171.48	N 36 13 17.60	W 107 31 2.48	
	5500.00	48.88	270.93	5320.12	-480.53	-532.16	536.07	9.00	1902301.28	126101.64	N 36 13 17.61	W 107 31 3.33	
Hold 60° INC	5600.00	57.88	270.93	5379.71	-400.89	-530.86	455.90	9.00	1902303.63	126021.49	N 36 13 17.62	W 107 31 4.31	
	5623.55	60.00	270.93	5391.86	-380.85	-530.53	435.73	9.00	1902304.22	126001.32	N 36 13 17.63	W 107 31 4.56	
	Build 9"/100' to Landing	5683.55	60.00	270.93	5421.86	-329.24	-529.69	383.78	0.00	1902305.74	125949.38	N 36 13 17.63	W 107 31 5.19
		5700.00	61.48	270.93	5429.90	-314.98	-529.46	369.43	9.00	1902306.17	125935.04	N 36 13 17.64	W 107 31 5.37
		5800.00	70.48	270.93	5470.56	-224.35	-527.98	278.19	9.00	1902308.84	125843.82	N 36 13 17.65	W 107 31 6.48
		5900.00	79.48	270.93	5496.45	-128.51	-526.41	181.72	9.00	1902311.67	125747.37	N 36 13 17.67	W 107 31 7.66
	6000.00	88.48	270.93	5506.93	-29.83	-524.80	82.39	9.00	1902314.58	125648.06	N 36 13 17.68	W 107 31 8.87	
	Landing Point, Hold to TD	6030.55	91.23	270.93	5507.00	0.51	-524.30	51.85	9.00	1902315.48	125617.53	N 36 13 17.69	W 107 31 9.24
		6100.00	91.23	270.93	5505.51	69.48	-523.17	-17.58	0.00	1902317.52	125548.12	N 36 13 17.70	W 107 31 10.09
		6200.00	91.23	270.93	5503.37	168.79							

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6900.00	91.23	270.93	5488.34	863.95	-510.19	-817.29	0.00	1902340.97	124748.60	N 36 13 17.63	W 107 31 19.85
	7000.00	91.23	270.93	5486.19	963.25	-508.57	-917.25	0.00	1902343.90	124648.66	N 36 13 17.84	W 107 31 21.07
	7100.00	91.23	270.93	5484.04	1062.56	-506.94	-1017.22	0.00	1902346.84	124548.72	N 36 13 17.86	W 107 31 22.29
	7200.00	91.23	270.93	5481.89	1161.87	-505.32	-1117.18	0.00	1902349.77	124448.78	N 36 13 17.87	W 107 31 23.51
	7300.00	91.23	270.93	5479.75	1261.18	-503.69	-1217.15	0.00	1902352.70	124348.84	N 36 13 17.89	W 107 31 24.73
	7400.00	91.23	270.93	5477.60	1360.48	-502.07	-1317.11	0.00	1902355.63	124248.90	N 36 13 17.91	W 107 31 25.95
	7500.00	91.23	270.93	5475.45	1459.79	-500.45	-1417.07	0.00	1902358.57	124148.96	N 36 13 17.92	W 107 31 27.17
	7600.00	91.23	270.93	5473.30	1559.10	-498.82	-1517.04	0.00	1902361.50	124049.02	N 36 13 17.94	W 107 31 28.39
	7700.00	91.23	270.93	5471.15	1658.41	-497.20	-1617.00	0.00	1902364.43	123949.08	N 36 13 17.95	W 107 31 29.61
	7800.00	91.23	270.93	5469.01	1757.71	-495.57	-1716.96	0.00	1902367.37	123849.15	N 36 13 17.97	W 107 31 30.83
	7900.00	91.23	270.93	5466.86	1857.02	-493.95	-1816.93	0.00	1902370.30	123749.21	N 36 13 17.99	W 107 31 32.05
	8000.00	91.23	270.93	5464.71	1956.33	-492.32	-1916.89	0.00	1902373.23	123649.27	N 36 13 18.00	W 107 31 33.27
	8100.00	91.23	270.93	5462.56	2055.64	-490.70	-2016.86	0.00	1902376.17	123549.33	N 36 13 18.02	W 107 31 34.49
	8200.00	91.23	270.93	5460.41	2154.94	-489.08	-2116.82	0.00	1902379.10	123449.39	N 36 13 18.03	W 107 31 35.71
	8300.00	91.23	270.93	5458.26	2254.25	-487.45	-2216.78	0.00	1902382.04	123349.45	N 36 13 18.05	W 107 31 36.93
	8400.00	91.23	270.93	5456.12	2353.56	-485.83	-2316.75	0.00	1902384.97	123249.51	N 36 13 18.07	W 107 31 38.15
	8500.00	91.23	270.93	5453.97	2452.87	-484.20	-2416.71	0.00	1902387.90	123149.57	N 36 13 18.08	W 107 31 39.37
	8600.00	91.23	270.93	5451.82	2552.17	-482.58	-2516.67	0.00	1902390.84	123049.63	N 36 13 18.10	W 107 31 40.59
	8700.00	91.23	270.93	5449.67	2651.48	-480.95	-2616.64	0.00	1902393.77	122949.69	N 36 13 18.11	W 107 31 41.81
	8800.00	91.23	270.93	5447.52	2750.79	-479.32	-2716.60	0.00	1902396.71	122849.75	N 36 13 18.13	W 107 31 43.03
	8900.00	91.23	270.93	5445.37	2850.09	-477.70	-2816.56	0.00	1902399.64	122749.81	N 36 13 18.15	W 107 31 44.25
	9000.00	91.23	270.93	5443.22	2949.40	-476.07	-2916.53	0.00	1902402.57	122649.87	N 36 13 18.16	W 107 31 45.47
	9100.00	91.23	270.93	5441.07	3048.71	-474.45	-3016.49	0.00	1902405.51	122549.93	N 36 13 18.18	W 107 31 46.69
	9200.00	91.23	270.93	5438.92	3148.02	-472.82	-3116.46	0.00	1902408.44	122449.99	N 36 13 18.19	W 107 31 47.91
	9300.00	91.23	270.93	5436.77	3247.32	-471.20	-3216.42	0.00	1902411.38	122350.05	N 36 13 18.21	W 107 31 49.13
	9400.00	91.23	270.93	5434.62	3346.63	-469.57	-3316.38	0.00	1902414.31	122250.11	N 36 13 18.23	W 107 31 50.35
	9500.00	91.23	270.93	5432.47	3445.94	-467.94	-3416.35	0.00	1902417.25	122150.17	N 36 13 18.24	W 107 31 51.57
	9600.00	91.23	270.93	5430.32	3545.25	-466.32	-3516.31	0.00	1902420.18	122050.23	N 36 13 18.26	W 107 31 52.79
	9700.00	91.23	270.93	5428.18	3644.55	-464.69	-3616.27	0.00	1902423.12	121950.29	N 36 13 18.27	W 107 31 54.01
	9800.00	91.23	270.93	5426.03	3743.86	-463.07	-3716.24	0.00	1902426.05	121850.35	N 36 13 18.29	W 107 31 55.23
	9900.00	91.23	270.93	5423.88	3843.17	-461.44	-3816.20	0.00	1902428.99	121750.41	N 36 13 18.31	W 107 31 56.45
	10000.00	91.23	270.93	5421.73	3942.47	-459.81	-3916.17	0.00	1902431.92	121650.47	N 36 13 18.32	W 107 31 57.67
	10100.00	91.23	270.93	5419.57	4041.78	-458.19	-4016.13	0.00	1902434.86	121550.53	N 36 13 18.34	W 107 31 58.89
	10200.00	91.23	270.93	5417.42	4141.09	-456.56	-4116.09	0.00	1902437.79	121450.59	N 36 13 18.35	W 107 32 0.11
	10300.00	91.23	270.93	5415.27	4240.40	-454.93	-4216.06	0.00	1902440.73	121350.65	N 36 13 18.37	W 107 32 1.33
	10400.00	91.23	270.93	5413.12	4339.70	-453.31	-4316.02	0.00	1902443.67	121250.71	N 36 13 18.39	W 107 32 2.55
	10500.00	91.23	270.93	5410.97	4439.01	-451.68	-4415.98	0.00	1902446.60	121150.77	N 36 13 18.40	W 107 32 3.77
Chaco 2307-13I #187H BHL	10591.76	91.23	270.93	5409.00	4530.13	-450.19	-4507.71	0.00	1902449.30	121059.07	N 36 13 18.42	W 107 32 4.89

Survey Type: Def Plan

Survey Error Model: ISCSWA Rev 0 *** 3-D 95,000% Confidence 2.7955 sigma
Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	14.000	1/100.000	30.000	30.000	SLB_MWD-STD-Depth Only	Original Hole / Chaco 2307-13I #187H R0 mdv 11Dec13
	14.000	10591.759	1/100.000	30.000	30.000	SLB_MWD-STD	Original Hole / Chaco 2307-13I #187H R0 mdv 11Dec13

1. INTRODUCTION

WPX Energy Production, LLC (WPX) is providing this Surface Use Plan of Operations (SUPO) to the Bureau of Land Management – Farmington Field Office (BLM-FFO) as part of their Chaco 2307-13I Nos. 186H and 187H (186H/187H) Applications for Permit to Drill (APDs) This SUPO is provided per Onshore Oil and Gas Order No. 1.

The proposed 186H/187H oil and natural gas wells will each be permitted by an approved APD. The associated well pad, which will be located on-lease, will also be permitted by the APDs.

A pre-disturbance onsite meeting for the project was held on December 19, 2012. The BLM, WPX, and an environmental consultant (Nelson Consulting, Inc.) attended the meeting. A second pre-disturbance onsite meeting for the project was held on July 31, 2013; the same parties attended the meeting.

In addition to the best management practices (BMPs) provided below and in the Surface Reclamation Plan (Reclamation Plan; Appendix A), the general Conditions of Approval will be followed, if any are attached to the approved APDs.

2. PROJECT LOCATION AND DESCRIPTION

2.1. Project Location

The proposed project area is located in Rio Arriba County, New Mexico. The proposed project area is located approximately 42.0 miles south-southeast of the town of Bloomfield, New Mexico. To access the proposed project area, head south from the U.S. Highway 550-U.S. Highway 64 intersection for approximately 51.0 miles, then turn right onto an existing road for approximately 0.4 mile, and then turn right onto an existing road for approximately 0.5 mile before reaching the proposed well pad. The access route from U.S. Highway 550 is depicted on Figure B.1 (Appendix B) and on the construction plats provided in the APD permit packages.

The proposed project area is located within the northeastern quarter of the southeastern quarter of Section 13 of Township 23 North, Range 7 West (New Mexico Principal Meridian).

2.2. Project Description

The proposed project will include the horizontal drilling, possible production, and plugging of the proposed 186H/187H wells; the construction, use, and reclamation of an associated 5.1-acre well pad (including construction zone); and a staging area (totaling 1.0 acre [estimate based on aerial photographs]).

The proposed project area and staging area are located within the northeastern quarter of the southeastern quarter of Section 13 of Township 23 North, Range 7 West (New Mexico Principal Meridian). The latitude and longitude of the proposed 186H/187H bottom holes and surface holes are provided in the table below.

Table. Bottom Hole and Surface Hole Locations (North American Datum 1983)

Project Feature	Latitude	Longitude
186H		
Bottom Hole	36.22454° North	107.53526° West
Surface Hole (Wellhead)	36.22303° North	107.51994° West
187H		
Bottom Hole	36.22180° North	107.53530° West
Surface Hole (Wellhead)	36.22304° North	107.52002° West

Construction plats are provided in the APD permit packages.

Within 90 days of installation, aboveground structures not subject to safety requirements will be painted Juniper Green to blend with the surrounding landscape and reduce visual resource impacts.

9. METHODS FOR HANDLING WASTE DISPOSAL

- ✓ Drilling operations will utilize a closed-loop system. Drilling of the horizontal lateral may be done with water-based mud. All water-based mud cuttings will be hauled to a commercial disposal facility or land farm. The drilling operations area will be enclosed by a containment berm and ditches, which will drain to sump areas for spill prevention and control. The containment berm will be ramped to allow access to the solids control area.

WPX will follow New Mexico Oil Conservation Division "Pit Rule" guidelines and Onshore Order Nos. 1 and 7 regarding the placement, operation, and closure of any reserve pits or closed-loop systems. No blow pit will be used.

As stated in the Reclamation Plan (Appendix A), if drilling has not been initiated on the proposed well pad within 120 days of the well pad being constructed, WPX will submit a site-stabilization plan to the BLM-FFO.

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.

Portable toilets will be provided and maintained during construction, as needed.

10. ANCILLARY FACILITIES

Pipelines will be permitted and constructed at a later date.

One active well pad (Elm Ridge's Lybrook South No. 7) will be used as a staging area for the proposed project. This staging area is located immediately west of the proposed well pad. During staging, WPX will stay within the boundaries of the well pad area. During interim reclamation, WPX will repair any damage to the staging area. The staging area will be reseeded during interim reclamation, with the exception of any previously unvegetated portions of the staging area that Elm Ridge prefers to remain unseeded. The staging area will not be recontoured, as WPX does not anticipate any contouring taking place during construction. Reclamation is described further in the Surface Reclamation Plan (Appendix A).

The staging area is depicted in Appendix B (Figure B.1).

11. WELL SITE LAYOUT

The interim reclamation/long-term disturbance layout is depicted in Figure B.4 (Appendix B) and is described below.

The following areas (known as the "non-reseed working areas") will remain unreclaimed throughout the lifetime of the proposed project. These areas will be regularly used for equipment or for vehicular access.

- Production facilities will be located within a 300-by-100-foot (0.7-acre) facility area at the eastern end of the proposed well pad. After excluding the portions of this area that overlap the existing road, this area measures 0.6 acre.
- The teardrop for the proposed well pad will include a looped, 35-foot-wide driving surface, totaling approximately 0.5 acre. After excluding the portions of this area that overlap the existing road, this area measures 0.4 acre.

