

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: 4/24/14

Well information:

Operator WPX, Well Name and Number Chaco 2306-18M #240 H

API# 30-039-31235, Section 18, Township 23 NS, Range 6 E/W

Conditions of Approval:

(See the below checked and handwritten conditions)

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☒ Hold C-104 for directional survey & "As Drilled" Plat
- ☐ Hold C-104 for NSL, NSP, DHC
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ☐ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
  - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
  - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
  - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- ☐ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ☒ 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.

NMOCD Approved by Signature

5-30-14

Date

RECEIVED

APR 24 2014

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Farmington Field Office

Bureau of Land Management

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.  
NMSF-078360  
6. Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.

Chaco 2306-18M #240H

9. API Well No.

30-039-31235

10. Field and Pool, or Exploratory

Lybrook Gallup

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

Sur: Section 18, T23N, R6W

BHL: Section 13, T23N, R7W

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 231' FSL & 195' FWL, sec 18, T23N, R6W

At proposed prod. zone 163' 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) 195'

16. No. of Acres in lease

2565.24

17. Spacing Unit dedicated to this well

200 acres

18. Distance from proposed location\*

to nearest well, drilling, completed,  
applied for, on this lease, ft.

22'

19. Proposed Depth

10,883' MD / 5,406' TVD

20. BLM/BIA Bond No. on file

UTB000178

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

6938' GR

22. Approximate date work will start\*

June 1, 2014

23. Estimated duration

1 month

24. Attachments

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

1. Well plat certified by a registered surveyor.

2. A Drilling Plan.

3. A Surface Use Plan (if the location is on National Forest System Lands, the  
SUPO shall be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see  
Item 20 above).

5. Operator certification.

6. Such other site specific information and/or plans as may be required by the  
authorized officer.

25. Signature

Larry Higgins

Name (Printed/Typed)

Larry Higgins

Date

4/24/14

Title

Regulatory Specialist

Approved by (Signature)

J. Martinez

Name (Printed/Typed)

Office

FFO

Date

5/16/14

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. The road and location are on lease.

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

This well shares this location with the Chaco #256H and 292H. A 520' access road will be required for this well site.

A 1700' pipeline access is included in this application.

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

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

NMOCDA

CONFIDENTIAL

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 24th day of April, 2014.

Name Larry Higgins

Position Title Regulatory Specialist

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: 04/24/14



Larry Higgins

Regulatory Spec.

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

RECEIVED  
AMENDED REPORT

APR 24 2014

WELL LOCATION AND ACREAGE DEDICATION PLAT

Farmington Field Office  
Bureau of Land Management

|                                    |                                              |                              |
|------------------------------------|----------------------------------------------|------------------------------|
| *API Number<br><b>30-039-31235</b> | *Pool Code<br>42289                          | *Pool Name<br>LYBROOK GALLUP |
| *Property Code<br><b>313148</b>    | *Property Name<br>CHACO 2306-18M             | *Well Number<br>240H         |
| *GRID No.<br>120782                | *Operator Name<br>WPX ENERGY PRODUCTION, LLC | *Elevation<br>6938'          |

10 Surface Location

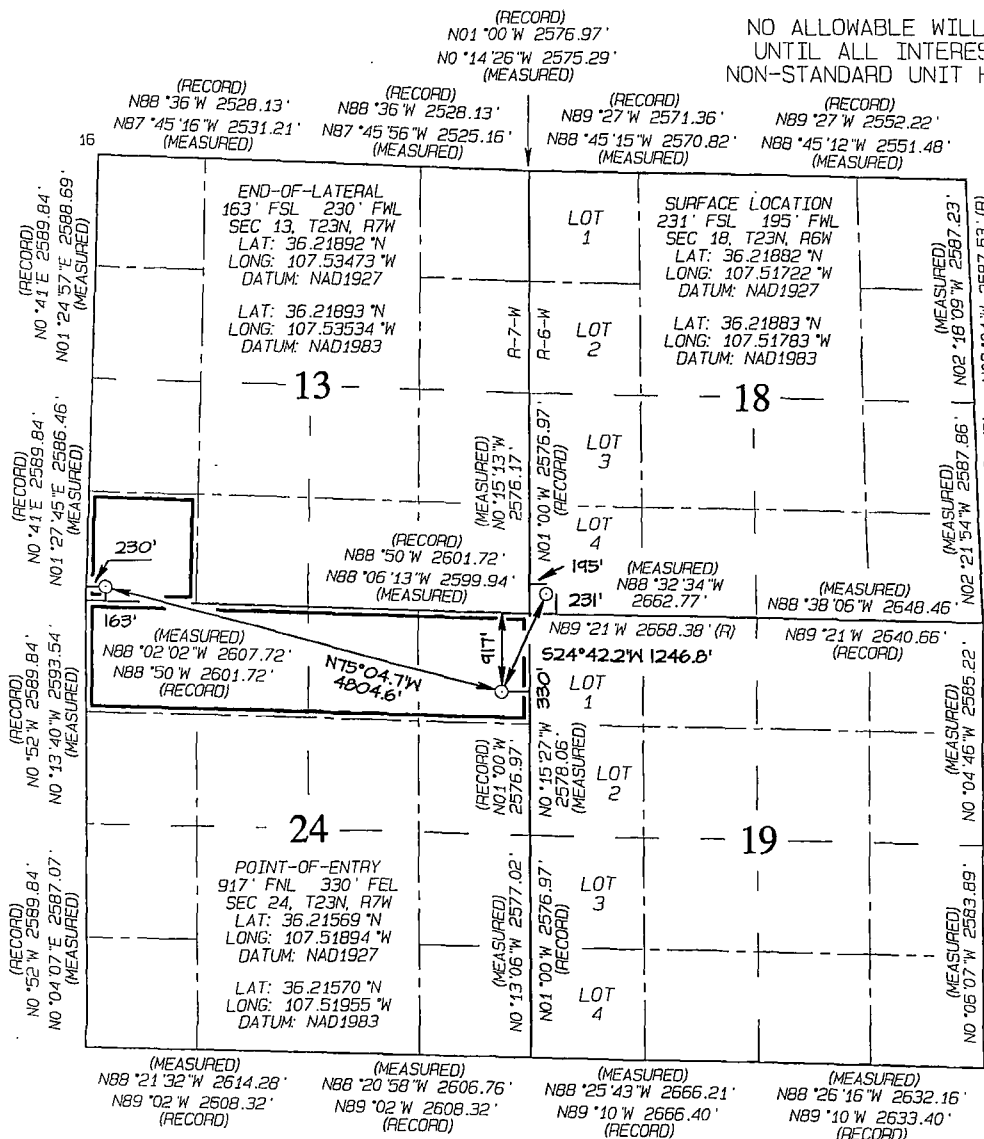
| UL or lot no. | Section | Township | Range | Lot Idh | Feet from the | North/South line | Feet from the | East/West line | County     |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| M             | 18      | 23N      | 6W    | 4       | 231           | SOUTH            | 195           | WEST           | RIO ARriba |

11 Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idh | Feet from the | North/South line | Feet from the | East/West line | County     |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| M             | 13      | 23N      | 7W    |         | 163           | SOUTH            | 230           | WEST           | RIO ARriba |

|                                   |                                            |                    |                       |              |
|-----------------------------------|--------------------------------------------|--------------------|-----------------------|--------------|
| 12 Dedicated Acres<br>200.0 Acres | N/2 N/2 Section 24<br>SW/4 SW/4 Section 13 | 13 Joint or Infill | 14 Consolidation Code | 15 Order No. |
|-----------------------------------|--------------------------------------------|--------------------|-----------------------|--------------|

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: 4/24/14

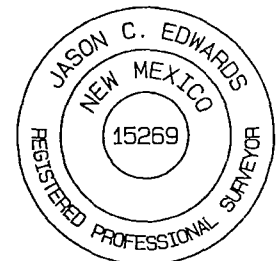
Printed Name: Larry Higgins  
E-mail Address: larry.higgins@wpxenergy.com

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Revised: APRIL 22, 2014  
Survey Date: DECEMBER 31, 2013

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:** 4/15/2014 **FIELD:** Lybrook (Gallup)

**WELL NAME:** Chaco 2306-18M #240H **SURFACE:** BLM

**SH Location:** SWSW Sec 18-23N-06W **ELEVATION:** 6938' GR

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

**MEASURED DEPTH:** 10,883' **LEASE #:** NMSF 078360

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

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

| Name           | MD   | TVD  | Name                 | MD          | TVD  |
|----------------|------|------|----------------------|-------------|------|
| Ojo Alamo      | 1305 | 1296 | Point Lookout        | 4303        | 4169 |
| Kirtland       | 1619 | 1597 | Mancos               | 4508        | 4365 |
| Picture Cliffs | 1922 | 1888 | <b>Kickoff Point</b> | <b>4931</b> | 4770 |
| Lewis          | 2012 | 1974 | Top Target           | 5736        | 5406 |
| Chacra         | 2359 | 2306 | <b>Landing Point</b> | <b>6079</b> | 5488 |
| Cliff House    | 3479 | 3379 | Base Target          | 6055        | 5487 |
| Menefee        | 3501 | 3400 |                      |             |      |
|                |      |      | TD                   | 10883       | 5406 |

- 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 (QBM) 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. **BOPE 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 +/- 4,931 (MD) / 4,770' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 6,079' (MD) / 5,488' (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 +/- 10,883' (MD) / 5,406' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,929ft. 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"        | 6079'            | 7"               | 23#        | K-55  |
| Prod. Liner     | 6.125"       | 5,929' - 10,883' | 4-1/2"           | 11.6#      | N-80  |
| Tie-Back String | N/A          | Surf. - 5,962'   | 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., and 2,000ft. Additionally run 1 turbolizing centralizer on every other joint from 100' below the top of the Kirtland to 100' above the top of the Ojo Alamo, as referenced in Formation Tops in Section I-A.
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 ( 536.3 cu ft / 95.5 bbls). Mix Foamed Cement w/ +/- 75,000 SCF Nitrogen. Est. TOC +/- 5,629 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 6,079 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,929 ft. (MD) +/- 78 degree angle. TOC: +/- 5,629 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.

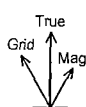
The Drilling Rig will be rigged down at this point and Completion operations will begin. After Stimulation and Testing operations are complete the 4-1/2" tie-back string will be removed from the well.

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

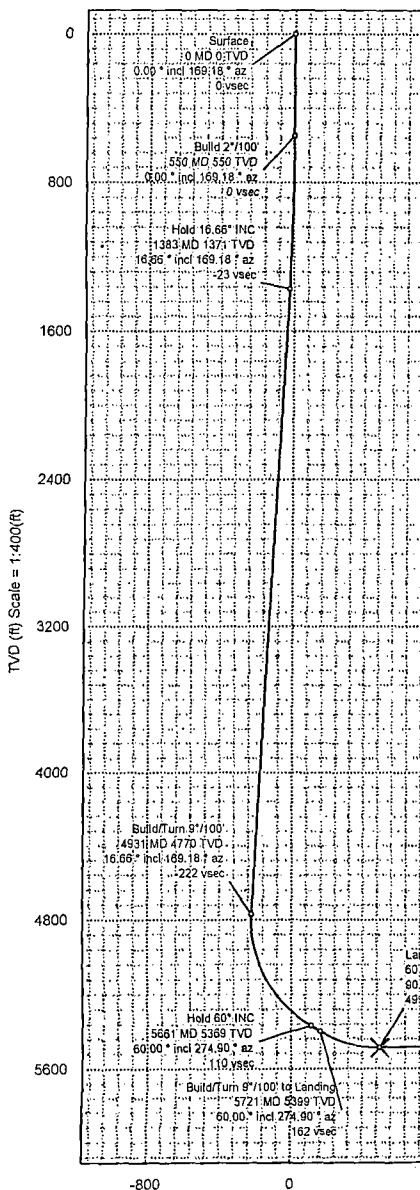
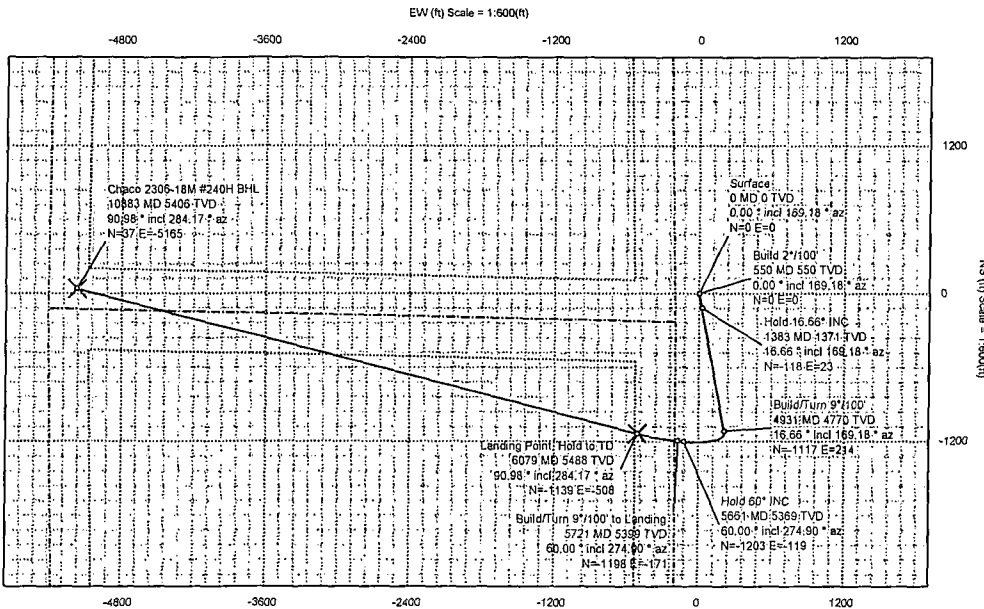
|               |                      |                            |               |
|---------------|----------------------|----------------------------|---------------|
| Borehole:     | Well:                | Field:                     | Structure:    |
| Original Hole | Chaco 2306-18M #240H | NM, Rio Arriba (NAD 27 CZ) | Sec 18-23N-6W |

|                                                                       |                                                                |                                           |
|-----------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------|
| Gravity & Magnetic Parameters                                         | Surface Location                                               | Miscellaneous                             |
| Model: BGGM 2013 Dip: 63.002° Date: 06-Mar-2014                       | NAD27 New Mexico State Plane, Central Zone, US Feet            | Slot: Chaco 2306-18M #240H                |
| MagDec: 9.442° FS: 50130.712nT Gravity FS: 996.495mgm (9.80665 Based) | Lat: N 36 13 7.75 Northing: 1901303.055ft Grid Conv: -0.7488°  | TVD Ref: RKB(6952ft above MSL)            |
|                                                                       | Lon: W 107 31 1.99 Easting: 126198.565ft Scale Fact: 1.0000599 | Plan: Chaco 2306-18M #240H R4 mdy 15Apr14 |

## Proposal



True North  
Tot Cor (M→T) 9.442°  
Mag Dec (9.442°)  
Grid Conv (-0.749°)



| Surface Location                  |               |               |                     |           |                        |           |                          |           |
|-----------------------------------|---------------|---------------|---------------------|-----------|------------------------|-----------|--------------------------|-----------|
| Northing: 1901303.055             |               |               | Easting: 126198.565 |           | Latitude: N 36 13 7.75 |           | Longitude: W 107 31 1.99 |           |
|                                   |               |               |                     |           | VSec Azimuth: 270.409  |           |                          |           |
| Target Description                |               | Grid Coord    |                     |           |                        |           | Local Coord              |           |
| Target Name                       | Latitude      | Longitude     | Northing            | Easting   | TVD                    | VSec      | N(+)/S(-)                | E(+)/W(-) |
| Chaco 2306-18M #240H BHL          | N 36 13 8.11  | W 107 32 5.03 | 1901407.44          | 121033.73 | 5406.00                | 5165.59   | 36.87                    | -5165.46  |
| Chaco 2306-18M #240H PP           | N 36 12 56.48 | W 107 31 8.18 | 1900170.27          | 125676.27 | 5488.00                | 499.27    | -1139.45                 | -507.42   |
| Section 24-330' Setback           | N 36 13 7.75  | W 107 31 1.99 | 1901303.06          | 126198.57 | 6952.00                | 0.00      | 0.00                     | 0.00      |
| Chaco 2306-18M #240H 330' Setback | N 36 13 7.75  | W 107 31 1.99 | 1901303.06          | 126198.57 | 6952.00                | 0.00      | 0.00                     | 0.00      |
| Section 24                        | N 36 13 7.75  | W 107 31 1.99 | 1901303.06          | 126198.57 | 6952.00                | 0.00      | 0.00                     | 0.00      |
| Chaco 2306-18M #240H Section Line | N 36 13 7.75  | W 107 31 1.99 | 1901303.06          | 126198.57 | 6952.00                | 0.00      | 0.00                     | 0.00      |
| Critical Points                   |               |               |                     |           |                        |           |                          |           |
| Critical Point                    | MD            | INCL          | AZIM                | TVD       | VSEC                   | N(+)/S(-) | E(+)/W(-)                | DLS       |
| Surface                           | 0.00          | 0.00          | 169.18              | 0.00      | 0.00                   | 0.00      | 0.00                     |           |
| Build 2°/100'                     | 550.00        | 0.00          | 169.18              | 550.00    | 0.00                   | 0.00      | 0.00                     | 0.00      |
| Hold 16.66° INC                   | 1383.08       | 16.66         | 169.18              | 1371.39   | -23.43                 | -118.14   | 22.59                    | 2.00      |
| Build/Turn 9°/100'                | 4930.67       | 16.66         | 169.18              | 4770.03   | -221.57                | -1117.20  | 213.60                   | 0.00      |
| Hold 60° INC                      | 5660.53       | 60.00         | 274.90              | 5369.22   | 110.29                 | -1202.53  | -118.87                  | 9.00      |
| Build/Turn 9°/100' to Landing     | 5720.53       | 60.00         | 274.90              | 5399.22   | 162.09                 | -1198.09  | -170.65                  | 0.00      |
| Landing Point, Hold to TD         | 6078.50       | 90.98         | 284.17              | 5488.00   | 499.38                 | -1139.48  | -507.52                  | 9.00      |
| Chaco 2306-18M #240H BHL          | 10883.38      | 90.98         | 284.17              | 5406.00   | 5165.59                | 36.87     | -5165.46                 | 0.00      |

Vertical Section (ft) Azim = 270.409° Scale = 1:400(ft) Origin = 0N/-S, 0E/-W



## Chaco 2306-18M #240H R4 mdv 15Apr14 Proposal Geodetic Report



(Def Plan)

Report Date: April 15, 2014 - 01:32 PM  
Client: WPX Energy  
Field: NM, Rio Arriba (NAD 27 CZ)  
Structure / Slot: WPX Sec 18-23N-6W (Chaco 2306-18M #240H) / Chaco 2306-18M #240H  
Well: Chaco 2306-18M #240H  
Borehole: Original Hole  
UWI / API#: Unknown / Unknown  
Survey Name: Chaco 2306-18M #240H R4 mdv 15Apr14  
Survey Date: March 06, 2014  
Tort / AHD / DDI / ERD Ratio: 114.571' / 6711.834 ft / 6.183 / 1.223  
Coordinate Reference System: NAD27 New Mexico State Plane, Central Zone, US Feet  
Location Lat / Long: N 36° 13' 7.75200", W 107° 31' 1.99200"  
Location Grid N/E Y/X: N 1901303.055 RUS, E 126198.565 RUS  
CRS Grid Convergence Angle: -0.7488 °  
Grid Scale Factor: 1.0000599  
Version / Patch: 2.7.1043.0

Survey / DLS Computation: Minimum Curvature / Lubinski  
Vertical Section Azimuth: 270.409 ° (True North)  
Vertical Section Origin: 0.000 ft, 0.000 ft  
TVD Reference Datum: RKB  
TVD Reference Elevation: 6952.000 ft above MSL  
Seabed / Ground Elevation: 6938.000 ft above MSL  
Magnetic Declination: 9.442 °  
Total Gravity Field Strength: 998.4950mgn (9.80665 Based)  
Gravity Model: GARM  
Total Magnetic Field Strength: 50130.712 nT  
Magnetic Dip Angle: 63.002 °  
Declination Date: March 06, 2014  
Magnetic Declination Model: BGGM 2013  
North Reference: True North  
Grid Convergence Used: 0.0000 °  
Total Corr Mag North-True North: 9.4424 °  
Local Coord Referenced To: Well Head

| Comments                        | MD<br>(ft) | Incl<br>(°) | Azim True<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' ") | Longitude<br>(E/W ° ' ") |
|---------------------------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|-------------------------|--------------------------|
| Surface                         | 0.00       | 0.00        | 169.18           | 0.00        | 0.00         | 0.00       | 0.00       | N/A              | 1901303.05         | 126198.56         | N 36 13 7.75            | W 107 31 1.99            |
|                                 | 100.00     | 0.00        | 169.18           | 100.00      | 0.00         | 0.00       | 0.00       | 0.00             | 1901303.05         | 126198.56         | N 36 13 7.75            | W 107 31 1.99            |
|                                 | 200.00     | 0.00        | 169.18           | 200.00      | 0.00         | 0.00       | 0.00       | 0.00             | 1901303.05         | 126198.56         | N 36 13 7.75            | W 107 31 1.99            |
|                                 | 300.00     | 0.00        | 169.18           | 300.00      | 0.00         | 0.00       | 0.00       | 0.00             | 1901303.05         | 126198.56         | N 36 13 7.75            | W 107 31 1.99            |
|                                 | 400.00     | 0.00        | 169.18           | 400.00      | 0.00         | 0.00       | 0.00       | 0.00             | 1901303.05         | 126198.56         | N 36 13 7.75            | W 107 31 1.99            |
|                                 | 500.00     | 0.00        | 169.18           | 500.00      | 0.00         | 0.00       | 0.00       | 0.00             | 1901303.05         | 126198.56         | N 36 13 7.75            | W 107 31 1.99            |
| Build 2' / 100'                 | 550.00     | 0.00        | 169.18           | 550.00      | 0.00         | 0.00       | 0.00       | 0.00             | 1901303.05         | 126198.56         | N 36 13 7.75            | W 107 31 1.99            |
|                                 | 600.00     | 1.00        | 169.18           | 600.00      | -0.08        | -0.43      | 0.08       | 2.00             | 1901302.63         | 126198.64         | N 36 13 7.75            | W 107 31 1.99            |
|                                 | 700.00     | 3.00        | 169.18           | 699.93      | -0.76        | -3.86      | 0.74       | 2.00             | 1901299.19         | 126199.25         | N 36 13 7.71            | W 107 31 1.98            |
|                                 | 800.00     | 5.00        | 169.18           | 799.88      | -2.12        | -10.71     | 2.05       | 2.00             | 1901292.32         | 126200.47         | N 36 13 7.65            | W 107 31 1.97            |
|                                 | 900.00     | 7.00        | 169.18           | 899.13      | -4.16        | -20.97     | 4.01       | 2.00             | 1901282.03         | 126202.30         | N 36 13 7.54            | W 107 31 1.94            |
|                                 | 1000.00    | 9.00        | 169.18           | 998.15      | -6.87        | -34.64     | 6.62       | 2.00             | 1901268.33         | 126204.74         | N 36 13 7.41            | W 107 31 1.91            |
|                                 | 1100.00    | 11.00       | 169.18           | 1096.63     | -10.25       | -51.70     | 9.88       | 2.00             | 1901251.23         | 126207.77         | N 36 13 7.24            | W 107 31 1.87            |
|                                 | 1200.00    | 13.00       | 169.18           | 1194.44     | -14.30       | -72.12     | 13.79      | 2.00             | 1901230.76         | 126211.41         | N 36 13 7.04            | W 107 31 1.82            |
|                                 | 1300.00    | 15.00       | 169.18           | 1291.46     | -19.02       | -95.88     | 18.33      | 2.00             | 1901206.94         | 126215.64         | N 36 13 6.80            | W 107 31 1.77            |
| Hold 16.66° INC                 | 1383.08    | 16.66       | 169.18           | 1371.39     | -23.43       | -118.14    | 22.59      | 2.00             | 1901184.62         | 126219.61         | N 36 13 6.58            | W 107 31 1.72            |
|                                 | 1400.00    | 16.66       | 169.18           | 1387.60     | -24.37       | -122.90    | 23.50      | 0.00             | 1901179.85         | 126220.46         | N 36 13 6.54            | W 107 31 1.71            |
|                                 | 1500.00    | 16.66       | 169.18           | 1483.40     | -29.96       | -151.07    | 28.88      | 0.00             | 1901151.62         | 126225.47         | N 36 13 6.26            | W 107 31 1.64            |
|                                 | 1600.00    | 16.66       | 169.18           | 1579.20     | -35.55       | -179.23    | 34.27      | 0.00             | 1901123.38         | 126230.49         | N 36 13 5.98            | W 107 31 1.57            |
|                                 | 1700.00    | 16.66       | 169.18           | 1675.00     | -41.13       | -207.39    | 39.65      | 0.00             | 1901095.15         | 126235.50         | N 36 13 5.70            | W 107 31 1.51            |
|                                 | 1800.00    | 16.66       | 169.18           | 1770.80     | -46.72       | -235.55    | 45.04      | 0.00             | 1901066.92         | 126240.52         | N 36 13 5.42            | W 107 31 1.44            |
|                                 | 1900.00    | 16.66       | 169.18           | 1866.61     | -52.30       | -263.71    | 50.42      | 0.00             | 1901038.69         | 126245.54         | N 36 13 5.14            | W 107 31 1.38            |
|                                 | 2000.00    | 16.66       | 169.18           | 1962.41     | -57.89       | -291.87    | 55.80      | 0.00             | 1901010.46         | 126250.55         | N 36 13 4.87            | W 107 31 1.31            |
|                                 | 2100.00    | 16.66       | 169.18           | 2058.21     | -63.47       | -320.04    | 61.19      | 0.00             | 1900982.23         | 126255.57         | N 36 13 4.59            | W 107 31 1.25            |
|                                 | 2200.00    | 16.66       | 169.18           | 2154.01     | -69.06       | -348.20    | 66.57      | 0.00             | 1900954.00         | 126260.58         | N 36 13 4.31            | W 107 31 1.18            |
|                                 | 2300.00    | 16.66       | 169.18           | 2249.81     | -74.64       | -376.36    | 71.96      | 0.00             | 1900925.77         | 126265.60         | N 36 13 4.03            | W 107 31 1.11            |
|                                 | 2400.00    | 16.66       | 169.18           | 2345.61     | -80.23       | -404.52    | 77.34      | 0.00             | 1900897.53         | 126270.62         | N 36 13 3.75            | W 107 31 1.05            |
|                                 | 2500.00    | 16.66       | 169.18           | 2441.41     | -85.81       | -432.68    | 82.73      | 0.00             | 1900869.30         | 126275.63         | N 36 13 3.47            | W 107 31 0.98            |
|                                 | 2600.00    | 16.66       | 169.18           | 2537.22     | -91.40       | -460.84    | 88.11      | 0.00             | 1900841.07         | 126280.65         | N 36 13 3.19            | W 107 31 0.92            |
|                                 | 2700.00    | 16.66       | 169.18           | 2633.02     | -96.98       | -489.01    | 93.49      | 0.00             | 1900812.84         | 126285.67         | N 36 13 2.92            | W 107 31 0.85            |
|                                 | 2800.00    | 16.66       | 169.18           | 2728.82     | -102.57      | -517.17    | 98.88      | 0.00             | 1900784.61         | 126290.68         | N 36 13 2.64            | W 107 31 0.79            |
|                                 | 2900.00    | 16.66       | 169.18           | 2824.62     | -108.15      | -545.33    | 104.26     | 0.00             | 1900756.38         | 126295.70         | N 36 13 2.36            | W 107 31 0.72            |
|                                 | 3000.00    | 16.66       | 169.18           | 2920.42     | -113.74      | -573.49    | 109.65     | 0.00             | 1900728.15         | 126300.71         | N 36 13 2.08            | W 107 31 0.65            |
|                                 | 3100.00    | 16.66       | 169.18           | 3016.22     | -119.32      | -601.65    | 115.03     | 0.00             | 1900699.92         | 126305.73         | N 36 13 1.80            | W 107 31 0.59            |
|                                 | 3200.00    | 16.66       | 169.18           | 3112.02     | -124.91      | -629.81    | 120.42     | 0.00             | 1900671.68         | 126310.75         | N 36 13 1.52            | W 107 31 0.52            |
|                                 | 3300.00    | 16.66       | 169.18           | 3207.83     | -130.49      | -657.98    | 125.80     | 0.00             | 1900643.45         | 126315.76         | N 36 13 1.25            | W 107 31 0.46            |
|                                 | 3400.00    | 16.66       | 169.18           | 3303.63     | -136.08      | -686.14    | 131.18     | 0.00             | 1900615.22         | 126320.78         | N 36 13 0.97            | W 107 31 0.39            |
|                                 | 3500.00    | 16.66       | 169.18           | 3399.43     | -141.66      | -714.30    | 136.57     | 0.00             | 1900586.99         | 126325.79         | N 36 13 0.69            | W 107 31 0.33            |
|                                 | 3600.00    | 16.66       | 169.18           | 3495.23     | -147.25      | -742.46    | 141.95     | 0.00             | 1900558.76         | 126330.81         | N 36 13 0.41            | W 107 31 0.26            |
|                                 | 3700.00    | 16.66       | 169.18           | 3591.03     | -152.83      | -770.62    | 147.34     | 0.00             | 1900530.53         | 126335.83         | N 36 13 0.13            | W 107 31 0.19            |
|                                 | 3800.00    | 16.66       | 169.18           | 3686.83     | -158.42      | -798.78    | 152.72     | 0.00             | 1900502.30         | 126340.84         | N 36 12 59.85           | W 107 31 0.13            |
|                                 | 3900.00    | 16.66       | 169.18           | 3782.64     | -164.00      | -826.95    | 158.11     | 0.00             | 1900474.06         | 126345.86         | N 36 12 59.57           | W 107 31 0.06            |
|                                 | 4000.00    | 16.66       | 169.18           | 3878.44     | -169.59      | -855.11    | 163.49     | 0.00             | 1900445.83         | 126350.87         | N 36 12 59.30           | W 107 31 0.00            |
|                                 | 4100.00    | 16.66       | 169.18           | 3974.24     | -175.17      | -883.27    | 168.87     | 0.00             | 1900417.60         | 126355.89         | N 36 12 59.02           | W 107 30 59.93           |
|                                 | 4200.00    | 16.66       | 169.18           | 4070.04     | -180.76      | -911.43    | 174.26     | 0.00             | 1900389.37         | 126360.91         | N 36 12 58.74           | W 107 30 59.87           |
|                                 | 4300.00    | 16.66       | 169.18           | 4165.84     | -186.35      | -939.59    | 179.64     | 0.00             | 1900361.14         | 126365.92         | N 36 12 58.46           | W 107 30 59.80           |
|                                 | 4400.00    | 16.66       | 169.18           | 4261.64     | -191.93      | -967.75    | 185.03     | 0.00             | 1900332.91         | 126370.94         | N 36 12 58.18           | W 107 30 59.73           |
|                                 | 4500.00    | 16.66       | 169.18           | 4357.44     | -197.52      | -995.92    | 190.41     | 0.00             | 1900304.68         | 126375.95         | N 36 12 57.90           | W 107 30 59.67           |
|                                 | 4600.00    | 16.66       | 169.18           | 4453.25     | -203.10      | -1024.08   | 195.80     | 0.00             | 1900276.45         | 126380.97         | N 36 12 57.62           | W 107 30 59.60           |
|                                 | 4700.00    | 16.66       | 169.18           | 4549.05     | -208.69      | -1052.24   | 201.18     | 0.00             | 1900248.21         | 126385.99         | N 36 12 57.35           | W 107 30 59.54           |
|                                 | 4800.00    | 16.66       | 169.18           | 4644.85     | -214.27      | -1080.40   | 206.56     | 0.00             | 1900219.98         | 126391.00         | N 36 12 57.07           | W 107 30 59.47           |
|                                 | 4900.00    | 16.66       | 169.18           | 4740.65     | -219.86      | -1108.56   | 211.95     | 0.00             | 1900191.75         | 126396.02         | N 36 12 56.79           | W 107 30 59.41           |
| Build/Turn 9° / 100'            | 4930.67    | 16.66       | 169.18           | 4770.03     | -221.57      | -1117.20   | 213.60     | 0.00             | 1900183.09         | 126397.56         | N 36 12 56.70           | W 107 30 59.39           |
|                                 | 5000.00    | 15.22       | 191.43           | 4836.76     | -221.77      | -1135.90   | 213.66     | 9.00             | 1900164.39         | 126397.38         | N 36 12 56.52           | W 107 30 59.38           |
|                                 | 5100.00    | 17.30       | 223.15           | 4932.94     | -209.14      | -1159.66   | 200.87     | 9.00             | 1900140.80         | 126384.27         | N 36 12 56.28           | W 107 30 59.54           |
|                                 | 5200.00    | 22.91       | 243.91           | 5026.93     | -181.58      | -1179.11   | 173.16     | 9.00             | 1900121.72         | 126356.31         | N 36 12 56.09           | W 107 30 59.68           |
|                                 | 5300.00    | 30.14       | 256.02           | 5116.41     | -139.75      | -1193.77   | 131.23     | 9.00             | 1900107.61         | 126314.19         | N 36 12 55.95           | W 107 31 0.39            |
|                                 | 5400.00    | 38.08       | 263.63           | 5199.17     | -84.69       | -1203.27   | 76.10      | 9.00             | 1900098.82         | 126258.94         | N 36 12 55.85           | W 107 31 1.06            |
|                                 | 5500.00    | 46.36       | 268.91           | 5273.19     | -17.76       | -1207.39   | 9.14       | 9.00             | 1900095.58         | 126191.92         | N 36 12 55.81           | W 107 31 1.88            |
|                                 | 5600.00    | 54.82       | 272.88           | 5336.63     | 59.41        | -1206.02   | -68.02     | 9.00             | 1900097.96         | 126114.79         | N 36 12 55.83           | W 107 31 2.82            |
|                                 | 5660.53    | 60.00       | 274.90           | 5369.22     | 110.29       | -1202.53   | -118.87    | 9.00             | 1900102.11         | 126063.98         | N 36 12 55.86           | W 107 31 3.44            |
|                                 | 5700.00    | 60.00       | 274.90           | 5388.95     | 144.37       | -1199.61   | -152.93    | 0.00             | 1900105.47         | 126029.96         | N 36 12 55.89           | W 107 31 3.86            |
| Build/Turn 9° / 100' to Landing | 5720.53    | 60.00       | 274.90           | 5399.22     | 162.09       | -1198.09   | -170.65    | 0.00             | 1900107.22         | 126012.26         | N 36 12 55.90           | W 107 31 4.07            |
|                                 | 5800.00    | 66.84       | 277.25           | 5434.76     | 232.76       | -1190.54   | -241.27    | 9.00             | 1900115.70         | 125941.74         | N 36 12 55.98           | W 107 31 4.94            |
|                                 | 5900.00    | 75.49       | 279.88           | 5467.02     | 326.34       | -1176.40   | -334.75    | 9.00             | 1900131.06         | 125848.45         | N 36 12 56.12           | W 107 31 6.08            |
|                                 | 6000.00    | 84.16       | 282.32           | 5484.67     | 422.96       | -1157.44   | -431.23    | 9.00             | 1900151.28         | 125752.22         | N 36 12 56.31           | W 107 31 7.25            |
| Landing Point, Hold to TD       | 6078.50    | 90.98       | 284.17           | 5488.00     | 499.38       | -1139.48   | -507.52    | 9.00             | 1900170.24         | 125676.16         | N 36 12 56.48           | W 107 31 8.19            |
|                                 | 6100.00    | 90.98       | 284.17           | 5487.63     | 520.26       | -1134.22   | -528.36    | 0.00             | 1900175.78         | 125655.39         | N 36 12 56.54           | W 107 31 8.44            |
|                                 | 6200.00    | 90.98       | 284.17           | 5485.92     | 617.37       | -1109.73   | -625.31    | 0.00             | 1900201.52         | 125558.77         | N 36 12 56.78           | W 107 31 9.62            |
|                                 | 6300.00    | 90.98       | 284.17           | 5484.21     | 714.48       | -1085.25   | -722.25    | 0.00             | 1900227.27         | 125462.15         | N 36 12 57.02           | W 107 31 10.81           |
|                                 | 6400.00    | 90.98       | 284.17           | 5482.50     | 811.60       | -1060.77   | -819.19    | 0.00             | 1900253.02         | 125365.53         | N 36 12 57.26           | W 107 31 11.99           |
|                                 | 6500.00    | 90.98       | 284.17           | 5480.79     | 908.71       | -1036.28   | -916.13    | 0.00             | 1900278.77         | 125268.92         | N 36 12 57.50           | W 107 3                  |

| Comments                 | MD<br>(ft) | Incl<br>(°) | Azim True<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(%/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' ") | Longitude<br>(E/W ° ' ") |
|--------------------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|-------------------------|--------------------------|
|                          | 6700.00    | 90.98       | 284.17           | 5477.37     | 1102.94      | -987.32    | -1110.01   | 0.00             | 1900330.27         | 125075.68         | N 36 12 57.99           | W 107 31 15.54           |
|                          | 6800.00    | 90.98       | 284.17           | 5475.66     | 1200.05      | -962.84    | -1206.96   | 0.00             | 1900356.02         | 124979.06         | N 36 12 58.23           | W 107 31 16.72           |
|                          | 6900.00    | 90.98       | 284.17           | 5473.95     | 1297.17      | -938.35    | -1303.90   | 0.00             | 1900381.77         | 124882.44         | N 36 12 58.47           | W 107 31 17.90           |
|                          | 7000.00    | 90.98       | 284.17           | 5472.25     | 1394.28      | -913.87    | -1400.84   | 0.00             | 1900407.52         | 124785.82         | N 36 12 58.71           | W 107 31 19.09           |
|                          | 7100.00    | 90.98       | 284.17           | 5470.54     | 1491.39      | -889.39    | -1497.78   | 0.00             | 1900433.27         | 124689.20         | N 36 12 58.96           | W 107 31 20.27           |
|                          | 7200.00    | 90.98       | 284.17           | 5468.83     | 1588.51      | -864.90    | -1594.72   | 0.00             | 1900459.02         | 124592.58         | N 36 12 59.20           | W 107 31 21.45           |
|                          | 7300.00    | 90.98       | 284.17           | 5467.12     | 1685.62      | -840.42    | -1691.66   | 0.00             | 1900484.77         | 124495.96         | N 36 12 59.44           | W 107 31 22.64           |
|                          | 7400.00    | 90.98       | 284.17           | 5465.41     | 1782.74      | -815.94    | -1788.60   | 0.00             | 1900510.52         | 124399.34         | N 36 12 59.68           | W 107 31 23.82           |
|                          | 7500.00    | 90.98       | 284.17           | 5463.70     | 1879.85      | -791.46    | -1885.55   | 0.00             | 1900536.27         | 124302.73         | N 36 12 59.92           | W 107 31 25.00           |
|                          | 7600.00    | 90.98       | 284.17           | 5462.00     | 1976.96      | -766.97    | -1982.49   | 0.00             | 1900562.01         | 124206.11         | N 36 13 0.17            | W 107 31 26.18           |
|                          | 7700.00    | 90.98       | 284.17           | 5460.29     | 2074.08      | -742.49    | -2079.43   | 0.00             | 1900587.76         | 124109.49         | N 36 13 0.41            | W 107 31 27.37           |
|                          | 7800.00    | 90.98       | 284.17           | 5458.58     | 2171.19      | -718.01    | -2176.37   | 0.00             | 1900613.51         | 124012.87         | N 36 13 0.65            | W 107 31 28.55           |
|                          | 7900.00    | 90.98       | 284.17           | 5456.87     | 2268.30      | -693.52    | -2273.31   | 0.00             | 1900639.26         | 123916.25         | N 36 13 0.89            | W 107 31 29.73           |
|                          | 8000.00    | 90.98       | 284.17           | 5455.16     | 2365.42      | -669.04    | -2370.25   | 0.00             | 1900665.01         | 123819.63         | N 36 13 1.13            | W 107 31 30.92           |
|                          | 8100.00    | 90.98       | 284.17           | 5453.46     | 2462.53      | -644.56    | -2467.20   | 0.00             | 1900690.76         | 123723.01         | N 36 13 1.38            | W 107 31 32.10           |
|                          | 8200.00    | 90.98       | 284.17           | 5451.75     | 2559.65      | -620.08    | -2564.14   | 0.00             | 1900716.51         | 123626.39         | N 36 13 1.62            | W 107 31 33.28           |
|                          | 8300.00    | 90.98       | 284.17           | 5450.04     | 2656.76      | -595.59    | -2661.08   | 0.00             | 1900742.26         | 123529.77         | N 36 13 1.86            | W 107 31 34.47           |
|                          | 8400.00    | 90.98       | 284.17           | 5448.34     | 2753.87      | -571.11    | -2758.02   | 0.00             | 1900768.01         | 123433.15         | N 36 13 2.10            | W 107 31 35.65           |
|                          | 8500.00    | 90.98       | 284.17           | 5446.63     | 2850.99      | -546.63    | -2854.96   | 0.00             | 1900793.75         | 123336.54         | N 36 13 2.35            | W 107 31 36.83           |
|                          | 8600.00    | 90.98       | 284.17           | 5444.92     | 2948.10      | -522.15    | -2951.90   | 0.00             | 1900819.50         | 123239.92         | N 36 13 2.59            | W 107 31 38.01           |
|                          | 8700.00    | 90.98       | 284.17           | 5443.22     | 3045.22      | -497.67    | -3048.85   | 0.00             | 1900845.25         | 123143.30         | N 36 13 2.83            | W 107 31 39.20           |
|                          | 8800.00    | 90.98       | 284.17           | 5441.51     | 3142.33      | -473.18    | -3145.79   | 0.00             | 1900871.00         | 123046.68         | N 36 13 3.07            | W 107 31 40.38           |
|                          | 8900.00    | 90.98       | 284.17           | 5439.80     | 3239.44      | -448.70    | -3242.73   | 0.00             | 1900896.75         | 122950.06         | N 36 13 3.31            | W 107 31 41.56           |
|                          | 9000.00    | 90.98       | 284.17           | 5438.10     | 3336.56      | -424.22    | -3339.67   | 0.00             | 1900922.50         | 122853.44         | N 36 13 3.56            | W 107 31 42.75           |
|                          | 9100.00    | 90.98       | 284.17           | 5436.39     | 3433.67      | -399.74    | -3436.61   | 0.00             | 1900948.25         | 122756.82         | N 36 13 3.80            | W 107 31 43.93           |
|                          | 9200.00    | 90.98       | 284.17           | 5434.69     | 3530.79      | -375.25    | -3533.56   | 0.00             | 1900974.00         | 122660.20         | N 36 13 4.04            | W 107 31 45.11           |
|                          | 9300.00    | 90.98       | 284.17           | 5432.98     | 3627.90      | -350.77    | -3630.50   | 0.00             | 1900999.74         | 122563.58         | N 36 13 4.28            | W 107 31 46.30           |
|                          | 9400.00    | 90.98       | 284.17           | 5431.28     | 3725.02      | -326.29    | -3727.44   | 0.00             | 1901025.49         | 122466.96         | N 36 13 4.52            | W 107 31 47.48           |
|                          | 9500.00    | 90.98       | 284.17           | 5429.57     | 3822.13      | -301.81    | -3824.38   | 0.00             | 1901051.24         | 122370.34         | N 36 13 4.76            | W 107 31 48.66           |
|                          | 9600.00    | 90.98       | 284.17           | 5427.87     | 3919.24      | -277.33    | -3921.32   | 0.00             | 1901076.99         | 122273.73         | N 36 13 5.01            | W 107 31 49.84           |
|                          | 9700.00    | 90.98       | 284.17           | 5426.16     | 4016.36      | -252.84    | -4018.26   | 0.00             | 1901102.74         | 122177.11         | N 36 13 5.25            | W 107 31 51.03           |
|                          | 9800.00    | 90.98       | 284.17           | 5424.46     | 4113.47      | -228.36    | -4115.21   | 0.00             | 1901128.49         | 122080.49         | N 36 13 5.49            | W 107 31 52.21           |
|                          | 9900.00    | 90.98       | 284.17           | 5422.75     | 4210.59      | -203.88    | -4212.15   | 0.00             | 1901154.23         | 121983.87         | N 36 13 5.73            | W 107 31 53.39           |
|                          | 10000.00   | 90.98       | 284.17           | 5421.05     | 4307.70      | -179.40    | -4309.09   | 0.00             | 1901179.98         | 121887.25         | N 36 13 5.97            | W 107 31 54.58           |
|                          | 10100.00   | 90.98       | 284.17           | 5419.34     | 4404.81      | -154.92    | -4406.03   | 0.00             | 1901205.73         | 121790.63         | N 36 13 6.22            | W 107 31 55.76           |
|                          | 10200.00   | 90.98       | 284.17           | 5417.64     | 4501.93      | -130.43    | -4502.97   | 0.00             | 1901231.48         | 121694.01         | N 36 13 6.46            | W 107 31 56.94           |
|                          | 10300.00   | 90.98       | 284.17           | 5415.94     | 4599.04      | -105.95    | -4599.92   | 0.00             | 1901257.23         | 121597.39         | N 36 13 6.70            | W 107 31 58.13           |
|                          | 10400.00   | 90.98       | 284.17           | 5414.23     | 4696.16      | -81.47     | -4696.86   | 0.00             | 1901282.98         | 121500.77         | N 36 13 6.94            | W 107 31 59.31           |
|                          | 10500.00   | 90.98       | 284.17           | 5412.53     | 4793.27      | -56.99     | -4793.80   | 0.00             | 1901308.72         | 121404.15         | N 36 13 7.18            | W 107 32 0.49            |
|                          | 10600.00   | 90.98       | 284.17           | 5410.83     | 4890.39      | -32.51     | -4890.74   | 0.00             | 1901334.47         | 121307.53         | N 36 13 7.43            | W 107 32 1.68            |
|                          | 10700.00   | 90.98       | 284.17           | 5409.12     | 4987.50      | -8.02      | -4987.68   | 0.00             | 1901360.22         | 121210.91         | N 36 13 7.67            | W 107 32 2.86            |
|                          | 10800.00   | 90.98       | 284.17           | 5407.42     | 5084.61      | 16.46      | -5084.63   | 0.00             | 1901385.97         | 121114.29         | N 36 13 7.91            | W 107 32 4.04            |
| Chaco 2306-18M #240H BHL | 10883.38   | 90.98       | 284.17           | 5406.00     | 5165.59      | 36.87      | -5165.46   | 0.00             | 1901407.44         | 121033.73         | N 36 13 8.11            | W 107 32 5.03            |

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 0 \*\*\* 3-D 95.000% Confidence 2.7955 sigma  
Survey Program:

| Description | Part | MD From<br>(ft) | MD To<br>(ft) | EOU Freq<br>(ft) | Hole Size<br>(in) | Casing Diameter<br>(in) | Survey Tool Type       | Borehole / Survey                                   |
|-------------|------|-----------------|---------------|------------------|-------------------|-------------------------|------------------------|-----------------------------------------------------|
|             | 1    | 0.000           | 14.000        | 1/100.000        | 30.000            | 30.000                  | SLB_MWD-STD-Depth Only | Original Hole / Chaco 2306-18M #240H R4 mdv 15Apr14 |
|             | 1    | 14.000          | 10883.384     | 1/100.000        | 30.000            | 30.000                  | SLB_MWD-STD            | Original Hole / Chaco 2306-18M #240H R4 mdv 15Apr14 |

# 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 2306-18M Nos. 240H, 256H, and 292H (240H/256H/292) Applications for Permit to Drill (APDs). This SUPO is provided per Onshore Oil and Gas Order No. 1.

The 240H/256H/292H wells will each be permitted by an approved APD. The associated well pad (including construction zone), access road, and well-connect pipeline corridor, all of which are located on-lease, will also be permitted under the approved APDs.

Two staging areas will be associated with the project. Elm Ridge Exploration Company's (Elm Ridge's) active Lybrook South No. 10 and inactive Lybrook South No. 12 well pads will be authorized as staging areas via an agreement between WPX and Elm Ridge (if a Final Abandonment Notice [FAN] has not been issued for the Lybrook South No. 12 well pad) or under the approved APDs (if a FAN has been issued for the Lybrook South No. 12 well pad).

A pre-disturbance onsite meeting for the project was held on February 20, 2014. The BLM, WPX, and an environmental consultant (Nelson Consulting, Inc.) 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 project area is located in Rio Arriba County, New Mexico. The project area is located approximately 43 miles southeast of the town of Bloomfield, New Mexico. To access the project area from Bloomfield, head southward on U.S. Highway 550 from the U.S. Highway 550-U.S. Highway 64 intersection for approximately 50 miles, turn right onto an existing road for approximately 250 feet and stay right at the fork in the road. Turn right on an existing road for approximately 0.4 mile, and then turn right and follow the existing road for approximately 0.2 mile to the start of the 240H/256H/292H access road on the left side of the existing road. 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 legal location of the project area is described in the below table (New Mexico Principal Meridian).

Table 1. Legal Location of Project Area

| Facility                                     | Legal Location<br>(New Mexico Principal Meridian) |         |                                    |
|----------------------------------------------|---------------------------------------------------|---------|------------------------------------|
|                                              | Quarter-Quarter                                   | Section | Township & Range                   |
| Well-connect Corridor                        | W ½ of SW ¼                                       | 18      | Township 23 North,<br>Range 6 West |
| Well Pad, Construction Zone &<br>Access Road | SW ¼ of the SW ¼                                  |         |                                    |
| Staging Areas                                |                                                   |         |                                    |
| Lybrook South No. 10                         |                                                   |         |                                    |
| Lybrook South No. 12                         | SW ¼ of the NW ¼                                  | 19      |                                    |

## 9. METHODS FOR HANDLING WASTE DISPOSAL

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- ✓ Drilling operations will utilize a closed-loop system. Drilling of the horizontal lateral will be accomplished with water-based mud. All cuttings will be hauled to a commercial disposal facility or land farm. WPX will follow New Mexico Oil Conservation Division "Pit Rule" guidelines and Onshore Order No. 1 regarding the placement, operation, and removal of closed-loop systems. No blow pit will be used.

If drilling has not been initiated on the well pad within 120 days of the well pad being constructed, the operator 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 (see Figures B.3 and B.4 [Appendix B] for the location of toilets and trash receptacles).

## 10. ANCILLARY FACILITIES

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Two staging areas will be used; they are described in Section 2.2 (Project Description). During staging, WPX will stay within the boundaries of the previously disturbed well pads associated with the staging areas. During interim reclamation, WPX will repair any damage to and reseed the staging areas (with the exception of portions of the staging areas that Elm Ridge prefers to remain unseeded).

## 11. WELL SITE LAYOUT

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The approximate cuts, approximate fills, and orientation for the well pad are depicted on the construction plats in the APD permit packages. Rig orientation and the location of drilling equipment and topsoil or spoil material stockpiles are depicted on Figure B.3 (Appendix B). The layout of the completions rigs is depicted on Figure B.4 (Appendix B). The interim reclamation/long-term disturbance layout is depicted on Figure B.5 (Appendix B) and is described below.

- The following areas (known as the "non-reseed working areas") will remain unreclaimed throughout the lifetime of the project:
  - Production facilities will be located within a 300-by-100-foot (0.7-acre) facility area at the northern end of the well pad.
  - The teardrop for the well pad will include a looped, 35-foot-wide driving surface, totaling approximately 0.5 acre.
- The following areas (known as the "reseed working areas") will be reseeded (but not recontoured) during interim reclamation:
  - The center of the teardrop will measure approximately 0.3 acre.
  - A 210-by-180-foot (0.9-acre) potential workover area will surround each wellhead. This area may be used for future activities within the well pad, but will not be used for daily activities. After excluding the portions of these polygons that overlap one another, the teardrop, and the teardrop center, this area measures approximately 0.7 acre.

