

State of New Mexico  
Energy, Minerals and Natural Resources Department

Susana Martinez  
Governor

Ken McQueen  
Cabinet Secretary

Matthias Sayer  
Deputy Cabinet Secretary

David R. Catanach, Division Director  
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 3-6-17

Well information;

Operator WPX, Well Name and Number Kimberly Washwell # 786H

API# 30-045-35840, Section 19, Township 23 N/S, Range 9 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
- ☐ Submit Gas Capture Plan form prior to spudding or initiating recompletion operations
- ☒ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ☒ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ☒ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

NMOCD Approved by Signature

4-24-2017  
Date

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM117577
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator WPX ENERGY LLC		7. If Unit or CA Agreement, Name and No. KIMBETO WASH UNIT / NMNM135255A
3a. Address 720 S Main Aztec NM 87410		8. Lease Name and Well No. KWU 786H
3b. Phone No. (include area code) (505)333-1822		9. API Well No. 30-045-35840
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface: SESE / 26 FSL / 493 FEL / LAT 36.205197 / LONG -107.82269 At proposed prod. zone: SENE / 1786 FNL / 330 FEL / LAT 36.185768 / LONG -107.804276		10. Field and Pool, or Exploratory BASIN MANCOS / BASIN MANCOS GAS
14. Distance in miles and direction from nearest town or post office* 39.5 miles		11. Sec., T. R. M. or Blk. and Survey or Area SEC 19 / T23N / R9W / NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 20 feet	16. No. of acres in lease 1279.75	17. Spacing Unit dedicated to this well 1280.05
18. Distance from proposed location* to nearest well, drilling, completed, 26 feet applied for, on this lease, ft.	19. Proposed Depth 4321 feet / 13948 feet	20. BLM/BIA Bond No. on file FED: UTB000178
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6564 feet	22. Approximate date work will start* 05/01/2017	23. Estimated duration 30 days

OIL CONS. DIV DIST. 3

APR 17 2017

24. Attachments

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

- |  |   |
|--|---|
| 1. Well plat certified by a registered surveyor.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification   |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM.             |

25. Signature (Electronic Submission)	Name (Printed/Typed) Lacey Granillo / Ph: (505)333-1816	Date 03/06/2017
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Title  
Permitting Tech III

Approved by (Signature) <i>Anthony A. G. [Signature]</i>	Name (Printed/Typed) ANTHONY A. G. [Signature]	Date 4/10/2017
Title AFM - MINERALS	Office FARMINGTON	

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.

(Continued on page 2)

\*(Instructions on page 2)

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"



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

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number <b>30-045-35540</b>		*Pool Code 97232	*Pool Name BASIN MANCOS GAS POOL
*Property Code 316144	*Property Name <b>Kimberly Washburn</b>		*Well Number 786H
*OGRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC		*Elevation 6564

10 Surface Location

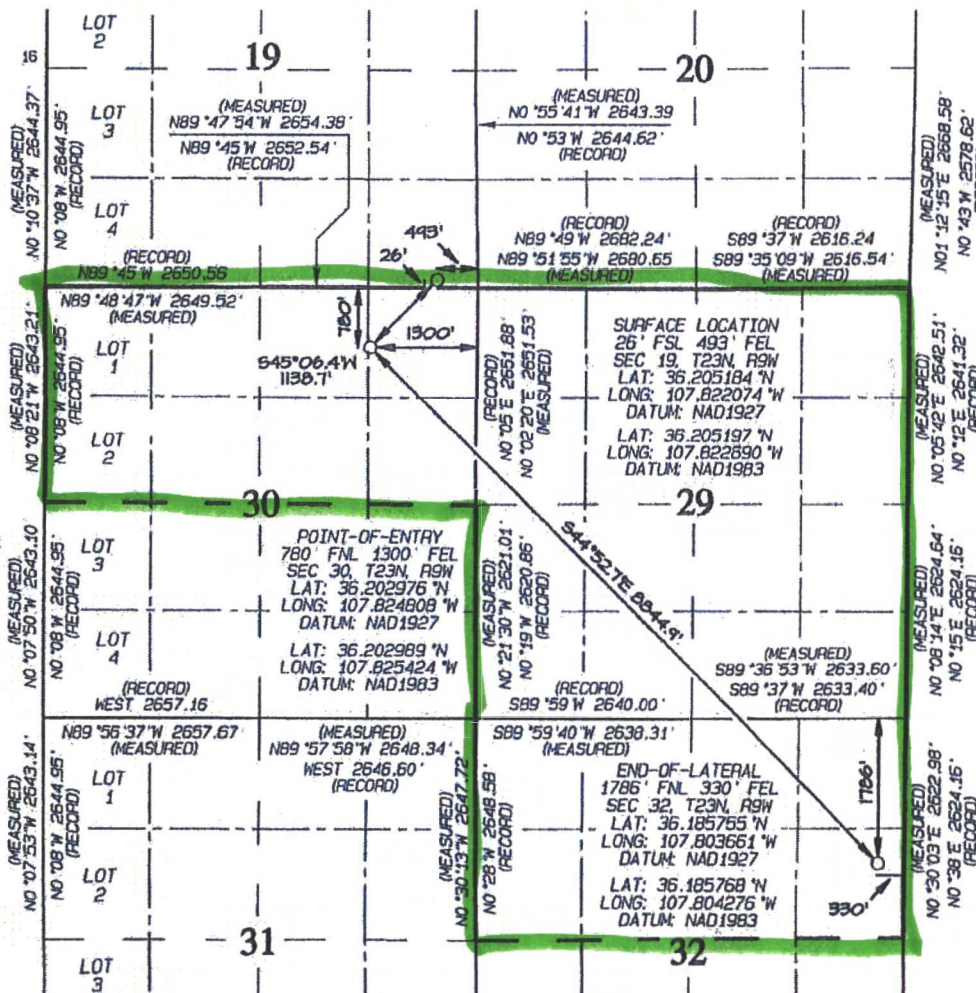
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	19	23N	9W		26	SOUTH	493	EAST	SAN JUAN

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	32	23N	9W		1786	NORTH	330	EAST	SAN JUAN

*Dedicated Acres 1280.05	N/2 - Section 30 Entire Section 29 N/2 - Section 32	*Joint or Infill	*Consolidation Code	*Order No. R-14084
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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: **Lacey Granillo** Date: **2/25/17**  
Printed Name: **Lacey Granillo**  
E-mail Address: **lacey.granillo@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: **FEBRUARY 21, 2017**  
Date of Survey: **MARCH 2, 2016**

Signature and Seal of Professional Surveyor



**JASON C. EDWARDS**  
Certificate Number 15269



## **WPX Energy**

### **Operations Plan**

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

**Date:** March 2, 2017

**Field:** Basin Mancos

**Well Name:** KWU #786H

**Surface:**

**SH Location:** SESE Sec 19 23N-09W

**Elevation:** 6564' GR

**BH Location:** SENE Sec 32 23N-09W

**Minerals:**

**Measured Depth:** 13,947.52'

## **I. GEOLOGY**

Surface formation - OJO ALAMO/ KIRKLAND

### **A. FORMATION TOPS: (GR)**

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	71.00	71.00	POINT LOOKOUT	3,348.00	3,138.00
KIRTLAND	233.00	233.00	MANCOS	3,545.00	3,313.00
PICTURED CLIFFS	802.00	801.00	GALLUP	3,921.00	3,652.00
LEWIS	886.00	885.00	KICKOFF POINT	4,664.00	4,255.73
CHACRA	1,107.00	1,102.00	TOP TARGET	4,796.00	4,321.00
CLIFF HOUSE	2,308.00	2,209.00	LANDING POINT	5,102.38	4,391.00
MENEFEE	2,327.00	2,226.00	BASE TARGET	5,102.38	4,391.00
			TD	13,947.52	4,321.00

### **B. MUD LOGGING PROGRAM:**

Mudlogger on location from surface csg to TD.

### **C. LOGGING PROGRAM:**

LWD GR from surface casing to TD.

### **D. NATURAL GAUGES:**

Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

## **II. DRILLING**

### **A. MUD PROGRAM:**

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

### **B. BOP TESTING:**



While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The BOPE will be tested to 2,000 psi (High) for 10 minutes and the annular tested to 1,500 psi for 10 minutes. Pressure test surface casing to 1,500 psi for 30 minutes and intermediate casing to 1,500 psi for 30 minutes. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. All tests and inspections will be recorded in the tour book as to time and results.

### III. MATERIALS

#### A. CASING PROGRAM:

CASING TYPE	OH SIZE (IN)	DEPTH (MD)	CSG SIZE	WEIGHT	GRADE	CONN
SURFACE	12.25"	320.00'	9.625"	36 LBS	J-55 or equiv	STC
INTERMEDIATE	8.75"	5,102.38'	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	4952.38' - 13,947.52'	4.5"	11.6 LBS	P-110 or equiv	LTC
TIE BACK	6.125"	Surf. - 4952.38'	4.5"	11.6 LBS	P-110 or equiv	LTC

#### B. FLOAT EQUIPMENT:

##### 1. SURFACE CASING:

9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.

##### 2. INTERMEDIATE CASING:

7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install (1) centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) centralizer at 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft. If losses are encountered during the drilling of the intermediate section a DV tool will be utilized and a 2 stage cement job may be planned to ensure cement circ back to surface. The DV tool will be placed 100' above the top of the Chacra formation. If cement is circulated back to surface on the first stage, a cancellation device will be dropped to shift the dv tool closed and the 2nd stage cement job will be aborted at that time, if no cement is seen at surface on the 1st stage the stage tool will be opened and a 2nd stage cement job will be pumped.

##### 3. PRODUCTION LINER:

Run 4-1/2" Liner with cement nose guide Float Shoe + 2jts. of 4-1/2" casing + Landing Collar + 4-1/2" pup joint + 1 RSI (Sliding Sleeve) positioned inside the 330ft Hard line. Centralizer program will be determined by Wellbore condition and when Lateral is evaluated by Geoscientists and Reservoir Engineers. Set seals on Liner Hanger. Test TOL to 1500 psi for 15 minutes.

#### C. CEMENT:

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

##### 1. Surface:

5 bbl Fresh Water Spacer, 100 sx (160 cu.ft.) of 14.5 ppg Type I-II (Neat G) + 20% Fly Ash cement w/ 7.41 gal/sack mix water ratio @ 1.61 cu ft/sx yield. Calculated @ volume + 50% excess. WOC 12 hours. Test csg to 600psi. Total Volume: (160 cu-ft/100 sx/ Bbls).TOC at Surface.

##### 2. Intermediate:

Spacer #1: 20 bbl (112 cuft) Chemwash. Lead Cement: 91 bbls, 260 sks, (513 cuft), 12.3 ppg @ 1.97 cuft/sk yield. Tail Cement: 59 bbls, 254 sks, (331 cuft), 13.5 ppg @ 1.3 cuft/sk yield. Displacement: Displace w/ +/- 201 bbl Drilling mud or water. Total Cement: 150 bbls, 515 sks, (844 cuft)

##### 3. Prod Liner:

Spacer #1: 10 bbl (56 cu-ft) Water Spacer. Spacer #2: 40 bbl 9.5 ppg (224.6 cu-ft) Treated Spacer III. Spacer #3: 10 bbl Water Spacer. Lead Cement: Extencem™ System. Yield 1.36 cuft/sk 13.3 ppg (881 sx /1199 cuft /214 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/-191bbl Fr Water. Total Cement (881 sx /1199bbls).

**D. COMPLETION:**

Run CCL for perforating

**A. PRESSURE TEST:**

1. Pressure test 4-1/2" casing to 4500 psi max, hold at 1500 psi for 30 minutes. Increase pressure to Open RSI sleeves.

**B. STIMULATION:**

1. Stimulate with approximately 2,805,000# 20/40 mesh sand and 340,000# 16/30 mesh sand in 619,113 gallons water with 42,696 mscf N2 for 17 stages.
2. Isolate stages with flow through frac plug.
3. Drill out frac plugs and flowback lateral.

**C. RUNNING TUBING:**

1. *Production Tubing:* Run 2-7/8", 6.5#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing near Top of Liner.

If this horizontal well is 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.

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**NOTES:**

A 4-1/2" 11.6# P-110 Liner will be run to TD and landed +/- 150 ft. into the 7" 23# J-55 Intermediate casing with a Liner Hanger and pack-off assembly then cemented to top of liner hanger.

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

# **WPX Energy**

**T23N R9W**

**2309-19P KWU**

**KWU #786H - Slot A3**

**Wellbore #1**

**Plan: Design #1 27Sept16 sam**

## **Standard Planning Report**

**27 September, 2016**



**WPX**  
Planning Report

<b>Database:</b>	COMPASS	<b>Local Co-ordinate Reference:</b>	Well KWU #786H (A3) - Slot A3
<b>Company:</b>	WPX Energy	<b>TVD Reference:</b>	GL @ 6564.00usft (Original Well Elev)
<b>Project:</b>	T23N R9W	<b>MD Reference:</b>	GL @ 6564.00usft (Original Well Elev)
<b>Site:</b>	2309-19P KWU	<b>North Reference:</b>	True
<b>Well:</b>	KWU #786H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 27Sept16 sam		

<b>Project</b>	T23N R9W		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico West 3003		

<b>Site</b>	2309-19P KWU			
<b>Site Position:</b>		<b>Northing:</b>	1,893,959.82 usft	<b>Latitude:</b> 36.205270
<b>From:</b>	Map	<b>Easting:</b>	503,346.58 usft	<b>Longitude:</b> -107.821990
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.01 °

<b>Well</b>	KWU #786H - Slot A3			
<b>Well Position</b>	+N/-S	-31.30 usft	<b>Northing:</b>	1,893,928.52 usft
	+E/-W	-24.78 usft	<b>Easting:</b>	503,321.80 usft
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft
			<b>Ground Level:</b>	6,564.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	5/2/2016	9.34	62.88	49,842

<b>Design</b>	Design #1 27Sept16 sam			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (bearing)</b>
	0.00	0.00	0.00	142.46

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,840.74	26.81	262.00	1,792.33	-42.85	-305.06	2.00	2.00	0.00	262.00	
3,799.87	26.81	262.00	3,540.79	-165.77	-1,180.25	0.00	0.00	0.00	0.00	
4,664.00	60.00	135.13	4,255.73	-513.11	-1,095.91	9.00	3.84	-14.68	-134.86	Start 60 Tan #786H
4,764.00	60.00	135.13	4,305.73	-574.49	-1,034.81	0.00	0.00	0.00	0.00	End 60 Tan #786H
4,936.46	75.52	135.13	4,370.80	-687.27	-922.54	9.00	9.00	0.00	0.00	
5,102.38	90.45	135.13	4,391.00	-803.65	-806.68	9.00	9.00	0.00	-0.01	POE #786H
13,947.52	90.45	135.13	4,321.00	-7,071.91	5,433.55	0.00	0.00	0.00	0.00	BHL #786H



**WPX**  
Planning Report

Database: COMPASS  
Company: WPX Energy  
Project: T23N R9W  
Site: 2309-19P KWU  
Well: KWU #786H  
Wellbore: Wellbore #1  
Design: Design #1 27Sept16 sam

Local Co-ordinate Reference: Well KWU #786H (A3) - Slot A3  
TVD Reference: GL @ 6564.00usft (Original Well Elev)  
MD Reference: GL @ 6564.00usft (Original Well Elev)  
North Reference: True  
Survey Calculation Method: Minimum Curvature

**Planned Survey**

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320.00	0.00	0.00	320.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8"</b>									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
1,000.00	10.00	262.00	997.47	-6.05	-43.10	-21.46	2.00	2.00	0.00
1,500.00	20.00	262.00	1,479.82	-24.03	-171.09	-85.18	2.00	2.00	0.00
1,840.74	26.81	262.00	1,792.33	-42.85	-305.06	-151.88	2.00	2.00	0.00
<b>Hold 26.81 Inclination</b>									
2,000.00	26.81	262.00	1,934.46	-52.84	-376.20	-187.31	0.00	0.00	0.00
2,500.00	26.81	262.00	2,380.70	-84.21	-599.57	-298.51	0.00	0.00	0.00
3,000.00	26.81	262.00	2,826.93	-115.59	-822.93	-409.72	0.00	0.00	0.00
3,500.00	26.81	262.00	3,273.17	-146.96	-1,046.29	-520.93	0.00	0.00	0.00
3,799.87	26.81	262.00	3,540.79	-165.77	-1,180.25	-587.63	0.00	0.00	0.00
<b>Start Build DLS 9.00 TFO -134.86</b>									
4,000.00	18.72	218.92	3,726.40	-197.29	-1,245.66	-602.48	9.00	-4.05	-21.53
4,500.00	46.48	142.58	4,157.72	-415.01	-1,182.63	-391.44	9.00	5.55	-15.27
4,664.00	60.00	135.13	4,255.73	-513.11	-1,095.91	-260.81	9.00	8.24	-4.54
<b>Hold 60.00 Inclination</b>									
4,764.00	60.00	135.13	4,305.73	-574.49	-1,034.81	-174.92	0.00	0.00	0.00
<b>Start Build DLS 9.00 TFO 0.00</b>									
4,936.46	75.52	135.13	4,370.80	-687.27	-922.54	-17.09	9.00	9.00	0.00
<b>Start DLS 9.00 TFO -0.01</b>									
5,000.00	81.24	135.13	4,383.59	-731.36	-878.65	44.62	9.00	9.00	0.00
5,102.00	90.42	135.13	4,391.00	-803.38	-806.95	145.41	9.00	9.00	0.00
<b>7"</b>									
5,102.38	90.45	135.13	4,391.00	-803.65	-806.68	145.79	9.00	9.00	0.00
<b>POE at 90.45 Inc 135.13 Deg</b>									
5,500.00	90.45	135.13	4,387.85	-1,085.43	-526.16	540.14	0.00	0.00	0.00
6,000.00	90.45	135.13	4,383.90	-1,439.76	-173.41	1,036.03	0.00	0.00	0.00
6,500.00	90.45	135.13	4,379.94	-1,794.09	179.33	1,531.92	0.00	0.00	0.00
7,000.00	90.45	135.13	4,375.98	-2,148.43	532.08	2,027.82	0.00	0.00	0.00
7,500.00	90.45	135.13	4,372.03	-2,502.76	884.83	2,523.71	0.00	0.00	0.00
8,000.00	90.45	135.13	4,368.07	-2,857.09	1,237.58	3,019.60	0.00	0.00	0.00
8,500.00	90.45	135.13	4,364.11	-3,211.43	1,590.33	3,515.49	0.00	0.00	0.00
9,000.00	90.45	135.13	4,360.15	-3,565.76	1,943.08	4,011.38	0.00	0.00	0.00
9,500.00	90.45	135.13	4,356.20	-3,920.10	2,295.83	4,507.28	0.00	0.00	0.00
10,000.00	90.45	135.13	4,352.24	-4,274.43	2,648.58	5,003.17	0.00	0.00	0.00
10,500.00	90.45	135.13	4,348.28	-4,628.76	3,001.33	5,499.06	0.00	0.00	0.00
11,000.00	90.45	135.13	4,344.33	-4,983.10	3,354.08	5,994.95	0.00	0.00	0.00
11,500.00	90.45	135.13	4,340.37	-5,337.43	3,706.83	6,490.85	0.00	0.00	0.00
12,000.00	90.45	135.13	4,336.41	-5,691.76	4,059.58	6,986.74	0.00	0.00	0.00
12,500.00	90.45	135.13	4,332.46	-6,046.10	4,412.32	7,482.63	0.00	0.00	0.00
13,000.00	90.45	135.13	4,328.50	-6,400.43	4,765.07	7,978.52	0.00	0.00	0.00
13,500.00	90.45	135.13	4,324.54	-6,754.77	5,117.82	8,474.41	0.00	0.00	0.00
13,947.52	90.45	135.13	4,321.00	-7,071.91	5,433.55	8,918.26	0.00	0.00	0.00
<b>TD at 13947.52</b>									

**WPX**  
Planning Report

Database: COMPASS  
Company: WPX Energy  
Project: T23N R9W  
Site: 2309-19P KWU  
Well: KWU #786H  
Wellbore: Wellbore #1  
Design: Design #1 27Sept16 sam

Local Co-ordinate Reference:  
TVD Reference:  
MD Reference:  
North Reference:  
Survey Calculation Method:

Well KWU #786H (A3) - Slot A3  
GL @ 6564.00usft (Original Well Elev)  
GL @ 6564.00usft (Original Well Elev)  
True  
Minimum Curvature

**Design Targets**

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Start 60 Tan #786H - plan hits target center - Point	0.00	0.00	4,255.73	-513.11	-1,095.91	1,893,415.29	502,225.95	36.203774	-107.825789
End 60 Tan #786H - plan hits target center - Point	0.00	0.00	4,305.73	-574.49	-1,034.81	1,893,353.91	502,287.06	36.203606	-107.825582
BHL #786H - plan hits target center - Point	0.00	0.00	4,321.00	-7,071.91	5,433.55	1,886,857.24	508,756.17	36.185755	-107.803662
POE #786H - plan hits target center - Point	0.00	0.00	4,391.00	-803.65	-806.68	1,893,124.78	502,515.21	36.202976	-107.824808

**Casing Points**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
320.00	320.00	9 5/8"	9.625	12.250
5,102.00	4,391.00	7"	7.000	8.750

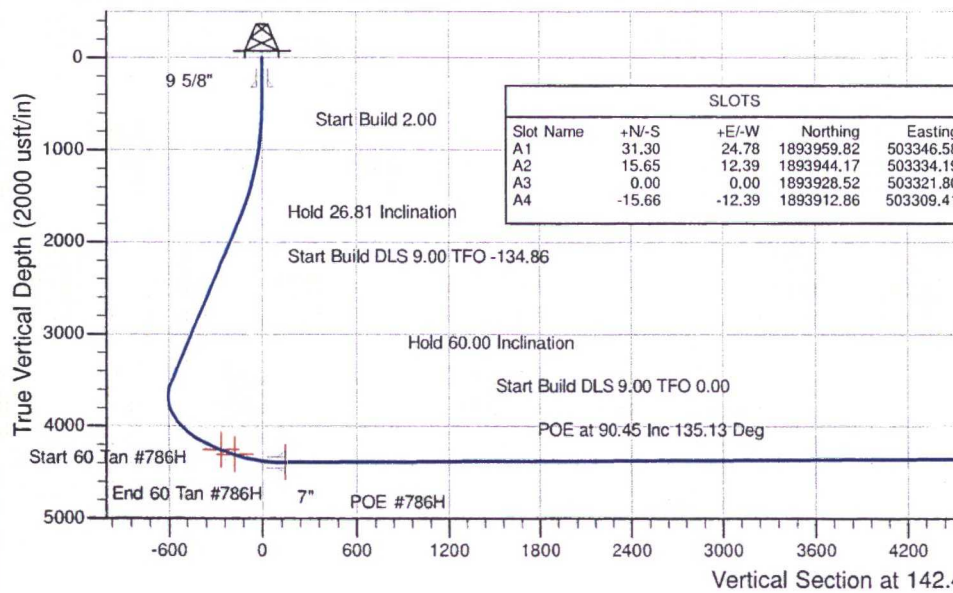
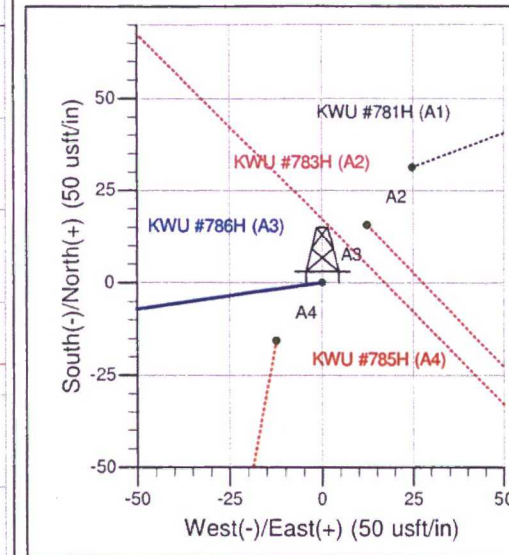
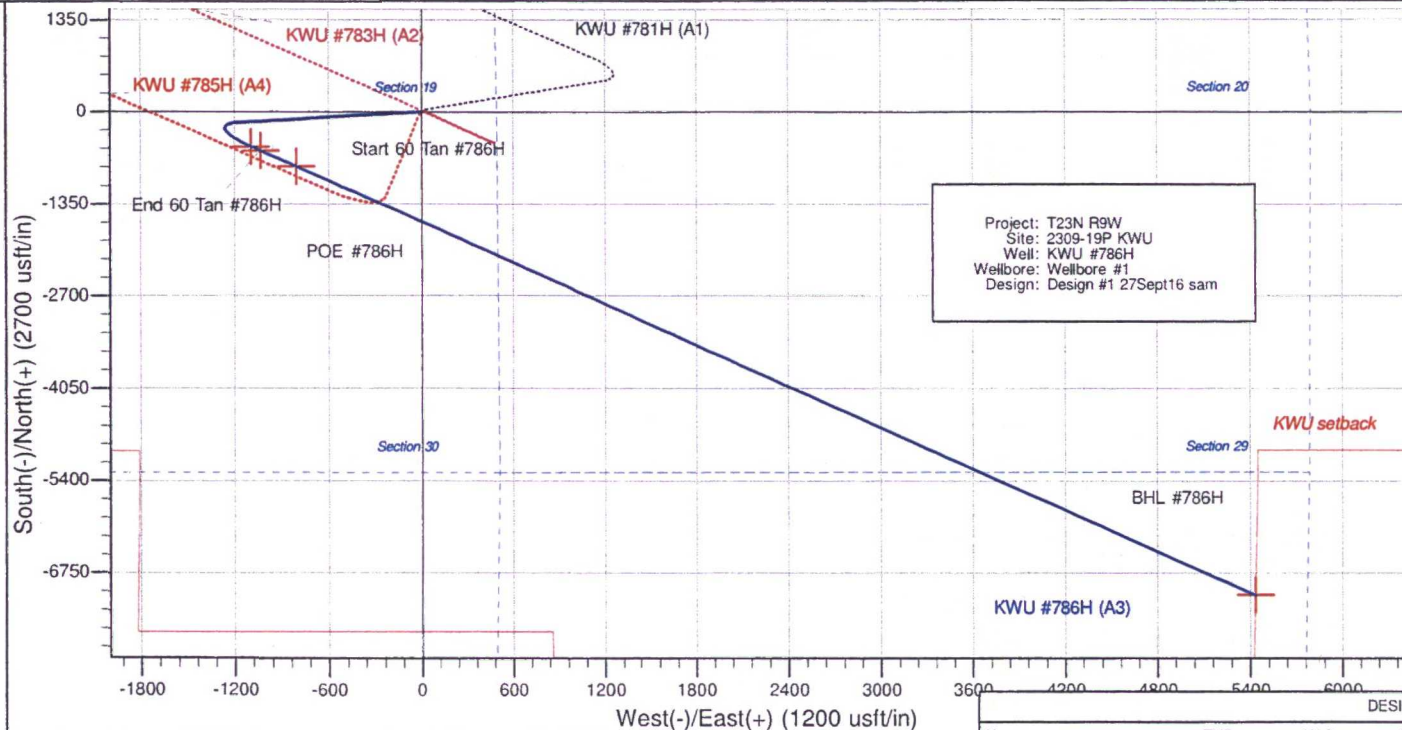
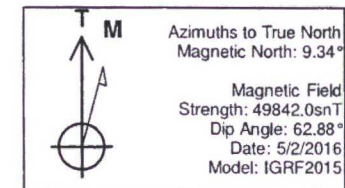
**Plan Annotations**

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
500.00	500.00	0.00	0.00	Start Build 2.00
1,840.74	1,792.33	-42.85	-305.06	Hold 26.81 Inclination
3,799.87	3,540.79	-165.77	-1,180.25	Start Build DLS 9.00 TFO -134.86
4,664.00	4,255.73	-513.11	-1,095.91	Hold 60.00 Inclination
4,764.00	4,305.73	-574.49	-1,034.81	Start Build DLS 9.00 TFO 0.00
4,936.46	4,370.80	-687.27	-922.54	Start DLS 9.00 TFO -0.01
5,102.38	4,391.00	-803.65	-806.68	POE at 90.45 Inc 135.13 Deg
13,947.52	4,321.00	-7,071.91	5,433.55	TD at 13947.52





Well Name: KWU #786H  
 Surface Location: 2309-19P KWU  
 NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico West 3003  
 Ground Elevation: 6564.00  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.00 0.00 1893928.52 503321.80 36.205184 -107.822074 A3  
 GL @ 6564.00usft (Original Well Elev)



DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Start 60 Tan #786H	4255.73	-513.11	-1095.91	1893415.28	502225.95	36.203774	-107.825789	Point
End 60 Tan #786H	4305.73	-574.49	-1034.81	1893353.91	502287.06	36.203606	-107.825581	Point
POE #786H	4391.00	-803.65	-806.68	1893124.78	502515.21	36.202976	-107.824808	Point
BHL #786H	4321.00	-7071.91	5433.55	1886857.24	508756.17	36.185755	-107.803661	Point

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation	
500.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00	
1792.33	1840.74	26.81	262.00	-42.85	-305.06	-151.88	308.05	Hold 26.81 Inclination	
3540.79	3799.87	26.81	262.00	-165.77	-1180.25	-587.63	1191.83	Start Build DLS 9.00 TFO -134.86	
4255.73	4664.00	60.00	135.13	-513.11	-1095.91	-260.81	1639.03	Hold 60.00 Inclination	
4305.73	4764.00	60.00	135.13	-574.49	-1034.81	-174.92	1725.64	Start Build DLS 9.00 TFO 0.00	
4370.80	4936.46	75.52	135.13	-687.27	-922.54	-17.09	1884.77	Start DLS 9.00 TFO -0.01	
4391.00	5102.38	90.45	135.13	-803.65	-806.68	145.79	2048.99	POE at 90.45 Inc 135.13 Deg	
4321.00	13947.52	90.45	135.13	-7071.91	5433.55	8918.26	10893.86	TD at 13947.52	

Construction of all project features associated with KWU Remote #1 will consist of native borrow and subsoils from the Doak-Sheppard-Shiprock association, rolling soil map unit. A brief description of this soil can be found below.

Doak-Sheppard-Shiprock association, rolling soils are found on mesas, fan remnants, stream terraces, and dunes at 5,600 to 6,400 feet in elevation. The unit is composed of 40 percent Doak soils, 30 percent Sheppard soils, and 20 percent Shiprock soils. Doak soils occur on slopes from 0 to 5 percent and are well drained. Doak soils are deep and have a moderately slow permeability. Sheppard soils occur on slopes from 0 to 15 percent and are deep, somewhat excessively drained, and rapidly permeable. Shiprock soils occur on 0 to 5 percent slopes and are deep, well drained, and have a moderately rapid permeability. They formed in eolian material and slope alluvium. Effective rooting depth for this unit is 60 inches or greater. This unit is mainly used for livestock grazing and wildlife habitat. The major limitations of this mapping unit are: (1) the hazard of soil blowing and (2) the hazard of water erosion. (USDA/NRCS 2015).

## 7. METHODS FOR HANDLING WASTE

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### A. Cuttings

- 1 Drilling operations will utilize a closed-loop system. Drilling of the horizontal laterals will be accomplished with water-based mud. All cuttings will be placed in roll-off bins and hauled to a commercial disposal facility or land farm. WPX will follow Onshore Oil and Gas Order No. 1 regarding the placement, operation, and removal of closed-loop systems. No blow pit will be used.
- 2 Closed-loop tanks will be adequately sized for containment of all fluids.

### B. Drilling Fluids

- 1 Drilling fluids will be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids will be recycled and transferred to other permitted closed-loop systems or returned to the vendor for reuse, as practical. All residual fluids will be hauled to a commercial disposal facility.

### C. Spills

- 1 Any spills of non-freshwater fluids will be immediately cleaned up and removed to an approved disposal site.

### D. Sewage

- 1 Portable toilets will be provided and maintained during construction, as needed (see Figures 3, 4, 7, and 8 in Appendix B for the location of toilets per project).

### E. Garbage and other waste material

- 1 All garbage and trash will be placed in an enclosed metal trash containment. The trash and garbage will be hauled off site and dumped in an approved landfill, as needed.

### F. Hazardous Waste

- 1 No chemicals subject to reporting under Superfund Amendments and Reauthorization Act Title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completing of these wells.



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

**in Bloomfield, NM to WPX Energy Production, LLC KWU Remote #1**

**1901' FSL & 2163' FWL, Section 19, T23N, R9W, N.M.P.M., San Juan County, NM**

**Latitude: 36.210374°N Longitude: 107.831684°W Datum: NAD1983**

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 35.9 miles to Mile Marker 115.7;

Go Right (South-westerly) @ Nageezi Post Office on County Road #7800 for 0.4 miles to 4-way intersection;

Go Right (North-westerly) remaining on paved County Road #7800 for 3.6 miles to where pavement ends;

Go Straight (South-westerly) continuing on dirt portion of County Road #7800 for 1.2 miles to fork in roadway;

Go Left (Southerly) which is straight for 2.4 miles to begin proposed access on left-hand side of County Road #7800 just before 4-way intersection, which continues for 60.1' to staked WPX KWU Remote #1 location.

