

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 3160-5 form.

Operator Signature Date: Original APD 12/28/2015 **Sundry Date 7/13/2017**

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E
30-045-35748-00-00	W LYBROOK UNIT	705H	WPX ENERGY PRODUCTION, LLC	O	N	San Juan	F	O	7	23	N	8	W

Conditions of Approval:

(See the below checked and handwritten conditions)

- ✓ Notify Aztec OCD 24hrs prior to casing & cement. **Run CBL if cement does not circulate**
- ✓ 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 recompletions operations.
- ✓ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84

August 1, 2017

Page 2

- ✓ 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.
- ✓ Comply with current regulations at time of spud
Prior to production operator needs to be in compliance with RULE 19.15.5.9



NMOCD Approved by Signature

7/28/17

Date

RECEIVED

Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.
NO G 1401 1865
6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

7. If Unit of CA/Agreement, Name and/or No.
NMNM 135216A

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
W Lybrook Unit 705H

2. Name of Operator
WPX Energy Production, LLC

9. API Well No.
30-045-35748

3a. Address
PO Box 640 Aztec, NM 87410

3b. Phone No. (include area code)
505-333-1816

10. Field and Pool or Exploratory Area
Lybrook Mancos W

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SHL: 1344' FSL & 2233' FEL, Sec 7, T23N, R8W
BHL: 330' FNL & 330' FEL, Sec 12, T23N, R9W

11. Country or Parish, State
San Juan, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	<u>Change in</u>
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	<u>Plans</u>

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

OIL CONS. DIV DIST. 3

WPX Energy requests a change in plans to shift the POE/BHL Lateral to the West per attached C102, ops and directional plans.

JUL 24 2017

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)
Lacey Granillo

Title Permit Tech III

Signature

Date 7/13/17

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title PE

Date 7/19/17

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office FFG

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

NMOCDAV



WPX Energy

Operations Plan

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

<u>Date:</u>	July 13, 2017	<u>Field:</u>	Lybrook Mancos W
<u>Well Name:</u>	W Lybrook #705H	<u>Surface:</u>	IA
<u>SH Location:</u>	SWSE Sec 7-23N-08W	<u>Elevation:</u>	6778' GR
<u>BH Location:</u>	NWNW Sec 7-23N-08W	<u>Minerals:</u>	IA

Measured Depth: 10820.18'

I. GEOLOGY: SURFACE FORMATION - NACIMIENTO

A. FORMATION TOPS (KB)

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	794.00	793.00	POINT LOOKOUT	3849.00	3780.00
KIRTLAND	1004.00	1001.00	MANCOS	4041.00	3967.00
PICTURED CLIFFS	1388.00	1377.00	GALLUP	4398.00	4316.00
LEWIS	1502.00	1488.00	KICKOFF POINT	4375.13	4293.74
CHACRA	1767.00	1747.00	TOP TARGET	5339.00	5043.00
CLIFF HOUSE	2868.00	2822.00	LANDING POINT	5510.83	5067.00
MENEFEE	2918.00	2871.00	BASE TARGET	5510.83	5067.00
			TD	10820.18	0.00

B. MUD LOGGING PROGRAM: Mudlogger on location from surface csg to TD.

C. LOGGING PROGRAM: LWD GR from surface casing to TD.

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

II. DRILLING

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

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

III. MATERIALS

A. CASING PROGRAM:

CASING TYPE	OH SIZE (IN)	DEPTH (MD)	CSG SIZE	WEIGHT	GRADE	CONN
SURFACE	12.25"	320.00'	9.625"	36 LBS	J-55 or equiv	STC
INTERMEDIATE	8.75"	5510.83'	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	5360.83' - 10820.18'	4.5"	11.6 LBS	P-110 or equiv	LTC
TIE BACK	6.125"	Surf. - 5360.83'	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. **A 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 cancelation device will be dropped to shift the dv tool closed and the 2nd stage cement job will be aborted at that time.**

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

C. CEMENTING:

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

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

2. Intermediate STAGE 1: Spacer #1: 20 bbl (112 cuft) Chemwash. Lead Cement: 108 bbls, 307 sks, (604 cuft), 12.3 ppg @ 1.97 cuft/sk yield. Tail Cement: 87 bbls, 375 sks, (488 cuft), 13.5 ppg @ 1.3 cuft/sk yield. Displacement: Displace w/ +/- 217 bbl Drilling mud or water. Total Cement: 194 bbls, 682 sks, (1092 cuft)
STAGE 2: Spacer #1: 20 bbl (112 cuft) Chemwash. Lead Cement: 37 bbls, 108 sks, (211 cuft), 12.3 ppg @ 1.97 cuft/sk yield. Tail Cement: 16 bbls, 78 sks, (90 cuft), 13.5 ppg @ 1.3 cuft/sk yield. Displacement: Displace w/ +/- 66 bbl Drilling mud or water. Total Cement: 54 bbls, 186 sks, (301 cuft)

3. PROD. LINER: Spacer #1: 10 bbl (56 cu-ft) Water Spacer. Spacer #2: 40 bbl 9.5 ppg (224.6 cu-ft) Tuned Spacer III. Spacer #3: 10 bbl Water Spacer. Lead Cement: Extencem™ System. Yield 1.36 cuft/sk 13.3 ppg (535 sx /727 cuft /130 bbls). Tail Spacer: 20 BBL of MMCR. Displacement: Displace w/ +/- 140 bbl Fr Water. Total Cement (535 sx /727bbls).

I.
COMPLETION

A. **CBL**

Run CCL for perforating

A. **PRESSURE TEST**

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

B. **STIMULATION**

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

C. **RUNNING TUBING**

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

- Although this horizontal well will be drilled past the applicable setbacks, an unorthodox location application is not required because the completed interval in this well, as defined by 19.15.16.7 B(1) NMAC, will be entirely within the applicable setbacks. This approach complies with all applicable rules, including 19.15.16.14 A(3) NMAC, 19.15.16.14 B(2) NMAC, 19.15.16.15 B(2) NMAC, and 19.15.16.15. B(4) NMAC.

NOTE:

Proposed Operations:

A 4-1/2" 11.6# 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 R8W

W Lybrook 705 Pad

W Lybrook 705H

API: 30-045-35748

Wellbore #1

Plan: Plan #3

Standard Planning Report - Geographic

11 July, 2017



www.scientificdrilling.com

W Lybrook 705H
T23N R8W
Northing: 1905858.53
Easting: 533270.52
Plan #3

GL 6778 + 21 = @ 6799.00usft (Cyclone 32)



Azimuths to True North
 Magnetic North: 9.00°
 Magnetic Field
 Strength: 49664.4snT
 Dip Angle: 62.88°
 Date: 7/6/2017
 Model: HDGM

WELL DETAILS W Lybrook 705H

Ground Level: 6778.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1905858.53	533270.52	36.237905	-107.720515

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
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
1122.58	12.45	130.29	1117.69	-43.57	51.40	2.00	130.29	-67.15
4375.13	12.45	130.29	4293.74	-497.06	586.35	0.00	0.00	-765.96
5510.83	89.81	315.11	5067.00	-48.05	159.16	9.00	-175.07	-146.37
10820.18	89.81	315.11	5085.00	3713.09	-3588.20	0.00	0.00	5162.96

SITE DETAILS: W Lybrook 705 Pad

Site Centre Northing: 1905858.53
 Easting: 533270.52

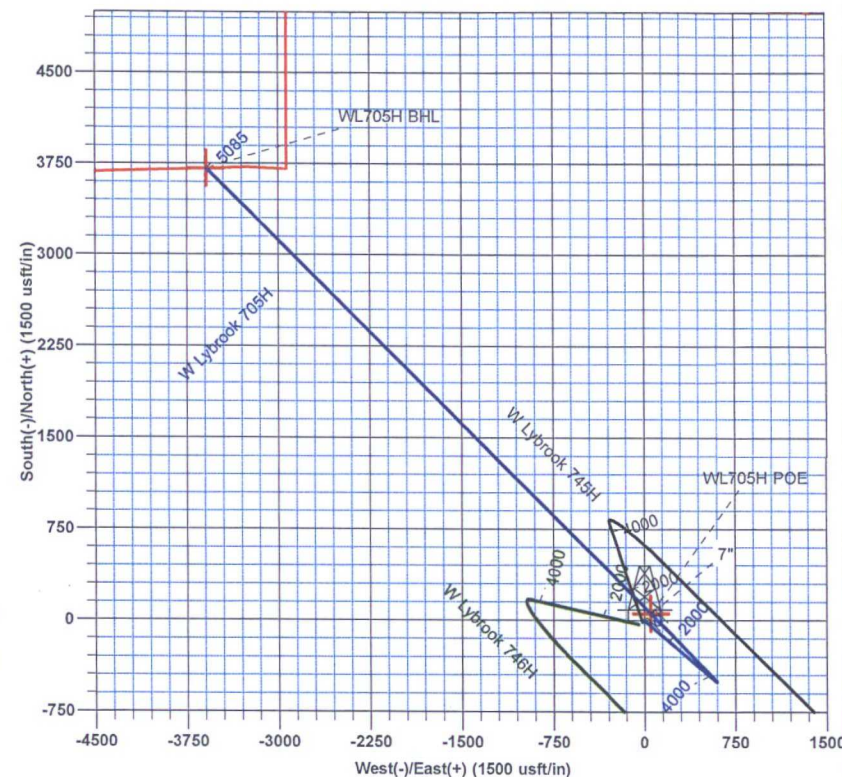
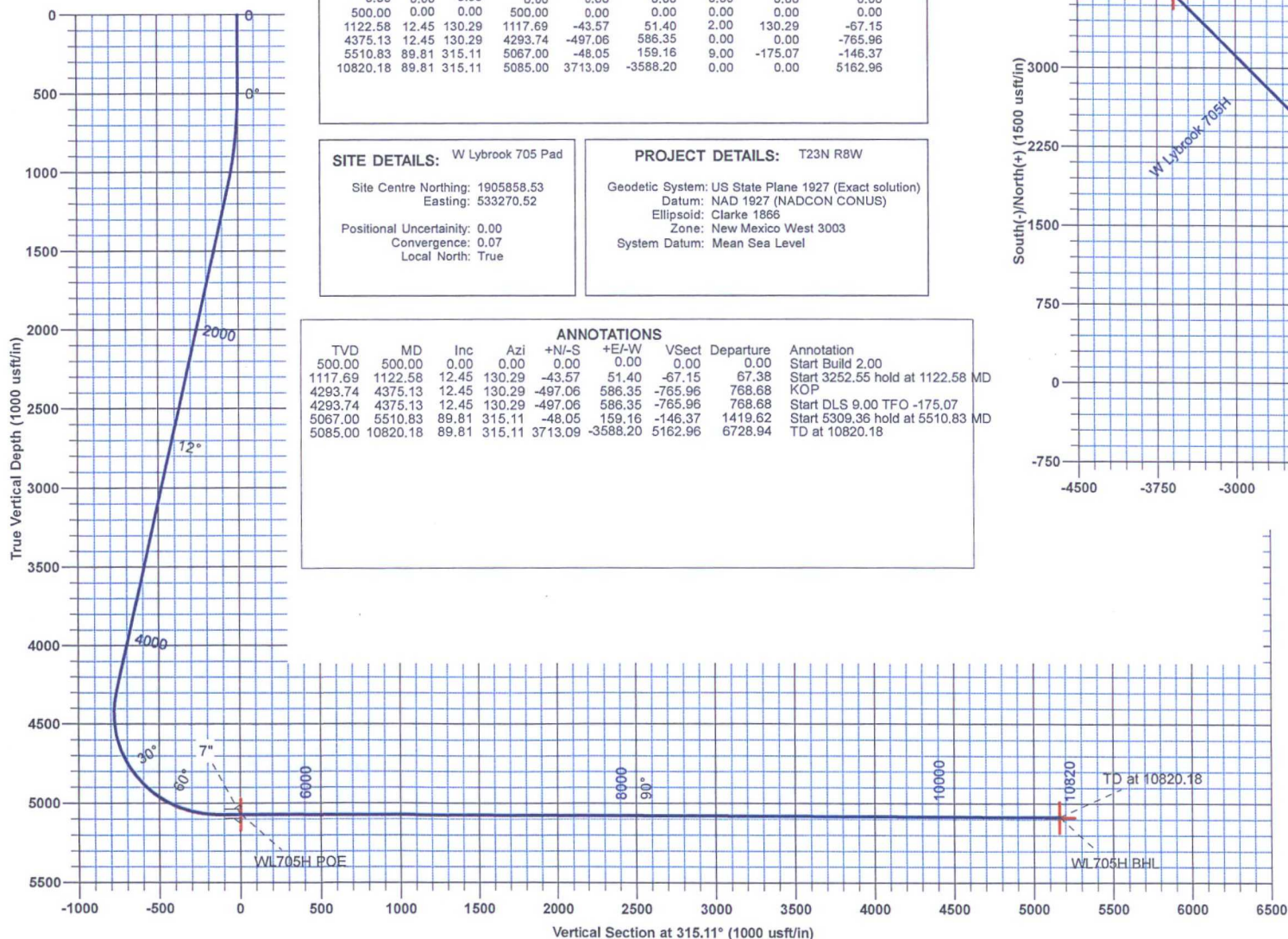
Positional Uncertainty: 0.00
 Convergence: 0.07
 Local North: True

PROJECT DETAILS: T23N R8W

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: New Mexico West 3003
 System Datum: Mean Sea Level

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
1117.69	1122.58	12.45	130.29	-43.57	51.40	-67.15	67.38	Start 3252.55 hold at 1122.58 MD
4293.74	4375.13	12.45	130.29	-497.06	586.35	-765.96	768.68	KOP
4293.74	4375.13	12.45	130.29	-497.06	586.35	-765.96	768.68	Start DLS 9.00 TFO -175.07
5067.00	5510.83	89.81	315.11	-48.05	159.16	-146.37	1419.62	Start 5309.36 hold at 5510.83 MD
5085.00	10820.18	89.81	315.11	3713.09	-3588.20	5162.96	6728.94	TD at 10820.18



CASING DETAILS

TVD	MD	Size
5067.50	5658.95	7

Scientific Drilling Int.
Planning Report - Geographic

Database:	Grand Junction District	Local Co-ordinate Reference:	Well W Lybrook 705H
Company:	WPX Energy	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Project:	T23N R8W	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	North Reference:	True
Well:	W Lybrook 705H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Project	T23N R8W		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		

Site		W Lybrook 705 Pad			
Site Position:		Northing:	1,905,858.53 usft	Latitude:	36.237905
From:	Lat/Long	Easting:	533,270.53 usft	Longitude:	-107.720515
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.07 °

Well	W Lybrook 705H					
Well Position	+N/-S	0.00 usft	Northing:	1,905,858.53 usft	Latitude:	36.237905
	+E/-W	0.00 usft	Easting:	533,270.53 usft	Longitude:	-107.720515
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,778.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/6/2017	9.00	62.88	49,664

Design	Plan #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	315.11

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,122.58	12.45	130.29	1,117.69	-43.57	51.40	2.00	2.00	0.00	130.29	
4,375.13	12.45	130.29	4,293.74	-497.06	586.35	0.00	0.00	0.00	0.00	
5,510.83	89.81	315.11	5,067.00	-48.05	159.16	9.00	6.81	-15.43	-175.07	
10,820.18	89.81	315.11	5,085.00	3,713.09	-3,588.20	0.00	0.00	0.00	0.00	WL705H BHL

Scientific Drilling Int.
Planning Report - Geographic

Database:	Grand Junction District	Local Co-ordinate Reference:	Well W Lybrook 705H
Company:	WPX Energy	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Project:	T23N R8W	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	North Reference:	True
Well:	W Lybrook 705H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,905,858.53	533,270.53	36.237905	-107.720515
100.00	0.00	0.00	100.00	0.00	0.00	1,905,858.53	533,270.53	36.237905	-107.720515
200.00	0.00	0.00	200.00	0.00	0.00	1,905,858.53	533,270.53	36.237905	-107.720515
300.00	0.00	0.00	300.00	0.00	0.00	1,905,858.53	533,270.53	36.237905	-107.720515
400.00	0.00	0.00	400.00	0.00	0.00	1,905,858.53	533,270.53	36.237905	-107.720515
500.00	0.00	0.00	500.00	0.00	0.00	1,905,858.53	533,270.53	36.237905	-107.720515
Start Build 2.00									
600.00	2.00	130.29	599.98	-1.13	1.33	1,905,857.40	533,271.86	36.237902	-107.720511
700.00	4.00	130.29	699.84	-4.51	5.32	1,905,854.02	533,275.85	36.237893	-107.720497
743.29	4.87	130.29	743.00	-6.68	7.88	1,905,851.86	533,278.41	36.237887	-107.720489
Ojo Alamo									
800.00	6.00	130.29	799.45	-10.15	11.97	1,905,848.39	533,282.51	36.237877	-107.720475
900.00	8.00	130.29	898.70	-18.03	21.27	1,905,840.53	533,291.81	36.237856	-107.720443
906.36	8.13	130.29	905.00	-18.61	21.95	1,905,839.95	533,292.50	36.237854	-107.720441
Kirtland									
1,000.00	10.00	130.29	997.47	-28.14	33.20	1,905,830.42	533,303.76	36.237828	-107.720403
1,100.00	12.00	130.29	1,095.62	-40.48	47.75	1,905,818.10	533,318.33	36.237794	-107.720353
1,122.58	12.45	130.29	1,117.69	-43.57	51.40	1,905,815.02	533,321.98	36.237785	-107.720341
Start 3252.55 hold at 1122.58 MD									
1,200.00	12.45	130.29	1,193.29	-54.37	64.13	1,905,804.24	533,334.72	36.237756	-107.720298
1,300.00	12.45	130.29	1,290.94	-68.31	80.58	1,905,790.31	533,351.19	36.237717	-107.720242
1,400.00	12.45	130.29	1,388.59	-82.25	97.03	1,905,776.39	533,367.65	36.237679	-107.720186
1,486.45	12.45	130.29	1,473.00	-94.30	111.25	1,905,764.35	533,381.88	36.237646	-107.720138
Picture Cliffs									
1,500.00	12.45	130.29	1,486.23	-96.19	113.48	1,905,762.47	533,384.11	36.237641	-107.720130
1,572.47	12.45	130.29	1,557.00	-106.30	125.40	1,905,752.38	533,396.05	36.237613	-107.720090
Lewis									
1,600.00	12.45	130.29	1,583.88	-110.14	129.92	1,905,748.54	533,400.58	36.237603	-107.720075
1,700.00	12.45	130.29	1,681.53	-124.08	146.37	1,905,734.62	533,417.04	36.237564	-107.720019
1,794.70	12.45	130.29	1,774.00	-137.28	161.95	1,905,721.43	533,432.63	36.237528	-107.719966
Chacra									
1,800.00	12.45	130.29	1,779.18	-138.02	162.82	1,905,720.70	533,433.50	36.237526	-107.719963
1,900.00	12.45	130.29	1,876.82	-151.96	179.26	1,905,706.77	533,449.97	36.237488	-107.719907
2,000.00	12.45	130.29	1,974.47	-165.91	195.71	1,905,692.85	533,466.43	36.237449	-107.719852
2,100.00	12.45	130.29	2,072.12	-179.85	212.16	1,905,678.93	533,482.89	36.237411	-107.719796
2,200.00	12.45	130.29	2,169.77	-193.79	228.61	1,905,665.00	533,499.36	36.237373	-107.719740
2,300.00	12.45	130.29	2,267.42	-207.73	245.05	1,905,651.08	533,515.82	36.237334	-107.719684
2,400.00	12.45	130.29	2,365.06	-221.68	261.50	1,905,637.16	533,532.28	36.237296	-107.719629
2,500.00	12.45	130.29	2,462.71	-235.62	277.95	1,905,623.23	533,548.75	36.237258	-107.719573
2,600.00	12.45	130.29	2,560.36	-249.56	294.39	1,905,609.31	533,565.21	36.237220	-107.719517
2,700.00	12.45	130.29	2,658.01	-263.50	310.84	1,905,595.39	533,581.67	36.237181	-107.719461
2,800.00	12.45	130.29	2,755.66	-277.45	327.29	1,905,581.46	533,598.14	36.237143	-107.719405
2,900.00	12.45	130.29	2,853.30	-291.39	343.74	1,905,567.54	533,614.60	36.237105	-107.719350
2,928.36	12.45	130.29	2,881.00	-295.34	348.40	1,905,563.59	533,619.27	36.237094	-107.719334
Cliff House									
2,945.77	12.45	130.29	2,898.00	-297.77	351.26	1,905,561.17	533,622.14	36.237087	-107.719324
Menefee									
3,000.00	12.45	130.29	2,950.95	-305.33	360.18	1,905,553.62	533,631.06	36.237066	-107.719294
3,100.00	12.45	130.29	3,048.60	-319.27	376.63	1,905,539.69	533,647.53	36.237028	-107.719238
3,200.00	12.45	130.29	3,146.25	-333.22	393.08	1,905,525.77	533,663.99	36.236990	-107.719182
3,300.00	12.45	130.29	3,243.89	-347.16	409.52	1,905,511.85	533,680.45	36.236951	-107.719127
3,400.00	12.45	130.29	3,341.54	-361.10	425.97	1,905,497.92	533,696.92	36.236913	-107.719071

Scientific Drilling Int.
Planning Report - Geographic

Database:	Grand Junction District	Local Co-ordinate Reference:	Well W Lybrook 705H
Company:	WPX Energy	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Project:	T23N R8W	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	North Reference:	True
Well:	W Lybrook 705H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,500.00	12.45	130.29	3,439.19	-375.04	442.42	1,905,484.00	533,713.38	36.236875	-107.719015
3,600.00	12.45	130.29	3,536.84	-388.99	458.87	1,905,470.08	533,729.84	36.236836	-107.718959
3,700.00	12.45	130.29	3,634.49	-402.93	475.31	1,905,456.15	533,746.31	36.236798	-107.718904
3,800.00	12.45	130.29	3,732.13	-416.87	491.76	1,905,442.23	533,762.77	36.236760	-107.718848
3,879.74	12.45	130.29	3,810.00	-427.99	504.88	1,905,431.13	533,775.90	36.236729	-107.718803
Point Lookout									
3,900.00	12.45	130.29	3,829.78	-430.81	508.21	1,905,428.31	533,779.24	36.236722	-107.718792
4,000.00	12.45	130.29	3,927.43	-444.75	524.65	1,905,414.38	533,795.70	36.236683	-107.718736
4,058.96	12.45	130.29	3,985.00	-452.98	534.35	1,905,406.18	533,805.40	36.236661	-107.718703
Mancos									
4,100.00	12.45	130.29	4,025.08	-458.70	541.10	1,905,400.46	533,812.16	36.236645	-107.718680
4,200.00	12.45	130.29	4,122.73	-472.64	557.55	1,905,386.54	533,828.63	36.236607	-107.718625
4,300.00	12.45	130.29	4,220.37	-486.58	574.00	1,905,372.61	533,845.09	36.236568	-107.718569
4,375.13	12.45	130.29	4,293.74	-497.06	586.35	1,905,362.15	533,857.46	36.236540	-107.718527
KOP - Start DLS 9.00 TFO -175.07									
4,400.00	10.22	129.21	4,318.12	-500.19	590.11	1,905,359.03	533,861.22	36.236531	-107.718514
4,405.97	9.69	128.87	4,324.00	-500.84	590.91	1,905,358.38	533,862.02	36.236529	-107.718512
Gallup									
4,450.00	5.77	124.53	4,367.62	-504.42	595.62	1,905,354.81	533,866.73	36.236519	-107.718496
4,500.00	1.58	92.86	4,417.51	-505.88	598.38	1,905,353.35	533,869.49	36.236515	-107.718486
4,550.00	3.50	332.76	4,467.48	-504.55	598.37	1,905,354.67	533,869.48	36.236519	-107.718486
4,600.00	7.90	322.77	4,517.22	-500.46	595.59	1,905,358.76	533,866.70	36.236530	-107.718496
4,614.95	9.24	321.64	4,532.00	-498.70	594.22	1,905,360.52	533,865.33	36.236535	-107.718500
Gallup Upper									
4,650.00	12.38	319.95	4,566.43	-493.62	590.06	1,905,365.60	533,861.16	36.236549	-107.718514
4,700.00	16.86	318.61	4,614.80	-484.07	581.81	1,905,375.13	533,852.90	36.236575	-107.718542
4,750.00	21.36	317.82	4,662.03	-471.88	570.90	1,905,387.31	533,841.97	36.236609	-107.718579
4,800.00	25.85	317.29	4,707.84	-457.11	557.38	1,905,402.06	533,828.44	36.236649	-107.718625
4,850.00	30.35	316.92	4,751.93	-439.87	541.35	1,905,419.29	533,812.39	36.236697	-107.718680
4,900.00	34.85	316.63	4,794.04	-420.25	522.91	1,905,438.89	533,793.92	36.236751	-107.718742
4,941.11	38.54	316.43	4,827.00	-402.43	506.01	1,905,456.69	533,777.00	36.236800	-107.718799
Mancos Lwr									
4,950.00	39.34	316.40	4,833.92	-398.38	502.15	1,905,460.73	533,773.14	36.236811	-107.718813
5,000.00	43.84	316.21	4,871.30	-374.39	479.23	1,905,484.70	533,750.19	36.236877	-107.718890
5,050.00	48.34	316.05	4,905.97	-348.43	454.27	1,905,510.63	533,725.20	36.236948	-107.718975
5,060.68	49.30	316.01	4,913.00	-342.65	448.69	1,905,516.40	533,719.61	36.236964	-107.718994
El Vado									
5,100.00	52.84	315.91	4,937.70	-320.66	427.43	1,905,538.36	533,698.33	36.237024	-107.719066
5,133.10	55.82	315.82	4,957.00	-301.37	408.71	1,905,557.63	533,679.58	36.237077	-107.719129
Frac Barrier									
5,134.88	55.98	315.82	4,958.00	-300.31	407.68	1,905,558.69	533,678.55	36.237080	-107.719133
Mancos Unc									
5,150.00	57.34	315.78	4,966.31	-291.25	398.87	1,905,567.74	533,669.74	36.237105	-107.719163
5,200.00	61.84	315.67	4,991.62	-260.39	368.78	1,905,598.57	533,639.61	36.237190	-107.719265
5,234.34	64.93	315.60	5,007.00	-238.44	347.31	1,905,620.49	533,618.12	36.237250	-107.719338
PS 3									
5,250.00	66.34	315.57	5,013.46	-228.26	337.33	1,905,630.67	533,608.12	36.237278	-107.719371
5,294.84	70.37	315.48	5,030.00	-198.52	308.13	1,905,660.37	533,578.89	36.237360	-107.719470
PS2									
5,300.00	70.83	315.47	5,031.71	-195.05	304.72	1,905,663.83	533,575.47	36.237369	-107.719482
5,350.00	75.33	315.38	5,046.26	-160.99	271.16	1,905,697.86	533,541.87	36.237463	-107.719596

Scientific Drilling Int.
Planning Report - Geographic

Database:	Grand Junction District	Local Co-ordinate Reference:	Well W Lybrook 705H
Company:	WPX Energy	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Project:	T23N R8W	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	North Reference:	True
Well:	W Lybrook 705H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,384.08	78.40	315.32	5,054.00	-137.38	247.83	1,905,721.44	533,518.52	36.237528	-107.719675	
PS1										
5,400.00	79.83	315.29	5,057.01	-126.27	236.84	1,905,732.54	533,507.51	36.237558	-107.719712	
5,450.00	84.33	315.21	5,063.89	-91.11	201.98	1,905,767.66	533,472.61	36.237655	-107.719830	
5,500.00	88.83	315.12	5,066.87	-55.72	166.80	1,905,803.00	533,437.39	36.237752	-107.719950	
5,510.83	89.81	315.11	5,067.00	-48.05	159.16	1,905,810.66	533,429.74	36.237773	-107.719976	
Start 5309.36 hold at 5510.83 MD										
5,600.00	89.81	315.11	5,067.30	15.12	96.22	1,905,873.76	533,366.73	36.237947	-107.720189	
5,658.95	89.81	315.11	5,067.50	56.88	54.61	1,905,915.47	533,325.07	36.238061	-107.720330	
7"										
5,700.00	89.81	315.11	5,067.64	85.96	25.64	1,905,944.52	533,296.07	36.238141	-107.720428	
5,800.00	89.81	315.11	5,067.98	156.80	-44.94	1,906,015.28	533,225.40	36.238336	-107.720668	
5,900.00	89.81	315.11	5,068.32	227.64	-115.52	1,906,086.03	533,154.74	36.238530	-107.720907	
6,000.00	89.81	315.11	5,068.66	298.48	-186.10	1,906,156.79	533,084.08	36.238725	-107.721146	
6,100.00	89.81	315.11	5,069.00	369.32	-256.68	1,906,227.55	533,013.42	36.238920	-107.721386	
6,200.00	89.81	315.11	5,069.34	440.16	-327.26	1,906,298.31	532,942.75	36.239114	-107.721625	
6,300.00	89.81	315.11	5,069.68	511.00	-397.84	1,906,369.06	532,872.09	36.239309	-107.721864	
6,400.00	89.81	315.11	5,070.01	581.84	-468.42	1,906,439.82	532,801.43	36.239503	-107.722104	
6,500.00	89.81	315.11	5,070.35	652.68	-539.00	1,906,510.58	532,730.76	36.239698	-107.722343	
6,600.00	89.81	315.11	5,070.69	723.52	-609.58	1,906,581.34	532,660.10	36.239893	-107.722582	
6,700.00	89.81	315.11	5,071.03	794.36	-680.16	1,906,652.10	532,589.44	36.240087	-107.722822	
6,800.00	89.81	315.11	5,071.37	865.20	-750.74	1,906,722.85	532,518.78	36.240282	-107.723061	
6,900.00	89.81	315.11	5,071.71	936.04	-821.32	1,906,793.61	532,448.11	36.240476	-107.723300	
7,000.00	89.81	315.11	5,072.05	1,006.88	-891.90	1,906,864.37	532,377.45	36.240671	-107.723540	
7,100.00	89.81	315.11	5,072.39	1,077.72	-962.48	1,906,935.13	532,306.79	36.240866	-107.723779	
7,200.00	89.81	315.11	5,072.73	1,148.56	-1,033.06	1,907,005.88	532,236.13	36.241060	-107.724018	
7,280.61	89.81	315.11	5,073.00	1,205.66	-1,089.96	1,907,062.92	532,179.16	36.241217	-107.724211	
PSA										
7,300.00	89.81	315.11	5,073.07	1,219.40	-1,103.65	1,907,076.64	532,165.46	36.241255	-107.724258	
7,400.00	89.81	315.11	5,073.40	1,290.24	-1,174.23	1,907,147.40	532,094.80	36.241450	-107.724497	
7,500.00	89.81	315.11	5,073.74	1,361.08	-1,244.81	1,907,218.16	532,024.14	36.241644	-107.724737	
7,600.00	89.81	315.11	5,074.08	1,431.92	-1,315.39	1,907,288.91	531,953.47	36.241839	-107.724976	
7,700.00	89.81	315.11	5,074.42	1,502.76	-1,385.97	1,907,359.67	531,882.81	36.242033	-107.725215	
7,800.00	89.81	315.11	5,074.76	1,573.60	-1,456.55	1,907,430.43	531,812.15	36.242228	-107.725455	
7,900.00	89.81	315.11	5,075.10	1,644.44	-1,527.13	1,907,501.19	531,741.49	36.242422	-107.725694	
8,000.00	89.81	315.11	5,075.44	1,715.28	-1,597.71	1,907,571.95	531,670.82	36.242617	-107.725933	
8,100.00	89.81	315.11	5,075.78	1,786.12	-1,668.29	1,907,642.70	531,600.16	36.242812	-107.726173	
8,200.00	89.81	315.11	5,076.12	1,856.96	-1,738.87	1,907,713.46	531,529.50	36.243006	-107.726412	
8,300.00	89.81	315.11	5,076.46	1,927.80	-1,809.45	1,907,784.22	531,458.83	36.243201	-107.726651	
8,400.00	89.81	315.11	5,076.80	1,998.64	-1,880.03	1,907,854.98	531,388.17	36.243395	-107.726891	
8,500.00	89.81	315.11	5,077.13	2,069.48	-1,950.61	1,907,925.73	531,317.51	36.243590	-107.727130	
8,600.00	89.81	315.11	5,077.47	2,140.32	-2,021.19	1,907,996.49	531,246.85	36.243785	-107.727370	
8,700.00	89.81	315.11	5,077.81	2,211.16	-2,091.77	1,908,067.25	531,176.18	36.243979	-107.727609	
8,800.00	89.81	315.11	5,078.15	2,282.00	-2,162.35	1,908,138.01	531,105.52	36.244174	-107.727848	
8,900.00	89.81	315.11	5,078.49	2,352.84	-2,232.93	1,908,208.76	531,034.86	36.244368	-107.728088	
9,000.00	89.81	315.11	5,078.83	2,423.68	-2,303.51	1,908,279.52	530,964.19	36.244563	-107.728327	
9,100.00	89.81	315.11	5,079.17	2,494.52	-2,374.09	1,908,350.28	530,893.53	36.244758	-107.728566	
9,200.00	89.81	315.11	5,079.51	2,565.36	-2,444.67	1,908,421.04	530,822.87	36.244952	-107.728806	
9,300.00	89.81	315.11	5,079.85	2,636.20	-2,515.25	1,908,491.80	530,752.21	36.245147	-107.729045	
9,400.00	89.81	315.11	5,080.19	2,707.04	-2,585.83	1,908,562.55	530,681.54	36.245341	-107.729284	
9,500.00	89.81	315.11	5,080.52	2,777.88	-2,656.41	1,908,633.31	530,610.88	36.245536	-107.729524	
9,600.00	89.81	315.11	5,080.86	2,848.72	-2,726.99	1,908,704.07	530,540.22	36.245731	-107.729763	

Scientific Drilling Int.
Planning Report - Geographic

Database:	Grand Junction District	Local Co-ordinate Reference:	Well W Lybrook 705H
Company:	WPX Energy	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Project:	T23N R8W	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	North Reference:	True
Well:	W Lybrook 705H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,700.00	89.81	315.11	5,081.20	2,919.56	-2,797.57	1,908,774.83	530,469.56	36.245925	-107.730003
9,800.00	89.81	315.11	5,081.54	2,990.40	-2,868.16	1,908,845.58	530,398.89	36.246120	-107.730242
9,900.00	89.81	315.11	5,081.88	3,061.24	-2,938.74	1,908,916.34	530,328.23	36.246314	-107.730481
10,000.00	89.81	315.11	5,082.22	3,132.08	-3,009.32	1,908,987.10	530,257.57	36.246509	-107.730721
10,100.00	89.81	315.11	5,082.56	3,202.92	-3,079.90	1,909,057.86	530,186.90	36.246704	-107.730960
10,200.00	89.81	315.11	5,082.90	3,273.76	-3,150.48	1,909,128.62	530,116.24	36.246898	-107.731200
10,300.00	89.81	315.11	5,083.24	3,344.60	-3,221.06	1,909,199.37	530,045.58	36.247093	-107.731439
10,400.00	89.81	315.11	5,083.58	3,415.44	-3,291.64	1,909,270.13	529,974.92	36.247287	-107.731678
10,500.00	89.81	315.11	5,083.91	3,486.28	-3,362.22	1,909,340.89	529,904.25	36.247482	-107.731918
10,600.00	89.81	315.11	5,084.25	3,557.12	-3,432.80	1,909,411.65	529,833.59	36.247676	-107.732157
10,700.00	89.81	315.11	5,084.59	3,627.96	-3,503.38	1,909,482.40	529,762.93	36.247871	-107.732397
10,800.00	89.81	315.11	5,084.93	3,698.80	-3,573.96	1,909,553.16	529,692.26	36.248066	-107.732636
10,820.18	89.81	315.11	5,085.00	3,713.09	-3,588.20	1,909,567.44	529,678.00	36.248105	-107.732684
TD at 10820.18									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
WL705H POE - hit/miss target - Shape	0.00	0.00	5,067.00	56.88	52.53	1,905,915.47	533,322.99	36.238061	-107.720337
- plan misses target center by 1.56usft at 5660.42usft MD (5067.51 TVD, 57.92 N, 53.58 E)									
- Point									
WL705H BHL - plan hits target center - Point	0.00	0.00	5,085.00	3,713.09	-3,588.20	1,909,567.44	529,678.00	36.248105	-107.732684

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
5,658.95	5,067.50	7"	7	8-3/4	

Scientific Drilling Int.
Planning Report - Geographic

Database:	Grand Junction District	Local Co-ordinate Reference:	Well W Lybrook 705H
Company:	WPX Energy	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Project:	T23N R8W	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	North Reference:	True
Well:	W Lybrook 705H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
743.29	743.00	Ojo Alamo				
906.36	905.00	Kirtland				
1,486.45	1,473.00	Picture Cliffs				
1,572.47	1,557.00	Lewis				
1,794.70	1,774.00	Chacra				
2,928.36	2,881.00	Cliff House				
2,945.77	2,898.00	Menefee				
3,879.74	3,810.00	Point Lookout				
4,058.96	3,985.00	Mancos				
4,405.97	4,324.00	Gallup				
4,614.95	4,532.00	Gallup Upper				
4,941.11	4,827.00	Mancos Lwr				
5,060.68	4,913.00	El Vado				
5,133.10	4,957.00	Frac Barrier				
5,134.88	4,958.00	Mancos Unc				
5,234.34	5,007.00	PS 3				
5,294.84	5,030.00	PS2				
5,384.08	5,054.00	PS1				
7,280.61	5,073.00	PSA				

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
1,122.58	1,117.69	-43.57	51.40	Start 3252.55 hold at 1122.58 MD
4,375.13	4,293.74	-497.06	586.35	KOP
4,375.13	4,293.74	-497.06	586.35	Start DLS 9.00 TFO -175.07
5,510.83	5,067.00	-48.05	159.16	Start 5309.36 hold at 5510.83 MD
10,820.18	5,085.00	3,713.09	-3,588.20	TD at 10820.18