

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

As Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35751	² Pool Code 98157	³ Pool Name LYBROOK MANCOS W
⁴ Property Code 315250	⁵ Property Name W LYBROOK UNIT	⁶ Well Number 746H
⁷ GRID No. 120782	⁸ Operator Name WPX ENERGY PRODUCTION, LLC	⁹ Elevation 6778'

¹⁰ Surface Location

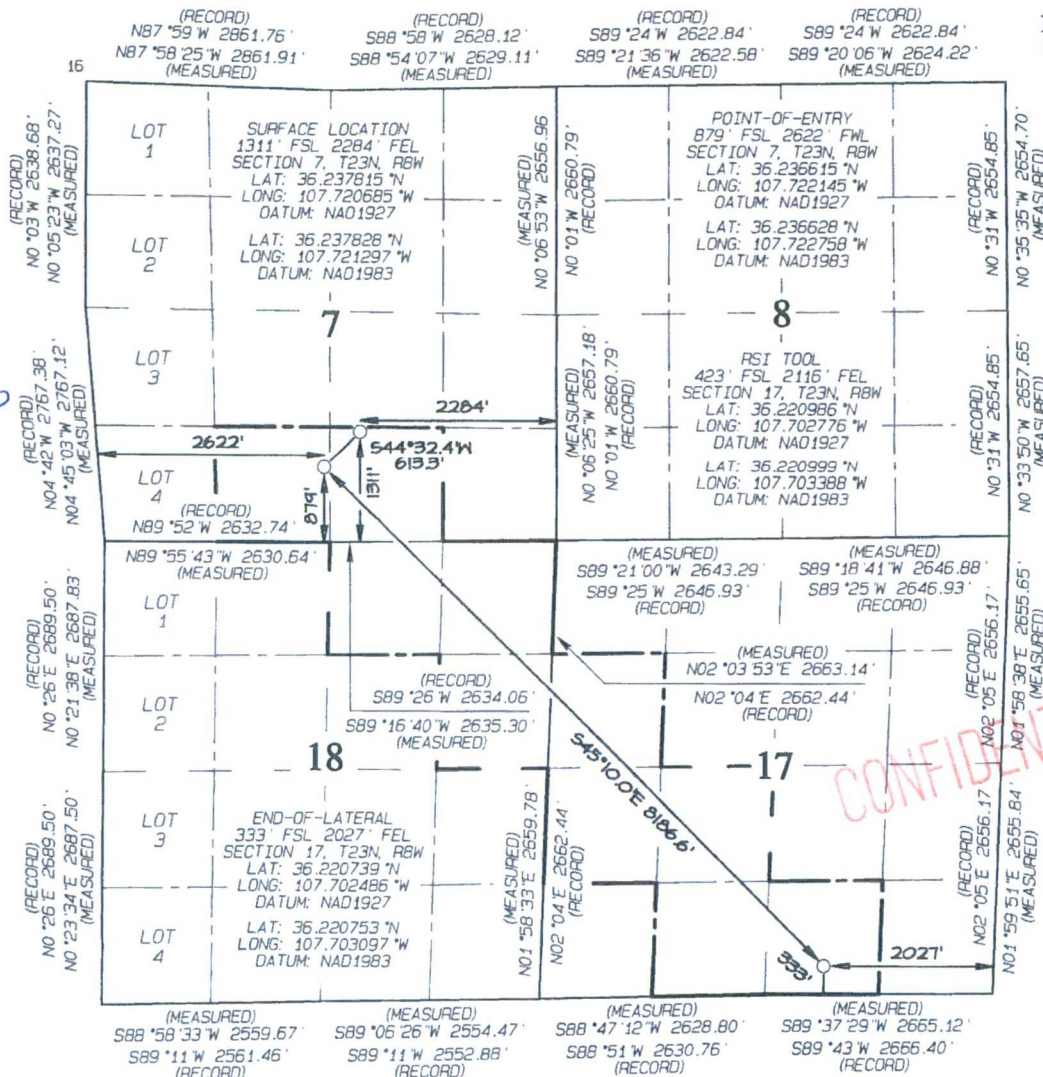
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	7	23N	8W		1311	SOUTH	2284	EAST	SAN JUAN

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
0	17	23N	8W		333	SOUTH	2027	EAST	SAN JUAN

¹² Dedicated Acres 400.00 SW/4 NW/4, N/2 SW/4 SE/4 SW/4, SW/4 SE/4 - Section 17 N/2 NE/4, SE/4 NE/4 - Section 18 SE/4 SW/4, SW/4 SE/4 - Section 7	¹³ Joint or Infill OIL CONS. DIV DIST. 3 JAN 16 2018	¹⁴ Consolidation Code R-14051	¹⁵ Order No. - 12,807.24 Acres
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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: [Signature]
Date: 1/25/18

Printed Name: Lacey Granillo

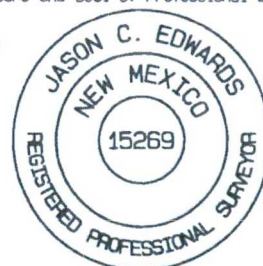
lacey.granillo@wpenergy.com
E-mail Address

¹⁸ SURVEYOR CERTIFICATION

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

Date Revised: AUGUST 24, 2017
Date of Survey: MAY 15, 2015

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269



EOW Summary

WPX Energy
W Lybrook UT
#746H

API#: 42-389-35944
SDI Job#: 320717-MPH-474 A

COUNTY: Reeves
RIG: Latshaw 15
DATE: 08/09/2017

CONFIDENTIAL

W Lybrook 746H
T23N R8W
Northing: 1905825.71
Easting: 533220.43
Actual

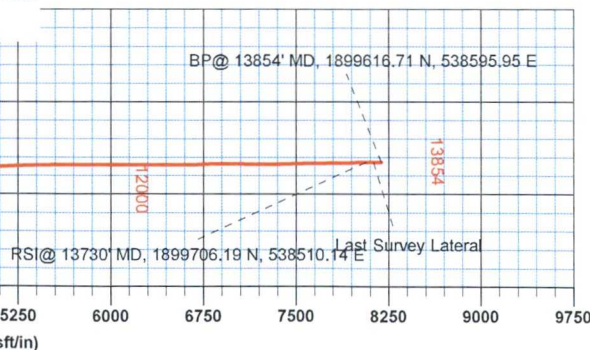
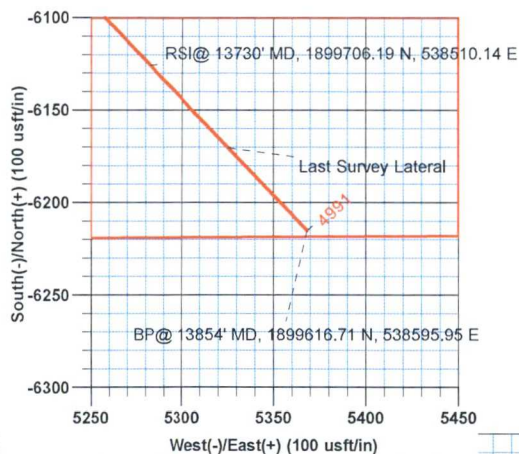
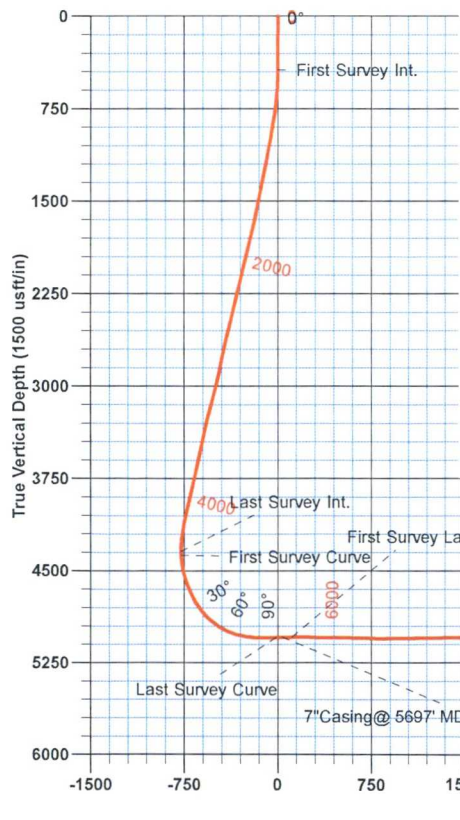
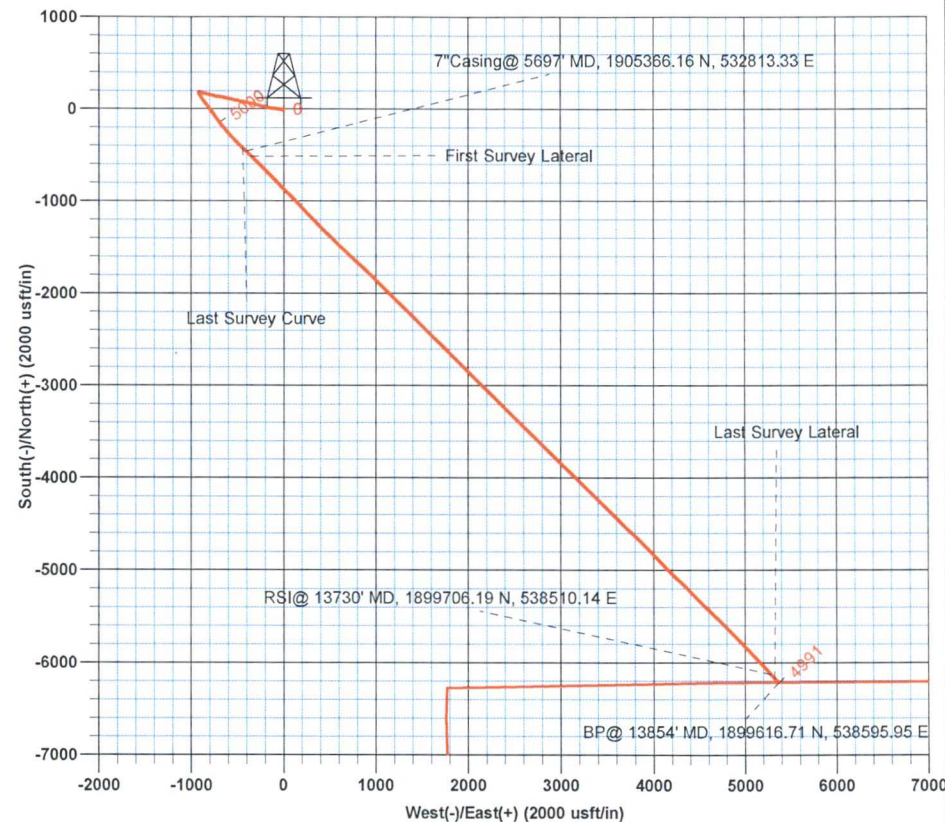
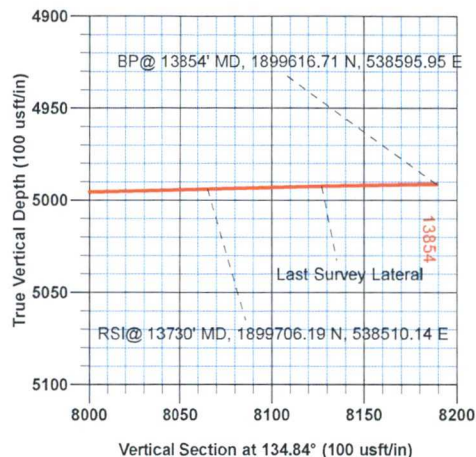
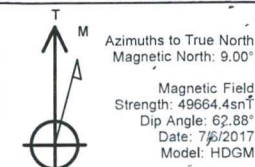
BL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
 GL @ 6778.00



WELL DETAILS W Lybrook 746H

		Ground Level: 6778.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1905825.71	533220.43	36.237815	-107.720685

TVD	MD	ANNOTATIONS
436.95	437.00	Annotation
4342.19	4459.00	First Survey Int.
4373.13	4490.00	Last Survey Int.
5043.42	5649.00	First Survey Curve
5042.95	5697.00	Last Survey Curve
5041.51	5777.00	7" Casing@ 5697' MD, 1905366.16 N, 532813.33 E
4993.91	13730.00	First Survey Lateral
4992.54	13792.00	RSI@ 13730' MD, 1899706.19 N, 538510.14 E
4991.42	13854.00	Last Survey Lateral
		BP@ 13854' MD, 1899616.71 N, 538595.95 E



Bailey Fellows
 8:47, August 23 2017

Scientific Drilling
 325 S. Faudree Rd.
 Odessa, TX 79765

WPX Energy

T23N R8W

W Lybrook 705 Pad

W Lybrook 746H

API: 30-045-35751

Wellbore #1

Design: Actual

Survey Report - Geographic

23 August, 2017



www.scientificdrilling.com



Scientific Drilling Int.
Survey Report - Geographic

Company:	WPX Energy	Local Co-ordinate Reference:	Well W Lybrook 746H
Project:	T23N R8W	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Well:	W Lybrook 746H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	Grand Junction District

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 746H					
Well Position	+N/-S	0.00 usft	Northing:	1,905,825.71 usft	Latitude:	36.237815
	+E/-W	0.00 usft	Easting:	533,220.43 usft	Longitude:	-107.720685
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	Actual				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	134.84	

Survey Program	Date	8/23/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
21.00	309.00	Gyros (Wellbore #1)	NS-GYRO-MS	North sensing gyrocompassing m/s	
437.00	4,459.00	SDI MWD Intermediate (Wellbore #1)	MWD+HDGM	OWSG MWD + HDGM	
4,490.00	5,649.00	SDI MWD Curve (Wellbore #1)	MWD+HDGM	OWSG MWD + HDGM	
5,777.00	13,854.00	SDI MWD Lateral (Wellbore #1)	MWD+HDGM	OWSG MWD + HDGM	

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	1,905,825.71	533,220.43	36.237815	-107.720685
21.00	0.00	0.00	21.00	0.00	0.00	1,905,825.71	533,220.43	36.237815	-107.720685
51.00	0.32	216.52	51.00	-0.07	-0.05	1,905,825.64	533,220.38	36.237815	-107.720685
81.00	0.44	230.35	81.00	-0.21	-0.19	1,905,825.50	533,220.24	36.237815	-107.720686
111.00	0.29	221.59	111.00	-0.34	-0.33	1,905,825.37	533,220.10	36.237814	-107.720686
141.00	0.42	216.53	141.00	-0.48	-0.44	1,905,825.23	533,219.99	36.237814	-107.720687
171.00	0.54	215.03	171.00	-0.69	-0.59	1,905,825.02	533,219.84	36.237813	-107.720687
201.00	0.62	212.95	201.00	-0.94	-0.76	1,905,824.77	533,219.67	36.237813	-107.720688
231.00	0.68	211.90	230.99	-1.23	-0.94	1,905,824.48	533,219.49	36.237812	-107.720688

Scientific Drilling Int.
Survey Report - Geographic

Company:	WPX Energy	Local Co-ordinate Reference:	Well W Lybrook 746H
Project:	T23N R8W	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Well:	W Lybrook 746H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	Grand Junction District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
261.00	0.90	215.68	260.99	-1.57	-1.17	1,905,824.14	533,219.26	36.237811	-107.720689
291.00	0.95	219.22	290.99	-1.95	-1.47	1,905,823.75	533,218.97	36.237810	-107.720690
309.00	1.16	230.39	308.98	-2.19	-1.70	1,905,823.52	533,218.73	36.237809	-107.720691
437.00	1.54	222.93	436.95	-4.27	-3.87	1,905,821.43	533,216.56	36.237803	-107.720698
First Survey Int.									
528.00	3.68	255.28	527.85	-5.91	-7.53	1,905,819.79	533,212.91	36.237799	-107.720711
618.00	5.44	274.27	617.57	-6.32	-14.58	1,905,819.37	533,205.86	36.237798	-107.720735
709.00	7.63	281.57	707.97	-4.79	-24.80	1,905,820.89	533,195.64	36.237802	-107.720769
801.00	9.34	283.03	798.96	-1.88	-38.06	1,905,823.78	533,182.37	36.237810	-107.720814
891.00	11.28	275.27	887.51	0.57	-53.94	1,905,826.22	533,166.49	36.237817	-107.720868
982.00	13.58	275.60	976.37	2.43	-73.44	1,905,828.06	533,146.99	36.237822	-107.720934
1,073.00	13.65	273.95	1,064.81	4.21	-94.78	1,905,829.81	533,125.64	36.237827	-107.721007
1,165.00	14.78	275.47	1,154.00	6.08	-117.29	1,905,831.65	533,103.13	36.237832	-107.721083
1,256.00	12.84	278.15	1,242.36	8.62	-138.86	1,905,834.17	533,081.56	36.237839	-107.721156
1,347.00	14.02	283.43	1,330.88	12.62	-159.59	1,905,838.14	533,060.82	36.237850	-107.721226
1,438.00	12.46	280.46	1,419.46	16.96	-179.97	1,905,842.46	533,040.44	36.237862	-107.721296
1,529.00	13.14	288.35	1,508.20	22.00	-199.44	1,905,847.47	533,020.96	36.237876	-107.721362
1,620.00	11.87	288.55	1,597.04	28.23	-218.13	1,905,853.69	533,002.26	36.237893	-107.721425
1,711.00	13.34	288.44	1,685.84	34.53	-236.97	1,905,859.96	532,983.42	36.237910	-107.721489
1,800.00	15.83	286.11	1,771.97	41.15	-258.37	1,905,866.56	532,962.01	36.237928	-107.721561
1,891.00	15.14	286.19	1,859.67	47.90	-281.71	1,905,873.29	532,938.66	36.237947	-107.721641
1,980.00	15.90	282.59	1,945.42	53.80	-304.77	1,905,879.16	532,915.60	36.237963	-107.721719
2,071.00	15.16	283.55	2,033.10	59.31	-328.50	1,905,884.63	532,891.86	36.237978	-107.721799
2,162.00	14.51	282.96	2,121.07	64.65	-351.18	1,905,889.95	532,869.17	36.237993	-107.721876
2,252.00	16.06	280.39	2,207.88	69.43	-374.42	1,905,894.70	532,845.93	36.238006	-107.721955
2,343.00	16.58	280.10	2,295.21	73.97	-399.58	1,905,899.22	532,820.77	36.238018	-107.722040
2,433.00	16.76	279.58	2,381.43	78.38	-425.02	1,905,903.60	532,795.32	36.238030	-107.722126
2,524.00	16.66	280.08	2,468.59	82.85	-450.80	1,905,908.04	532,769.54	36.238043	-107.722214
2,613.00	15.54	280.55	2,554.10	87.27	-475.08	1,905,912.42	532,745.25	36.238055	-107.722296
2,703.00	15.68	282.08	2,640.78	92.02	-498.82	1,905,917.15	532,721.50	36.238068	-107.722377
2,793.00	14.72	279.59	2,727.63	96.47	-521.99	1,905,921.57	532,698.33	36.238080	-107.722455
2,883.00	13.19	279.62	2,814.97	100.09	-543.39	1,905,925.17	532,676.92	36.238090	-107.722528
2,973.00	13.89	282.79	2,902.47	104.20	-564.05	1,905,929.25	532,656.26	36.238101	-107.722598
3,063.00	15.53	285.93	2,989.52	109.90	-586.17	1,905,934.92	532,634.13	36.238117	-107.722673
3,154.00	17.69	284.26	3,076.72	116.65	-611.29	1,905,941.65	532,609.01	36.238136	-107.722758
3,245.00	17.44	281.95	3,163.47	122.88	-638.03	1,905,947.84	532,582.26	36.238153	-107.722849
3,333.00	15.35	280.27	3,247.89	127.68	-662.40	1,905,952.62	532,557.89	36.238166	-107.722931
3,429.00	16.26	279.17	3,340.26	132.09	-688.17	1,905,957.00	532,532.11	36.238178	-107.723019
3,524.00	14.32	278.00	3,431.89	135.85	-712.93	1,905,960.73	532,507.34	36.238188	-107.723103
3,619.00	13.73	281.67	3,524.06	139.76	-735.61	1,905,964.62	532,484.66	36.238199	-107.723180
3,715.00	14.31	284.17	3,617.20	144.97	-758.27	1,905,969.80	532,461.99	36.238213	-107.723257
3,810.00	14.72	281.11	3,709.17	150.17	-781.50	1,905,974.97	532,438.76	36.238228	-107.723335
3,905.00	14.00	282.88	3,801.21	155.06	-804.54	1,905,979.83	532,415.71	36.238241	-107.723413
4,000.00	15.72	284.90	3,893.03	160.93	-828.19	1,905,985.68	532,392.06	36.238257	-107.723494
4,095.00	14.81	284.12	3,984.67	167.20	-852.40	1,905,991.92	532,367.84	36.238274	-107.723576
4,190.00	13.50	281.58	4,076.79	172.39	-875.04	1,905,997.08	532,345.19	36.238289	-107.723652
4,268.00	11.07	282.66	4,153.00	175.86	-891.26	1,906,000.53	532,328.96	36.238298	-107.723708
4,300.00	10.67	282.34	4,184.42	177.16	-897.16	1,906,001.83	532,323.07	36.238302	-107.723727
4,332.00	9.47	280.11	4,215.93	178.26	-902.64	1,906,002.92	532,317.58	36.238305	-107.723746
4,364.00	7.66	277.45	4,247.57	179.00	-907.35	1,906,003.65	532,312.88	36.238307	-107.723762
4,395.00	5.69	267.97	4,278.36	179.21	-910.93	1,906,003.86	532,309.29	36.238307	-107.723774
4,427.00	4.03	254.87	4,310.24	178.86	-913.60	1,906,003.51	532,306.62	36.238306	-107.723783
4,459.00	2.92	222.43	4,342.19	177.97	-915.24	1,906,002.61	532,304.98	36.238304	-107.723789
Last Survey Int.									

Scientific Drilling Int.
Survey Report - Geographic

Company:	WPX Energy	Local Co-ordinate Reference:	Well W Lybrook 746H
Project:	T23N R8W	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Well:	W Lybrook 746H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	Grand Junction District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,490.00	4.46	191.72	4,373.13	176.20	-916.02	1,906,000.85	532,304.21	36.238299	-107.723791
First Survey Curve									
4,522.00	6.38	170.54	4,404.98	173.23	-915.98	1,905,997.88	532,304.25	36.238291	-107.723791
4,554.00	8.39	159.60	4,436.72	169.29	-914.87	1,905,993.93	532,305.36	36.238280	-107.723788
4,585.00	10.22	156.22	4,467.31	164.65	-912.97	1,905,989.30	532,307.27	36.238267	-107.723781
4,617.00	12.09	155.00	4,498.70	159.02	-910.41	1,905,983.67	532,309.83	36.238252	-107.723772
4,649.00	14.22	154.33	4,529.86	152.44	-907.29	1,905,977.09	532,312.96	36.238234	-107.723762
4,681.00	16.70	151.65	4,560.70	144.85	-903.41	1,905,969.50	532,316.86	36.238213	-107.723749
4,712.00	19.15	149.93	4,590.20	136.52	-898.74	1,905,961.19	532,321.53	36.238190	-107.723733
4,744.00	21.34	147.90	4,620.22	127.05	-893.02	1,905,951.72	532,327.26	36.238164	-107.723713
4,776.00	23.62	145.72	4,649.78	116.82	-886.31	1,905,941.50	532,333.98	36.238136	-107.723691
4,807.00	25.43	145.09	4,677.99	106.23	-879.01	1,905,930.91	532,341.30	36.238107	-107.723666
4,839.00	27.31	144.35	4,706.65	94.63	-870.79	1,905,919.32	532,349.53	36.238075	-107.723638
4,871.00	28.73	144.14	4,734.90	82.43	-862.01	1,905,907.13	532,358.33	36.238041	-107.723608
4,902.00	30.60	142.15	4,761.84	70.16	-852.80	1,905,894.88	532,367.55	36.238008	-107.723577
4,934.00	33.88	143.68	4,788.90	56.54	-842.52	1,905,881.27	532,377.85	36.237970	-107.723542
4,966.00	37.11	143.50	4,814.95	41.59	-831.49	1,905,866.33	532,388.89	36.237929	-107.723505
4,997.00	39.93	143.40	4,839.20	26.08	-820.00	1,905,850.83	532,400.41	36.237887	-107.723466
5,029.00	42.88	142.41	4,863.20	9.20	-807.23	1,905,833.97	532,413.19	36.237840	-107.723423
5,061.00	45.20	143.38	4,886.21	-8.54	-793.81	1,905,816.25	532,426.63	36.237792	-107.723377
5,092.00	48.63	143.28	4,907.38	-26.70	-780.29	1,905,798.11	532,440.17	36.237742	-107.723331
5,124.00	52.15	144.62	4,927.78	-46.63	-765.79	1,905,778.19	532,454.69	36.237687	-107.723282
5,156.00	56.32	145.11	4,946.48	-67.86	-750.86	1,905,756.98	532,469.65	36.237629	-107.723231
5,187.00	59.49	146.86	4,962.95	-89.63	-736.17	1,905,735.23	532,484.36	36.237569	-107.723182
5,219.00	62.01	145.86	4,978.58	-112.87	-720.71	1,905,712.00	532,499.86	36.237505	-107.723129
5,250.00	64.85	143.53	4,992.45	-135.49	-704.68	1,905,689.40	532,515.91	36.237443	-107.723075
5,282.00	68.43	141.69	5,005.13	-158.82	-686.84	1,905,666.09	532,533.78	36.237379	-107.723014
5,314.00	72.29	141.25	5,015.89	-182.39	-668.07	1,905,642.54	532,552.58	36.237314	-107.722951
5,346.00	75.89	140.41	5,024.66	-206.24	-648.63	1,905,618.71	532,572.04	36.237248	-107.722885
5,377.00	78.97	139.39	5,031.40	-229.38	-629.14	1,905,595.59	532,591.55	36.237185	-107.722819
5,409.00	81.49	137.95	5,036.83	-253.06	-608.32	1,905,571.94	532,612.41	36.237120	-107.722748
5,441.00	84.15	136.67	5,040.83	-276.39	-586.79	1,905,548.63	532,633.96	36.237056	-107.722675
5,473.00	87.52	136.15	5,043.16	-299.51	-564.79	1,905,525.55	532,655.99	36.236992	-107.722600
5,504.00	90.13	136.37	5,043.79	-321.90	-543.36	1,905,503.18	532,677.44	36.236931	-107.722528
5,600.00	90.07	135.62	5,043.63	-390.95	-476.67	1,905,434.21	532,744.21	36.236741	-107.722302
5,649.00	90.40	134.29	5,043.42	-425.57	-442.00	1,905,399.63	532,778.93	36.236646	-107.722184
Last Survey Curve									
5,664.93	90.51	134.28	5,043.30	-436.69	-430.59	1,905,388.52	532,790.35	36.236615	-107.722145
WL746H POE orig.									
5,697.00	90.74	134.27	5,042.95	-459.08	-407.64	1,905,366.16	532,813.33	36.236554	-107.722068
7"Casing@ 5697' MD, 1905366.16 N, 532813.33 E									
5,777.00	91.31	134.24	5,041.51	-514.90	-350.35	1,905,310.41	532,870.68	36.236401	-107.721873
First Survey Lateral									
5,872.00	88.72	134.52	5,041.49	-581.34	-282.45	1,905,244.05	532,938.65	36.236218	-107.721643
5,967.00	88.89	133.51	5,043.47	-647.33	-214.15	1,905,178.13	533,007.03	36.236037	-107.721411
6,062.00	89.19	136.12	5,045.06	-714.27	-146.77	1,905,111.27	533,074.49	36.235853	-107.721183
6,157.00	90.10	136.93	5,045.65	-783.21	-81.41	1,905,042.41	533,139.93	36.235663	-107.720961
6,253.00	89.06	135.10	5,046.36	-852.28	-14.75	1,904,973.41	533,206.67	36.235474	-107.720735
6,347.00	88.62	134.84	5,048.26	-918.70	51.74	1,904,907.07	533,273.24	36.235291	-107.720510
6,443.00	88.49	133.92	5,050.68	-985.82	120.33	1,904,840.03	533,341.91	36.235107	-107.720277
6,537.00	91.24	136.95	5,050.90	-1,052.78	186.28	1,904,773.15	533,407.93	36.234923	-107.720054
6,633.00	91.61	137.11	5,048.51	-1,123.00	251.69	1,904,703.00	533,473.43	36.234730	-107.719832
6,728.00	90.34	136.39	5,046.90	-1,192.18	316.77	1,904,633.90	533,538.59	36.234540	-107.719611
6,823.00	90.07	135.79	5,046.56	-1,260.62	382.66	1,904,565.53	533,604.55	36.234352	-107.719388

Scientific Drilling Int.
Survey Report - Geographic

Company:	WPX Energy	Local Co-ordinate Reference:	Well W Lybrook 746H
Project:	T23N R8W	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Well:	W Lybrook 746H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	Grand Junction District

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,918.00	90.50	134.90	5,046.08	-1,328.20	449.43	1,904,498.03	533,671.40	36.234166	-107.719161
7,013.00	89.66	133.62	5,045.95	-1,394.50	517.46	1,904,431.81	533,739.51	36.233984	-107.718931
7,108.00	90.47	133.24	5,045.84	-1,459.81	586.45	1,904,366.58	533,808.58	36.233805	-107.718697
7,203.00	90.07	132.71	5,045.40	-1,524.57	655.96	1,904,301.91	533,878.16	36.233627	-107.718461
7,298.00	90.54	132.30	5,044.89	-1,588.75	725.99	1,904,237.80	533,948.27	36.233451	-107.718224
7,394.00	90.74	134.09	5,043.82	-1,654.45	795.97	1,904,172.18	534,018.32	36.233270	-107.717986
7,488.00	90.60	133.46	5,042.72	-1,719.48	863.84	1,904,107.23	534,086.27	36.233091	-107.717756
7,584.00	89.50	135.31	5,042.64	-1,786.63	932.44	1,904,040.17	534,154.95	36.232907	-107.717524
7,679.00	90.17	135.05	5,042.91	-1,854.01	999.41	1,903,972.86	534,221.99	36.232722	-107.717297
7,774.00	90.87	134.99	5,042.05	-1,921.21	1,066.55	1,903,905.74	534,289.22	36.232537	-107.717069
7,869.00	89.56	134.34	5,041.69	-1,987.99	1,134.12	1,903,839.04	534,356.86	36.232354	-107.716840
7,965.00	89.60	133.26	5,042.39	-2,054.43	1,203.40	1,903,772.68	534,426.22	36.232171	-107.716605
8,060.00	89.83	135.94	5,042.87	-2,121.13	1,271.04	1,903,706.06	534,493.93	36.231988	-107.716376
8,155.00	90.23	135.62	5,042.82	-2,189.21	1,337.29	1,903,638.05	534,560.27	36.231801	-107.716151
8,250.00	91.28	135.36	5,041.56	-2,256.95	1,403.89	1,903,570.39	534,626.94	36.231615	-107.715925
8,345.00	89.83	135.23	5,040.64	-2,324.47	1,470.71	1,903,502.95	534,693.84	36.231429	-107.715699
8,440.00	89.63	134.39	5,041.09	-2,391.42	1,538.10	1,903,436.08	534,761.31	36.231245	-107.715470
8,535.00	89.66	133.25	5,041.68	-2,457.19	1,606.65	1,903,370.39	534,829.93	36.231065	-107.715238
8,630.00	90.60	133.66	5,041.47	-2,522.53	1,675.61	1,903,305.13	534,898.97	36.230885	-107.715004
8,725.00	89.97	136.18	5,040.99	-2,589.61	1,742.87	1,903,238.13	534,966.31	36.230701	-107.714776
8,821.00	89.87	134.96	5,041.13	-2,658.16	1,810.07	1,903,169.66	535,033.59	36.230513	-107.714548
8,911.00	89.83	134.66	5,041.36	-2,721.59	1,873.92	1,903,106.30	535,097.51	36.230338	-107.714332
9,003.00	89.93	135.46	5,041.56	-2,786.71	1,938.91	1,903,041.26	535,162.58	36.230159	-107.714111
9,094.00	90.03	135.37	5,041.59	-2,851.52	2,002.79	1,902,976.52	535,226.53	36.229981	-107.713895
9,184.00	90.57	134.93	5,041.12	-2,915.32	2,066.26	1,902,912.79	535,290.08	36.229806	-107.713679
9,274.00	90.57	134.44	5,040.22	-2,978.61	2,130.24	1,902,849.58	535,354.13	36.229632	-107.713463
9,365.00	89.56	134.22	5,040.12	-3,042.20	2,195.34	1,902,786.07	535,419.30	36.229457	-107.713242
9,456.00	90.84	134.91	5,039.80	-3,106.05	2,260.17	1,902,722.29	535,484.21	36.229282	-107.713022
9,547.00	89.26	133.93	5,039.72	-3,169.74	2,325.16	1,902,658.67	535,549.27	36.229107	-107.712802
9,638.00	89.70	134.05	5,040.55	-3,232.94	2,390.63	1,902,595.55	535,614.81	36.228933	-107.712580
9,729.00	91.14	134.77	5,039.88	-3,296.62	2,455.63	1,902,531.95	535,679.89	36.228758	-107.712359
9,820.00	91.11	134.00	5,038.09	-3,360.26	2,520.65	1,902,468.38	535,744.99	36.228584	-107.712139
9,911.00	89.76	135.47	5,037.40	-3,424.30	2,585.29	1,902,404.42	535,809.70	36.228408	-107.711920
10,002.00	91.18	136.44	5,036.65	-3,489.71	2,648.55	1,902,339.08	535,873.03	36.228228	-107.711705
10,094.00	90.64	135.61	5,035.19	-3,555.90	2,712.42	1,902,272.96	535,936.98	36.228046	-107.711489
10,184.00	88.36	134.36	5,035.98	-3,619.52	2,776.07	1,902,209.42	536,000.70	36.227871	-107.711273
10,276.00	89.26	134.42	5,037.89	-3,683.86	2,841.80	1,902,145.15	536,066.51	36.227695	-107.711050
10,366.00	88.69	134.30	5,039.50	-3,746.78	2,906.13	1,902,082.31	536,130.92	36.227522	-107.710832
10,457.00	89.77	134.13	5,040.72	-3,810.23	2,971.35	1,902,018.94	536,196.21	36.227347	-107.710611
10,547.00	92.82	135.17	5,038.69	-3,873.45	3,035.35	1,901,955.79	536,260.28	36.227174	-107.710394
10,638.00	92.62	135.08	5,034.37	-3,937.87	3,099.48	1,901,891.45	536,324.49	36.226997	-107.710177
10,727.00	91.95	134.62	5,030.82	-4,000.59	3,162.53	1,901,828.80	536,387.61	36.226824	-107.709963
10,817.00	92.99	134.95	5,026.94	-4,063.93	3,226.35	1,901,765.54	536,451.50	36.226650	-107.709746
10,909.00	93.42	134.75	5,021.80	-4,128.71	3,291.47	1,901,700.83	536,516.70	36.226472	-107.709526
10,999.00	92.05	135.35	5,017.51	-4,192.33	3,354.98	1,901,637.28	536,580.28	36.226298	-107.709310
11,090.00	90.17	135.11	5,015.74	-4,256.92	3,419.05	1,901,572.77	536,644.43	36.226120	-107.709093
11,180.00	88.99	134.07	5,016.40	-4,320.10	3,483.14	1,901,509.66	536,708.59	36.225947	-107.708876
11,270.00	91.68	135.70	5,015.88	-4,383.60	3,546.90	1,901,446.24	536,772.42	36.225772	-107.708660
11,360.00	90.97	135.41	5,013.79	-4,447.83	3,609.90	1,901,382.07	536,835.50	36.225596	-107.708446
11,450.00	89.66	134.02	5,013.30	-4,511.15	3,673.86	1,901,318.83	536,899.53	36.225422	-107.708229
11,540.00	89.90	133.18	5,013.65	-4,573.22	3,739.03	1,901,256.84	536,964.77	36.225251	-107.708009
11,630.00	90.97	133.35	5,012.96	-4,634.90	3,804.56	1,901,195.24	537,030.38	36.225082	-107.707786
11,719.00	90.50	133.93	5,011.82	-4,696.31	3,868.97	1,901,133.89	537,094.85	36.224913	-107.707568
11,810.00	88.72	136.51	5,012.44	-4,760.90	3,933.06	1,901,069.39	537,159.02	36.224735	-107.707351
11,901.00	89.46	136.44	5,013.89	-4,826.87	3,995.72	1,901,003.49	537,221.76	36.224554	-107.707138

Scientific Drilling Int.

Survey Report - Geographic

Company:	WPX Energy	Local Co-ordinate Reference:	Well W Lybrook 746H
Project:	T23N R8W	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Well:	W Lybrook 746H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	Grand Junction District

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,991.00	89.80	135.81	5,014.47	-4,891.75	4,058.09	1,900,938.68	537,284.21	36.224376	-107.706927
12,080.00	92.08	136.91	5,013.01	-4,956.14	4,119.50	1,900,874.36	537,345.69	36.224199	-107.706719
12,175.00	88.89	135.07	5,012.20	-5,024.45	4,185.49	1,900,806.13	537,411.76	36.224011	-107.706495
12,271.00	89.87	135.07	5,013.24	-5,092.41	4,253.29	1,900,738.24	537,479.63	36.223825	-107.706265
12,366.00	91.04	134.92	5,012.49	-5,159.58	4,320.46	1,900,671.16	537,546.89	36.223640	-107.706038
12,461.00	92.25	135.20	5,009.76	-5,226.79	4,387.54	1,900,604.02	537,614.04	36.223455	-107.705810
12,556.00	91.28	133.45	5,006.83	-5,293.14	4,455.47	1,900,537.75	537,682.05	36.223273	-107.705580
12,651.00	88.79	134.30	5,006.78	-5,358.98	4,523.94	1,900,472.00	537,750.60	36.223092	-107.705348
12,746.00	89.40	133.12	5,008.28	-5,424.61	4,592.60	1,900,406.44	537,819.34	36.222912	-107.705115
12,841.00	89.56	133.29	5,009.14	-5,489.65	4,661.85	1,900,341.48	537,888.65	36.222733	-107.704880
12,936.00	90.00	134.83	5,009.50	-5,555.71	4,730.11	1,900,275.50	537,957.00	36.222552	-107.704649
13,032.00	91.81	135.31	5,007.99	-5,623.66	4,797.90	1,900,207.63	538,024.86	36.222365	-107.704419
13,127.00	92.09	135.38	5,004.75	-5,691.20	4,864.63	1,900,140.17	538,091.67	36.222179	-107.704193
13,222.00	90.10	135.75	5,002.94	-5,759.02	4,931.12	1,900,072.42	538,158.24	36.221993	-107.703968
13,317.00	91.38	135.55	5,001.71	-5,826.95	4,997.53	1,900,004.58	538,224.73	36.221806	-107.703742
13,412.00	90.60	136.68	5,000.07	-5,895.40	5,063.37	1,899,936.19	538,290.65	36.221618	-107.703519
13,507.00	91.41	136.78	4,998.40	-5,964.56	5,128.47	1,899,867.11	538,355.83	36.221428	-107.703299
13,602.00	90.60	135.96	4,996.74	-6,033.31	5,194.01	1,899,798.44	538,421.45	36.221239	-107.703076
13,697.00	91.71	136.34	4,994.82	-6,101.81	5,259.81	1,899,730.02	538,487.33	36.221051	-107.702853
13,730.00	91.48	136.31	4,993.91	-6,125.67	5,282.59	1,899,706.19	538,510.14	36.220986	-107.702776
RSI@ 13730' MD, 1899706.19 N, 538510.14 E									
13,792.00	91.04	136.25	4,992.54	-6,170.47	5,325.43	1,899,661.44	538,553.03	36.220863	-107.702631
Last Survey Lateral									
13,854.00	91.04	136.25	4,991.42	-6,215.24	5,368.30	1,899,616.71	538,595.95	36.220739	-107.702486
BP@ 13854' MD, 1899616.71 N, 538595.95 E - WL746H BHL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
WL746H BHL	0.00	0.00	4,987.00	-6,218.36	5,410.84	1,899,613.64	538,638.49	36.220731	-107.702341
- actual wellpath misses target center by 42.88usft at 13854.00usft MD (4991.42 TVD, -6215.24 N, 5368.30 E)									
- Point									
WL746H POE orig.	0.00	0.00	5,047.00	-421.22	-415.46	1,905,404.00	532,805.46	36.236658	-107.722094
- actual wellpath misses target center by 21.95usft at 5664.93usft MD (5043.30 TVD, -436.69 N, -430.59 E)									
- Point									

Scientific Drilling Int.
Survey Report - Geographic

Company:	WPX Energy	Local Co-ordinate Reference:	Well W Lybrook 746H
Project:	T23N R8W	TVD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Site:	W Lybrook 705 Pad	MD Reference:	GL 6778 + KB 21 = @ 6799.00usft (Cyclone 32)
Well:	W Lybrook 746H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	Grand Junction District

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
437.00	436.95	-4.27	-3.87	First Survey Int.
4,459.00	4,342.19	177.97	-915.24	Last Survey Int.
4,490.00	4,373.13	176.20	-916.02	First Survey Curve
5,649.00	5,043.42	-425.57	-442.00	Last Survey Curve
5,697.00	5,042.95	-459.08	-407.64	7"Casing@ 5697' MD, 1905366.16 N, 532813.33 E
5,777.00	5,041.51	-514.90	-350.35	First Survey Lateral
13,730.00	4,993.91	-6,125.67	5,282.59	RSI@ 13730' MD, 1899706.19 N, 538510.14 E
13,792.00	4,992.54	-6,170.47	5,325.43	Last Survey Lateral
13,854.00	4,991.42	-6,215.24	5,368.30	BP@ 13854' MD, 1899616.71 N, 538595.95 E

Checked By: _____	Approved By: _____	Date: _____
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