

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 Plat

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-31201		*Pool Code 98088		*Pool Name CHACO UNIT NE HZ (OIL)	
*Property Code 313800		*Property Name NE CHACO COM			*Well Number 167H
*OGRID No. 120782		*Operator Name WPX ENERGY PRODUCTION, LLC			*Elevation 7295'

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
M	15	23N	7W		1289	SOUTH	516	WEST	RIO ARriba

¹¹ Bottom Hole Location If Different From Surface

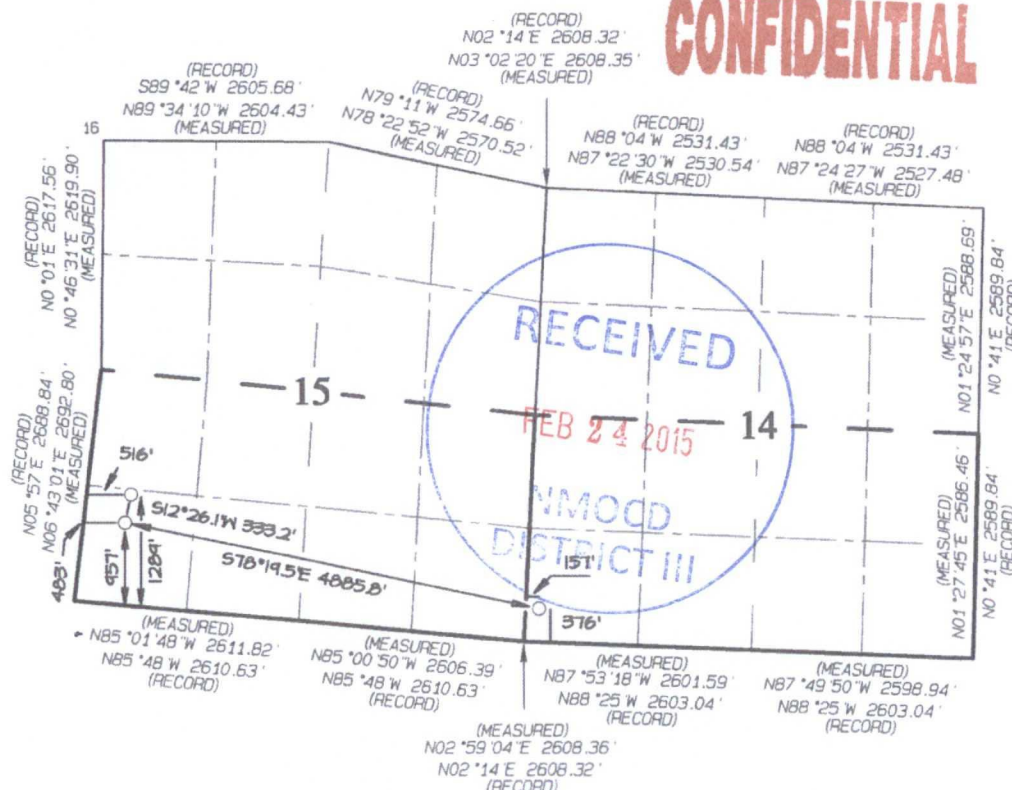
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	14	23N	7W		376	SOUTH	157	WEST	RIO ARriba

¹² Dedicated Acres 640.00	S/2 - Section 15 S/2 - Section 14	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13817-A
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Project Area
9,237.3 acres

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

CONFIDENTIAL



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: *Marie E. Jaramillo* Date: 2/23/15

Printed Name: Marie E. Jaramillo

E-mail Address: marie.jaramillo@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 12, 2015
Date of Survey: AUGUST 23, 2013

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269

SURFACE LOCATION
1289' FSL 516' FWL
SECTION 15, T23N, R7W
LAT: 36.223284°N
LONG: 107.568598°W
DATUM: NAD1927

POINT-OF-ENTRY
957' FSL 483' FWL
SECTION 15, T23N, R7W
LAT: 36.222388°N
LONG: 107.568826°W
DATUM: NAD1927

RSI TOOL
397' FSL 38' FWL
SECTION 14, T23N, R7W
LAT: 36.219915°N
LONG: 107.552962°W
DATUM: NAD1927

END-OF-LATERAL
376' FSL 157' FWL
SECTION 14, T23N, R7W
LAT: 36.219850°N
LONG: 107.552563°W
DATUM: NAD1927

LAT: 36.223298°N
LONG: 107.569205°W
DATUM: NAD1983

LAT: 36.222401°N
LONG: 107.569433°W
DATUM: NAD1983

LAT: 36.219929°N
LONG: 107.553569°W
DATUM: NAD1983

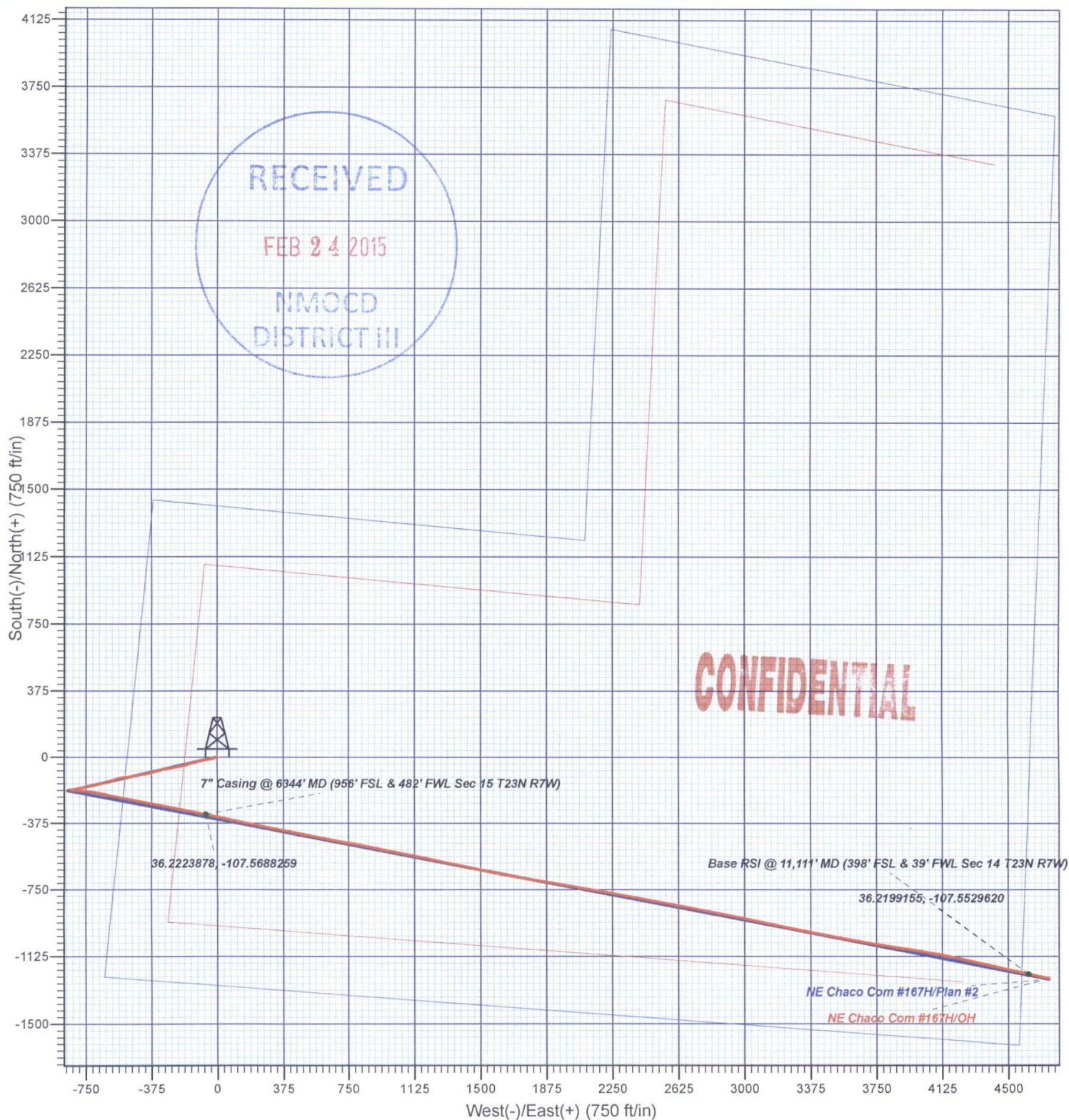
LAT: 36.219864°N
LONG: 107.553170°W
DATUM: NAD1983



WPX ENERGY

TVD Reference: GL 7295' & KB 14' @ 7309.00ft (Aztec 730)

Slot



11:48, February 06 2015
Created By: Janie Collins



CONFIDENTIAL

Survey Report - Geographic



Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well NE Chaco Com #167H
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
Site:	Chaco 2307-15M	MD Reference:	GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
Well:	NE Chaco Com #167H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Project	Rio Arriba County, NM NAD27		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Site	Chaco 2307-15M		
Site Position:		Northing:	1,903,128.78 usft
From:	Lat/Long	Easting:	111,063.91 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	36.2232800
		Longitude:	-107.5686000
		Grid Convergence:	-0.78 °

Well	NE Chaco Com #167H		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	36.2232800
		Longitude:	-107.5686000
		Ground Level:	7,295.00 ft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2014	1/15/2015	9.41
			Dip Angle (°)
			62.98
			Field Strength (nT)
			50,008

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)
	0.00	0.00	0.00
			Direction (°)
			279.35

Survey Program	Date 2/6/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
64.00	372.00	Survey #1 - MS Energy Gyro (OH)	Gyro
464.00	5,104.00	Survey #2 - Surface MWD Survey (OH)	MWD SDI
5,136.00	6,384.00	Survey #3 - Curve MWD Survey (OH)	MWD SDI
6,445.00	11,231.00	Survey #4 - Lateral MWD Survey (OH)	MWD SDI
			Description
			MWD - Standard ver 1.0.1
			MWD - Standard ver 1.0.1
			MWD - Standard ver 1.0.1

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,903,128.78	111,063.91	36.2232800	-107.5686000
64.00	0.38	271.12	64.00	0.00	-0.21	1,903,128.79	111,063.69	36.2232800	-107.5686008
First MS Energy Gyro Survey									
114.00	0.52	248.27	114.00	-0.08	-0.59	1,903,128.71	111,063.32	36.2232798	-107.5686020
164.00	0.44	280.97	164.00	-0.12	-0.99	1,903,128.67	111,062.92	36.2232796	-107.5686034
214.00	0.57	286.02	213.99	-0.02	-1.42	1,903,128.78	111,062.49	36.2232799	-107.5686048
264.00	0.45	291.50	263.99	0.12	-1.84	1,903,128.93	111,062.07	36.2232803	-107.5686063
314.00	0.53	293.60	313.99	0.29	-2.23	1,903,129.10	111,061.68	36.2232808	-107.5686076
364.00	0.39	284.37	363.99	0.42	-2.61	1,903,129.24	111,061.30	36.2232811	-107.5686089

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well NE Chaco Com #167H
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
Site:	Chaco 2307-15M	MD Reference:	GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
Well:	NE Chaco Com #167H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
372.00	0.41	278.38	371.99	0.43	-2.66	1,903,129.25	111,061.25	36.2232812	-107.5686091
Last MS Energy Gyro Survey									
464.00	0.11	193.46	463.99	0.39	-3.01	1,903,129.21	111,060.90	36.2232811	-107.5686102
First SDI Surface MWD Survey									
527.00	0.94	221.27	526.98	-0.05	-3.36	1,903,128.77	111,060.54	36.2232798	-107.5686114
590.00	1.72	237.32	589.97	-0.95	-4.50	1,903,127.89	111,059.39	36.2232774	-107.5686153
652.00	3.50	242.86	651.90	-2.32	-6.97	1,903,126.56	111,056.91	36.2232736	-107.5686237
715.00	5.38	253.56	714.71	-4.03	-11.51	1,903,124.90	111,052.34	36.2232689	-107.5686391
778.00	7.01	257.41	777.34	-5.71	-18.10	1,903,123.32	111,045.73	36.2232643	-107.5686614
841.00	7.94	258.77	839.80	-7.39	-26.12	1,903,121.74	111,037.69	36.2232597	-107.5686886
904.00	9.31	258.44	902.09	-9.26	-35.38	1,903,120.00	111,028.40	36.2232545	-107.5687200
967.00	10.92	262.64	964.11	-11.04	-46.29	1,903,118.36	111,017.47	36.2232496	-107.5687570
1,030.00	11.44	260.01	1,025.91	-12.89	-58.36	1,903,116.68	111,005.37	36.2232446	-107.5687979
1,092.00	12.61	258.91	1,086.55	-15.26	-71.06	1,903,114.49	110,992.65	36.2232381	-107.5688409
1,155.00	13.20	257.76	1,147.96	-18.11	-84.84	1,903,111.83	110,978.83	36.2232302	-107.5688876
1,217.00	13.69	258.47	1,208.26	-21.08	-98.94	1,903,109.05	110,964.68	36.2232221	-107.5689354
1,278.00	13.74	258.06	1,267.52	-24.02	-113.10	1,903,106.30	110,950.49	36.2232140	-107.5689834
1,339.00	13.18	253.83	1,326.85	-27.45	-126.87	1,903,103.05	110,936.67	36.2232046	-107.5690301
1,401.00	13.24	252.62	1,387.21	-31.54	-140.44	1,903,099.15	110,923.05	36.2231933	-107.5690761
1,462.00	12.49	252.33	1,446.68	-35.63	-153.39	1,903,095.24	110,910.05	36.2231821	-107.5691200
1,523.00	11.78	253.39	1,506.31	-39.41	-165.64	1,903,091.62	110,897.75	36.2231717	-107.5691615
1,585.00	12.32	255.11	1,566.95	-42.92	-178.10	1,903,088.28	110,885.24	36.2231621	-107.5692038
1,646.00	12.57	254.18	1,626.51	-46.40	-190.77	1,903,084.97	110,872.52	36.2231525	-107.5692467
1,707.00	12.67	260.06	1,686.04	-49.37	-203.75	1,903,082.19	110,859.50	36.2231444	-107.5692907
1,769.00	11.87	259.87	1,746.63	-51.66	-216.72	1,903,080.07	110,846.50	36.2231381	-107.5693347
1,830.00	12.20	261.32	1,806.29	-53.74	-229.27	1,903,078.16	110,833.93	36.2231324	-107.5693772
1,891.00	12.09	261.46	1,865.92	-55.66	-241.96	1,903,076.41	110,821.21	36.2231271	-107.5694202
1,953.00	11.98	261.50	1,926.56	-57.58	-254.74	1,903,074.67	110,808.40	36.2231218	-107.5694636
2,014.00	12.28	259.65	1,986.20	-59.68	-267.39	1,903,072.74	110,795.73	36.2231161	-107.5695064
2,075.00	12.56	259.42	2,045.77	-62.06	-280.29	1,903,070.54	110,782.80	36.2231095	-107.5695502
2,137.00	12.03	255.86	2,106.35	-64.88	-293.18	1,903,067.89	110,769.87	36.2231018	-107.5695939
2,198.00	12.13	256.52	2,166.00	-67.93	-305.58	1,903,065.02	110,757.43	36.2230934	-107.5696359
2,259.00	12.57	256.59	2,225.58	-70.96	-318.27	1,903,062.16	110,744.70	36.2230851	-107.5696789
2,321.00	12.51	255.97	2,286.10	-74.15	-331.34	1,903,059.14	110,731.58	36.2230763	-107.5697232
2,382.00	11.90	256.95	2,345.73	-77.17	-343.88	1,903,056.29	110,719.01	36.2230680	-107.5697657
2,443.00	12.18	253.57	2,405.38	-80.41	-356.18	1,903,053.22	110,706.67	36.2230591	-107.5698074
2,505.00	12.03	255.85	2,466.01	-83.84	-368.72	1,903,049.96	110,694.08	36.2230497	-107.5698499
2,566.00	11.35	252.68	2,525.74	-87.18	-380.61	1,903,046.78	110,682.14	36.2230405	-107.5698902
2,627.00	11.72	258.25	2,585.51	-90.23	-392.41	1,903,043.89	110,670.31	36.2230321	-107.5699302
2,689.00	12.06	258.74	2,646.18	-92.78	-404.93	1,903,041.52	110,657.75	36.2230251	-107.5699727
2,750.00	12.49	262.11	2,705.79	-94.93	-417.71	1,903,039.54	110,644.94	36.2230192	-107.5700160
2,811.00	12.21	259.44	2,765.38	-97.02	-430.59	1,903,037.63	110,632.04	36.2230135	-107.5700596
2,873.00	12.23	258.16	2,825.97	-99.57	-443.46	1,903,035.25	110,619.13	36.2230065	-107.5701033
2,936.00	12.24	258.84	2,887.54	-102.23	-456.54	1,903,032.77	110,606.02	36.2229992	-107.5701476
2,999.00	13.08	256.81	2,949.01	-105.15	-470.04	1,903,030.04	110,592.48	36.2229912	-107.5701933
3,061.00	13.81	258.70	3,009.31	-108.20	-484.12	1,903,027.18	110,578.36	36.2229828	-107.5702411
3,124.00	13.37	258.96	3,070.55	-111.07	-498.64	1,903,024.51	110,563.80	36.2229749	-107.5702903
3,187.00	12.28	263.24	3,131.97	-113.25	-512.45	1,903,022.51	110,549.97	36.2229689	-107.5703371
3,250.00	12.02	267.25	3,193.56	-114.35	-525.65	1,903,021.59	110,536.75	36.2229659	-107.5703819
3,313.00	12.01	265.90	3,255.18	-115.14	-538.74	1,903,020.98	110,523.65	36.2229637	-107.5704263
3,376.00	12.11	256.04	3,316.80	-117.20	-551.70	1,903,019.09	110,510.67	36.2229580	-107.5704702
3,439.00	12.02	248.75	3,378.41	-121.17	-564.22	1,903,015.29	110,498.09	36.2229471	-107.5705126
3,501.00	12.35	253.82	3,439.02	-125.36	-576.61	1,903,011.27	110,485.65	36.2229356	-107.5705546
3,564.00	12.02	255.40	3,500.60	-128.89	-589.43	1,903,007.92	110,472.78	36.2229259	-107.5705981
3,627.00	12.66	254.35	3,562.14	-132.41	-602.42	1,903,004.58	110,459.74	36.2229163	-107.5706421



Company: WPX Energy Rocky Mountain, LLC
Project: Rio Arriba County, NM NAD27
Site: Chaco 2307-15M
Well: NE Chaco Com #167H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NE Chaco Com #167H
TVD Reference: GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
MD Reference: GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,690.00	11.70	253.96	3,623.72	-136.03	-615.21	1,903,001.13	110,446.90	36.2229063	-107.5706855
3,753.00	11.27	257.09	3,685.46	-139.17	-627.35	1,902,998.15	110,434.72	36.2228977	-107.5707266
3,816.00	10.90	256.44	3,747.29	-141.95	-639.14	1,902,995.54	110,422.89	36.2228901	-107.5707666
3,879.00	11.38	254.00	3,809.10	-145.06	-650.91	1,902,992.59	110,411.09	36.2228815	-107.5708065
3,941.00	11.18	252.81	3,869.90	-148.52	-662.53	1,902,989.29	110,399.42	36.2228720	-107.5708459
4,004.00	11.60	258.26	3,931.66	-151.61	-674.57	1,902,986.36	110,387.34	36.2228635	-107.5708867
4,067.00	11.90	255.76	3,993.34	-154.50	-687.06	1,902,983.64	110,374.81	36.2228556	-107.5709290
4,130.00	12.44	258.81	4,054.93	-157.41	-700.02	1,902,980.90	110,361.81	36.2228476	-107.5709729
4,193.00	12.93	256.38	4,116.39	-160.39	-713.52	1,902,978.11	110,348.27	36.2228394	-107.5710187
4,256.00	12.88	259.29	4,177.80	-163.35	-727.27	1,902,975.33	110,334.48	36.2228313	-107.5710653
4,319.00	13.51	259.42	4,239.14	-166.01	-741.41	1,902,972.87	110,320.31	36.2228240	-107.5711132
4,382.00	12.42	253.86	4,300.53	-169.25	-755.15	1,902,969.82	110,306.53	36.2228151	-107.5711598
4,444.00	11.58	257.66	4,361.18	-172.43	-767.63	1,902,966.81	110,294.00	36.2228063	-107.5712021
4,507.00	11.44	259.10	4,422.91	-174.96	-779.94	1,902,964.44	110,281.65	36.2227994	-107.5712439
4,570.00	9.94	262.56	4,484.82	-176.85	-791.47	1,902,962.71	110,270.10	36.2227942	-107.5712829
4,633.00	9.05	259.72	4,546.95	-178.44	-801.74	1,902,961.27	110,259.81	36.2227898	-107.5713177
4,696.00	8.63	257.51	4,609.20	-180.34	-811.23	1,902,959.49	110,250.30	36.2227846	-107.5713499
4,759.00	7.62	258.08	4,671.57	-182.23	-819.93	1,902,957.72	110,241.57	36.2227794	-107.5713794
4,822.00	6.91	262.26	4,734.07	-183.60	-827.77	1,902,956.46	110,233.71	36.2227756	-107.5714060
4,885.00	4.03	259.36	4,796.77	-184.52	-833.71	1,902,955.62	110,227.77	36.2227731	-107.5714261
4,915.00	4.20	261.66	4,826.69	-184.87	-835.83	1,902,955.29	110,225.64	36.2227721	-107.5714333
4,978.00	3.43	257.86	4,889.55	-185.60	-839.95	1,902,954.62	110,221.51	36.2227701	-107.5714473
5,041.00	2.95	258.42	4,952.46	-186.33	-843.39	1,902,953.94	110,218.07	36.2227682	-107.5714589
5,104.00	0.49	333.52	5,015.43	-186.41	-845.09	1,902,953.88	110,216.36	36.2227679	-107.5714647
Last SDI Surface MWD Survey									
5,136.00	0.53	0.59	5,047.43	-186.14	-845.15	1,902,954.15	110,216.30	36.2227687	-107.5714649
First SDI Curve MWD Survey									
5,167.00	1.58	81.75	5,078.42	-185.94	-844.73	1,902,954.35	110,216.73	36.2227692	-107.5714635
5,198.00	5.00	83.61	5,109.37	-185.72	-842.96	1,902,954.54	110,218.50	36.2227698	-107.5714575
5,230.00	7.56	86.43	5,141.17	-185.44	-839.48	1,902,954.78	110,221.99	36.2227706	-107.5714457
5,261.00	9.90	88.95	5,171.81	-185.26	-834.77	1,902,954.89	110,226.69	36.2227711	-107.5714297
5,293.00	12.12	94.63	5,203.22	-185.48	-828.68	1,902,954.59	110,232.79	36.2227705	-107.5714090
5,324.00	14.18	96.91	5,233.41	-186.20	-821.66	1,902,953.77	110,239.79	36.2227685	-107.5713853
5,356.00	16.34	99.43	5,264.28	-187.41	-813.33	1,902,952.45	110,248.10	36.2227652	-107.5713570
5,387.00	18.64	97.38	5,293.84	-188.76	-804.11	1,902,950.97	110,257.30	36.2227615	-107.5713258
5,419.00	21.13	95.07	5,323.93	-189.93	-793.29	1,902,949.66	110,268.10	36.2227583	-107.5712891
5,450.00	23.83	93.52	5,352.57	-190.81	-781.48	1,902,948.62	110,279.91	36.2227559	-107.5712490
5,482.00	26.48	92.91	5,381.54	-191.57	-767.90	1,902,947.68	110,293.48	36.2227538	-107.5712030
5,513.00	30.07	94.48	5,408.83	-192.52	-753.25	1,902,946.52	110,308.11	36.2227511	-107.5711534
5,544.00	32.25	97.09	5,435.36	-194.15	-737.29	1,902,944.67	110,324.04	36.2227467	-107.5710993
5,576.00	34.82	99.05	5,462.03	-196.64	-719.79	1,902,941.94	110,341.50	36.2227398	-107.5710400
5,607.00	37.20	100.37	5,487.11	-199.72	-701.83	1,902,938.62	110,359.42	36.2227314	-107.5709791
5,639.00	40.19	100.64	5,512.08	-203.37	-682.17	1,902,934.71	110,379.04	36.2227214	-107.5709124
5,670.00	42.71	101.35	5,535.31	-207.29	-662.02	1,902,930.52	110,399.13	36.2227106	-107.5708441
5,702.00	46.17	101.78	5,558.16	-211.78	-640.08	1,902,925.72	110,421.01	36.2226983	-107.5707697
5,733.00	48.68	102.40	5,579.13	-216.57	-617.76	1,902,920.64	110,443.26	36.2226851	-107.5706941
5,765.00	51.62	102.13	5,599.63	-221.78	-593.75	1,902,915.09	110,467.19	36.2226708	-107.5706127
5,796.00	53.63	101.66	5,618.45	-226.86	-569.65	1,902,909.69	110,491.23	36.2226568	-107.5705310
5,828.00	56.45	100.72	5,636.78	-231.94	-543.92	1,902,904.26	110,516.88	36.2226429	-107.5704438
5,859.00	59.40	100.53	5,653.24	-236.79	-518.11	1,902,899.06	110,542.62	36.2226296	-107.5703563
5,890.00	62.17	100.55	5,668.37	-241.73	-491.51	1,902,893.75	110,569.15	36.2226160	-107.5702661
5,922.00	61.84	100.73	5,683.39	-246.95	-463.74	1,902,888.16	110,596.85	36.2226017	-107.5701720
5,953.00	63.69	101.26	5,697.58	-252.21	-436.69	1,902,882.53	110,623.83	36.2225872	-107.5700803
5,985.00	66.57	101.54	5,711.04	-257.95	-408.23	1,902,876.41	110,652.21	36.2225715	-107.5699838
6,016.00	68.77	101.60	5,722.81	-263.70	-380.14	1,902,870.28	110,680.22	36.2225557	-107.5698886

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well NE Chaco Com #167H
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
Site:	Chaco 2307-15M	MD Reference:	GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
Well:	NE Chaco Com #167H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,048.00	70.15	101.19	5,734.04	-269.62	-350.76	1,902,863.96	110,709.51	36.2225394	-107.5697890
6,079.00	72.32	100.53	5,744.01	-275.15	-321.94	1,902,858.04	110,738.25	36.2225242	-107.5696913
6,111.00	74.05	101.11	5,753.27	-280.90	-291.85	1,902,851.88	110,768.26	36.2225084	-107.5695894
6,142.00	75.42	101.24	5,761.43	-286.69	-262.52	1,902,845.68	110,797.52	36.2224925	-107.5694899
6,173.00	77.32	101.30	5,768.74	-292.58	-232.97	1,902,839.39	110,826.98	36.2224763	-107.5693898
6,205.00	79.27	101.42	5,775.23	-298.75	-202.25	1,902,832.80	110,857.61	36.2224594	-107.5692856
6,236.00	81.28	100.75	5,780.46	-304.63	-172.27	1,902,826.52	110,887.51	36.2224432	-107.5691840
6,268.00	83.67	100.58	5,784.65	-310.50	-141.09	1,902,820.23	110,918.60	36.2224271	-107.5690783
6,297.00	86.00	100.55	5,787.26	-315.79	-112.70	1,902,814.55	110,946.92	36.2224126	-107.5689821
6,344.00	88.45	101.62	5,789.54	-324.82	-66.64	1,902,804.90	110,992.86	36.2223878	-107.5688259
7" Casing @ 6344' MD									
6,384.00	90.54	102.52	5,789.89	-333.18	-27.53	1,902,796.01	111,031.85	36.2223648	-107.5686934
Last SDI Curve MWD Survey									
6,445.00	91.14	101.65	5,789.00	-345.95	32.11	1,902,782.43	111,091.31	36.2223298	-107.5684912
First SDI Lateral MWD Survey									
6,506.00	91.41	102.14	5,787.64	-358.52	91.79	1,902,769.05	111,150.81	36.2222952	-107.5682889
6,568.00	90.87	102.30	5,786.41	-371.64	152.37	1,902,755.10	111,211.21	36.2222592	-107.5680835
6,629.00	90.50	102.05	5,785.68	-384.50	212.00	1,902,741.43	111,270.65	36.2222239	-107.5678814
6,690.00	89.87	100.81	5,785.48	-396.59	271.78	1,902,728.53	111,330.27	36.2221906	-107.5676788
6,752.00	90.03	100.78	5,785.53	-408.20	332.69	1,902,716.09	111,391.01	36.2221587	-107.5674723
6,813.00	90.60	100.65	5,785.20	-419.54	392.62	1,902,703.93	111,450.78	36.2221276	-107.5672692
6,874.00	90.94	100.55	5,784.38	-430.76	452.58	1,902,691.90	111,510.58	36.2220968	-107.5670659
6,936.00	91.19	100.81	5,783.23	-442.25	513.49	1,902,679.58	111,571.33	36.2220652	-107.5668595
6,997.00	90.31	101.60	5,782.43	-454.10	573.32	1,902,666.92	111,631.00	36.2220327	-107.5666566
7,058.00	90.10	101.64	5,782.21	-466.39	633.07	1,902,653.82	111,690.57	36.2219989	-107.5664541
7,120.00	88.69	99.30	5,782.86	-477.66	694.03	1,902,641.73	111,751.37	36.2219680	-107.5662475
7,181.00	90.13	99.05	5,783.49	-487.38	754.25	1,902,631.18	111,811.45	36.2219412	-107.5660434
7,242.00	90.37	100.58	5,783.23	-497.78	814.35	1,902,619.97	111,871.41	36.2219127	-107.5658396
7,305.00	91.55	101.94	5,782.17	-510.08	876.13	1,902,606.83	111,933.01	36.2218789	-107.5656302
7,368.00	89.87	102.67	5,781.39	-523.50	937.67	1,902,592.57	111,994.37	36.2218420	-107.5654216
7,431.00	89.29	100.82	5,781.85	-536.33	999.35	1,902,578.91	112,055.86	36.2218068	-107.5652125
7,494.00	90.71	100.57	5,781.85	-548.02	1,061.25	1,902,566.38	112,117.60	36.2217747	-107.5650027
7,557.00	90.71	101.39	5,781.07	-560.02	1,123.09	1,902,553.54	112,179.28	36.2217417	-107.5647931
7,619.00	90.27	101.93	5,780.54	-572.55	1,183.81	1,902,540.18	112,239.82	36.2217073	-107.5645873
7,682.00	90.71	101.86	5,780.00	-585.53	1,245.46	1,902,526.36	112,301.28	36.2216716	-107.5643783
7,745.00	90.74	101.59	5,779.20	-598.33	1,307.14	1,902,512.72	112,362.78	36.2216364	-107.5641692
7,808.00	90.94	101.74	5,778.28	-611.07	1,368.83	1,902,499.15	112,424.29	36.2216014	-107.5639601
7,871.00	91.19	101.95	5,777.11	-624.00	1,430.48	1,902,485.38	112,485.76	36.2215659	-107.5637512
7,934.00	90.91	101.84	5,775.96	-636.98	1,492.11	1,902,471.56	112,547.21	36.2215302	-107.5635422
7,997.00	90.60	101.50	5,775.13	-649.72	1,553.81	1,902,457.98	112,608.73	36.2214952	-107.5633331
8,060.00	90.48	100.99	5,774.53	-662.01	1,615.59	1,902,444.86	112,670.34	36.2214615	-107.5631237
8,122.00	90.64	100.81	5,773.93	-673.73	1,676.47	1,902,432.31	112,731.05	36.2214293	-107.5629173
8,185.00	90.27	100.10	5,773.43	-685.16	1,738.42	1,902,420.03	112,792.85	36.2213979	-107.5627073
8,248.00	89.69	99.05	5,773.45	-695.64	1,800.54	1,902,408.71	112,854.82	36.2213691	-107.5624968
8,311.00	90.60	99.38	5,773.29	-705.73	1,862.73	1,902,397.78	112,916.86	36.2213413	-107.5622860
8,374.00	90.81	99.20	5,772.51	-715.90	1,924.90	1,902,386.76	112,978.89	36.2213134	-107.5620752
8,437.00	90.64	99.06	5,771.72	-725.90	1,987.10	1,902,375.92	113,040.94	36.2212859	-107.5618644
8,500.00	90.84	99.52	5,770.90	-736.07	2,049.26	1,902,364.91	113,102.96	36.2212580	-107.5616537
8,562.00	90.81	100.01	5,770.01	-746.58	2,110.36	1,902,353.56	113,163.91	36.2212291	-107.5614466
8,625.00	90.77	99.90	5,769.14	-757.47	2,172.41	1,902,341.83	113,225.80	36.2211992	-107.5612363
8,688.00	90.67	100.36	5,768.35	-768.55	2,234.42	1,902,329.91	113,287.66	36.2211687	-107.5610261
8,751.00	90.57	100.60	5,767.67	-780.01	2,296.36	1,902,317.61	113,349.44	36.2211372	-107.5608161
8,814.00	91.01	100.44	5,766.80	-791.51	2,358.30	1,902,305.27	113,411.22	36.2211056	-107.5606062
8,877.00	90.81	101.08	5,765.80	-803.27	2,420.18	1,902,292.67	113,472.93	36.2210733	-107.5603964
8,940.00	90.04	101.08	5,765.33	-815.38	2,482.01	1,902,279.72	113,534.59	36.2210401	-107.5601868

Company: WPX Energy Rocky Mountain, LLC
Project: Rio Arriba County, NM NAD27
Site: Chaco 2307-15M
Well: NE Chaco Com #167H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NE Chaco Com #167H
TVD Reference: GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
MD Reference: GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,003.00	89.96	100.55	5,765.33	-827.20	2,543.89	1,902,267.06	113,596.30	36.2210076	-107.5599771
9,066.00	90.13	100.46	5,765.28	-838.69	2,605.83	1,902,254.73	113,658.08	36.2209760	-107.5597671
9,129.00	90.04	100.11	5,765.19	-849.93	2,667.82	1,902,242.64	113,719.91	36.2209451	-107.5595570
9,191.00	90.66	101.51	5,764.81	-861.56	2,728.72	1,902,230.18	113,780.64	36.2209131	-107.5593506
9,254.00	91.04	101.50	5,763.87	-874.13	2,790.44	1,902,216.78	113,842.19	36.2208786	-107.5591414
9,317.00	91.18	101.26	5,762.65	-886.55	2,852.19	1,902,203.51	113,903.77	36.2208445	-107.5589321
9,380.00	91.25	100.70	5,761.32	-898.55	2,914.02	1,902,190.68	113,965.43	36.2208115	-107.5587225
9,443.00	91.34	101.44	5,759.89	-910.64	2,975.84	1,902,177.74	114,027.07	36.2207782	-107.5585129
9,506.00	90.54	101.75	5,758.86	-923.30	3,037.54	1,902,164.25	114,088.60	36.2207435	-107.5583038
9,568.00	90.54	101.62	5,758.28	-935.86	3,098.25	1,902,150.87	114,149.14	36.2207089	-107.5580980
9,631.00	90.94	101.41	5,757.46	-948.44	3,159.98	1,902,137.45	114,210.69	36.2206744	-107.5578888
9,694.00	90.37	101.58	5,756.74	-960.99	3,221.71	1,902,124.06	114,272.24	36.2206399	-107.5576795
9,757.00	90.27	101.51	5,756.39	-973.60	3,283.44	1,902,110.61	114,333.79	36.2206052	-107.5574703
9,820.00	90.37	101.15	5,756.04	-985.98	3,345.21	1,902,097.40	114,395.39	36.2205712	-107.5572609
9,883.00	90.70	101.03	5,755.45	-998.09	3,407.03	1,902,084.44	114,457.04	36.2205379	-107.5570514
9,945.00	90.31	100.81	5,754.90	-1,009.84	3,467.90	1,902,071.87	114,517.75	36.2205056	-107.5568450
10,008.00	89.78	99.85	5,754.86	-1,021.13	3,529.88	1,902,059.73	114,579.56	36.2204746	-107.5566350
10,071.00	89.63	99.77	5,755.18	-1,031.87	3,591.96	1,902,048.15	114,641.49	36.2204451	-107.5564245
10,134.00	90.27	99.95	5,755.23	-1,042.66	3,654.03	1,902,036.52	114,703.41	36.2204154	-107.5562142
10,197.00	90.50	99.56	5,754.81	-1,053.33	3,716.12	1,902,025.00	114,765.34	36.2203861	-107.5560037
10,260.00	90.77	99.29	5,754.11	-1,063.65	3,778.26	1,902,013.84	114,827.34	36.2203577	-107.5557931
10,323.00	90.17	98.32	5,753.60	-1,073.29	3,840.52	1,902,003.35	114,889.46	36.2203312	-107.5555820
10,386.00	90.64	98.09	5,753.15	-1,082.28	3,902.87	1,901,993.52	114,951.69	36.2203065	-107.5553707
10,449.00	89.97	99.55	5,752.82	-1,091.94	3,965.12	1,901,983.01	115,013.80	36.2202799	-107.5551597
10,512.00	89.80	98.98	5,752.94	-1,102.08	4,027.30	1,901,972.02	115,075.83	36.2202521	-107.5549489
10,574.00	90.03	100.20	5,753.03	-1,112.41	4,088.43	1,901,960.86	115,136.82	36.2202237	-107.5547417
10,637.00	89.78	99.93	5,753.14	-1,123.42	4,150.46	1,901,949.01	115,198.70	36.2201934	-107.5545315
10,700.00	90.04	101.95	5,753.24	-1,135.38	4,212.31	1,901,936.21	115,260.38	36.2201605	-107.5543218
10,763.00	90.94	103.13	5,752.70	-1,149.05	4,273.81	1,901,921.70	115,321.68	36.2201229	-107.5541134
10,825.00	90.94	102.98	5,751.68	-1,163.06	4,334.20	1,901,906.88	115,381.87	36.2200844	-107.5539087
10,888.00	90.87	102.77	5,750.69	-1,177.09	4,395.60	1,901,892.01	115,443.08	36.2200459	-107.5537005
10,951.00	90.60	102.32	5,749.88	-1,190.78	4,457.10	1,901,877.49	115,504.38	36.2200083	-107.5534921
11,014.00	90.91	102.17	5,749.05	-1,204.14	4,518.66	1,901,863.29	115,565.76	36.2199715	-107.5532834
11,077.00	90.75	102.22	5,748.14	-1,217.44	4,580.23	1,901,849.15	115,627.14	36.2199350	-107.5530747
11,111.00	90.91	101.88	5,747.64	-1,224.54	4,613.48	1,901,841.60	115,660.29	36.2199154	-107.5529621
Base RSI @ 11,111' MD									
11,140.00	91.04	101.59	5,747.15	-1,230.44	4,641.87	1,901,835.32	115,688.60	36.2198992	-107.5528658
11,168.00	91.31	101.25	5,746.58	-1,235.98	4,669.31	1,901,829.40	115,715.96	36.2198840	-107.5527728
Last SDI Lateral MWD Survey									
11,231.00	91.31	101.25	5,745.14	-1,248.27	4,731.08	1,901,816.28	115,777.56	36.2198502	-107.5525634
Projection to TD									

Company: WPX Energy Rocky Mountain, LLC
Project: Rio Arriba County, NM NAD27
Site: Chaco 2307-15M
Well: NE Chaco Com #167H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NE Chaco Com #167H
TVD Reference: GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
MD Reference: GL 7295' & KB 14' @ 7309.00ft (Aztec 730)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Grand Junction District

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
64.00	64.00	0.00	-0.21	First MS Energy Gyro Survey
372.00	371.99	0.43	-2.66	Last MS Energy Gyro Survey
464.00	463.99	0.39	-3.01	First SDI Surface MWD Survey
5,104.00	5,015.43	-186.41	-845.09	Last SDI Surface MWD Survey
5,136.00	5,047.43	-186.14	-845.15	First SDI Curve MWD Survey
6,344.00	5,789.54	-324.82	-66.64	7" Casing @ 6344' MD
6,384.00	5,789.89	-333.18	-27.53	Last SDI Curve MWD Survey
6,445.00	5,789.00	-345.95	32.11	First SDI Lateral MWD Survey
11,111.00	5,747.64	-1,224.54	4,613.48	Base RSI @ 11,111' MD
11,168.00	5,746.58	-1,235.98	4,669.31	Last SDI Lateral MWD Survey
11,231.00	5,745.14	-1,248.27	4,731.08	Projection to TD

Checked By: _____ Approved By: _____ Date: _____