

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) 475-3460 Fax: (505) 475-3462

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 30-039-31213		2 Pool Code 42289		3 Pool Name LYBROOK GALLUP	
4 Property Code 40069		5 Property Name CHACO 2307-13L			6 Well Number 238H
7 GRID No. 120782		8 Operator Name WPX ENERGY PRODUCTION, LLC			9 Elevation 7046'

CONFIDENTIAL

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
L	13	23N	7W		1543	SOUTH	121	WEST	RIO ARriba

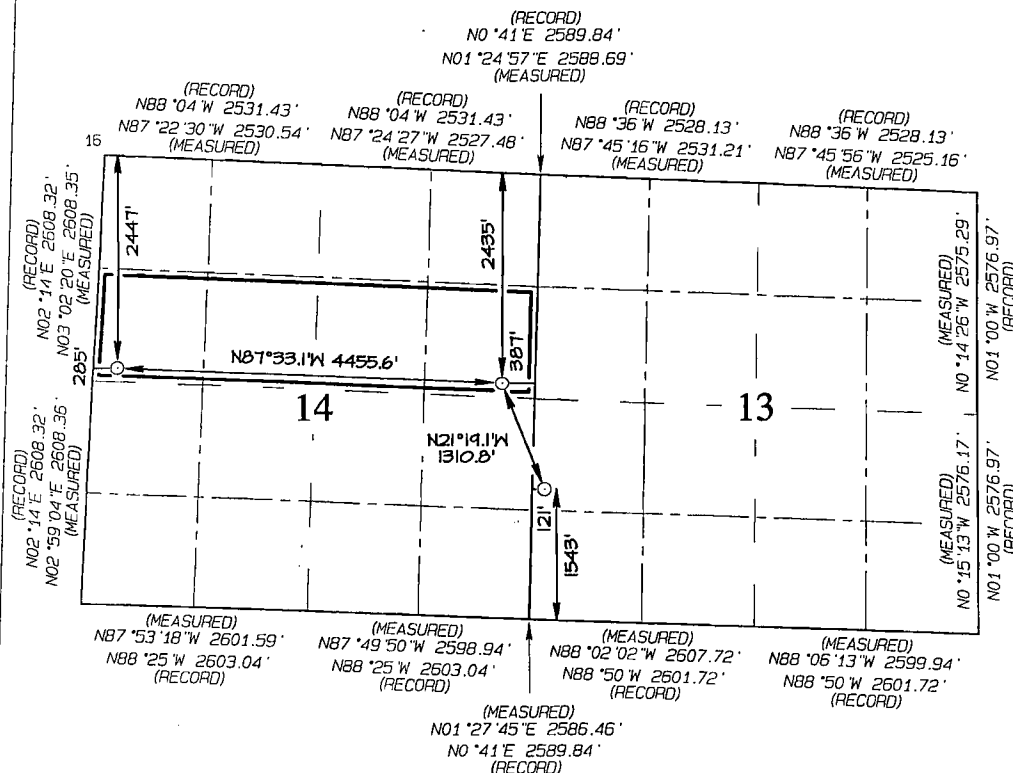
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	14	23N	7W		2447	NORTH	285	WEST	RIO ARriba

12 Dedicated Acres 160.0 Acres S/2 N/2 - Section 14		13 Joint or Infill		14 Consolidation Code		15 Order No. RCVD APR 9 '14 OIL CONS. DIV.	
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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

DIST. 3



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: Larry Higgins Date: 4/6/14

Printed Name: Larry Higgins

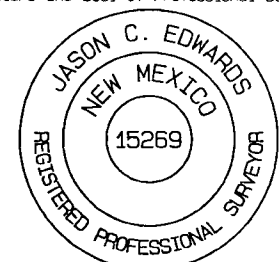
E-mail Address: larry.higgins@wpxenergy.com

18 SURVEYOR CERTIFICATION

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

Date Revised: APRIL 4, 2014
Date of Survey: JULY 5, 2012

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

END-OF-LATERAL
2447' FNL 285' FWL
SECTION 14, T23N, R7W
LAT: 36.22641°N
LONG: 107.55181°W
DATUM: NAD1927

LAT: 36.22642°N
LONG: 107.55242°W
DATUM: NAD1983

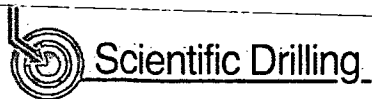
POINT-OF-ENTRY
2435' FNL 387' FEL
SECTION 14, T23N, R7W
LAT: 36.22605°N
LONG: 107.53672°W
DATUM: NAD1927

LAT: 36.22606°N
LONG: 107.53732°W
DATUM: NAD1983

SURFACE LOCATION
1543' FSL 121' FWL
SECTION 13, T23N, R7W
LAT: 36.22271°N
LONG: 107.53505°W
DATUM: NAD1927

LAT: 36.22273°N
LONG: 107.53565°W
DATUM: NAD1983

AV



Company Name: WPX-Energy-Rocky-Mountain,LLC

Project: Rio Arriba County, NM NAD27

Site: Chaco 2307-13L

Well: Chaco 2307-13L #238H

CONFIDENTIAL WPX ENERGY

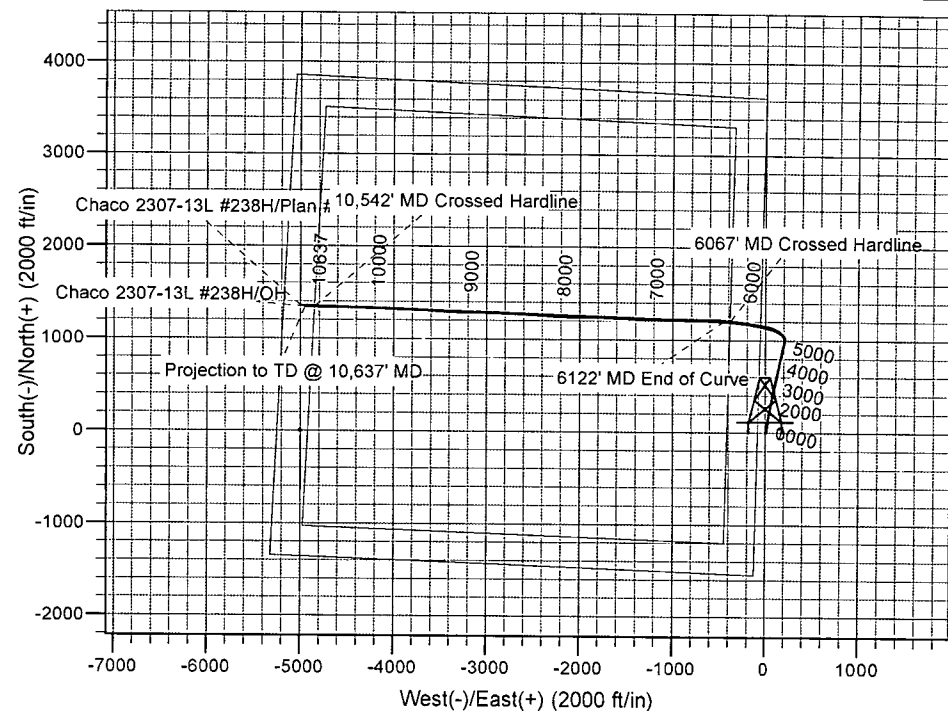
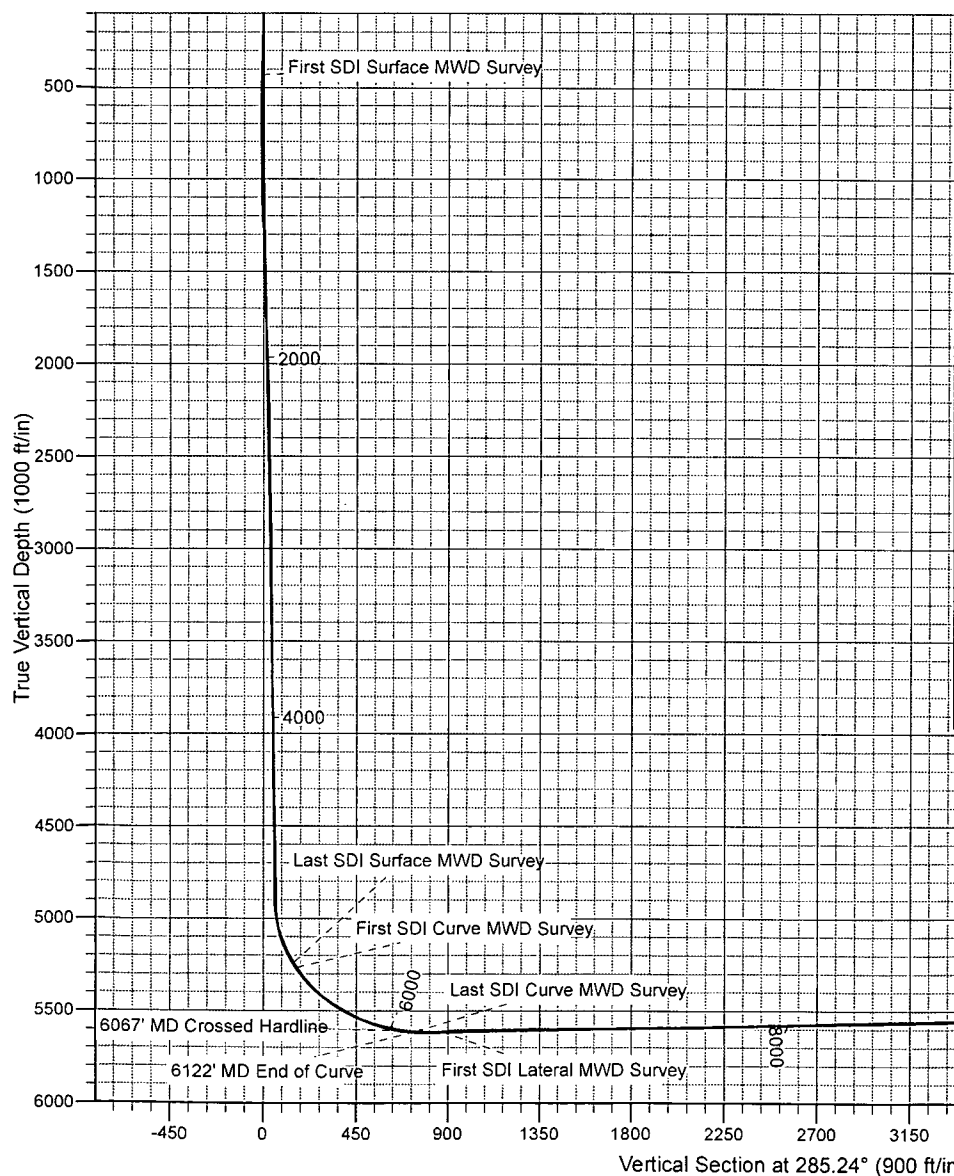


Azimuths to True North
Magnetic North: 9.46°

Magnetic Field
Strength: 50137.0snT
Dip Angle: 63.00°
Date: 2/12/2014
Model: BGGM2013

WELL DETAILS: Chaco 2307-13L #238H

GL 7046' & KB 14' @ 7060.00ft		7046.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1902788.38	120957.62	36° 13' 21.756 N	107° 32' 6.180 W



RCVD APR 9 '14
OIL CONS. DIV.
DIST. 3

Design: OH (Chaco 2307-13L #238H/OH)

Created By: Janie Collins Date: 14:09, March 18 2014

PROJECT DETAILS: Rio Arriba County, NM NAD27

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico Central 3002

System Datum: Mean Sea Level
Local North: True

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well Chaco 2307-13L #238H
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7046' & KB 14' @ 7060.00ft
Site:	Chaco 2307-13L	MD Reference:	GL 7046' & KB 14' @ 7060.00ft
Well:	Chaco 2307-13L #238H	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		

CONFIDENTIAL

Site		Chaco 2307-13L			
Site Position:		Northing:	1,902,766.93 usft	Latitude:	36° 13' 21.540 N
From:	Lat/Long	Easting:	120,927.83 usft	Longitude:	107° 32' 6.540 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.76 °

Well	Chaco 2307-13L #238H					
Well Position	+N-S	0.00 ft	Northing:	1,902,788.38 usft	Latitude:	36° 13' 21.756 N
	+E-W	0.00 ft	Easting:	120,957.62 usft	Longitude:	107° 32' 6.180 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	7,046.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	2/12/2014	9.46	63.00	50,137

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	135.46	

Survey Program	Date 3/18/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
431.00	5,383.00	Survey #1 - Surface MWD Survey (OH)	MWD SDI	MWD - Standard ver 1.0.1
5,415.00	6,122.00	Survey #2 - Curve MWD Survey (OH)	MWD SDI	MWD - Standard ver 1.0.1
6,256.00	10,637.00	Survey #3 - Lateral MWD Survey (OH)	MWD SDI	MWD - Standard ver 1.0.1

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	1,902,788.38	120,957.62	36° 13' 21.756 N	107° 32' 6.180 W
431.00	1.91	65.01	430.92	3.03	6.51	1,902,791.33	120,964.17	36° 13' 21.786 N	107° 32' 6.101 W
First SDI Surface MWD Survey									
462.00	2.12	59.99	461.90	3.54	7.48	1,902,791.82	120,965.14	36° 13' 21.791 N	107° 32' 6.089 W
525.00	2.35	44.13	524.85	5.05	9.38	1,902,793.30	120,967.07	36° 13' 21.806 N	107° 32' 6.065 W
589.00	3.37	27.26	588.77	7.66	11.16	1,902,795.90	120,968.88	36° 13' 21.832 N	107° 32' 6.044 W
652.00	5.20	15.43	651.60	12.06	12.77	1,902,800.27	120,970.55	36° 13' 21.875 N	107° 32' 6.024 W
715.00	7.58	8.91	714.20	18.92	14.17	1,902,807.11	120,972.04	36° 13' 21.943 N	107° 32' 6.007 W
778.00	7.91	9.12	776.63	27.31	15.50	1,902,815.48	120,973.48	36° 13' 22.026 N	107° 32' 5.991 W
841.00	8.27	9.86	839.00	36.05	16.96	1,902,824.20	120,975.06	36° 13' 22.112 N	107° 32' 5.973 W

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well Chaco 2307-13L #238H
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7046' & KB 14' @ 7060.00ft
Site:	Chaco 2307-13L	MD Reference:	GL 7046' & KB 14' @ 7060.00ft
Well:	Chaco 2307-13L #238H	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
903.00	8.28	9.58	900.35	44.84	18.47	1,902,832.98	120,976.69	36° 13' 22.199 N	107° 32' 5.955 W
967.00	9.37	11.90	963.60	54.49	20.31	1,902,842.59	120,978.65	36° 13' 22.295 N	107° 32' 5.932 W
1,030.00	12.33	14.87	1,025.46	66.01	23.10	1,902,854.08	120,981.59	36° 13' 22.409 N	107° 32' 5.898 W
1,091.00	13.59	15.11	1,084.91	79.22	26.64	1,902,867.24	120,985.31	36° 13' 22.539 N	107° 32' 5.855 W
1,153.00	14.07	10.73	1,145.11	93.66	29.94	1,902,881.64	120,988.80	36° 13' 22.682 N	107° 32' 5.815 W
1,213.00	15.29	4.06	1,203.16	108.72	31.86	1,902,896.67	120,990.92	36° 13' 22.831 N	107° 32' 5.791 W
1,273.00	15.56	3.11	1,261.00	124.65	32.85	1,902,912.58	120,992.12	36° 13' 22.989 N	107° 32' 5.779 W
1,333.00	15.36	3.12	1,318.82	140.62	33.72	1,902,928.54	120,993.20	36° 13' 23.146 N	107° 32' 5.768 W
1,395.00	14.72	5.75	1,378.70	156.65	34.96	1,902,944.56	120,994.65	36° 13' 23.305 N	107° 32' 5.753 W
1,454.00	13.96	11.66	1,435.87	171.08	37.15	1,902,958.95	120,997.03	36° 13' 23.448 N	107° 32' 5.727 W
1,513.00	13.88	14.98	1,493.13	184.89	40.42	1,902,972.72	121,000.48	36° 13' 23.584 N	107° 32' 5.687 W
1,575.00	14.62	13.05	1,553.23	199.70	44.10	1,902,987.47	121,004.37	36° 13' 23.731 N	107° 32' 5.642 W
1,639.00	14.89	11.57	1,615.12	215.62	47.58	1,903,003.35	121,008.05	36° 13' 23.888 N	107° 32' 5.599 W
1,702.00	15.02	10.68	1,675.98	231.57	50.71	1,903,019.26	121,011.40	36° 13' 24.046 N	107° 32' 5.561 W
1,763.00	14.78	9.26	1,734.93	247.02	53.43	1,903,034.67	121,014.32	36° 13' 24.199 N	107° 32' 5.528 W
1,826.00	14.49	9.71	1,795.89	262.72	56.05	1,903,050.33	121,017.15	36° 13' 24.354 N	107° 32' 5.496 W
1,886.00	14.50	8.88	1,853.98	277.54	58.48	1,903,065.12	121,019.77	36° 13' 24.500 N	107° 32' 5.466 W
1,946.00	14.14	8.52	1,912.11	292.21	60.72	1,903,079.76	121,022.21	36° 13' 24.645 N	107° 32' 5.439 W
2,007.00	13.93	7.71	1,971.29	306.85	62.81	1,903,094.37	121,024.50	36° 13' 24.790 N	107° 32' 5.413 W
2,068.00	13.53	7.37	2,030.55	321.21	64.71	1,903,108.70	121,026.59	36° 13' 24.932 N	107° 32' 5.390 W
2,130.00	13.30	9.34	2,090.86	335.44	66.80	1,903,122.90	121,028.86	36° 13' 25.073 N	107° 32' 5.365 W
2,192.00	12.55	12.39	2,151.29	349.05	69.40	1,903,136.48	121,031.65	36° 13' 25.208 N	107° 32' 5.333 W
2,252.00	12.10	8.54	2,209.90	361.64	71.74	1,903,149.03	121,034.15	36° 13' 25.332 N	107° 32' 5.305 W
2,314.00	12.54	12.98	2,270.48	374.62	74.21	1,903,161.99	121,036.79	36° 13' 25.460 N	107° 32' 5.274 W
2,375.00	12.49	14.04	2,330.03	387.48	77.30	1,903,174.80	121,040.05	36° 13' 25.587 N	107° 32' 5.237 W
2,436.00	12.11	12.15	2,389.63	400.13	80.25	1,903,187.41	121,043.17	36° 13' 25.713 N	107° 32' 5.201 W
2,497.00	12.73	12.12	2,449.20	412.96	83.01	1,903,200.20	121,046.09	36° 13' 25.839 N	107° 32' 5.167 W
2,559.00	13.49	12.52	2,509.58	426.70	86.01	1,903,213.90	121,049.28	36° 13' 25.975 N	107° 32' 5.130 W
2,622.00	13.77	12.31	2,570.81	441.19	89.20	1,903,228.35	121,052.66	36° 13' 26.119 N	107° 32' 5.091 W
2,685.00	13.29	11.73	2,632.06	455.61	92.27	1,903,242.73	121,055.92	36° 13' 26.261 N	107° 32' 5.054 W
2,748.00	12.98	9.70	2,693.41	469.67	94.93	1,903,256.75	121,058.77	36° 13' 26.400 N	107° 32' 5.021 W
2,811.00	13.05	7.13	2,754.80	483.71	97.01	1,903,270.76	121,061.03	36° 13' 26.539 N	107° 32' 4.996 W
2,873.00	12.86	8.64	2,815.22	497.47	98.91	1,903,284.50	121,063.12	36° 13' 26.675 N	107° 32' 4.973 W
2,936.00	12.97	10.31	2,876.62	511.36	101.23	1,903,298.35	121,065.62	36° 13' 26.812 N	107° 32' 4.945 W
2,999.00	12.67	13.38	2,938.05	525.04	104.10	1,903,311.99	121,068.67	36° 13' 26.948 N	107° 32' 4.910 W
3,062.00	12.38	14.24	2,999.56	538.30	107.36	1,903,325.21	121,072.10	36° 13' 27.079 N	107° 32' 4.870 W
3,125.00	12.00	15.02	3,061.13	551.18	110.72	1,903,338.04	121,075.63	36° 13' 27.206 N	107° 32' 4.829 W
3,188.00	11.55	12.24	3,122.81	563.67	113.75	1,903,350.49	121,078.83	36° 13' 27.330 N	107° 32' 4.792 W
3,250.00	11.80	14.92	3,183.53	575.86	116.70	1,903,362.64	121,081.94	36° 13' 27.450 N	107° 32' 4.756 W
3,313.00	11.99	15.52	3,245.17	588.39	120.11	1,903,375.12	121,085.52	36° 13' 27.574 N	107° 32' 4.714 W
3,376.00	12.58	13.35	3,306.73	601.37	123.44	1,903,388.06	121,089.03	36° 13' 27.702 N	107° 32' 4.674 W
3,439.00	12.97	13.14	3,368.17	614.93	126.63	1,903,401.57	121,092.40	36° 13' 27.837 N	107° 32' 4.635 W
3,502.00	12.78	10.64	3,429.59	628.66	129.53	1,903,415.27	121,095.47	36° 13' 27.972 N	107° 32' 4.599 W
3,565.00	13.80	11.98	3,490.90	642.86	132.37	1,903,429.43	121,098.51	36° 13' 28.113 N	107° 32' 4.565 W
3,627.00	14.50	13.04	3,551.02	657.66	135.66	1,903,444.18	121,101.99	36° 13' 28.259 N	107° 32' 4.524 W
3,689.00	14.47	13.41	3,611.05	672.75	139.21	1,903,459.23	121,105.74	36° 13' 28.408 N	107° 32' 4.481 W
3,752.00	14.11	12.25	3,672.10	687.91	142.66	1,903,474.34	121,109.39	36° 13' 28.558 N	107° 32' 4.439 W
3,815.00	14.13	12.64	3,733.20	702.92	145.98	1,903,489.30	121,112.90	36° 13' 28.707 N	107° 32' 4.399 W
3,878.00	13.86	13.00	3,794.33	717.78	149.36	1,903,504.11	121,116.48	36° 13' 28.854 N	107° 32' 4.357 W
3,941.00	13.15	11.90	3,855.58	732.14	152.53	1,903,518.43	121,119.84	36° 13' 28.996 N	107° 32' 4.319 W
4,004.00	14.38	13.24	3,916.77	746.77	155.80	1,903,533.02	121,123.31	36° 13' 29.140 N	107° 32' 4.279 W
4,067.00	14.91	14.31	3,977.73	762.24	159.60	1,903,548.43	121,127.31	36° 13' 29.293 N	107° 32' 4.232 W
4,130.00	14.95	15.10	4,038.60	777.94	163.72	1,903,564.08	121,131.63	36° 13' 29.448 N	107° 32' 4.182 W
4,194.00	14.53	13.36	4,100.49	793.72	167.72	1,903,579.80	121,135.85	36° 13' 29.605 N	107° 32' 4.133 W
4,257.00	14.42	12.75	4,161.49	809.06	171.28	1,903,595.10	121,139.61	36° 13' 29.756 N	107° 32' 4.090 W

Company: WPX Energy Rocky Mountain, LLC
Project: Rio Arriba County, NM NAD27
Site: Chaco 2307-13L
Well: Chaco 2307-13L #238H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Chaco 2307-13L #238H
TVD Reference: GL 7046' & KB 14' @ 7060.00ft
MD Reference: GL 7046' & KB 14' @ 7060.00ft
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
4,320.00	13.68	11.28	4,222.61	824.02	174.47	1,903,610.01	121,143.00	36° 13' 29.904 N	107° 32' 4.051 W
4,382.00	13.63	10.96	4,282.86	838.38	177.29	1,903,624.33	121,146.01	36° 13' 30.046 N	107° 32' 4.016 W
4,445.00	13.75	9.52	4,344.07	853.05	179.94	1,903,638.97	121,148.85	36° 13' 30.191 N	107° 32' 3.984 W
4,509.00	13.89	8.90	4,406.21	868.14	182.39	1,903,654.02	121,151.50	36° 13' 30.340 N	107° 32' 3.954 W
4,573.00	13.75	12.48	4,468.36	883.16	185.22	1,903,669.00	121,154.53	36° 13' 30.489 N	107° 32' 3.920 W
4,636.00	13.07	14.89	4,529.64	897.35	188.67	1,903,683.15	121,158.17	36° 13' 30.629 N	107° 32' 3.878 W
4,699.00	12.23	11.93	4,591.12	910.76	191.88	1,903,696.52	121,161.55	36° 13' 30.762 N	107° 32' 3.838 W
4,762.00	12.02	17.11	4,652.71	923.56	195.19	1,903,709.27	121,165.03	36° 13' 30.888 N	107° 32' 3.798 W
4,825.00	12.26	19.49	4,714.30	936.14	199.35	1,903,721.79	121,169.36	36° 13' 31.013 N	107° 32' 3.747 W
4,888.00	12.34	15.26	4,775.86	948.94	203.35	1,903,734.54	121,173.53	36° 13' 31.139 N	107° 32' 3.698 W
4,911.00	12.49	13.51	4,798.32	953.73	204.58	1,903,739.31	121,174.82	36° 13' 31.187 N	107° 32' 3.683 W
4,943.00	13.08	12.94	4,829.53	960.62	206.20	1,903,746.18	121,176.54	36° 13' 31.255 N	107° 32' 3.664 W
4,974.00	14.68	12.66	4,859.62	967.87	207.85	1,903,753.41	121,178.28	36° 13' 31.327 N	107° 32' 3.644 W
5,006.00	15.59	12.71	4,890.51	976.02	209.68	1,903,761.54	121,180.22	36° 13' 31.407 N	107° 32' 3.621 W
5,037.00	16.16	6.63	4,920.33	984.37	211.09	1,903,769.87	121,181.75	36° 13' 31.490 N	107° 32' 3.604 W
5,068.00	17.33	357.21	4,950.02	993.27	211.37	1,903,778.76	121,182.14	36° 13' 31.578 N	107° 32' 3.601 W
5,100.00	18.65	351.22	4,980.46	1,003.09	210.35	1,903,788.59	121,181.25	36° 13' 31.675 N	107° 32' 3.613 W
5,131.00	20.22	345.58	5,009.69	1,013.18	208.26	1,903,798.71	121,179.30	36° 13' 31.775 N	107° 32' 3.638 W
5,163.00	22.04	340.16	5,039.54	1,024.18	204.85	1,903,809.76	121,176.03	36° 13' 31.883 N	107° 32' 3.680 W
5,195.00	23.60	335.37	5,069.04	1,035.66	200.14	1,903,821.29	121,171.47	36° 13' 31.997 N	107° 32' 3.738 W
5,227.00	25.20	334.21	5,098.18	1,047.61	194.51	1,903,833.32	121,166.00	36° 13' 32.115 N	107° 32' 3.806 W
5,258.00	26.61	330.29	5,126.07	1,059.59	188.19	1,903,845.38	121,159.84	36° 13' 32.234 N	107° 32' 3.883 W
5,289.00	26.83	324.04	5,153.76	1,071.28	180.64	1,903,857.17	121,152.45	36° 13' 32.349 N	107° 32' 3.975 W
5,321.00	26.67	315.85	5,182.35	1,082.29	171.40	1,903,868.30	121,143.35	36° 13' 32.458 N	107° 32' 4.088 W
5,352.00	27.58	309.37	5,209.95	1,091.83	161.00	1,903,877.98	121,133.08	36° 13' 32.552 N	107° 32' 4.215 W
5,383.00	29.80	304.89	5,237.14	1,100.79	149.13	1,903,887.10	121,121.33	36° 13' 32.641 N	107° 32' 4.360 W
Last SDI Surface MWD Survey									
5,415.00	31.48	301.44	5,264.67	1,109.70	135.48	1,903,896.18	121,107.80	36° 13' 32.729 N	107° 32' 4.527 W
First SDI Curve MWD Survey									
5,446.00	33.25	297.52	5,290.86	1,117.85	121.03	1,903,904.53	121,093.46	36° 13' 32.810 N	107° 32' 4.703 W
5,478.00	35.67	294.34	5,317.25	1,125.75	104.75	1,903,912.64	121,077.28	36° 13' 32.888 N	107° 32' 4.902 W
5,509.00	37.98	291.19	5,342.06	1,132.93	87.62	1,903,920.04	121,060.25	36° 13' 32.959 N	107° 32' 5.111 W
5,541.00	39.97	286.70	5,366.94	1,139.44	68.59	1,903,926.81	121,041.30	36° 13' 33.023 N	107° 32' 5.343 W
5,573.00	41.96	282.68	5,391.11	1,144.74	48.30	1,903,932.38	121,021.09	36° 13' 33.076 N	107° 32' 5.591 W
5,604.00	44.71	280.05	5,413.66	1,148.92	27.44	1,903,936.83	121,000.29	36° 13' 33.117 N	107° 32' 5.845 W
5,635.00	48.47	279.29	5,434.96	1,152.70	5.25	1,903,940.91	120,978.15	36° 13' 33.154 N	107° 32' 6.116 W
5,667.00	51.32	278.69	5,455.57	1,156.52	-18.92	1,903,945.05	120,954.03	36° 13' 33.192 N	107° 32' 6.411 W
5,698.00	54.04	278.83	5,474.36	1,160.28	-43.29	1,903,949.13	120,929.72	36° 13' 33.229 N	107° 32' 6.708 W
5,730.00	57.21	279.81	5,492.43	1,164.56	-69.35	1,903,953.75	120,903.72	36° 13' 33.271 N	107° 32' 7.026 W
5,761.00	60.76	280.51	5,508.40	1,169.25	-95.49	1,903,958.79	120,877.64	36° 13' 33.318 N	107° 32' 7.345 W
5,794.00	62.91	280.07	5,523.97	1,174.44	-124.12	1,903,964.36	120,849.09	36° 13' 33.369 N	107° 32' 7.695 W
5,825.00	65.08	279.33	5,537.56	1,179.13	-151.58	1,903,969.42	120,821.69	36° 13' 33.416 N	107° 32' 8.030 W
5,856.00	65.86	279.19	5,550.43	1,183.67	-179.41	1,903,974.32	120,793.92	36° 13' 33.460 N	107° 32' 8.369 W
5,888.00	68.88	278.77	5,562.75	1,188.28	-208.58	1,903,979.32	120,764.81	36° 13' 33.506 N	107° 32' 8.725 W
5,919.00	72.81	277.93	5,572.92	1,192.53	-237.55	1,903,983.95	120,735.90	36° 13' 33.548 N	107° 32' 9.079 W
5,951.00	75.13	276.81	5,581.75	1,196.47	-268.05	1,903,988.30	120,705.46	36° 13' 33.587 N	107° 32' 9.451 W
5,982.00	75.78	276.51	5,589.54	1,199.95	-297.85	1,903,992.17	120,675.70	36° 13' 33.621 N	107° 32' 9.815 W
6,014.00	76.62	276.50	5,597.17	1,203.47	-328.73	1,903,996.10	120,644.87	36° 13' 33.656 N	107° 32' 10.192 W
6,045.00	78.89	275.99	5,603.74	1,206.77	-358.84	1,903,999.80	120,614.81	36° 13' 33.689 N	107° 32' 10.559 W
6,067.00	80.97	275.68	5,607.59	1,208.97	-380.39	1,904,002.28	120,593.29	36° 13' 33.711 N	107° 32' 10.822 W
6067' MD Crossed Hardline									
6,077.00	81.92	275.54	5,609.08	1,209.94	-390.23	1,904,003.38	120,583.46	36° 13' 33.720 N	107° 32' 10.942 W
6,108.00	85.83	274.87	5,612.38	1,212.73	-420.92	1,904,006.58	120,552.81	36° 13' 33.748 N	107° 32' 11.317 W

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well Chaco 2307-13L #238H
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7046' & KB 14' @ 7060.00ft
Site:	Chaco 2307-13L	MD Reference:	GL 7046' & KB 14' @ 7060.00ft
Well:	Chaco 2307-13L #238H	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
6,122.00	87.17	273.91	5,613.24	1,213.80	-434.85	1,904,007.84	120,538.90	36° 13' 33.758 N	107° 32' 11.487 W
Last SDI Curve MWD Survey - 6122' MD End of Curve									
6,256.00	92.32	271.24	5,613.84	1,219.82	-568.66	1,904,015.63	120,405.18	36° 13' 33.818 N	107° 32' 13.120 W
First SDI Lateral MWD Survey									
6,319.00	93.57	270.83	5,610.60	1,220.95	-631.56	1,904,017.60	120,342.30	36° 13' 33.829 N	107° 32' 13.887 W
6,382.00	92.72	269.97	5,607.14	1,221.39	-694.47	1,904,018.87	120,279.41	36° 13' 33.833 N	107° 32' 14.655 W
6,445.00	91.41	269.93	5,604.87	1,221.34	-757.42	1,904,019.65	120,216.45	36° 13' 33.833 N	107° 32' 15.423 W
6,509.00	90.10	269.72	5,604.03	1,221.14	-821.42	1,904,020.30	120,152.46	36° 13' 33.831 N	107° 32' 16.204 W
6,571.00	91.44	269.64	5,603.20	1,220.80	-883.41	1,904,020.78	120,090.47	36° 13' 33.827 N	107° 32' 16.961 W
6,634.00	90.30	269.91	5,602.24	1,220.55	-946.40	1,904,021.36	120,027.49	36° 13' 33.825 N	107° 32' 17.730 W
6,697.00	91.78	269.91	5,601.10	1,220.45	-1,009.39	1,904,022.10	119,964.50	36° 13' 33.824 N	107° 32' 18.498 W
6,759.00	90.67	270.45	5,599.77	1,220.64	-1,071.37	1,904,023.12	119,902.53	36° 13' 33.826 N	107° 32' 19.255 W
6,822.00	89.33	270.83	5,599.77	1,221.35	-1,134.37	1,904,024.65	119,839.55	36° 13' 33.833 N	107° 32' 20.023 W
6,885.00	90.37	270.75	5,599.94	1,222.22	-1,197.36	1,904,026.36	119,776.57	36° 13' 33.841 N	107° 32' 20.792 W
6,948.00	91.34	270.66	5,599.00	1,222.99	-1,260.35	1,904,027.97	119,713.60	36° 13' 33.849 N	107° 32' 21.561 W
7,011.00	89.97	271.07	5,598.27	1,223.94	-1,323.33	1,904,029.75	119,650.63	36° 13' 33.858 N	107° 32' 22.330 W
7,074.00	91.55	271.10	5,597.44	1,225.14	-1,386.32	1,904,031.78	119,587.67	36° 13' 33.870 N	107° 32' 23.098 W
7,137.00	90.17	271.78	5,596.49	1,226.72	-1,449.29	1,904,034.20	119,524.73	36° 13' 33.886 N	107° 32' 23.867 W
7,200.00	91.21	271.68	5,595.74	1,228.62	-1,512.25	1,904,036.94	119,461.79	36° 13' 33.905 N	107° 32' 24.635 W
7,262.00	90.37	272.46	5,594.88	1,230.86	-1,574.21	1,904,040.00	119,399.87	36° 13' 33.927 N	107° 32' 25.391 W
7,325.00	91.68	272.46	5,593.75	1,233.56	-1,637.14	1,904,043.53	119,336.98	36° 13' 33.953 N	107° 32' 26.159 W
7,388.00	90.27	272.62	5,592.68	1,236.35	-1,700.06	1,904,047.16	119,274.10	36° 13' 33.981 N	107° 32' 26.927 W
7,451.00	91.41	272.64	5,591.76	1,239.25	-1,762.99	1,904,050.88	119,211.22	36° 13' 34.009 N	107° 32' 27.695 W
7,515.00	90.00	271.69	5,590.97	1,241.66	-1,826.94	1,904,054.15	119,147.31	36° 13' 34.033 N	107° 32' 28.475 W
7,578.00	90.77	271.03	5,590.55	1,243.16	-1,889.92	1,904,056.48	119,084.35	36° 13' 34.048 N	107° 32' 29.244 W
7,641.00	91.55	270.02	5,589.27	1,243.74	-1,952.90	1,904,057.89	119,021.38	36° 13' 34.054 N	107° 32' 30.013 W
7,704.00	92.86	270.09	5,588.85	1,243.80	-2,015.85	1,904,058.78	118,958.44	36° 13' 34.054 N	107° 32' 30.781 W
7,767.00	91.58	271.37	5,584.41	1,244.60	-2,078.80	1,904,060.42	118,895.51	36° 13' 34.062 N	107° 32' 31.549 W
7,830.00	90.30	271.85	5,583.37	1,246.37	-2,141.76	1,904,063.03	118,832.57	36° 13' 34.080 N	107° 32' 32.317 W
7,895.00	91.75	271.85	5,582.21	1,248.47	-2,206.72	1,904,065.98	118,767.65	36° 13' 34.100 N	107° 32' 33.110 W
7,958.00	91.72	273.17	5,580.30	1,251.22	-2,269.62	1,904,069.58	118,704.79	36° 13' 34.128 N	107° 32' 33.878 W
8,021.00	92.72	273.31	5,577.86	1,254.78	-2,332.48	1,904,073.97	118,641.99	36° 13' 34.163 N	107° 32' 34.645 W
8,084.00	91.28	273.66	5,575.66	1,258.61	-2,395.32	1,904,078.63	118,579.20	36° 13' 34.200 N	107° 32' 35.412 W
8,147.00	92.49	273.79	5,573.59	1,262.70	-2,458.15	1,904,083.55	118,516.43	36° 13' 34.241 N	107° 32' 36.179 W
8,209.00	93.77	273.75	5,570.21	1,266.77	-2,519.92	1,904,088.44	118,454.72	36° 13' 34.281 N	107° 32' 36.932 W
8,272.00	92.32	273.19	5,566.86	1,270.58	-2,582.72	1,904,093.08	118,391.98	36° 13' 34.319 N	107° 32' 37.699 W
8,334.00	90.37	272.61	5,565.41	1,273.71	-2,644.62	1,904,097.03	118,330.13	36° 13' 34.350 N	107° 32' 38.454 W
8,398.00	91.04	271.96	5,564.62	1,276.26	-2,708.56	1,904,100.43	118,266.22	36° 13' 34.375 N	107° 32' 39.235 W
8,461.00	92.46	271.17	5,562.69	1,277.98	-2,771.51	1,904,102.99	118,203.30	36° 13' 34.392 N	107° 32' 40.003 W
8,523.00	91.58	271.07	5,560.51	1,279.20	-2,833.46	1,904,105.02	118,141.38	36° 13' 34.404 N	107° 32' 40.759 W
8,586.00	90.37	270.52	5,559.44	1,280.07	-2,896.44	1,904,106.73	118,078.41	36° 13' 34.412 N	107° 32' 41.527 W
8,649.00	91.82	270.11	5,558.23	1,280.42	-2,959.42	1,904,107.91	118,015.44	36° 13' 34.416 N	107° 32' 42.296 W
8,712.00	90.54	271.22	5,556.94	1,281.15	-3,022.40	1,904,109.47	117,952.47	36° 13' 34.423 N	107° 32' 43.065 W
8,775.00	91.85	270.97	5,555.62	1,282.35	-3,085.38	1,904,111.51	117,889.52	36° 13' 34.435 N	107° 32' 43.833 W
8,838.00	90.64	271.59	5,554.25	1,283.76	-3,148.35	1,904,113.75	117,826.58	36° 13' 34.448 N	107° 32' 44.602 W
8,901.00	92.12	271.35	5,552.74	1,285.37	-3,211.31	1,904,116.20	117,763.64	36° 13' 34.464 N	107° 32' 45.370 W
8,965.00	90.24	271.79	5,551.42	1,287.13	-3,275.26	1,904,118.81	117,699.71	36° 13' 34.482 N	107° 32' 46.150 W
9,028.00	91.85	271.76	5,550.27	1,289.08	-3,338.22	1,904,121.59	117,636.79	36° 13' 34.501 N	107° 32' 46.919 W
9,091.00	90.10	273.66	5,549.20	1,292.06	-3,401.14	1,904,125.40	117,573.92	36° 13' 34.530 N	107° 32' 47.687 W
9,154.00	91.21	273.83	5,548.48	1,296.17	-3,464.00	1,904,130.35	117,511.12	36° 13' 34.571 N	107° 32' 48.454 W
9,217.00	92.66	273.83	5,546.35	1,300.38	-3,526.82	1,904,135.39	117,448.36	36° 13' 34.612 N	107° 32' 49.220 W
9,280.00	90.03	273.88	5,544.87	1,304.61	-3,589.65	1,904,140.45	117,385.58	36° 13' 34.654 N	107° 32' 49.987 W
9,343.00	91.04	274.05	5,544.28	1,308.97	-3,652.50	1,904,145.64	117,322.80	36° 13' 34.697 N	107° 32' 50.754 W
9,406.00	92.46	273.65	5,542.36	1,313.19	-3,715.33	1,904,150.70	117,260.04	36° 13' 34.739 N	107° 32' 51.521 W
9,471.00	91.21	273.23	5,540.28	1,317.09	-3,780.17	1,904,155.46	117,195.25	36° 13' 34.777 N	107° 32' 52.312 W



Survey Report - Geographic



Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well Chaco 2307-13L #238H
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7046' & KB 14' @ 7060.00ft
Site:	Chaco 2307-13L	MD Reference:	GL 7046' & KB 14' @ 7060.00ft
Well:	Chaco 2307-13L #238H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Grand Junction District

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,534.00	90.00	271.88	5,539.61	1,319.90	-3,843.11	1,904,159.10	117,132.36	36° 13' 34.805 N	107° 32' 53.080 W
9,597.00	91.11	271.97	5,539.00	1,322.02	-3,906.07	1,904,162.05	117,069.43	36° 13' 34.826 N	107° 32' 53.849 W
9,660.00	91.88	271.37	5,537.36	1,323.85	-3,969.02	1,904,164.72	117,006.51	36° 13' 34.844 N	107° 32' 54.617 W
9,723.00	92.93	271.28	5,534.71	1,325.31	-4,031.94	1,904,167.01	116,943.61	36° 13' 34.858 N	107° 32' 55.385 W
9,787.00	91.18	270.35	5,532.42	1,326.22	-4,095.89	1,904,168.77	116,879.68	36° 13' 34.867 N	107° 32' 56.165 W
9,849.00	89.53	270.71	5,532.03	1,326.79	-4,157.89	1,904,170.17	116,817.70	36° 13' 34.873 N	107° 32' 56.922 W
9,912.00	89.29	272.70	5,532.68	1,328.66	-4,220.85	1,904,172.87	116,754.76	36° 13' 34.891 N	107° 32' 57.690 W
9,975.00	90.07	272.38	5,533.04	1,331.46	-4,283.79	1,904,176.50	116,691.87	36° 13' 34.919 N	107° 32' 58.458 W
10,037.00	90.87	272.16	5,532.53	1,333.91	-4,345.74	1,904,179.78	116,629.96	36° 13' 34.943 N	107° 32' 59.214 W
10,101.00	92.42	272.32	5,530.69	1,336.41	-4,409.66	1,904,183.12	116,566.07	36° 13' 34.967 N	107° 32' 59.994 W
10,164.00	90.17	270.80	5,529.27	1,338.13	-4,472.62	1,904,185.67	116,503.15	36° 13' 34.984 N	107° 33' 0.763 W
10,227.00	90.67	270.32	5,528.80	1,338.74	-4,535.61	1,904,187.12	116,440.16	36° 13' 34.990 N	107° 33' 1.531 W
10,290.00	91.85	270.10	5,527.42	1,338.97	-4,598.59	1,904,188.19	116,377.19	36° 13' 34.992 N	107° 33' 2.300 W
10,354.00	93.09	270.11	5,524.66	1,339.09	-4,662.53	1,904,189.15	116,313.26	36° 13' 34.994 N	107° 33' 3.080 W
10,417.00	91.41	271.13	5,522.19	1,339.77	-4,725.48	1,904,190.67	116,250.33	36° 13' 35.000 N	107° 33' 3.848 W
10,480.00	89.53	272.05	5,521.67	1,341.52	-4,788.45	1,904,193.25	116,187.39	36° 13' 35.017 N	107° 33' 4.617 W
10,542.00	91.24	272.21	5,521.25	1,343.82	-4,850.40	1,904,196.38	116,125.47	36° 13' 35.040 N	107° 33' 5.373 W
10,542' MD Crossed Hardline									
10,561.00	89.70	272.32	5,521.10	1,344.57	-4,869.38	1,904,197.38	116,106.50	36° 13' 35.047 N	107° 33' 5.605 W
Last SDI Lateral MWD Survey									
10,637.00	89.70	272.32	5,521.50	1,347.65	-4,945.32	1,904,201.46	116,030.61	36° 13' 35.078 N	107° 33' 6.531 W
Projection to TD									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
431.00	430.92	3.03	6.51	First SDI Surface MWD Survey
5,383.00	5,237.14	1,100.79	149.13	Last SDI Surface MWD Survey
5,415.00	5,264.67	1,109.70	135.48	First SDI Curve MWD Survey
6,067.00	5,607.59	1,208.97	-380.39	6067' MD Crossed Hardline
6,122.00	5,613.24	1,213.80	-434.85	Last SDI Curve MWD Survey
6,122.00	5,613.24	1,213.80	-434.85	6122' MD End of Curve
6,256.00	5,613.84	1,219.82	-568.66	First SDI Lateral MWD Survey
10,542.00	5,521.25	1,343.82	-4,850.40	10,542' MD Crossed Hardline
10,561.00	5,521.10	1,344.57	-4,869.38	Last SDI Lateral MWD Survey
10,637.00	5,521.50	1,347.65	-4,945.32	Projection to TD

Checked By: _____ Approved By: _____ Date: _____