

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Drive
Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-31202		*Pool Code 98088	*Pool Name CHACO UNIT NE HZ (OIL)
*Property Code 313800	*Property Name NE CHACO COM		*Well Number 166H
*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		1310	SOUTH	512	WEST	RIO ARriba

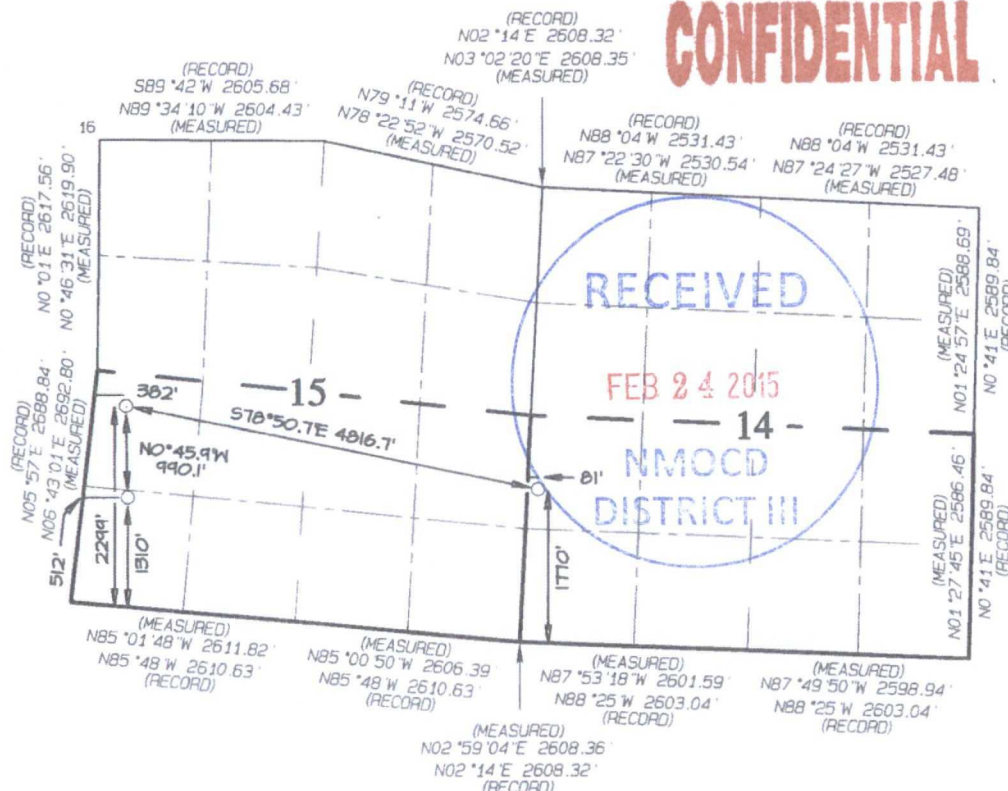
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	14	23N	7W		1770	SOUTH	81	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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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@wpenergy.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 18, 2015**
Survey Date: **AUGUST 23, 2013**

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269

SURFACE LOCATION
1310' FSL 512' FWL
SECTION 15, T23N, R7W
LAT: 36.223344° N
LONG: 107.568607° W
DATUM: NAD1927

POINT-OF-ENTRY
2299' FSL 382' FWL
SECTION 15, T23N, R7W
LAT: 36.226063° N
LONG: 107.568697° W
DATUM: NAD1927

RSI TOOL
1790' FSL 33' FEL
SECTION 15, T23N, R7W
LAT: 36.223740° N
LONG: 107.553019° W
DATUM: NAD1927

END-OF-LATERAL
1770' FSL 81' FWL
SECTION 14, T23N, R7W
LAT: 36.223679° N
LONG: 107.552637° W
DATUM: NAD1927

LAT: 36.223358° N
LONG: 107.569214° W
DATUM: NAD1983

LAT: 36.226076° N
LONG: 107.569305° W
DATUM: NAD1983

LAT: 36.223753° N
LONG: 107.553626° W
DATUM: NAD1983

LAT: 36.223692° N
LONG: 107.553244° W
DATUM: NAD1983



Scientific Drilling

Company: WPX Energy Rocky Mountain, LLC
Project: Rio Arriba County, NM NAD27
Site: Chaco 2307-15M



Well Details: NE Chaco Com #166H

+N/-S
0.00

+E/-W
0.00

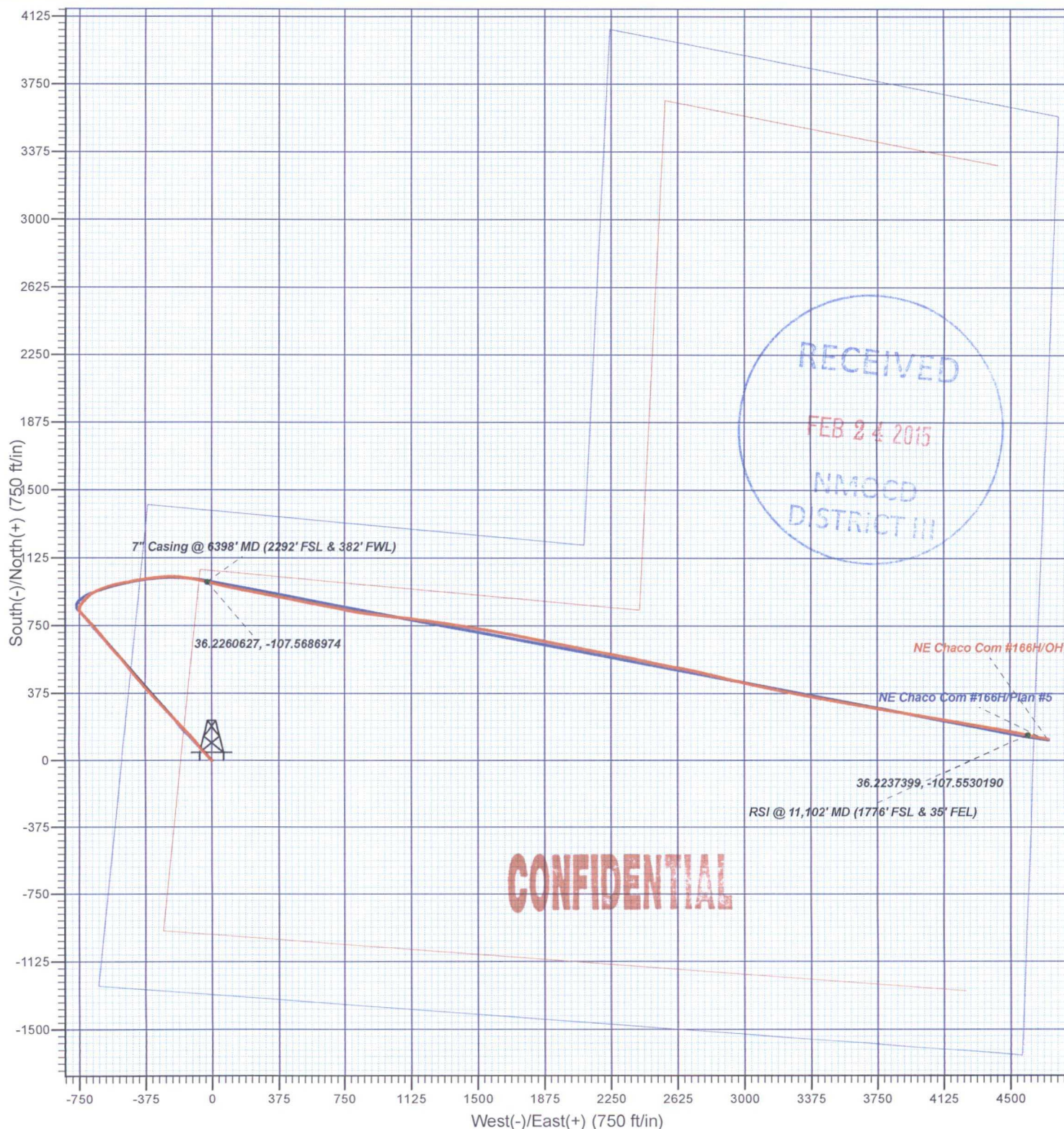
Northing
1903150.66

TVD Reference: GL 7295' @ 7295.00ft
Easting
111061.25

Latitude
36.2233400

Longitude
-107.5686100

Slot



Plan: OH

11:15, February 17 2015
Created By: Janie Collins

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well NE Chaco Com #166H
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7295' @ 7295.00ft
Site:	Chaco 2307-15M	MD Reference:	GL 7295' @ 7295.00ft
Well:	NE Chaco Com #166H	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 #166H					
Well Position	+N/-S	0.00 ft	Northing:	1,903,150.66 usft	Latitude:	36.2233400
	+E/-W	0.00 ft	Easting:	111,061.25 usft	Longitude:	-107.5686100
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	7,295.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	1/15/2015	9.41	62.98	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)	Direction (°)	
	0.00	0.00	0.00	88.60	

Survey Program	Date 2/17/2015				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
50.00	347.00	Survey #1 - MS Gyro Survey (OH)	Gyro		
465.00	5,167.00	Survey #2 - Surface MWD Survey (OH)	MWD SDI	MWD - Standard ver 1.0.1	
5,198.00	6,350.00	Survey #3 - Curve MWD Survey (OH)	MWD SDI	MWD - Standard ver 1.0.1	
6,415.00	11,217.00	Survey #4 - 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	1,903,150.66	111,061.25	36.2233400	-107.5686100
50.00	0.46	270.36	50.00	0.00	-0.20	1,903,150.67	111,061.05	36.2233400	-107.5686107
First MS Energy Gyro Survey									
100.00	0.68	255.35	100.00	-0.07	-0.69	1,903,150.60	111,060.56	36.2233398	-107.5686124
150.00	0.67	263.49	149.99	-0.18	-1.27	1,903,150.50	111,059.98	36.2233395	-107.5686143
200.00	0.57	262.75	199.99	-0.25	-1.80	1,903,150.44	111,059.45	36.2233393	-107.5686162
250.00	0.32	243.17	249.99	-0.34	-2.17	1,903,150.35	111,059.07	36.2233390	-107.5686174
300.00	0.45	240.77	299.99	-0.50	-2.47	1,903,150.20	111,058.78	36.2233386	-107.5686184

Company: WPX Energy Rocky Mountain, LLC
Project: Rio Arriba County, NM NAD27
Site: Chaco 2307-15M
Well: NE Chaco Com #166H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NE Chaco Com #166H
TVD Reference: GL 7295' @ 7295.00ft
MD Reference: GL 7295' @ 7295.00ft
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
347.00	0.25	215.06	346.99	-0.67	-2.69	1,903,150.03	111,058.55	36.2233381	-107.5686192
Last MS Energy Gyro Survey									
465.00	0.00	9.40	464.99	-0.88	-2.84	1,903,149.82	111,058.40	36.2233376	-107.5686197
First SDI Surface MWD Survey									
528.00	1.08	304.36	527.98	-0.55	-3.33	1,903,150.16	111,057.92	36.2233385	-107.5686213
591.00	3.27	314.31	590.93	1.04	-5.10	1,903,151.77	111,056.16	36.2233428	-107.5686273
654.00	4.12	315.76	653.80	3.92	-7.97	1,903,154.69	111,053.34	36.2233507	-107.5686371
716.00	5.26	316.89	715.59	7.59	-11.47	1,903,158.41	111,049.89	36.2233608	-107.5686489
779.00	6.66	319.22	778.25	12.46	-15.83	1,903,163.34	111,045.60	36.2233742	-107.5686637
842.00	7.28	316.95	840.79	18.15	-20.94	1,903,169.09	111,040.57	36.2233898	-107.5686810
905.00	8.65	315.88	903.18	24.47	-26.96	1,903,175.49	111,034.63	36.2234072	-107.5687014
968.00	10.37	316.05	965.31	31.95	-34.19	1,903,183.07	111,027.50	36.2234277	-107.5687260
1,031.00	12.48	317.12	1,027.06	41.02	-42.76	1,903,192.26	111,019.05	36.2234526	-107.5687550
1,094.00	14.46	319.43	1,088.32	51.98	-52.51	1,903,203.36	111,009.45	36.2234828	-107.5687880
1,157.00	15.04	320.80	1,149.25	64.29	-62.79	1,903,215.80	110,999.34	36.2235166	-107.5688229
1,218.00	15.30	320.88	1,208.12	76.67	-72.87	1,903,228.32	110,989.43	36.2235506	-107.5688571
1,279.00	15.43	320.62	1,266.94	89.19	-83.10	1,903,240.97	110,979.37	36.2235850	-107.5688917
1,341.00	15.98	320.18	1,326.62	102.12	-93.80	1,903,254.05	110,968.85	36.2236205	-107.5689280
1,402.00	16.84	320.58	1,385.14	115.39	-104.79	1,903,267.47	110,958.05	36.2236569	-107.5689652
1,463.00	16.48	321.70	1,443.58	129.01	-115.76	1,903,281.23	110,947.26	36.2236943	-107.5690024
1,525.00	15.90	321.44	1,503.12	142.55	-126.50	1,903,294.92	110,936.70	36.2237315	-107.5690389
1,586.00	13.96	317.87	1,562.06	154.54	-136.65	1,903,307.05	110,926.72	36.2237645	-107.5690733
1,648.00	13.95	316.87	1,622.23	165.54	-146.77	1,903,318.19	110,916.74	36.2237947	-107.5691076
1,709.00	14.58	316.79	1,681.35	176.51	-157.06	1,903,329.29	110,906.61	36.2238248	-107.5691424
1,770.00	14.48	315.59	1,740.40	187.55	-167.65	1,903,340.47	110,896.17	36.2238551	-107.5691783
1,833.00	14.93	315.10	1,801.33	198.93	-178.89	1,903,352.00	110,885.08	36.2238864	-107.5692165
1,893.00	14.73	314.07	1,859.33	209.71	-189.83	1,903,362.93	110,874.29	36.2239160	-107.5692535
1,954.00	14.98	315.91	1,918.30	220.76	-200.89	1,903,374.14	110,863.39	36.2239463	-107.5692910
2,016.00	14.53	316.57	1,978.25	232.17	-211.81	1,903,385.69	110,852.62	36.2239777	-107.5693280
2,077.00	14.50	315.88	2,037.30	243.21	-222.38	1,903,396.87	110,842.20	36.2240080	-107.5693639
2,138.00	14.43	313.35	2,096.37	253.90	-233.23	1,903,407.71	110,831.50	36.2240374	-107.5694006
2,200.00	14.47	315.44	2,156.41	264.73	-244.28	1,903,418.69	110,820.60	36.2240671	-107.5694381
2,261.00	14.68	317.65	2,215.45	275.87	-254.84	1,903,429.97	110,810.19	36.2240977	-107.5694739
2,322.00	14.60	315.75	2,274.47	287.09	-265.41	1,903,441.33	110,799.78	36.2241285	-107.5695097
2,384.00	14.74	316.13	2,334.45	298.37	-276.33	1,903,452.76	110,789.01	36.2241595	-107.5695467
2,445.00	14.91	318.70	2,393.42	309.86	-286.88	1,903,464.40	110,778.61	36.2241911	-107.5695825
2,506.00	14.72	319.23	2,452.39	321.63	-297.12	1,903,476.30	110,768.53	36.2242234	-107.5696172
2,568.00	14.72	316.63	2,512.35	333.32	-307.68	1,903,488.13	110,758.14	36.2242555	-107.5696530
2,629.00	13.86	314.93	2,571.47	344.11	-318.17	1,903,499.07	110,747.79	36.2242852	-107.5696886
2,690.00	14.83	316.72	2,630.56	354.96	-328.70	1,903,510.06	110,737.42	36.2243149	-107.5697243
2,752.00	15.30	318.48	2,690.43	366.86	-339.56	1,903,522.10	110,726.72	36.2243476	-107.5697611
2,813.00	15.22	316.63	2,749.28	378.70	-350.39	1,903,534.10	110,716.05	36.2243802	-107.5697978
2,874.00	14.29	315.88	2,808.27	389.93	-361.13	1,903,545.47	110,705.46	36.2244110	-107.5698342
2,936.00	14.24	313.87	2,868.36	400.71	-371.96	1,903,556.39	110,694.78	36.2244406	-107.5698709
2,997.00	14.22	317.34	2,927.49	411.42	-382.44	1,903,567.24	110,684.44	36.2244700	-107.5699065
3,060.00	14.00	320.16	2,988.59	422.96	-392.57	1,903,578.92	110,674.48	36.2245017	-107.5699408
3,123.00	14.02	318.35	3,049.72	434.51	-402.52	1,903,590.61	110,664.68	36.2245335	-107.5699745
3,186.00	13.59	317.59	3,110.90	445.68	-412.58	1,903,601.91	110,654.77	36.2245641	-107.5700086
3,249.00	13.54	317.06	3,172.14	456.54	-422.60	1,903,612.91	110,644.90	36.2245940	-107.5700426
3,312.00	14.42	319.98	3,233.27	467.95	-432.67	1,903,624.45	110,634.99	36.2246253	-107.5700767
3,374.00	14.48	320.68	3,293.31	479.86	-442.55	1,903,636.49	110,625.28	36.2246580	-107.5701102
3,437.00	13.86	319.36	3,354.39	491.68	-452.45	1,903,648.45	110,615.53	36.2246905	-107.5701438
3,500.00	14.37	320.56	3,415.49	503.44	-462.33	1,903,660.34	110,605.81	36.2247228	-107.5701773
3,563.00	14.28	321.09	3,476.53	515.52	-472.18	1,903,672.56	110,596.13	36.2247560	-107.5702106
3,626.00	15.39	320.46	3,537.43	528.02	-482.38	1,903,685.19	110,586.10	36.2247903	-107.5702452

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well NE Chaco Com #166H
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7295' @ 7295.00ft
Site:	Chaco 2307-15M	MD Reference:	GL 7295' @ 7295.00ft
Well:	NE Chaco Com #166H	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
3,689.00	16.90	320.47	3,597.95	541.53	-493.53	1,903,698.85	110,575.13	36.2248274	-107.5702830
3,752.00	17.83	319.83	3,658.07	555.96	-505.58	1,903,713.45	110,563.28	36.2248670	-107.5703239
3,815.00	17.04	318.05	3,718.18	570.20	-517.97	1,903,727.85	110,551.08	36.2249061	-107.5703659
3,877.00	16.42	316.42	3,777.56	583.30	-530.09	1,903,741.12	110,539.15	36.2249421	-107.5704070
3,940.00	16.56	316.91	3,837.96	596.31	-542.36	1,903,754.29	110,527.05	36.2249779	-107.5704486
4,003.00	16.25	314.86	3,898.40	609.08	-554.74	1,903,767.23	110,514.85	36.2250129	-107.5704905
4,066.00	15.97	318.36	3,958.93	621.78	-566.75	1,903,780.09	110,503.02	36.2250478	-107.5705312
4,129.00	15.32	320.16	4,019.59	634.65	-577.84	1,903,793.11	110,492.10	36.2250832	-107.5705688
4,192.00	15.19	319.61	4,080.37	647.32	-588.52	1,903,805.93	110,481.59	36.2251180	-107.5706050
4,255.00	15.69	318.61	4,141.10	660.00	-599.50	1,903,818.75	110,470.79	36.2251528	-107.5706423
4,318.00	15.64	320.85	4,201.76	672.98	-610.49	1,903,831.88	110,459.97	36.2251884	-107.5706795
4,381.00	15.74	320.95	4,262.41	686.20	-621.24	1,903,845.24	110,449.41	36.2252248	-107.5707160
4,443.00	15.88	320.07	4,322.07	699.23	-631.98	1,903,858.42	110,438.84	36.2252606	-107.5707524
4,506.00	15.84	320.23	4,382.67	712.45	-643.01	1,903,871.79	110,427.99	36.2252969	-107.5707898
4,569.00	16.15	319.29	4,443.23	725.70	-654.23	1,903,885.19	110,416.96	36.2253333	-107.5708278
4,632.00	16.63	318.35	4,503.67	739.08	-665.93	1,903,898.73	110,405.43	36.2253700	-107.5708675
4,695.00	16.38	315.75	4,564.07	752.18	-678.12	1,903,911.99	110,393.42	36.2254060	-107.5709088
4,758.00	15.10	315.13	4,624.71	764.36	-690.11	1,903,924.33	110,381.60	36.2254394	-107.5709494
4,821.00	14.25	314.47	4,685.66	775.61	-701.44	1,903,935.73	110,370.43	36.2254703	-107.5709878
4,884.00	13.98	315.59	4,746.75	786.47	-712.29	1,903,946.75	110,359.72	36.2255002	-107.5710246
4,946.00	13.76	317.79	4,806.95	797.29	-722.49	1,903,957.70	110,349.68	36.2255299	-107.5710592
5,009.00	13.50	319.42	4,868.17	808.42	-732.31	1,903,968.97	110,340.01	36.2255605	-107.5710925
5,072.00	12.75	318.96	4,929.53	819.25	-741.66	1,903,979.92	110,330.81	36.2255902	-107.5711242
5,104.00	12.37	318.70	4,960.76	824.49	-746.24	1,903,985.22	110,326.30	36.2256046	-107.5711397
5,135.00	11.34	328.71	4,991.10	829.59	-750.01	1,903,990.37	110,322.60	36.2256186	-107.5711525
5,167.00	10.50	346.73	5,022.53	835.11	-752.31	1,903,995.93	110,320.37	36.2256338	-107.5711603
Last SDI Surface MWD Survey									
5,198.00	11.78	7.55	5,052.96	841.00	-752.55	1,904,001.82	110,320.22	36.2256500	-107.5711611
First SDI Curve MWD Survey									
5,229.00	13.50	20.23	5,083.21	847.54	-750.88	1,904,008.33	110,321.97	36.2256679	-107.5711554
5,261.00	14.76	24.77	5,114.24	854.74	-747.88	1,904,015.50	110,325.07	36.2256877	-107.5711453
5,292.00	14.85	25.06	5,144.22	861.93	-744.54	1,904,022.64	110,328.50	36.2257074	-107.5711339
5,324.00	15.68	31.54	5,175.09	869.33	-740.54	1,904,029.98	110,332.60	36.2257278	-107.5711204
5,355.00	16.52	40.58	5,204.88	876.25	-735.48	1,904,036.83	110,337.76	36.2257468	-107.5711032
5,387.00	16.63	44.75	5,235.55	882.96	-729.30	1,904,043.45	110,344.03	36.2257652	-107.5710823
5,418.00	16.77	44.65	5,265.24	889.29	-723.04	1,904,049.70	110,350.38	36.2257826	-107.5710610
5,450.00	16.08	44.43	5,295.93	895.74	-716.69	1,904,056.06	110,356.82	36.2258003	-107.5710395
5,481.00	17.85	44.49	5,325.58	902.19	-710.35	1,904,062.43	110,363.24	36.2258180	-107.5710181
5,512.00	20.40	46.58	5,354.87	909.30	-703.10	1,904,069.44	110,370.59	36.2258375	-107.5709935
5,544.00	23.47	49.67	5,384.55	917.26	-694.19	1,904,077.27	110,379.61	36.2258594	-107.5709633
5,575.00	25.41	56.86	5,412.78	924.89	-683.91	1,904,084.77	110,389.99	36.2258804	-107.5709284
5,607.00	27.01	61.51	5,441.49	932.11	-671.77	1,904,091.82	110,402.22	36.2259002	-107.5708873
5,638.00	29.99	66.35	5,468.74	938.58	-658.48	1,904,098.11	110,415.60	36.2259180	-107.5708422
5,669.00	33.22	66.46	5,495.13	945.08	-643.60	1,904,104.41	110,430.57	36.2259358	-107.5707918
5,701.00	35.44	69.43	5,521.56	951.84	-626.87	1,904,110.94	110,447.39	36.2259544	-107.5707351
5,732.00	36.93	70.21	5,546.58	958.15	-609.69	1,904,117.02	110,464.65	36.2259717	-107.5706768
5,764.00	40.27	71.36	5,571.59	964.72	-590.84	1,904,123.32	110,483.59	36.2259898	-107.5706129
5,795.00	43.06	74.92	5,594.74	970.67	-571.12	1,904,129.01	110,503.39	36.2260061	-107.5705461
5,827.00	47.13	76.99	5,617.33	976.16	-549.14	1,904,134.20	110,525.44	36.2260212	-107.5704716
5,858.00	51.28	78.53	5,637.58	981.12	-526.21	1,904,138.85	110,548.44	36.2260348	-107.5703938
5,890.00	56.54	79.54	5,656.42	986.03	-500.83	1,904,143.41	110,573.88	36.2260483	-107.5703078
5,921.00	60.73	80.27	5,672.56	990.67	-474.77	1,904,147.69	110,600.00	36.2260611	-107.5702195
5,952.00	63.49	79.71	5,687.06	995.43	-447.80	1,904,152.09	110,627.04	36.2260741	-107.5701280
5,984.00	64.45	80.05	5,701.10	1,000.48	-419.49	1,904,156.75	110,655.41	36.2260880	-107.5700321
6,015.00	67.01	80.68	5,713.84	1,005.21	-391.63	1,904,161.10	110,683.33	36.2261010	-107.5699376

Company:	WPX Energy Rocky Mountain, LLC	Local Co-ordinate Reference:	Well NE Chaco Com #166H
Project:	Rio Arriba County, NM NAD27	TVD Reference:	GL 7295' @ 7295.00ft
Site:	Chaco 2307-15M	MD Reference:	GL 7295' @ 7295.00ft
Well:	NE Chaco Com #166H	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
6,047.00	69.08	82.14	5,725.80	1,009.64	-362.29	1,904,165.13	110,712.73	36.2261132	-107.5698382
6,078.00	70.87	82.96	5,736.42	1,013.41	-333.41	1,904,168.52	110,741.66	36.2261235	-107.5697403
6,109.00	72.24	83.63	5,746.23	1,016.85	-304.20	1,904,171.55	110,770.91	36.2261330	-107.5696413
6,141.00	73.25	85.95	5,755.72	1,019.62	-273.77	1,904,173.91	110,801.38	36.2261406	-107.5695381
6,172.00	73.74	88.72	5,764.53	1,021.00	-244.08	1,904,174.89	110,831.08	36.2261444	-107.5694375
6,204.00	74.04	92.28	5,773.41	1,020.73	-213.35	1,904,174.20	110,861.81	36.2261436	-107.5693333
6,235.00	73.87	95.48	5,781.98	1,018.72	-183.63	1,904,171.78	110,891.50	36.2261381	-107.5692325
6,266.00	76.15	97.47	5,790.00	1,015.34	-153.88	1,904,168.00	110,921.20	36.2261288	-107.5691317
6,298.00	78.52	98.87	5,797.02	1,010.90	-122.98	1,904,163.14	110,952.04	36.2261166	-107.5690269
6,329.00	81.90	100.42	5,802.29	1,005.78	-92.86	1,904,157.61	110,982.08	36.2261026	-107.5689248
6,350.00	83.87	101.22	5,804.89	1,001.87	-72.40	1,904,153.42	111,002.49	36.2260918	-107.5688555
Last SDI Curve MWD Survey									
6,398.00	86.28	104.40	5,809.01	991.27	-25.78	1,904,142.18	111,048.96	36.2260627	-107.5686974
7" Casing @ 6398' MD									
6,415.00	87.14	105.52	5,809.98	986.88	-9.38	1,904,137.58	111,065.30	36.2260507	-107.5686418
First SDI Lateral MWD Survey									
6,446.00	87.21	103.81	5,811.51	979.05	20.57	1,904,129.34	111,095.14	36.2260291	-107.5685403
6,507.00	88.76	101.63	5,813.66	965.62	80.03	1,904,115.11	111,154.41	36.2259923	-107.5683387
6,568.00	89.96	100.63	5,814.34	953.85	139.88	1,904,102.52	111,214.10	36.2259599	-107.5681359
6,630.00	90.13	101.14	5,814.29	942.14	200.77	1,904,089.98	111,274.81	36.2259278	-107.5679295
6,691.00	90.50	100.79	5,813.95	930.54	260.65	1,904,077.57	111,334.54	36.2258959	-107.5677265
6,752.00	90.71	100.72	5,813.31	919.16	320.58	1,904,065.37	111,394.30	36.2258646	-107.5675233
6,814.00	90.47	100.94	5,812.67	907.51	381.47	1,904,052.90	111,455.03	36.2258326	-107.5673169
6,875.00	90.37	101.24	5,812.22	895.78	441.33	1,904,040.35	111,514.72	36.2258004	-107.5671140
6,936.00	90.67	100.45	5,811.67	884.30	501.23	1,904,028.06	111,574.47	36.2257689	-107.5669109
6,998.00	91.14	100.50	5,810.69	873.03	562.19	1,904,015.96	111,635.27	36.2257379	-107.5667043
7,059.00	90.24	100.57	5,809.96	861.88	622.16	1,904,003.99	111,695.08	36.2257073	-107.5665010
7,120.00	89.83	100.72	5,809.92	850.61	682.11	1,903,991.91	111,754.87	36.2256763	-107.5662978
7,182.00	90.27	101.23	5,809.86	838.80	742.98	1,903,979.28	111,815.57	36.2256439	-107.5660914
7,243.00	89.43	99.86	5,810.02	827.64	802.94	1,903,967.30	111,875.38	36.2256132	-107.5658882
7,304.00	88.55	97.55	5,811.10	818.41	863.23	1,903,957.25	111,935.53	36.2255879	-107.5656838
7,367.00	89.63	96.89	5,812.10	810.49	925.72	1,903,948.49	111,997.91	36.2255661	-107.5654720
7,430.00	90.13	96.24	5,812.23	803.29	988.30	1,903,940.43	112,060.39	36.2255464	-107.5652598
7,493.00	90.74	96.03	5,811.75	796.56	1,050.94	1,903,932.85	112,122.93	36.2255279	-107.5650475
7,556.00	91.51	96.98	5,810.52	789.42	1,113.52	1,903,924.86	112,185.41	36.2255082	-107.5648353
7,619.00	90.57	97.80	5,809.37	781.32	1,175.99	1,903,915.91	112,247.76	36.2254860	-107.5646236
7,682.00	89.49	98.26	5,809.34	772.52	1,238.37	1,903,906.27	112,310.01	36.2254618	-107.5644121
7,745.00	89.09	98.30	5,810.12	763.45	1,300.71	1,903,896.35	112,372.22	36.2254369	-107.5642008
7,807.00	89.83	98.54	5,810.71	754.37	1,362.04	1,903,886.44	112,433.42	36.2254119	-107.5639929
7,870.00	91.08	98.21	5,810.21	745.20	1,424.36	1,903,876.41	112,495.62	36.2253867	-107.5637816
7,933.00	90.88	99.50	5,809.13	735.50	1,486.60	1,903,865.87	112,557.72	36.2253601	-107.5635707
7,996.00	89.70	100.52	5,808.81	724.55	1,548.64	1,903,854.08	112,619.60	36.2253300	-107.5633604
8,059.00	88.72	99.24	5,809.68	713.74	1,610.70	1,903,842.43	112,681.50	36.2253003	-107.5631500
8,122.00	90.54	100.76	5,810.08	702.80	1,672.73	1,903,830.64	112,743.39	36.2252702	-107.5629397
8,185.00	90.54	100.30	5,809.49	691.29	1,734.67	1,903,818.29	112,805.16	36.2252386	-107.5627298
8,247.00	91.75	101.90	5,808.25	679.36	1,795.49	1,903,805.53	112,865.82	36.2252058	-107.5625236
8,310.00	90.27	101.61	5,807.14	666.52	1,857.16	1,903,791.86	112,927.30	36.2251706	-107.5623145
8,373.00	90.30	101.48	5,806.83	653.92	1,918.89	1,903,778.41	112,988.85	36.2251359	-107.5621053
8,436.00	90.34	101.04	5,806.48	641.61	1,980.67	1,903,765.27	113,050.47	36.2251021	-107.5618959
8,499.00	90.84	100.85	5,805.83	629.65	2,042.52	1,903,752.47	113,112.15	36.2250693	-107.5616862
8,562.00	90.61	100.70	5,805.03	617.88	2,104.41	1,903,739.85	113,173.87	36.2250369	-107.5614764
8,624.00	90.50	100.74	5,804.43	606.34	2,165.32	1,903,727.50	113,234.62	36.2250052	-107.5612699
8,687.00	90.40	100.51	5,803.93	594.73	2,227.24	1,903,715.04	113,296.37	36.2249733	-107.5610600
8,750.00	90.04	100.10	5,803.69	583.46	2,289.22	1,903,702.93	113,358.20	36.2249423	-107.5608499
8,813.00	90.57	102.06	5,803.36	571.35	2,351.04	1,903,689.98	113,419.85	36.2249091	-107.5606404

Company: WPX Energy Rocky Mountain, LLC
Project: Rio Arriba County, NM NAD27
Site: Chaco 2307-15M
Well: NE Chaco Com #166H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NE Chaco Com #166H
TVD Reference: GL 7295' @ 7295.00ft
MD Reference: GL 7295' @ 7295.00ft
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
8,876.00	90.34	101.79	5,802.86	558.33	2,412.68	1,903,676.13	113,481.30	36.2248733	-107.5604314
8,939.00	90.27	102.06	5,802.52	545.32	2,474.32	1,903,662.27	113,542.76	36.2248375	-107.5602225
9,002.00	89.90	100.96	5,802.43	532.75	2,536.05	1,903,648.86	113,604.31	36.2248030	-107.5600132
9,065.00	90.13	100.10	5,802.41	521.23	2,597.99	1,903,636.51	113,666.09	36.2247713	-107.5598033
9,128.00	90.44	100.45	5,802.10	510.00	2,659.98	1,903,624.43	113,727.92	36.2247405	-107.5595931
9,190.00	90.91	101.68	5,801.37	498.10	2,720.82	1,903,611.70	113,788.59	36.2247078	-107.5593869
9,253.00	90.81	103.57	5,800.42	484.33	2,782.29	1,903,597.10	113,849.87	36.2246699	-107.5591785
9,316.00	90.91	103.39	5,799.48	469.65	2,843.55	1,903,581.59	113,910.92	36.2246296	-107.5589709
9,379.00	90.27	103.17	5,798.83	455.18	2,904.86	1,903,566.28	113,972.03	36.2245898	-107.5587631
9,442.00	90.30	103.36	5,798.51	440.72	2,966.18	1,903,550.99	114,033.15	36.2245501	-107.5585552
9,504.00	90.92	102.74	5,797.85	426.72	3,026.57	1,903,536.17	114,093.34	36.2245116	-107.5583505
9,567.00	90.64	101.84	5,797.00	413.31	3,088.12	1,903,521.93	114,154.71	36.2244748	-107.5581418
9,630.00	89.97	100.83	5,796.66	400.93	3,149.89	1,903,508.71	114,216.30	36.2244407	-107.5579325
9,693.00	90.00	101.46	5,796.68	388.75	3,211.70	1,903,495.69	114,277.94	36.2244073	-107.5577229
9,756.00	90.30	100.89	5,796.51	376.54	3,273.51	1,903,482.64	114,339.57	36.2243737	-107.5575134
9,819.00	90.94	100.84	5,795.83	364.67	3,335.37	1,903,469.93	114,401.27	36.2243411	-107.5573037
9,881.00	90.34	101.01	5,795.14	352.92	3,396.25	1,903,457.35	114,461.98	36.2243088	-107.5570974
9,944.00	90.00	100.70	5,794.95	341.05	3,458.12	1,903,444.65	114,523.68	36.2242762	-107.5568876
10,007.00	90.57	100.10	5,794.64	329.68	3,520.08	1,903,432.43	114,585.49	36.2242449	-107.5566776
10,133.00	89.87	99.31	5,794.15	308.44	3,644.28	1,903,409.51	114,709.38	36.2241865	-107.5562566
10,196.00	89.80	99.48	5,794.34	298.16	3,706.43	1,903,398.38	114,771.39	36.2241583	-107.5560459
10,259.00	90.54	99.55	5,794.15	287.74	3,768.56	1,903,387.12	114,833.38	36.2241296	-107.5558353
10,322.00	90.77	99.20	5,793.43	277.48	3,830.72	1,903,376.01	114,895.38	36.2241014	-107.5556246
10,384.00	91.41	99.41	5,792.25	267.46	3,891.89	1,903,365.16	114,956.41	36.2240739	-107.5554173
10,447.00	90.74	99.65	5,791.07	257.03	3,954.01	1,903,353.89	115,018.39	36.2240452	-107.5552067
10,510.00	90.40	99.14	5,790.44	246.75	4,016.16	1,903,342.76	115,080.39	36.2240169	-107.5549960
10,573.00	90.31	99.14	5,790.05	236.74	4,078.36	1,903,331.91	115,142.45	36.2239894	-107.5547852
10,636.00	90.77	99.83	5,789.46	226.36	4,140.50	1,903,320.68	115,204.44	36.2239609	-107.5545746
10,699.00	90.66	99.49	5,788.67	215.79	4,202.60	1,903,309.27	115,266.39	36.2239318	-107.5543640
10,762.00	90.91	99.92	5,787.81	205.17	4,264.69	1,903,297.80	115,328.33	36.2239026	-107.5541536
10,824.00	91.14	100.18	5,786.70	194.35	4,325.73	1,903,286.16	115,389.22	36.2238729	-107.5539467
10,887.00	89.52	99.75	5,786.34	183.45	4,387.78	1,903,274.41	115,451.11	36.2238429	-107.5537363
10,950.00	89.56	99.34	5,786.84	173.00	4,449.90	1,903,263.12	115,513.09	36.2238142	-107.5535258
11,013.00	92.35	100.13	5,785.79	162.35	4,511.98	1,903,251.63	115,575.01	36.2237849	-107.5533153
11,076.00	92.36	100.86	5,783.20	150.89	4,573.87	1,903,239.32	115,636.75	36.2237534	-107.5531055
11,102.00	92.04	101.01	5,782.21	145.96	4,599.38	1,903,234.05	115,662.19	36.2237399	-107.5530191
RSI @ 11,102' MD									
11,139.00	91.58	101.23	5,781.04	138.83	4,635.67	1,903,226.42	115,698.37	36.2237202	-107.5528961
11,153.00	91.65	101.15	5,780.64	136.11	4,649.40	1,903,223.52	115,712.06	36.2237128	-107.5528495
Last SDI Lateral MWD Survey									
11,217.00	91.65	101.15	5,778.80	123.74	4,712.16	1,903,210.29	115,774.65	36.2236788	-107.5526368
Projection to TD									



Survey Report - Geographic



Company: WPX Energy Rocky Mountain, LLC
Project: Rio Arriba County, NM NAD27
Site: Chaco 2307-15M
Well: NE Chaco Com #166H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NE Chaco Com #166H
TVD Reference: GL 7295' @ 7295.00ft
MD Reference: GL 7295' @ 7295.00ft
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)	
50.00	50.00	0.00	-0.20	First MS Energy Gyro Survey
347.00	346.99	-0.67	-2.69	Last MS Energy Gyro Survey
465.00	464.99	-0.88	-2.84	First SDI Surface MWD Survey
5,167.00	5,022.53	835.11	-752.31	Last SDI Surface MWD Survey
5,198.00	5,052.96	841.00	-752.55	First SDI Curve MWD Survey
6,350.00	5,804.89	1,001.87	-72.40	Last SDI Curve MWD Survey
6,398.00	5,809.01	991.27	-25.78	7" Casing @ 6398' MD
6,415.00	5,809.98	986.88	-9.38	First SDI Lateral MWD Survey
11,102.00	5,782.21	145.96	4,599.38	RSI @ 11,102' MD
11,153.00	5,780.64	136.11	4,649.40	Last SDI Lateral MWD Survey
11,217.00	5,778.80	123.74	4,712.16	Projection to TD

Checked By: _____ Approved By: _____ Date: _____