

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

CONFIDENTIAL

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35563		*Pool Code 97232	*Pool Name BASIN MANCOS
*Property Code 313863	*Property Name CHACO 2308-11A		*Well Number 408H
*GRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC		*Elevation 7011'

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
A	11	23N	8W		386	NORTH	1062	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
H	12	23N	8W		2479	NORTH	241	EAST	SAN JUAN

¹² Dedicated Acres 160.00	S/2 N/2 - Section 12	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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

SURFACE LOCATION
386' FNL 1062' FEL
SECTION 11, T23N, R8W
LAT: 36.247807°N
LONG: 107.645140°W
DATUM: NAD1927

POINT-OF-ENTRY
1625' FNL 372' FWL
SECTION 12, T23N, R8W
LAT: 36.244413°N
LONG: 107.640256°W
DATUM: NAD1927

BASE-OF-PERFORATION
2463' FNL 338' FEL
SECTION 12, T23N, R8W
LAT: 36.242186°N
LONG: 107.624784°W
DATUM: NAD1927

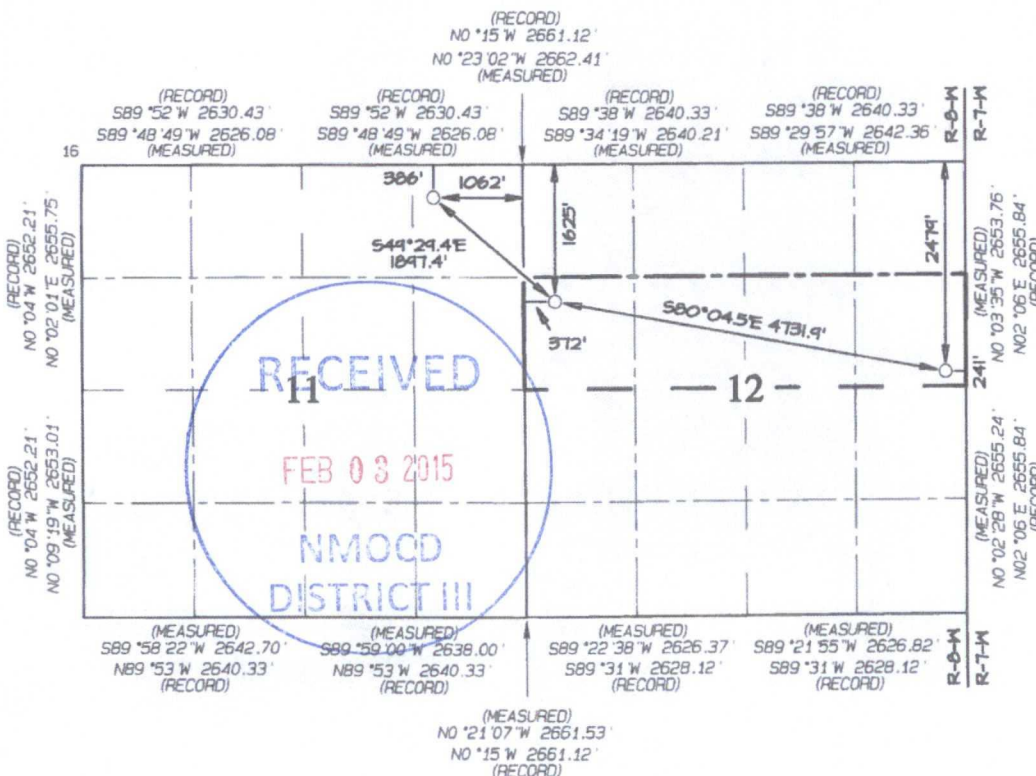
END-OF-LATERAL
2479' FNL 241' FEL
SECTION 12, T23N, R8W
LAT: 36.242146°N
LONG: 107.624456°W
DATUM: NAD1927

LAT: 36.247820°N
LONG: 107.645750°W
DATUM: NAD1983

LAT: 36.244426°N
LONG: 107.640866°W
DATUM: NAD1983

LAT: 36.242199°N
LONG: 107.625394°W
DATUM: NAD1983

LAT: 36.242159°N
LONG: 107.625065°W
DATUM: NAD1983



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 *2/3/15*

Printed Name Marie E. Jaramillo

marie.jaramillo@wpxenergy.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: JANUARY 27, 2015
Survey Date: SEPTEMBER 4, 2014

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269



Project: San Juan Co., NM
Site: Sec.11-T23N-R8W
Well: Chaco 2308-11A 408H
Wellbore: Wellbore #1
Design: Wellbore #1



WELL DETAILS: Chaco 2308-11A 408H

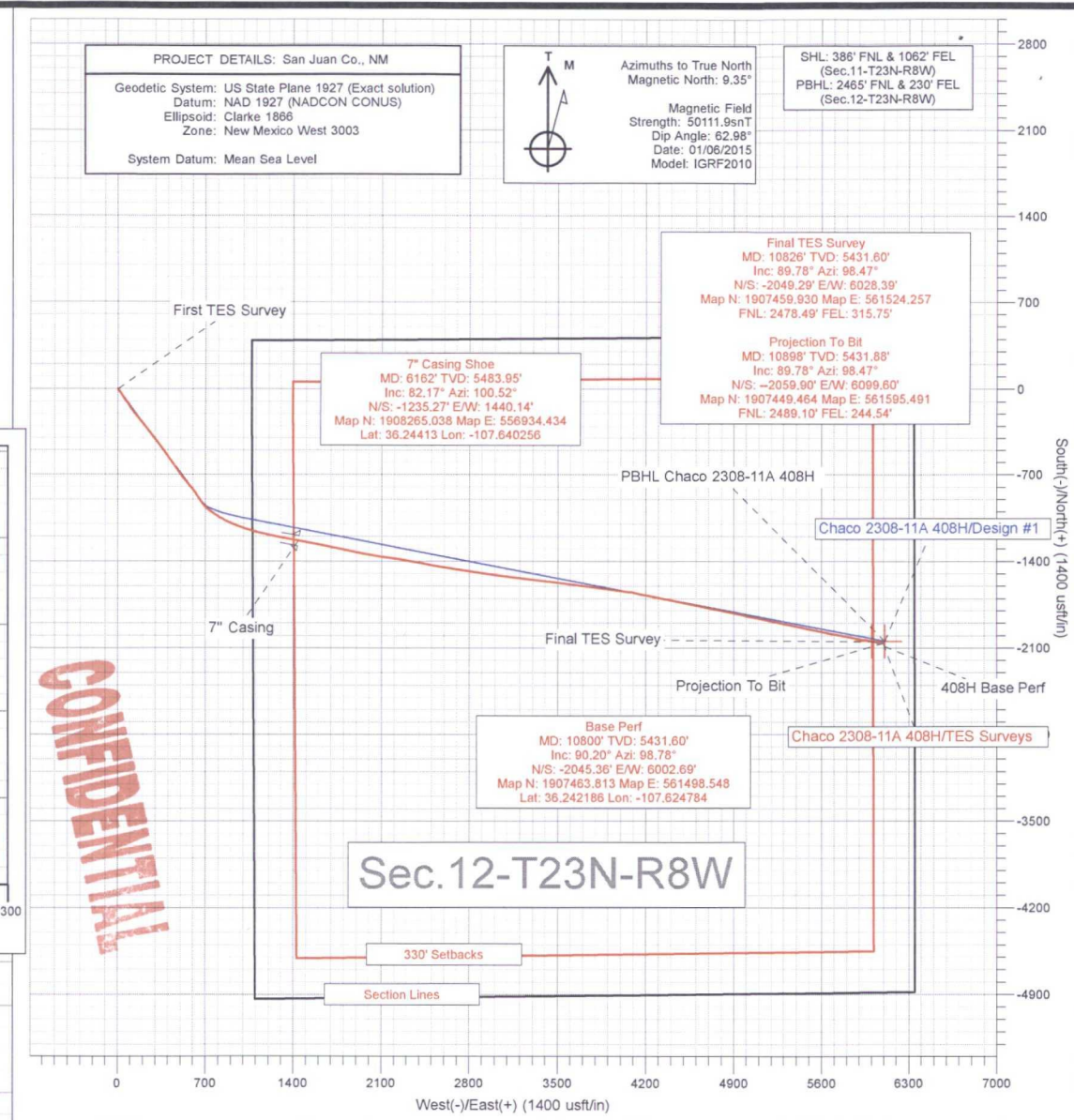
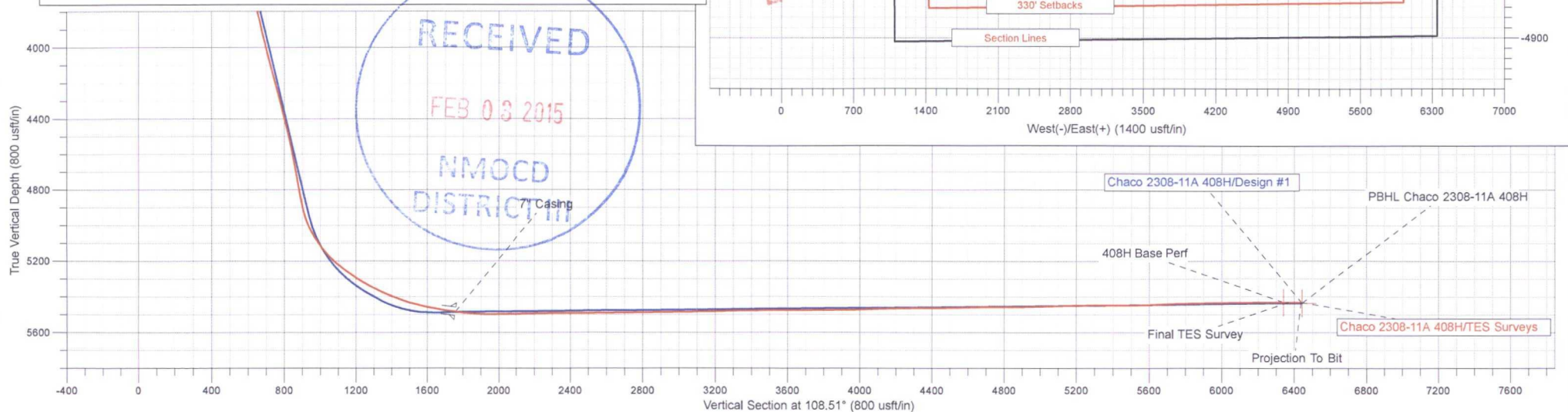
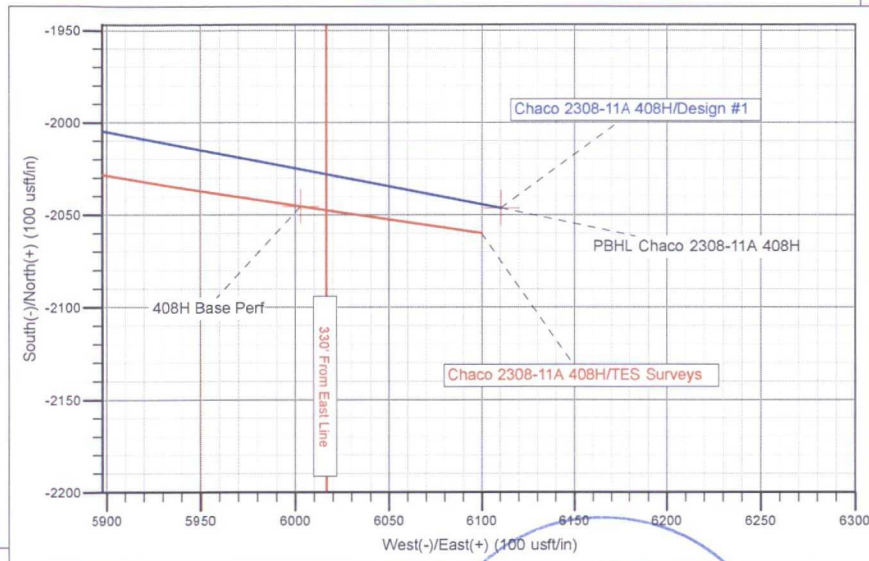
	Ground Level:					
	7011.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1909497.509239	555491.897778	36.247807	-107.645140	

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
408H Base Perf	5431.60	-2045.36	6002.69	36.242186	-107.624784	Point
PBHL Chaco 2308-11A 408H	5435.27	-2046.20	6110.39	36.242184	-107.624419	Point

Survey: TES Surveys (Chaco 2308-11A 408H/Wellbore #1)

Created By: M. Ramich Date: 13:39, January 21 2015





WPX Energy Production, LLC

San Juan Co., NM

Sec.11-T23N-R8W

Chaco 2308-11A 408H

Wellbore #1

Survey: TES Surveys

Standard Survey Report

21 January, 2015





Terrapin Energy Services

Survey Report



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well Chaco 2308-11A 408H
Project:	San Juan Co., NM	TVD Reference:	Elev @ 7025.00usft
Site:	Sec.11-T23N-R8W	MD Reference:	Elev @ 7025.00usft
Well:	Chaco 2308-11A 408H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	San Juan Co., NM		
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	Sec.11-T23N-R8W		
Site Position:		Northing:	1,909,548.863892 usft
From:	Lat/Long	Easting:	555,506.541408 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	36.247948
		Longitude:	-107.645090
		Grid Convergence:	0.11 °

Well	Chaco 2308-11A 408H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	36.247807
		Longitude:	-107.645140
		Ground Level:	7,011.00 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	01/06/15	9.35
			Dip Angle (°)
			62.98
			Field Strength (nT)
			50,112

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°)
			108.51

Survey Program	Date 01/21/15		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
64.00	359.00	Surface Gyro (Wellbore #1)	GYRO
478.00	10,898.00	TES Surveys (Wellbore #1)	MWD
			Description
			Gyro-compassing and drop
			MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
359.00	0.23	144.62	358.99	-1.36	1.75	2.09	0.00	0.00	0.00
478.00	0.12	294.34	477.99	-1.50	1.77	2.16	0.28	-0.09	125.82
First TES Survey									
539.00	0.18	211.58	538.99	-1.56	1.67	2.07	0.33	0.10	-135.67
601.00	1.32	155.08	600.99	-2.29	1.92	2.54	1.98	1.84	-91.13
662.00	3.23	154.78	661.93	-4.48	2.94	4.21	3.13	3.13	-0.49
723.00	4.93	147.52	722.78	-8.25	5.08	7.44	2.91	2.79	-11.90
784.00	6.38	145.01	783.48	-13.23	8.44	12.20	2.41	2.38	-4.11
846.00	7.55	143.40	845.02	-19.33	12.84	18.31	1.91	1.89	-2.60
907.00	9.30	143.32	905.36	-26.50	18.17	25.65	2.87	2.87	-0.13



Terrapin Energy Services
Survey Report



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well Chaco 2308-11A 408H
Project:	San Juan Co., NM	TVD Reference:	Elev @ 7025.00usft
Site:	Sec.11-T23N-R8W	MD Reference:	Elev @ 7025.00usft
Well:	Chaco 2308-11A 408H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
968.00	10.24	144.17	965.48	-34.85	24.29	34.10	1.56	1.54	1.39
1,028.00	10.94	148.38	1,024.45	-44.02	30.40	42.80	1.74	1.17	7.02
1,088.00	11.19	147.73	1,083.34	-53.79	36.49	51.68	0.47	0.42	-1.08
1,148.00	12.28	147.52	1,142.08	-64.10	43.03	61.15	1.82	1.82	-0.35
1,209.00	13.31	146.92	1,201.57	-75.45	50.34	71.70	1.70	1.69	-0.98
1,270.00	13.65	143.93	1,260.89	-87.15	58.41	83.07	1.27	0.56	-4.90
1,331.00	14.29	143.61	1,320.08	-99.03	67.12	95.09	1.06	1.05	-0.52
1,391.00	15.41	147.21	1,378.08	-111.69	75.83	107.37	2.42	1.87	6.00
1,452.00	15.17	146.26	1,436.92	-125.14	84.65	120.01	0.57	-0.39	-1.56
1,512.00	14.69	146.89	1,494.90	-138.05	93.17	132.18	0.84	-0.80	1.05
1,573.00	14.23	146.05	1,553.96	-150.74	101.58	144.19	0.83	-0.75	-1.38
1,634.00	14.56	143.05	1,613.05	-163.09	110.38	156.45	1.34	0.54	-4.92
1,695.00	13.87	142.47	1,672.18	-175.02	119.44	168.83	1.15	-1.13	-0.95
1,756.00	14.30	141.50	1,731.35	-186.71	128.58	181.22	0.80	0.70	-1.59
1,817.00	15.35	142.32	1,790.31	-199.00	138.21	194.24	1.76	1.72	1.34
1,878.00	14.75	142.64	1,849.22	-211.56	147.85	207.38	0.99	-0.98	0.52
1,941.00	15.89	143.12	1,909.98	-224.83	157.90	221.12	1.82	1.81	0.76
2,005.00	16.43	141.98	1,971.45	-238.97	168.73	235.88	0.98	0.84	-1.78
2,068.00	16.71	141.31	2,031.84	-253.06	179.88	250.93	0.54	0.44	-1.06
2,133.00	15.84	139.44	2,094.23	-267.09	191.49	266.39	1.56	-1.34	-2.88
2,197.00	15.68	139.31	2,155.83	-280.29	202.81	281.31	0.26	-0.25	-0.20
2,261.00	14.49	140.08	2,217.62	-292.99	213.59	295.57	1.89	-1.86	1.20
2,324.00	15.71	142.48	2,278.44	-305.80	223.84	309.36	2.18	1.94	3.81
2,387.00	16.70	142.79	2,338.94	-319.77	234.51	323.91	1.58	1.57	0.49
2,451.00	17.26	144.18	2,400.15	-334.79	245.62	339.22	1.08	0.88	2.17
2,515.00	16.40	143.43	2,461.41	-349.75	256.56	354.35	1.39	-1.34	-1.17
2,578.00	16.63	145.34	2,521.81	-364.31	266.99	368.85	0.94	0.37	3.03
2,642.00	16.12	144.75	2,583.21	-379.09	277.33	383.35	0.84	-0.80	-0.92
2,706.00	15.58	143.92	2,644.78	-393.30	287.52	397.52	0.92	-0.84	-1.30
2,769.00	16.50	144.45	2,705.33	-407.41	297.70	411.66	1.48	1.46	0.84
2,832.00	16.30	144.58	2,765.76	-421.90	308.03	426.05	0.32	-0.32	0.21
2,895.00	16.05	144.27	2,826.27	-436.17	318.24	440.27	0.42	-0.40	-0.49
2,958.00	15.89	143.19	2,886.84	-450.15	328.49	454.43	0.54	-0.25	-1.71
3,022.00	15.48	143.37	2,948.46	-464.02	338.83	468.64	0.65	-0.64	0.28
3,086.00	14.23	144.48	3,010.32	-477.27	348.50	482.02	2.00	-1.95	1.73
3,150.00	14.57	143.40	3,072.31	-490.14	357.87	494.99	0.68	0.53	-1.69
3,214.00	14.83	144.33	3,134.21	-503.25	367.45	508.23	0.55	0.41	1.45
3,277.00	14.45	144.12	3,195.16	-516.17	376.75	521.16	0.61	-0.60	-0.33
3,341.00	13.72	142.52	3,257.24	-528.67	386.05	533.95	1.29	-1.14	-2.50
3,404.00	15.23	145.00	3,318.24	-541.37	395.35	546.79	2.59	2.40	3.94
3,468.00	16.33	144.71	3,379.83	-555.60	405.37	560.81	1.72	1.72	-0.45
3,531.00	14.95	144.33	3,440.49	-569.44	415.22	574.55	2.20	-2.19	-0.60
3,593.00	14.36	143.01	3,500.48	-582.07	424.51	587.37	1.09	-0.95	-2.13



Terrapin Energy Services
Survey Report



Company: WPX Energy Production, LLC
Project: San Juan Co., NM
Site: Sec.11-T23N-R8W
Well: Chaco 2308-11A 408H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Chaco 2308-11A 408H
TVD Reference: Elev @ 7025.00usft
MD Reference: Elev @ 7025.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,656.00	15.06	145.67	3,561.41	-595.07	433.83	600.33	1.54	1.11	4.22
3,719.00	15.19	148.22	3,622.23	-608.85	442.79	613.21	1.08	0.21	4.05
3,783.00	16.02	147.35	3,683.87	-623.41	451.97	626.54	1.35	1.30	-1.36
3,846.00	15.65	146.56	3,744.48	-637.82	461.34	640.00	0.68	-0.59	-1.25
3,909.00	16.73	145.47	3,804.98	-652.38	471.17	653.94	1.78	1.71	-1.73
3,972.00	16.24	147.10	3,865.39	-667.25	481.09	668.07	1.07	-0.78	2.59
4,035.00	15.19	146.65	3,926.03	-681.54	490.41	681.45	1.68	-1.67	-0.71
4,099.00	16.82	145.14	3,987.55	-696.15	500.32	695.48	2.63	2.55	-2.36
4,163.00	18.04	145.86	4,048.61	-711.95	511.17	710.79	1.94	1.91	1.13
4,226.00	18.74	143.68	4,108.39	-728.17	522.64	726.82	1.56	1.11	-3.46
4,289.00	16.70	142.78	4,168.40	-743.54	534.11	742.57	3.27	-3.24	-1.43
4,353.00	16.79	140.81	4,229.69	-758.03	545.51	757.99	0.90	0.14	-3.08
4,416.00	18.21	139.42	4,289.77	-772.55	557.67	774.12	2.35	2.25	-2.21
4,479.00	16.85	139.60	4,349.85	-786.99	569.99	790.39	2.16	-2.16	0.29
4,542.00	14.69	138.93	4,410.47	-799.96	581.16	805.10	3.44	-3.43	-1.06
4,606.00	15.18	142.01	4,472.31	-812.68	591.65	819.09	1.46	0.77	4.81
4,669.00	15.20	144.05	4,533.11	-825.87	601.57	832.69	0.85	0.03	3.24
4,732.00	13.25	144.62	4,594.17	-838.44	610.60	845.24	3.10	-3.10	0.90
4,795.00	13.25	144.87	4,655.50	-850.24	618.94	856.89	0.09	0.00	0.40
4,858.00	13.08	145.54	4,716.84	-862.02	627.12	868.39	0.36	-0.27	1.06
4,922.00	12.82	147.25	4,779.21	-873.96	635.06	879.71	0.72	-0.41	2.67
5,015.00	13.54	148.78	4,869.76	-891.95	646.29	896.07	0.86	0.77	1.65
5,078.00	19.47	147.73	4,930.14	-907.15	655.73	909.84	9.42	9.41	-1.67
5,141.00	26.26	145.40	4,988.16	-927.52	669.26	929.15	10.87	10.78	-3.70
5,204.00	32.92	138.18	5,042.93	-951.79	688.62	955.21	11.97	10.57	-11.46
5,268.00	36.38	131.29	5,095.59	-977.29	714.49	987.84	8.16	5.41	-10.77
5,332.00	41.17	125.92	5,145.48	-1,002.19	745.84	1,025.48	9.14	7.48	-8.39
5,395.00	47.48	123.88	5,190.53	-1,027.33	781.95	1,067.70	10.27	10.02	-3.24
5,459.00	52.99	121.29	5,231.46	-1,053.77	823.40	1,115.40	9.15	8.61	-4.05
5,522.00	54.75	118.75	5,268.61	-1,079.21	867.46	1,165.26	4.29	2.79	-4.03
5,585.00	56.87	111.56	5,304.04	-1,101.30	914.59	1,216.97	10.02	3.37	-11.41
5,648.00	62.25	108.89	5,335.95	-1,120.04	965.55	1,271.23	9.29	8.54	-4.24
5,712.00	64.26	109.05	5,364.75	-1,138.62	1,019.59	1,328.38	3.15	3.14	0.25
5,775.00	68.03	106.34	5,390.23	-1,156.10	1,074.47	1,385.97	7.16	5.98	-4.30
5,838.00	69.84	105.02	5,412.87	-1,171.99	1,131.07	1,444.69	3.48	2.87	-2.10
5,901.00	73.11	101.22	5,432.89	-1,185.52	1,189.23	1,504.14	7.72	5.19	-6.03
5,964.00	78.34	101.40	5,448.42	-1,197.49	1,249.08	1,564.69	8.31	8.30	0.29
6,028.00	79.35	101.59	5,460.80	-1,210.01	1,310.61	1,627.01	1.60	1.58	0.30
6,091.00	79.65	100.97	5,472.28	-1,222.12	1,371.36	1,688.46	1.08	0.48	-0.98
6,110.00	79.58	101.00	5,475.71	-1,225.69	1,389.71	1,706.99	0.40	-0.37	0.16
6,162.00	82.17	100.52	5,483.95	-1,235.27	1,440.14	1,757.85	5.07	4.99	-0.92
7" Casing									
6,214.00	84.77	100.05	5,489.86	-1,244.49	1,490.97	1,808.98	5.07	4.99	-0.91
6,275.00	85.64	100.23	5,494.96	-1,255.20	1,550.80	1,869.12	1.46	1.43	0.30



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well Chaco 2308-11A 408H
Project:	San Juan Co., NM	TVD Reference:	Elev @ 7025.00usft
Site:	Sec.11-T23N-R8W	MD Reference:	Elev @ 7025.00usft
Well:	Chaco 2308-11A 408H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,336.00	89.03	101.99	5,497.80	-1,266.94	1,610.59	1,929.53	6.26	5.56	2.89
6,398.00	90.92	102.34	5,497.82	-1,280.00	1,671.19	1,991.15	3.10	3.05	0.56
6,460.00	91.23	102.16	5,496.66	-1,293.15	1,731.77	2,052.77	0.58	0.50	-0.29
6,521.00	91.32	101.81	5,495.30	-1,305.82	1,791.42	2,113.36	0.59	0.15	-0.57
6,582.00	90.75	101.81	5,494.20	-1,318.30	1,851.12	2,173.93	0.93	-0.93	0.00
6,643.00	91.67	101.72	5,492.91	-1,330.73	1,910.83	2,234.49	1.52	1.51	-0.15
6,704.00	90.92	100.93	5,491.54	-1,342.71	1,970.62	2,295.00	1.79	-1.23	-1.30
6,765.00	90.97	99.53	5,490.53	-1,353.54	2,030.64	2,355.35	2.30	0.08	-2.30
6,826.00	88.55	97.68	5,490.79	-1,362.67	2,090.95	2,415.43	4.99	-3.97	-3.03
6,886.00	90.79	97.94	5,491.13	-1,370.82	2,150.39	2,474.39	3.76	3.73	0.43
6,947.00	89.82	97.68	5,490.81	-1,379.11	2,210.82	2,534.32	1.65	-1.59	-0.43
7,007.00	90.79	101.02	5,490.49	-1,388.86	2,270.01	2,593.55	5.80	1.62	5.57
7,068.00	91.54	101.20	5,489.25	-1,400.61	2,329.86	2,654.03	1.26	1.23	0.30
7,130.00	90.62	100.93	5,488.08	-1,412.50	2,390.69	2,715.49	1.55	-1.48	-0.44
7,191.00	91.23	100.05	5,487.09	-1,423.61	2,450.66	2,775.88	1.76	1.00	-1.44
7,251.00	91.01	99.61	5,485.92	-1,433.85	2,509.77	2,835.18	0.82	-0.37	-0.73
7,311.00	90.44	99.88	5,485.16	-1,444.01	2,568.90	2,894.48	1.05	-0.95	0.45
7,371.00	90.09	99.35	5,484.88	-1,454.03	2,628.06	2,953.76	1.06	-0.58	-0.88
7,432.00	90.04	98.65	5,484.81	-1,463.57	2,688.31	3,013.92	1.15	-0.08	-1.15
7,493.00	92.85	99.53	5,483.28	-1,473.20	2,748.51	3,074.07	4.83	4.61	1.44
7,555.00	91.27	99.35	5,481.05	-1,483.36	2,809.63	3,135.25	2.56	-2.55	-0.29
7,615.00	90.26	98.65	5,480.25	-1,492.75	2,868.89	3,194.42	2.05	-1.68	-1.17
7,677.00	91.19	97.94	5,479.46	-1,501.69	2,930.23	3,255.43	1.89	1.50	-1.15
7,738.00	91.19	97.94	5,478.20	-1,510.12	2,990.64	3,315.38	0.00	0.00	0.00
7,799.00	90.83	97.68	5,477.12	-1,518.41	3,051.06	3,375.31	0.73	-0.59	-0.43
7,861.00	89.82	97.59	5,476.77	-1,526.64	3,112.51	3,436.19	1.64	-1.63	-0.15
7,922.00	91.14	97.68	5,476.26	-1,534.75	3,172.97	3,496.09	2.17	2.16	0.15
7,983.00	90.22	97.59	5,475.53	-1,542.85	3,233.42	3,555.99	1.52	-1.51	-0.15
8,042.00	90.09	96.45	5,475.37	-1,550.06	3,291.98	3,613.81	1.94	-0.22	-1.93
8,103.00	90.44	96.27	5,475.09	-1,556.82	3,352.60	3,673.44	0.65	0.57	-0.30
8,164.00	89.69	96.10	5,475.02	-1,563.39	3,413.24	3,733.03	1.26	-1.23	-0.28
8,225.00	91.32	97.15	5,474.48	-1,570.43	3,473.83	3,792.72	3.18	2.67	1.72
8,286.00	90.97	97.24	5,473.27	-1,578.07	3,534.34	3,852.52	0.59	-0.57	0.15
8,349.00	90.40	96.80	5,472.51	-1,585.76	3,596.86	3,914.25	1.14	-0.90	-0.70
8,412.00	91.76	97.42	5,471.33	-1,593.56	3,659.36	3,975.99	2.37	2.16	0.98
8,475.00	92.37	97.77	5,469.05	-1,601.88	3,721.77	4,037.81	1.12	0.97	0.56
8,539.00	91.98	97.77	5,466.63	-1,610.53	3,785.14	4,100.64	0.61	-0.61	0.00
8,602.00	91.41	97.50	5,464.76	-1,618.89	3,847.55	4,162.49	1.00	-0.90	-0.43
8,666.00	90.88	97.24	5,463.48	-1,627.10	3,911.01	4,225.27	0.92	-0.83	-0.41
8,729.00	90.26	97.06	5,462.86	-1,634.94	3,973.52	4,287.03	1.02	-0.98	-0.29
8,792.00	90.40	98.91	5,462.49	-1,643.69	4,035.90	4,348.96	2.94	0.22	2.94
8,855.00	91.19	101.02	5,461.62	-1,654.59	4,097.94	4,411.25	3.58	1.25	3.35
8,919.00	90.09	101.81	5,460.90	-1,667.26	4,160.67	4,474.76	2.12	-1.72	1.23

Company: WPX Energy Production, LLC
Project: San Juan Co., NM
Site: Sec.11-T23N-R8W
Well: Chaco 2308-11A 408H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Chaco 2308-11A 408H
TVD Reference: Elev @ 7025.00usft
MD Reference: Elev @ 7025.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,982.00	89.60	101.55	5,461.08	-1,680.01	4,222.37	4,537.31	0.88	-0.78	-0.41
9,046.00	92.29	101.64	5,460.02	-1,692.87	4,285.04	4,600.83	4.21	4.20	0.14
9,109.00	92.20	101.99	5,457.55	-1,705.76	4,346.66	4,663.35	0.57	-0.14	0.56
9,172.00	90.22	102.25	5,456.22	-1,718.99	4,408.24	4,725.94	3.17	-3.14	0.41
9,236.00	89.78	102.07	5,456.22	-1,732.47	4,470.81	4,789.55	0.74	-0.69	-0.28
9,298.00	90.88	101.64	5,455.86	-1,745.21	4,531.48	4,851.13	1.90	1.77	-0.69
9,361.00	90.92	102.07	5,454.88	-1,758.15	4,593.13	4,913.69	0.69	0.06	0.68
9,425.00	90.26	101.46	5,454.22	-1,771.20	4,655.78	4,977.25	1.40	-1.03	-0.95
9,488.00	92.77	102.16	5,452.55	-1,784.08	4,717.42	5,039.79	4.14	3.98	1.11
9,551.00	91.85	101.72	5,450.01	-1,797.11	4,779.01	5,102.32	1.62	-1.46	-0.70
9,615.00	91.36	101.99	5,448.22	-1,810.25	4,841.62	5,165.87	0.87	-0.77	0.42
9,679.00	90.26	101.28	5,447.31	-1,823.15	4,904.29	5,229.40	2.05	-1.72	-1.11
9,742.00	90.57	101.72	5,446.86	-1,835.71	4,966.03	5,291.92	0.85	0.49	0.70
9,804.00	90.70	102.07	5,446.17	-1,848.49	5,026.69	5,353.51	0.60	0.21	0.56
9,868.00	89.60	101.37	5,446.00	-1,861.49	5,089.36	5,417.05	2.04	-1.72	-1.09
9,931.00	90.53	101.81	5,445.93	-1,874.15	5,151.07	5,479.59	1.63	1.48	0.70
9,994.00	89.74	102.25	5,445.78	-1,887.28	5,212.69	5,542.19	1.44	-1.25	0.70
10,058.00	92.55	102.43	5,444.50	-1,900.95	5,275.19	5,605.80	4.40	4.39	0.28
10,121.00	92.20	102.51	5,441.89	-1,914.55	5,336.65	5,668.40	0.57	-0.56	0.13
10,185.00	91.67	102.34	5,439.73	-1,928.31	5,399.12	5,732.00	0.87	-0.83	-0.27
10,248.00	91.45	102.07	5,438.02	-1,941.62	5,460.67	5,794.59	0.55	-0.35	-0.43
10,311.00	91.01	101.99	5,436.67	-1,954.75	5,522.27	5,857.18	0.71	-0.70	-0.13
10,374.00	90.44	101.55	5,435.87	-1,967.60	5,583.94	5,919.73	1.14	-0.90	-0.70
10,438.00	89.74	101.28	5,435.77	-1,980.27	5,646.67	5,983.24	1.17	-1.09	-0.42
10,501.00	89.69	101.11	5,436.08	-1,992.50	5,708.47	6,045.73	0.28	-0.08	-0.27
10,563.00	91.71	100.76	5,435.32	-2,004.26	5,769.34	6,107.18	3.31	3.26	-0.56
10,626.00	91.41	100.84	5,433.61	-2,016.06	5,831.20	6,169.59	0.49	-0.48	0.13
10,690.00	90.26	100.14	5,432.68	-2,027.71	5,894.12	6,232.95	2.10	-1.80	-1.09
10,753.00	90.88	98.91	5,432.05	-2,038.13	5,956.25	6,295.17	2.19	0.98	-1.95
10,817.00	89.96	98.73	5,431.58	-2,047.95	6,019.49	6,358.26	1.46	-1.44	-0.28
10,826.00	89.78	98.47	5,431.60	-2,049.29	6,028.39	6,367.12	3.51	-2.00	-2.89
Final TES Survey									
10,898.00	89.78	98.47	5,431.88	-2,059.90	6,099.60	6,438.02	0.00	0.00	0.00
Projection To Bit									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
408H Base Perf	0.00	0.00	5,431.60	-2,045.36	6,002.69	1,907,463.8117 98	561,498.54904 8	36.242186	-107.624784
- survey hits target center - Point									



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well Chaco 2308-11A 408H
Project:	San Juan Co., NM	TVD Reference:	Elev @ 7025.00usft
Site:	Sec.11-T23N-R8W	MD Reference:	Elev @ 7025.00usft
Well:	Chaco 2308-11A 408H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
6,162.00	5,483.95	7" Casing	7	8-3/4

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
478.00	477.99	-1.50	1.77	First TES Survey
10,826.00	5,431.60	-2,049.29	6,028.39	Final TES Survey
10,898.00	5,431.88	-2,059.90	6,099.60	Projection To Bit

Checked By: _____ Approved By: _____ Date: _____