

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

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

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

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

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Drive
Santa Fe, NM 87505

☐ AMENDED REPORT

AS DRILLED

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35548		*Pool Code 97232	*Pool Name BASIN MANCOS
*Property Code 313713	*Property Name CHACO 2308-24I		*Well Number 156H
*GRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC		*Elevation 6884'

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
I	24	23N	8W		1524	SOUTH	233	EAST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

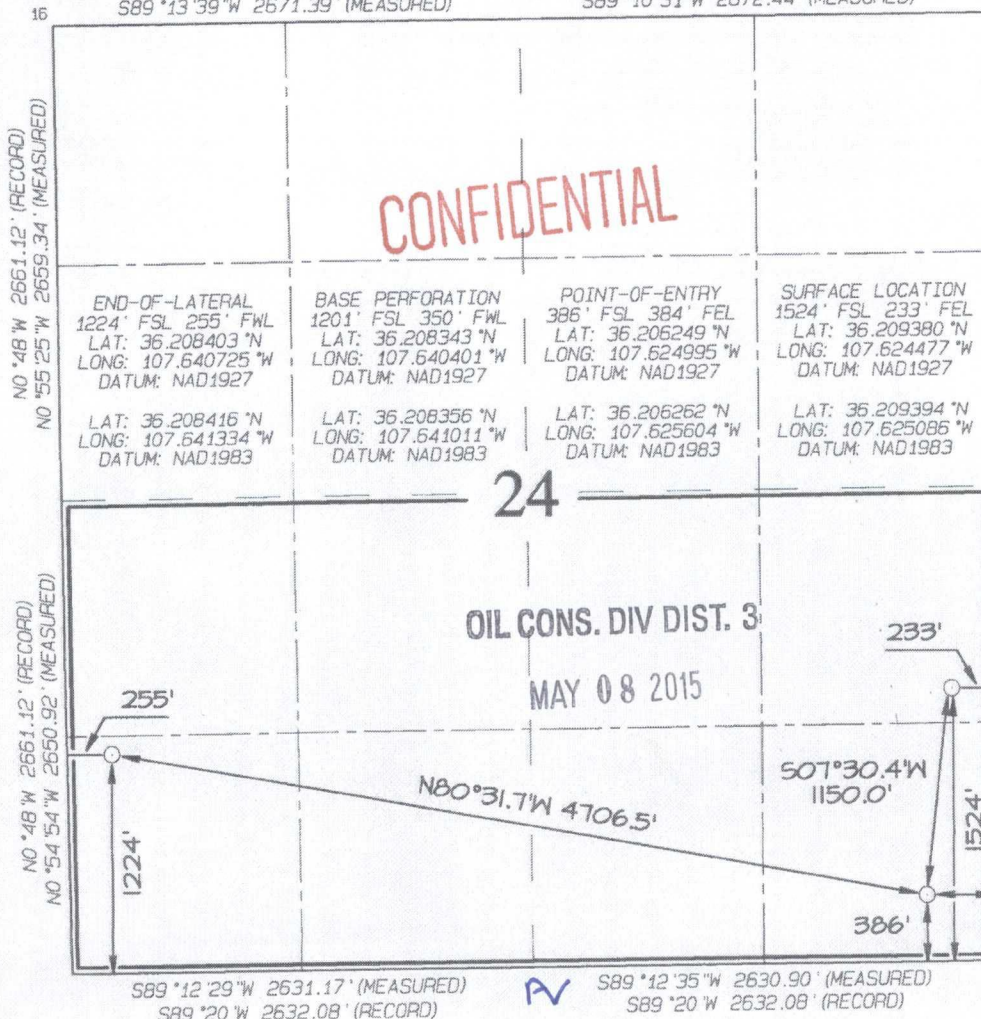
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	24	23N	8W		1224	SOUTH	255	WEST	SAN JUAN

¹² Dedicated Acres 320.0 Acres S/2 - Section 24	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. PENDING NSL APPROVAL 7283 approved 5-19-15
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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

S89°19'W 2672.67' (RECORD)
S89°13'39"W 2671.39' (MEASURED)

S89°19'W 2672.67' (RECORD)
S89°10'31"W 2672.44' (MEASURED)



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
LACEY GRANILLO

Date
5/19/15

Printed Name
LACEY.GRANILLO@WOXENERGY.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: APRIL 2, 2015
Survey Date: AUGUST 30, 2013

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR
15269

JASON C. EDWARDS
Certificate Number 15269

WPXENERGY



WPX Energy Production, LLC

San Juan Co., NM

Sec.24-T23N-R8W

Chaco 2308-24I 156H

Wellbore #1

Survey: TES Surveys

OIL CONS. DIV DIST. 3

MAY 08 2015

Standard Survey Report

01 April, 2015

CONFIDENTIAL





Terrapin Energy Services

Survey Report



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well Chaco 2308-24I 156H
Project:	San Juan Co., NM	TVD Reference:	Elev @ 6898.00usft
Site:	Sec.24-T23N-R8W	MD Reference:	Elev @ 6898.00usft
Well:	Chaco 2308-24I 156H	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.24-T23N-R8W			
Site Position:		Northing:	1,897,589.731413 usft	Latitude:	36.215060
From:	Lat/Long	Easting:	561,650.826967 usft	Longitude:	-107.624340
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.12 °

Well	Chaco 2308-24I 156H					
Well Position	+N/-S	0.00 usft	Northing:	1,895,522.052927 usft	Latitude:	36.209380
	+E/-W	0.00 usft	Easting:	561,613.980943 usft	Longitude:	-107.624480
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,884.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	03/13/15	9.32	62.94	50,076

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)	Direction (°)	
	0.00	0.00	0.00	265.50	

Survey Program	Date 04/01/15			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
64.00	359.00	Surface Gyro's (Wellbore #1)	GYRO	Gyro-compassing and drop
479.00	10,539.00	TES Surveys (Wellbore #1)	MWD	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	40.87	358.99	2.07	0.93	-1.09	0.00	0.00	0.00	
479.00	0.47	172.51	478.99	1.77	1.16	-1.29	0.54	0.20	109.70	
First TES Survey										
541.00	1.72	162.79	540.98	0.62	1.47	-1.51	2.03	2.02	-15.68	
602.00	3.09	157.97	601.92	-1.77	2.35	-2.21	2.27	2.25	-7.90	
662.00	2.99	161.70	661.84	-4.76	3.45	-3.07	0.37	-0.17	6.22	
723.00	4.42	163.97	722.71	-8.53	4.60	-3.92	2.36	2.34	3.72	
784.00	6.19	162.28	783.45	-13.92	6.25	-5.14	2.91	2.90	-2.77	
845.00	6.36	162.25	844.08	-20.27	8.28	-6.66	0.28	0.28	-0.05	
906.00	7.04	161.20	904.66	-27.03	10.52	-8.36	1.13	1.11	-1.72	



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Site:	Sec.24-T23N-R8W	MD Reference:	Elev @ 6898.00usft
Well:	Chaco 2308-24I 156H	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)
967.00	7.95	160.11	965.14	-34.53	13.16	-10.40	1.51	1.49	-1.79
1,028.00	9.14	157.66	1,025.46	-42.98	16.43	-13.01	2.04	1.95	-4.02
1,089.00	10.61	152.80	1,085.56	-52.46	20.84	-16.66	2.77	2.41	-7.97
1,149.00	11.69	151.55	1,144.43	-62.72	26.26	-21.26	1.84	1.80	-2.08
1,210.00	12.74	150.60	1,204.04	-74.01	32.51	-26.60	1.75	1.72	-1.56
1,271.00	13.64	150.35	1,263.43	-86.12	39.37	-32.49	1.48	1.48	-0.41
1,332.00	15.01	150.10	1,322.54	-99.22	46.86	-38.93	2.25	2.25	-0.41
1,392.00	16.19	147.82	1,380.33	-113.04	55.19	-46.15	2.22	1.97	-3.80
1,453.00	17.64	148.10	1,438.68	-128.08	64.61	-54.36	2.38	2.38	0.46
1,514.00	18.05	147.06	1,496.75	-143.86	74.63	-63.11	0.85	0.67	-1.70
1,575.00	20.48	146.79	1,554.33	-160.72	85.61	-72.74	3.99	3.98	-0.44
1,635.00	20.73	145.68	1,610.49	-178.27	97.35	-83.06	0.77	0.42	-1.85
1,696.00	20.51	145.40	1,667.58	-195.99	109.51	-93.79	0.40	-0.36	-0.46
1,757.00	19.94	147.11	1,724.82	-213.52	121.22	-104.09	1.35	-0.93	2.80
1,817.00	19.20	148.79	1,781.36	-230.55	131.89	-113.39	1.55	-1.23	2.80
1,878.00	18.46	148.30	1,839.09	-247.34	142.16	-122.32	1.24	-1.21	-0.80
1,941.00	18.41	147.96	1,898.86	-264.26	152.68	-131.48	0.19	-0.08	-0.54
2,005.00	19.29	148.10	1,959.43	-281.80	163.63	-141.01	1.38	1.38	0.22
2,068.00	19.22	148.17	2,018.90	-299.45	174.60	-150.56	0.12	-0.11	0.11
2,131.00	18.64	145.01	2,078.50	-316.51	185.84	-160.43	1.87	-0.92	-5.02
2,194.00	18.87	145.14	2,138.15	-333.11	197.44	-170.69	0.37	0.37	0.21
2,257.00	19.76	148.77	2,197.61	-350.58	208.78	-180.63	2.37	1.41	5.76
2,320.00	18.94	146.72	2,257.05	-368.24	219.91	-190.34	1.69	-1.30	-3.25
2,383.00	18.73	147.84	2,316.67	-385.35	230.91	-199.96	0.66	-0.33	1.78
2,447.00	20.03	153.27	2,377.05	-403.84	241.31	-208.88	3.47	2.03	8.48
2,511.00	19.81	152.87	2,437.22	-423.28	251.18	-217.20	0.40	-0.34	-0.63
2,574.00	20.18	151.77	2,496.42	-442.35	261.19	-225.68	0.84	0.59	-1.75
2,637.00	20.35	151.35	2,555.53	-461.54	271.58	-234.53	0.36	0.27	-0.67
2,700.00	19.31	150.23	2,614.79	-480.20	282.01	-243.46	1.76	-1.65	-1.78
2,764.00	18.21	150.22	2,675.39	-498.06	292.23	-252.25	1.72	-1.72	-0.02
2,828.00	17.78	149.72	2,736.26	-515.18	302.12	-260.77	0.71	-0.67	-0.78
2,892.00	17.19	148.30	2,797.30	-531.66	312.02	-269.34	1.14	-0.92	-2.22
2,955.00	17.31	149.92	2,857.47	-547.69	321.61	-277.64	0.79	0.19	2.57
3,018.00	17.62	155.48	2,917.57	-564.48	330.27	-284.95	2.69	0.49	8.83
3,082.00	17.38	152.36	2,978.61	-581.76	338.72	-292.03	1.51	-0.38	-4.88
3,145.00	17.21	150.96	3,038.76	-598.25	347.61	-299.60	0.71	-0.27	-2.22
3,208.00	17.42	150.09	3,098.90	-614.57	356.84	-307.51	0.53	0.33	-1.38
3,272.00	18.05	150.48	3,159.86	-631.50	366.50	-315.82	1.00	0.98	0.61
3,335.00	16.95	148.67	3,219.94	-647.84	376.08	-324.09	1.95	-1.75	-2.87
3,398.00	17.12	148.73	3,280.18	-663.61	385.67	-332.41	0.27	0.27	0.10
3,462.00	19.96	152.86	3,340.86	-681.39	395.55	-340.86	4.89	4.44	6.45
3,525.00	20.20	155.60	3,400.03	-700.86	404.95	-348.70	1.54	0.38	4.35
3,588.00	19.87	154.29	3,459.21	-720.41	414.08	-356.28	0.88	-0.52	-2.08



Terrapin Energy Services
Survey Report



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Project:	San Juan Co., NM	TVD Reference:	Elev @ 6898.00usft
Site:	Sec.24-T23N-R8W	MD Reference:	Elev @ 6898.00usft
Well:	Chaco 2308-24I 156H	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)
3,652.00	19.66	152.84	3,519.44	-739.79	423.72	-364.36	0.83	-0.33	-2.27
3,715.00	18.78	153.32	3,578.93	-758.28	433.11	-372.27	1.42	-1.40	0.76
3,778.00	17.77	152.03	3,638.75	-775.84	442.17	-379.93	1.73	-1.60	-2.05
3,842.00	18.07	151.54	3,699.65	-793.19	451.48	-387.85	0.52	0.47	-0.77
3,904.00	20.07	149.82	3,758.24	-810.84	461.41	-396.37	3.35	3.23	-2.77
3,968.00	18.85	148.74	3,818.59	-829.17	472.30	-405.78	1.99	-1.91	-1.69
4,031.00	17.21	147.85	3,878.49	-845.76	482.54	-414.69	2.64	-2.60	-1.41
4,094.00	18.80	147.81	3,938.41	-862.24	492.91	-423.73	2.52	2.52	-0.06
4,157.00	21.19	150.64	3,997.60	-880.76	503.90	-433.24	4.09	3.79	4.49
4,220.00	20.92	149.79	4,056.40	-900.41	515.14	-442.90	0.65	-0.43	-1.35
4,284.00	19.07	148.83	4,116.54	-919.23	526.30	-452.55	2.94	-2.89	-1.50
4,347.00	18.22	146.80	4,176.23	-936.28	537.02	-461.90	1.70	-1.35	-3.22
4,410.00	17.57	146.68	4,236.18	-952.46	547.64	-471.22	1.03	-1.03	-0.19
4,473.00	15.12	145.44	4,296.63	-967.18	557.53	-479.92	3.93	-3.89	-1.97
4,537.00	14.35	146.70	4,358.53	-980.68	566.62	-487.92	1.30	-1.20	1.97
4,633.00	14.66	169.11	4,451.54	-1,002.57	575.45	-495.01	5.82	0.32	23.34
4,696.00	21.70	182.59	4,511.39	-1,022.07	576.43	-494.45	12.95	11.17	21.40
4,759.00	27.49	191.11	4,568.66	-1,048.00	573.10	-489.10	10.76	9.19	13.52
4,822.00	30.40	196.83	4,623.80	-1,077.54	565.68	-479.38	6.37	4.62	9.08
4,886.00	33.01	209.12	4,678.30	-1,108.30	552.49	-463.82	10.86	4.08	19.20
4,949.00	34.19	221.32	4,730.83	-1,136.62	532.43	-441.60	10.86	1.87	19.37
5,012.00	35.06	232.11	4,782.72	-1,161.05	506.43	-413.77	9.82	1.38	17.13
5,075.00	35.68	246.39	4,834.19	-1,179.56	475.27	-381.24	13.13	0.98	22.67
5,139.00	38.02	255.22	4,885.43	-1,192.07	439.08	-344.18	9.04	3.66	13.80
5,202.00	42.50	261.71	4,933.52	-1,200.10	399.22	-303.82	9.73	7.11	10.30
5,265.00	47.31	266.80	4,978.14	-1,204.46	355.00	-259.40	9.53	7.63	8.08
5,329.00	52.24	270.42	5,019.47	-1,205.59	306.18	-210.64	8.83	7.70	5.66
5,392.00	58.88	275.77	5,055.09	-1,202.69	254.36	-159.21	12.65	10.54	8.49
5,455.00	60.75	276.58	5,086.77	-1,196.83	200.23	-105.70	3.17	2.97	1.29
5,518.00	66.97	278.47	5,114.51	-1,189.40	144.19	-50.42	10.23	9.87	3.00
5,581.00	71.97	278.64	5,136.60	-1,180.63	85.87	7.04	7.94	7.94	0.27
5,644.00	77.84	278.99	5,153.00	-1,171.31	25.79	66.20	9.33	9.32	0.56
5,708.00	80.78	279.61	5,164.87	-1,161.15	-36.27	127.27	4.69	4.59	0.97
5,769.00	85.83	280.63	5,171.98	-1,150.50	-95.89	185.87	8.44	8.28	1.67
5,826.00	88.07	281.01	5,175.01	-1,139.82	-151.79	240.76	3.99	3.93	0.67
7" Casing									
5,875.00	90.00	281.34	5,175.83	-1,130.32	-199.86	287.93	3.99	3.93	0.67
5,905.00	89.82	281.43	5,175.88	-1,124.40	-229.27	316.79	0.67	-0.60	0.30
5,966.00	88.77	281.78	5,176.63	-1,112.13	-289.01	375.39	1.81	-1.72	0.57
6,027.00	90.13	282.48	5,177.22	-1,099.31	-348.65	433.83	2.51	2.23	1.15
6,088.00	89.74	281.87	5,177.29	-1,086.45	-408.27	492.26	1.19	-0.64	-1.00
6,149.00	90.66	283.45	5,177.07	-1,073.08	-467.79	550.55	3.00	1.51	2.59
6,209.00	89.47	282.57	5,177.01	-1,059.57	-526.25	607.76	2.47	-1.98	-1.47
6,270.00	88.94	282.92	5,177.85	-1,046.11	-585.74	666.02	1.04	-0.87	0.57



Terrapin Energy Services

Survey Report



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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)
6,331.00	88.81	283.63	5,179.05	-1,032.11	-645.10	724.09	1.18	-0.21	1.16
6,393.00	89.30	283.72	5,180.07	-1,017.45	-705.33	782.99	0.80	0.79	0.15
6,454.00	90.92	283.72	5,179.95	-1,002.99	-764.59	840.93	2.66	2.66	0.00
6,515.00	89.76	283.28	5,179.59	-988.75	-823.90	898.94	2.03	-1.90	-0.72
6,575.00	89.86	283.19	5,179.79	-975.01	-882.31	956.09	0.22	0.17	-0.15
6,637.00	90.26	283.54	5,179.73	-960.68	-942.63	1,015.10	0.86	0.65	0.56
6,697.00	92.37	280.90	5,178.35	-947.98	-1,001.24	1,072.54	5.63	3.52	-4.40
6,758.00	91.80	281.25	5,176.13	-936.27	-1,061.07	1,131.26	1.10	-0.93	0.57
6,820.00	90.66	280.90	5,174.80	-924.37	-1,121.90	1,190.97	1.92	-1.84	-0.56
6,881.00	89.95	278.88	5,174.47	-913.89	-1,181.99	1,250.05	3.51	-1.16	-3.31
6,941.00	89.34	277.56	5,174.85	-905.31	-1,241.37	1,308.58	2.42	-1.02	-2.20
7,002.00	92.15	276.24	5,174.05	-897.99	-1,301.91	1,368.36	5.09	4.61	-2.16
7,063.00	92.15	277.04	5,171.77	-890.94	-1,362.46	1,428.17	1.31	0.00	1.31
7,123.00	94.09	278.71	5,168.50	-882.73	-1,421.80	1,486.68	4.26	3.23	2.78
7,184.00	93.65	278.18	5,164.38	-873.79	-1,482.00	1,546.00	1.13	-0.72	-0.87
7,244.00	92.94	278.00	5,160.93	-865.36	-1,541.31	1,604.46	1.22	-1.18	-0.30
7,305.00	92.59	277.91	5,157.99	-856.93	-1,601.65	1,663.95	0.59	-0.57	-0.15
7,366.00	92.90	278.88	5,155.07	-848.04	-1,661.92	1,723.34	1.67	0.51	1.59
7,427.00	93.38	279.06	5,151.73	-838.54	-1,722.09	1,782.58	0.84	0.79	0.30
7,487.00	93.03	278.70	5,148.37	-829.29	-1,781.28	1,840.86	0.84	-0.58	-0.60
7,548.00	92.29	278.70	5,145.54	-820.07	-1,841.51	1,900.18	1.21	-1.21	0.00
7,609.00	89.56	276.33	5,144.56	-812.10	-1,901.97	1,959.83	5.93	-4.48	-3.89
7,670.00	87.98	275.36	5,145.87	-805.89	-1,962.63	2,019.82	3.04	-2.59	-1.59
7,733.00	90.88	277.39	5,146.49	-798.89	-2,025.23	2,081.67	5.62	4.60	3.22
7,797.00	90.26	277.12	5,145.86	-790.81	-2,088.71	2,144.33	1.06	-0.97	-0.42
7,860.00	90.18	277.47	5,145.62	-782.81	-2,151.20	2,206.00	0.57	-0.13	0.56
7,923.00	90.13	278.00	5,145.45	-774.33	-2,213.63	2,267.56	0.85	-0.08	0.84
7,987.00	89.65	278.79	5,145.57	-764.99	-2,276.94	2,329.95	1.44	-0.75	1.23
8,051.00	92.02	279.85	5,144.64	-754.63	-2,340.09	2,392.08	4.06	3.70	1.66
8,114.00	91.45	279.76	5,142.73	-743.90	-2,402.14	2,453.10	0.92	-0.90	-0.14
8,177.00	90.31	277.30	5,141.76	-734.56	-2,464.43	2,514.47	4.30	-1.81	-3.90
8,240.00	88.24	275.89	5,142.56	-727.33	-2,527.00	2,576.28	3.98	-3.29	-2.24
8,303.00	92.86	277.47	5,141.95	-720.00	-2,589.55	2,638.06	7.75	7.33	2.51
8,367.00	90.88	275.80	5,139.86	-712.61	-2,653.08	2,700.82	4.05	-3.09	-2.61
8,430.00	90.75	274.49	5,138.97	-706.96	-2,715.82	2,762.92	2.09	-0.21	-2.08
8,494.00	90.22	274.75	5,138.43	-701.81	-2,779.61	2,826.11	0.92	-0.83	0.41
8,556.00	90.75	275.28	5,137.90	-696.39	-2,841.37	2,887.25	1.21	0.85	0.85
8,620.00	88.77	274.05	5,138.17	-691.18	-2,905.15	2,950.43	3.64	-3.09	-1.92
8,684.00	92.07	276.86	5,137.70	-685.10	-2,968.85	3,013.45	6.77	5.16	4.39
8,748.00	92.59	276.77	5,135.10	-677.51	-3,032.34	3,076.16	0.82	0.81	-0.14
8,811.00	92.99	277.30	5,132.03	-669.81	-3,094.79	3,137.81	1.05	0.63	0.84
8,874.00	93.03	278.27	5,128.72	-661.29	-3,157.13	3,199.28	1.54	0.06	1.54
8,939.00	92.59	278.44	5,125.54	-651.85	-3,221.36	3,262.58	0.73	-0.68	0.26



Terrapin Energy Services

Survey Report



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well Chaco 2308-24I 156H
Project:	San Juan Co., NM	TVD Reference:	Elev @ 6898.00usft
Site:	Sec.24-T23N-R8W	MD Reference:	Elev @ 6898.00usft
Well:	Chaco 2308-24I 156H	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)	
9,002.00	92.06	278.35	5,122.98	-642.66	-3,283.63	3,323.94	0.85	-0.84	-0.14	
9,066.00	91.54	277.91	5,120.97	-633.62	-3,346.96	3,386.36	1.06	-0.81	-0.69	
9,130.00	91.80	278.79	5,119.11	-624.33	-3,410.25	3,448.73	1.43	0.41	1.38	
9,193.00	90.13	278.35	5,118.05	-614.94	-3,472.54	3,510.08	2.74	-2.65	-0.70	
9,257.00	89.03	277.65	5,118.51	-606.03	-3,535.91	3,572.56	2.04	-1.72	-1.09	
9,320.00	90.92	279.58	5,118.54	-596.60	-3,598.19	3,633.91	4.29	3.00	3.06	
9,383.00	90.83	280.29	5,117.58	-585.73	-3,660.24	3,694.92	1.14	-0.14	1.13	
9,446.00	89.38	278.44	5,117.46	-575.48	-3,722.40	3,756.08	3.73	-2.30	-2.94	
9,510.00	89.42	278.71	5,118.13	-565.93	-3,785.68	3,818.41	0.43	0.06	0.42	
9,574.00	90.22	280.02	5,118.34	-555.52	-3,848.82	3,880.55	2.40	1.25	2.05	
9,638.00	91.23	281.34	5,117.53	-543.66	-3,911.71	3,942.31	2.60	1.58	2.06	
9,701.00	90.04	280.99	5,116.83	-531.46	-3,973.51	4,002.96	1.97	-1.89	-0.56	
9,764.00	89.03	280.55	5,117.34	-519.69	-4,035.40	4,063.73	1.75	-1.60	-0.70	
9,828.00	87.89	279.76	5,119.06	-508.41	-4,098.37	4,125.63	2.17	-1.78	-1.23	
9,892.00	88.77	279.50	5,120.92	-497.71	-4,161.44	4,187.66	1.43	1.38	-0.41	
9,955.00	90.09	281.43	5,121.55	-486.27	-4,223.39	4,248.52	3.71	2.10	3.06	
10,018.00	90.22	281.87	5,121.38	-473.55	-4,285.09	4,309.03	0.73	0.21	0.70	
10,081.00	90.26	282.84	5,121.12	-460.07	-4,346.63	4,369.33	1.54	0.06	1.54	
10,144.00	89.91	283.19	5,121.02	-445.88	-4,408.01	4,429.41	0.79	-0.56	0.56	
10,208.00	89.25	282.84	5,121.49	-431.47	-4,470.36	4,490.44	1.17	-1.03	-0.55	
10,272.00	91.76	283.71	5,120.93	-416.77	-4,532.65	4,551.37	4.15	3.92	1.36	
10,335.00	91.27	283.71	5,119.26	-401.85	-4,593.83	4,611.20	0.78	-0.78	0.00	
10,398.00	90.31	283.45	5,118.39	-387.06	-4,655.06	4,671.08	1.58	-1.52	-0.41	
10,466.00	89.60	282.84	5,118.45	-371.59	-4,721.28	4,735.88	1.38	-1.04	-0.90	
Final TES Survey										
10,539.00	89.60	282.84	5,118.96	-355.37	-4,792.45	4,805.56	0.00	0.00	0.00	
Projection To Bit										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Base Perf 156H	0.00	0.00	5,118.33	-377.19	-4,696.91	1,895,134.749	556,917.89411	36.208343	-107.640401	
						024	2			
- survey misses target center by 0.01usft at 10441.00usft MD (5118.33 TVD, -377.20 N, -4696.91 E)										
- Point										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
5,826.00	5,175.01	7" Casing	7	8-3/4	



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Well:	Chaco 2308-24l 156H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
479.00	478.99	1.77	1.16	First TES Survey
10,466.00	5,118.45	-371.59	-4,721.28	Final TES Survey
10,539.00	5,118.96	-355.37	-4,792.45	Projection To Bit

Checked By: _____	Approved By: _____	Date: _____
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