

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

Submit one copy to
Appropriate District Office

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

OIL CONSERVATION DIVISION

1220 South St. Francis Drive
Santa Fe, NM 87505

☐ AMENDED REPORT

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

AS DRILLED

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35615	*Pool Code 47540 / 97232	*Pool Name NAGEEZI GALLUP / BASIN MANCOS
*Property Code 313897	*Property Name CHACO 2308-04D	*Well Number 458H
*OGRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC	*Elevation 7078'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Ion	Feet from the	North/South line	Feet from the	East/West line	County
D	4	23N	8W	4	484	NORTH	755	WEST	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
D	5	23N	8W	4	1300	NORTH	247	WEST	SAN JUAN

¹² Dedicated Acres 161.44 Acres N/2 N/2 - Section 5	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. NSL-
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Gallup = 81.48 ManCOS = 79.96

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

END-OF-LATERAL
1300' FNL 247' FWL
SECTION 5, T23N, R8W
LAT: 36.260020°N
LONG: 107.712598°W
DATUM: NAD1927

LAT: 36.260032°N
LONG: 107.713210°W
DATUM: NAD1983

BASE PERFORATION
1299' FNL 345' FWL
SECTION 5, T23N, R8W
LAT: 36.260022°N
LONG: 107.712265°W
DATUM: NAD1927

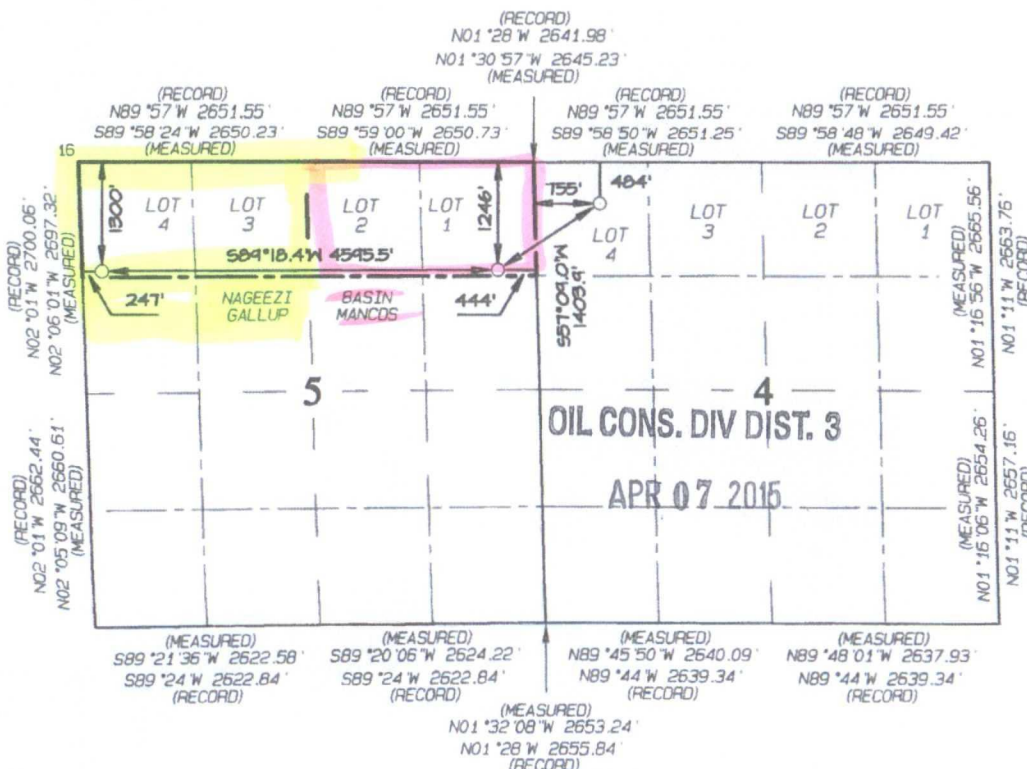
LAT: 36.260034 °N
LONG: 107.712878 °W
DATUM: NAD1983

POINT-OF-ENTRY
1245' FNL 444' FEL
SECTION 5, T23N, R8W
LAT: 36.260156°N
LONG: 107.697011°W
DATUM: NAD1927

LAT: 36.260169°N
LONG: 107.697623°W
DATUM: NAD1983

SURFACE LOCATION
484' FNL 755' FWL
SECTION 4, T23N, R8W
LAT: 36.262244°N
LONG: 107.693007°W
DATUM: NAD1927

LAT: 36.262256 °N
LONG: 107.693619 °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 the owner of the mineral or working interest or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature _____ Date _____

LACEY GRANILLO

Printed Name
lacey.granillo@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: MARCH 17, 2015
Date of Survey: AUGUST 8, 2014

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269



Project: San Juan Co., NM
Site: Sec.4-T23N-R8W
Well: Chaco 2308-04D 458H
Wellbore: Wellbore #1
Design: Wellbore #1



WELL DETAILS: Chaco 2308-04D 458H

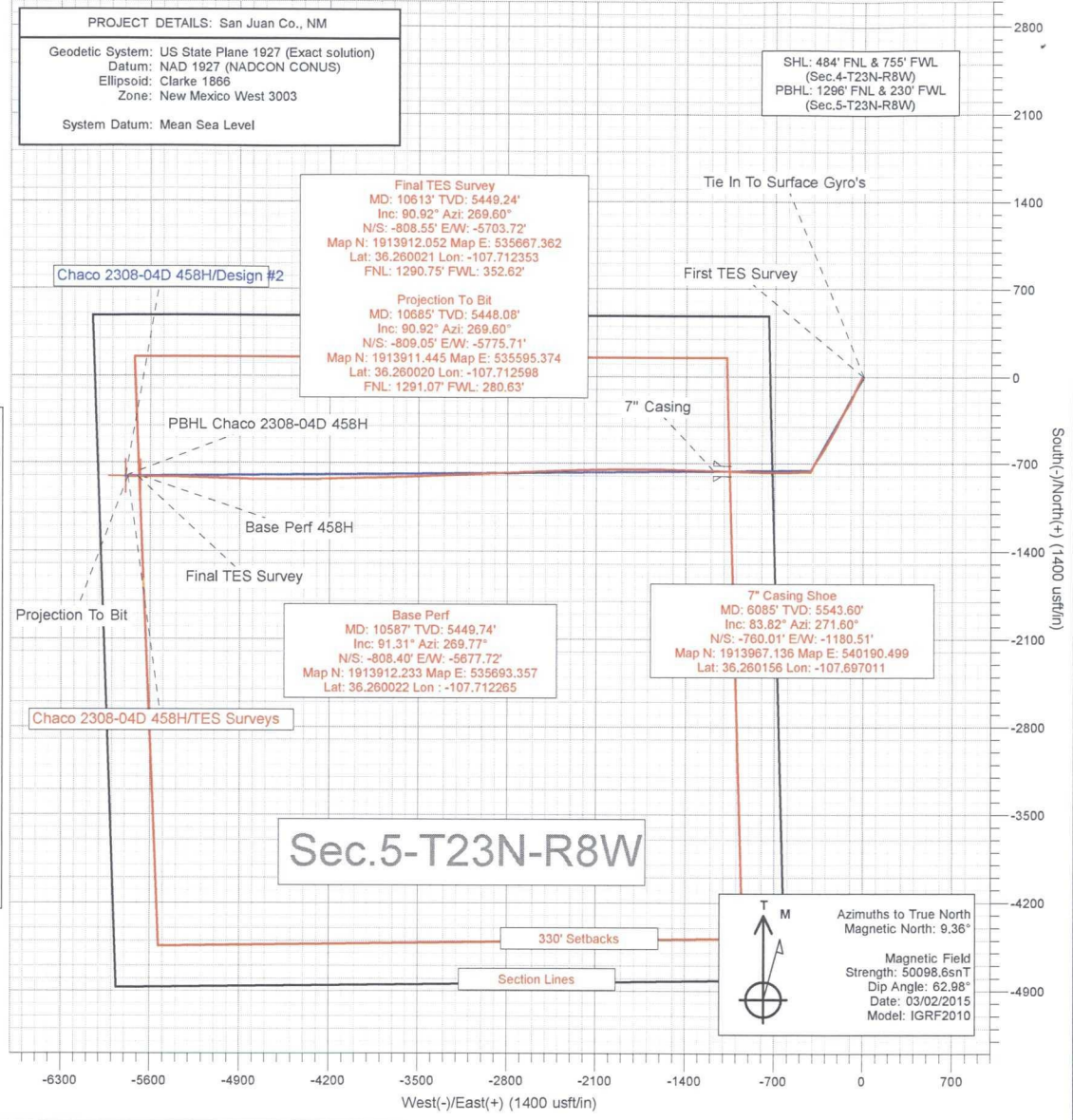
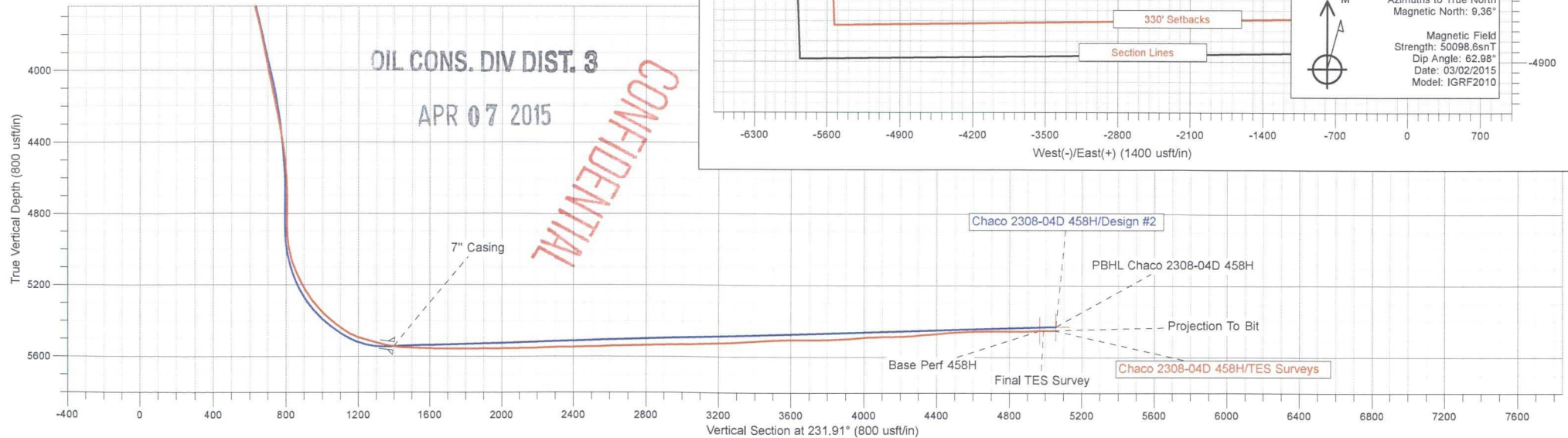
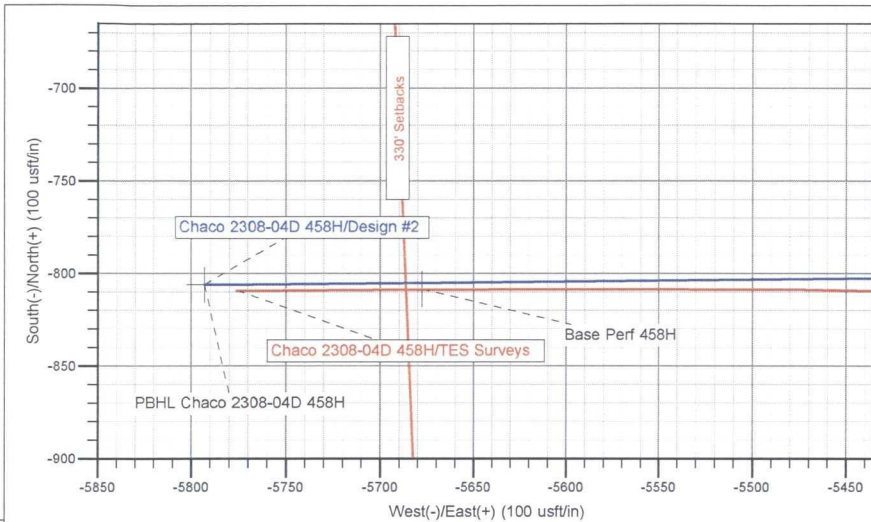
		Ground Level:					
		7078.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	1914728.860492	541369.904306	36.262244	-107.693007		

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL Chaco 2308-04D 458H	5428.00	-806.07	-5792.94	36.260028	-107.712656	Point
Base Perf 458H	5449.74	-808.40	-5677.72	36.260022	-107.712265	Point

Survey: TES Surveys (Chaco 2308-04D 458H/Wellbore #1)

Created By: M. Ramich Date: 14:47, March 16 2015



WPXENERGY



WPX Energy Production, LLC

San Juan Co., NM

Sec.4-T23N-R8W

Chaco 2308-04D 458H

Wellbore #1

Survey: TES Surveys

OIL CONS. DIV DIST. 3

APR 07 2015

Standard Survey Report

16 March, 2015

CONFIDENTIAL





Terrapin Energy Services

Survey Report



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well Chaco 2308-04D 458H
Project:	San Juan Co., NM	TVD Reference:	Elev @ 7092.00usft
Site:	Sec.4-T23N-R8W	MD Reference:	Elev @ 7092.00usft
Well:	Chaco 2308-04D 458H	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.4-T23N-R8W						
Site Position:		Northing:	1,914,732.604757	usft	Latitude:	36.262254		
From:	Lat/Long	Easting:	541,391.508667	usft	Longitude:	-107.692934		
Position Uncertainty:	0.00	usft	Slot Radius:	13-3/16	"	Grid Convergence:	0.08	°

Well	Chaco 2308-04D 458H					
Well Position	+N/-S	0.00 usft	Northing:	1,914,728.860492 usft	Latitude:	36.262244
	+E/-W	0.00 usft	Easting:	541,369.904306 usft	Longitude:	-107.693007
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	7,078.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2015/03/02	9.36	62.98	50,099

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	231.91	

Survey Program	Date 2015/03/16			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
64.00	352.00	Surface Gyro's (Wellbore #1)	GYRO	Gyro-compassing and drop
478.00	10,685.00	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)
352.00	0.17	274.20	351.99	-1.20	-1.51	1.93	0.00	0.00	0.00
Tie In To Surface Gyro's									
478.00	0.63	329.16	477.99	-0.59	-2.05	1.98	0.44	0.37	43.62
First TES Survey									
539.00	0.63	280.78	538.99	-0.24	-2.55	2.16	0.85	0.00	-79.31
600.00	1.60	241.19	599.98	-0.59	-3.63	3.22	1.94	1.59	-64.90
660.00	2.40	234.06	659.94	-1.73	-5.38	5.30	1.39	1.33	-11.88
721.00	3.55	225.63	720.86	-3.80	-7.76	8.46	2.01	1.89	-13.82
782.00	4.56	220.31	781.70	-6.97	-10.68	12.71	1.77	1.66	-8.72



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Well:	Chaco 2308-04D 458H	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)
843.00	5.48	216.42	842.47	-11.17	-13.98	17.89	1.61	1.51	-6.38
904.00	6.07	215.91	903.16	-16.12	-17.60	23.80	0.97	0.97	-0.84
965.00	7.41	214.12	963.74	-21.99	-21.70	30.64	2.22	2.20	-2.93
1,026.00	8.84	211.97	1,024.12	-29.22	-26.39	38.80	2.40	2.34	-3.52
1,087.00	10.52	204.88	1,084.25	-38.25	-31.21	48.16	3.37	2.75	-11.62
1,148.00	12.90	204.01	1,143.98	-49.53	-36.33	59.14	3.91	3.90	-1.43
1,209.00	14.19	205.43	1,203.28	-62.50	-42.31	71.85	2.18	2.11	2.33
1,270.00	15.25	204.92	1,262.28	-76.53	-48.90	85.69	1.75	1.74	-0.84
1,331.00	15.91	205.04	1,321.04	-91.38	-55.82	100.30	1.08	1.08	0.20
1,392.00	16.20	204.58	1,379.66	-106.69	-62.90	115.32	0.52	0.48	-0.75
1,453.00	16.34	204.51	1,438.21	-122.24	-70.00	130.49	0.23	0.23	-0.11
1,514.00	15.38	204.16	1,496.89	-137.43	-76.87	145.27	1.58	-1.57	-0.57
1,574.00	14.82	204.15	1,554.82	-151.69	-83.26	159.10	0.93	-0.93	-0.02
1,634.00	14.76	203.51	1,612.83	-165.70	-89.45	172.62	0.29	-0.10	-1.07
1,696.00	14.46	207.25	1,672.83	-179.82	-96.15	186.60	1.60	-0.48	6.03
1,756.00	13.77	210.14	1,731.02	-192.66	-103.16	200.04	1.64	-1.15	4.82
1,818.00	12.98	210.16	1,791.34	-205.06	-110.37	213.36	1.27	-1.27	0.03
1,879.00	12.36	208.74	1,850.85	-216.71	-116.95	225.72	1.14	-1.02	-2.33
1,942.00	13.15	208.51	1,912.29	-228.92	-123.61	238.50	1.26	1.25	-0.37
2,005.00	13.51	209.04	1,973.60	-241.65	-130.60	251.85	0.60	0.57	0.84
2,069.00	12.76	209.03	2,035.92	-254.36	-137.66	265.25	1.17	-1.17	-0.02
2,133.00	12.99	211.17	2,098.31	-266.70	-144.81	278.49	0.83	0.36	3.34
2,196.00	12.48	211.27	2,159.76	-278.57	-152.01	291.48	0.81	-0.81	0.16
2,259.00	12.40	211.33	2,221.28	-290.17	-159.06	304.19	0.13	-0.13	0.10
2,322.00	12.21	209.80	2,282.84	-301.73	-165.89	316.69	0.60	-0.30	-2.43
2,385.00	13.59	209.65	2,344.25	-313.94	-172.86	329.71	2.19	2.19	-0.24
2,448.00	14.88	209.13	2,405.31	-327.44	-180.46	344.02	2.06	2.05	-0.83
2,512.00	14.79	207.81	2,467.18	-341.85	-188.27	359.05	0.55	-0.14	-2.06
2,575.00	14.46	206.97	2,528.14	-355.97	-195.59	373.53	0.62	-0.52	-1.33
2,639.00	14.08	206.38	2,590.16	-370.06	-202.68	387.80	0.64	-0.59	-0.92
2,702.00	14.04	206.70	2,651.27	-383.76	-209.51	401.63	0.14	-0.06	0.51
2,765.00	14.45	206.60	2,712.34	-397.61	-216.47	415.65	0.65	0.65	-0.16
2,829.00	14.87	206.58	2,774.25	-412.10	-223.72	430.29	0.66	0.66	-0.03
2,892.00	15.24	206.52	2,835.09	-426.73	-231.03	445.07	0.59	0.59	-0.10
2,955.00	15.60	207.25	2,895.82	-441.67	-238.61	460.25	0.65	0.57	1.16
3,019.00	15.24	206.90	2,957.52	-456.83	-246.35	475.69	0.58	-0.56	-0.55
3,082.00	14.44	205.47	3,018.42	-471.30	-253.48	490.23	1.40	-1.27	-2.27
3,146.00	13.89	204.86	3,080.47	-485.48	-260.14	504.22	0.89	-0.86	-0.95
3,209.00	14.01	207.80	3,141.61	-499.08	-266.87	517.91	1.14	0.19	4.67
3,272.00	13.94	207.96	3,202.75	-512.53	-273.99	531.81	0.13	-0.11	0.25
3,336.00	13.16	207.44	3,264.97	-525.81	-280.96	545.48	1.23	-1.22	-0.81
3,400.00	12.82	207.33	3,327.33	-538.58	-287.58	558.57	0.53	-0.53	-0.17
3,463.00	14.15	208.73	3,388.59	-551.54	-294.49	572.01	2.17	2.11	2.22



Terrapin Energy Services
Survey Report



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Project:	San Juan Co., NM	TVD Reference:	Elev @ 7092.00usft
Site:	Sec.4-T23N-R8W	MD Reference:	Elev @ 7092.00usft
Well:	Chaco 2308-04D 458H	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)	
3,527.00	13.48	208.21	3,450.74	-564.98	-301.78	586.03	1.06	-1.05	-0.81	
3,590.00	12.83	208.02	3,512.09	-577.62	-308.53	599.15	1.03	-1.03	-0.30	
3,654.00	13.78	212.00	3,574.37	-590.36	-315.91	612.81	2.06	1.48	6.22	
3,717.00	13.85	214.86	3,635.55	-602.91	-324.20	627.08	1.09	0.11	4.54	
3,781.00	13.37	213.92	3,697.75	-615.34	-332.70	641.44	0.83	-0.75	-1.47	
3,845.00	13.12	213.26	3,760.05	-627.55	-340.82	655.36	0.46	-0.39	-1.03	
3,908.00	12.47	213.40	3,821.48	-639.21	-348.48	668.58	1.03	-1.03	0.22	
3,971.00	11.77	213.06	3,883.08	-650.27	-355.73	681.11	1.12	-1.11	-0.54	
4,035.00	11.53	212.61	3,945.76	-661.13	-362.74	693.33	0.40	-0.38	-0.70	
4,098.00	12.21	211.75	4,007.41	-672.10	-369.64	705.52	1.12	1.08	-1.37	
4,161.00	13.08	210.88	4,068.88	-683.88	-376.80	718.43	1.41	1.38	-1.38	
4,224.00	12.31	210.67	4,130.34	-695.78	-383.89	731.34	1.22	-1.22	-0.33	
4,287.00	11.56	208.01	4,191.98	-707.13	-390.28	743.37	1.48	-1.19	-4.22	
4,351.00	11.00	207.69	4,254.74	-718.20	-396.13	754.80	0.88	-0.88	-0.50	
4,415.00	11.19	207.69	4,317.55	-729.10	-401.85	766.04	0.30	0.30	0.00	
4,479.00	10.70	206.65	4,380.38	-739.91	-407.40	777.07	0.83	-0.77	-1.63	
4,542.00	9.01	207.80	4,442.45	-749.50	-412.33	786.87	2.70	-2.68	1.83	
4,605.00	6.39	212.60	4,504.88	-756.82	-416.52	794.68	4.28	-4.16	7.62	
4,668.00	4.13	216.83	4,567.61	-761.59	-419.76	800.18	3.64	-3.59	6.71	
4,731.00	1.80	209.79	4,630.52	-764.27	-421.62	803.28	3.74	-3.70	-11.17	
4,795.00	0.54	166.02	4,694.51	-765.43	-422.04	804.34	2.28	-1.97	-68.39	
4,858.00	0.28	175.66	4,757.51	-765.87	-421.96	804.55	0.43	-0.41	15.30	
4,919.00	0.56	181.29	4,818.50	-766.32	-421.96	804.82	0.46	0.46	9.23	
4,954.00	0.27	108.33	4,853.50	-766.52	-421.88	804.88	1.56	-0.83	-208.46	
5,017.00	4.50	273.67	4,916.44	-766.40	-424.21	806.64	7.56	6.71	262.44	
5,080.00	11.66	272.71	4,978.78	-765.94	-433.04	813.32	11.37	11.37	-1.52	
5,144.00	18.61	268.61	5,040.52	-765.89	-449.73	826.42	10.98	10.86	-6.41	
5,207.00	24.48	266.34	5,099.09	-766.96	-472.83	845.26	9.41	9.32	-3.60	
5,270.00	29.66	266.59	5,155.17	-768.73	-501.44	868.86	8.22	8.22	0.40	
5,333.00	33.75	266.52	5,208.76	-770.72	-534.48	896.10	6.49	6.49	-0.11	
5,397.00	39.95	270.54	5,259.96	-771.60	-572.81	926.82	10.39	9.69	6.28	
5,460.00	45.76	270.94	5,306.12	-771.04	-615.64	960.18	9.23	9.22	0.63	
5,523.00	50.89	271.15	5,348.00	-770.18	-662.67	996.66	8.15	8.14	0.33	
5,587.00	56.31	270.43	5,385.96	-769.48	-714.16	1,036.76	8.52	8.47	-1.13	
5,650.00	59.04	270.49	5,419.64	-769.05	-767.39	1,078.39	4.33	4.33	0.10	
5,714.00	61.53	270.45	5,451.37	-768.60	-822.97	1,121.85	3.89	3.89	-0.06	
5,777.00	69.50	270.98	5,477.46	-767.87	-880.25	1,166.50	12.67	12.65	0.84	
5,840.00	76.37	271.56	5,495.93	-766.54	-940.43	1,213.03	10.94	10.90	0.92	
5,903.00	77.78	271.46	5,510.02	-764.92	-1,001.81	1,260.35	2.24	2.24	-0.16	
5,967.00	77.54	271.93	5,523.70	-763.07	-1,064.30	1,308.39	0.81	-0.38	0.73	
6,032.00	79.96	271.28	5,536.38	-761.28	-1,128.03	1,357.44	3.85	3.72	-1.00	
6,038.00	80.95	271.21	5,537.38	-761.16	-1,133.94	1,362.02	16.54	16.50	-1.17	
6,085.00	83.82	271.60	5,543.60	-760.01	-1,180.51	1,397.97	6.17	6.11	0.82	
7" Casing										



Terrapin Energy Services
Survey Report



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Project: San Juan Co., NM
Site: Sec.4-T23N-R8W
Well: Chaco 2308-04D 458H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Chaco 2308-04D 458H
TVD Reference: Elev @ 7092.00usft
MD Reference: Elev @ 7092.00usft
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)
6,153.00	87.98	272.15	5,548.46	-757.80	-1,248.28	1,449.95	6.17	6.11	0.81
6,215.00	87.28	271.89	5,551.03	-755.61	-1,310.19	1,497.32	1.20	-1.13	-0.42
6,276.00	88.42	272.07	5,553.31	-753.51	-1,371.11	1,543.97	1.89	1.87	0.30
6,337.00	89.03	271.98	5,554.67	-751.35	-1,432.06	1,590.61	1.01	1.00	-0.15
6,398.00	88.24	272.24	5,556.12	-749.11	-1,493.00	1,637.19	1.36	-1.30	0.43
6,458.00	90.31	271.10	5,556.88	-747.36	-1,552.96	1,683.31	3.94	3.45	-1.90
6,519.00	90.88	270.57	5,556.25	-746.47	-1,613.95	1,730.77	1.28	0.93	-0.87
6,580.00	90.48	270.48	5,555.53	-745.91	-1,674.95	1,778.43	0.67	-0.66	-0.15
6,640.00	89.56	270.40	5,555.51	-745.45	-1,734.94	1,825.37	1.54	-1.53	-0.13
6,700.00	90.62	269.78	5,555.41	-745.36	-1,794.94	1,872.54	2.05	1.77	-1.03
6,761.00	90.35	269.87	5,554.89	-745.54	-1,855.94	1,920.66	0.47	-0.44	0.15
6,822.00	90.70	269.08	5,554.34	-746.10	-1,916.93	1,969.01	1.42	0.57	-1.30
6,883.00	90.30	269.78	5,553.80	-746.71	-1,977.93	2,017.39	1.32	-0.66	1.15
6,944.00	89.56	269.69	5,553.88	-746.99	-2,038.93	2,065.58	1.22	-1.21	-0.15
7,004.00	90.22	268.11	5,553.99	-748.14	-2,098.91	2,113.50	2.85	1.10	-2.63
7,065.00	91.10	268.55	5,553.29	-749.92	-2,159.88	2,162.59	1.61	1.44	0.72
7,126.00	92.29	268.46	5,551.49	-751.51	-2,220.83	2,211.54	1.96	1.95	-0.15
7,187.00	91.89	267.49	5,549.26	-753.66	-2,281.75	2,260.82	1.72	-0.66	-1.59
7,248.00	91.63	268.11	5,547.39	-756.00	-2,342.68	2,310.22	1.10	-0.43	1.02
7,310.00	90.66	267.41	5,546.15	-758.43	-2,404.62	2,360.46	1.93	-1.56	-1.13
7,370.00	90.22	267.06	5,545.69	-761.32	-2,464.55	2,409.42	0.94	-0.73	-0.58
7,431.00	91.19	267.41	5,544.94	-764.26	-2,525.47	2,459.18	1.69	1.59	0.57
7,492.00	91.32	268.55	5,543.60	-766.41	-2,586.42	2,508.48	1.88	0.21	1.87
7,553.00	90.48	267.58	5,542.64	-768.47	-2,647.37	2,557.73	2.10	-1.38	-1.59
7,614.00	91.80	267.96	5,541.43	-770.85	-2,708.31	2,607.16	2.25	2.16	0.62
7,675.00	91.71	267.76	5,539.56	-773.12	-2,769.24	2,656.52	0.36	-0.15	-0.33
7,736.00	91.32	267.76	5,537.95	-775.51	-2,830.17	2,705.94	0.64	-0.64	0.00
7,796.00	90.75	267.93	5,536.87	-777.76	-2,890.12	2,754.52	0.99	-0.95	0.28
7,857.00	90.53	267.23	5,536.18	-780.34	-2,951.06	2,804.07	1.20	-0.36	-1.15
7,918.00	90.75	267.41	5,535.50	-783.19	-3,011.99	2,853.79	0.47	0.36	0.30
7,979.00	92.11	267.67	5,533.98	-785.81	-3,072.92	2,903.35	2.27	2.23	0.43
8,040.00	91.89	267.67	5,531.85	-788.29	-3,133.83	2,952.83	0.36	-0.36	0.00
8,101.00	89.96	267.23	5,530.87	-791.00	-3,194.76	3,002.46	3.25	-3.16	-0.72
8,164.00	90.79	267.32	5,530.45	-793.99	-3,257.68	3,053.83	1.33	1.32	0.14
8,227.00	92.07	267.23	5,528.88	-796.99	-3,320.59	3,105.19	2.04	2.03	-0.14
8,290.00	91.41	267.14	5,526.97	-800.08	-3,383.49	3,156.60	1.06	-1.05	-0.14
8,354.00	91.85	266.79	5,525.15	-803.47	-3,447.37	3,208.97	0.88	0.69	-0.55
8,417.00	91.49	267.85	5,523.31	-806.41	-3,510.27	3,260.30	1.78	-0.57	1.68
8,480.00	91.93	268.46	5,521.43	-808.44	-3,573.21	3,311.09	1.19	0.70	0.97
8,543.00	93.91	268.64	5,518.22	-810.03	-3,636.11	3,361.57	3.16	3.14	0.29
8,606.00	93.47	268.73	5,514.17	-811.47	-3,698.96	3,411.93	0.71	-0.70	0.14
8,670.00	93.03	268.64	5,510.54	-812.94	-3,762.84	3,463.12	0.70	-0.69	-0.14
8,733.00	92.72	269.43	5,507.38	-814.00	-3,825.75	3,513.29	1.35	-0.49	1.25



Terrapin Energy Services

Survey Report



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well Chaco 2308-04D 458H
Project:	San Juan Co., NM	TVD Reference:	Elev @ 7092.00usft
Site:	Sec.4-T23N-R8W	MD Reference:	Elev @ 7092.00usft
Well:	Chaco 2308-04D 458H	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)
8,796.00	91.45	268.64	5,505.09	-815.06	-3,888.70	3,563.49	2.37	-2.02	-1.25
8,860.00	89.91	268.29	5,504.33	-816.78	-3,952.67	3,614.89	2.47	-2.41	-0.55
8,923.00	90.04	267.76	5,504.36	-818.95	-4,015.63	3,665.79	0.87	0.21	-0.84
8,987.00	90.35	268.20	5,504.14	-821.20	-4,079.59	3,717.52	0.84	0.48	0.69
9,050.00	90.09	267.85	5,503.90	-823.37	-4,142.55	3,768.42	0.69	-0.41	-0.56
9,113.00	91.93	268.46	5,502.79	-825.40	-4,205.51	3,819.22	3.08	2.92	0.97
9,176.00	91.98	268.46	5,500.64	-827.09	-4,268.45	3,869.80	0.08	0.08	0.00
9,239.00	93.47	270.04	5,497.64	-827.92	-4,331.37	3,919.83	3.45	2.37	2.51
9,302.00	94.09	270.40	5,493.49	-827.68	-4,394.23	3,969.16	1.14	0.98	0.57
9,365.00	93.25	269.52	5,489.46	-827.72	-4,457.10	4,018.67	1.93	-1.33	-1.40
9,429.00	92.11	268.99	5,486.46	-828.55	-4,521.02	4,069.50	1.96	-1.78	-0.83
9,492.00	91.41	270.13	5,484.53	-829.04	-4,583.99	4,119.36	2.12	-1.11	1.81
9,555.00	88.68	269.60	5,484.48	-829.18	-4,646.98	4,169.03	4.41	-4.33	-0.84
9,618.00	92.37	270.66	5,483.90	-829.04	-4,709.97	4,218.51	6.09	5.86	1.68
9,682.00	94.22	271.19	5,480.22	-828.01	-4,773.85	4,268.16	3.01	2.89	0.83
9,745.00	93.74	271.27	5,475.85	-826.66	-4,836.69	4,316.78	0.77	-0.76	0.13
9,808.00	94.31	271.45	5,471.43	-825.17	-4,899.51	4,365.31	0.95	0.90	0.29
9,871.00	93.78	271.27	5,466.98	-823.68	-4,962.34	4,413.84	0.89	-0.84	-0.29
9,934.00	93.60	271.36	5,462.93	-822.24	-5,025.19	4,462.42	0.32	-0.29	0.14
9,998.00	92.99	271.10	5,459.25	-820.86	-5,089.07	4,511.85	1.04	-0.95	-0.41
10,061.00	91.67	271.80	5,456.69	-819.27	-5,152.00	4,560.40	2.37	-2.10	1.11
10,125.00	91.01	271.98	5,455.19	-817.16	-5,215.94	4,609.43	1.07	-1.03	0.28
10,189.00	90.70	272.77	5,454.24	-814.51	-5,279.88	4,658.11	1.33	-0.48	1.23
10,253.00	89.78	271.80	5,453.97	-811.96	-5,343.83	4,706.87	2.09	-1.44	-1.52
10,318.00	90.26	272.07	5,453.95	-809.76	-5,408.79	4,756.65	0.85	0.74	0.42
10,381.00	90.35	270.22	5,453.61	-808.50	-5,471.77	4,805.45	2.94	0.14	-2.94
10,444.00	90.26	270.13	5,453.28	-808.31	-5,534.77	4,854.91	0.20	-0.14	-0.14
10,508.00	91.93	269.96	5,452.05	-808.26	-5,598.76	4,905.24	2.62	2.61	-0.27
10,572.00	91.54	269.87	5,450.12	-808.36	-5,662.73	4,955.65	0.63	-0.61	-0.14
10,613.00	90.92	269.60	5,449.24	-808.55	-5,703.72	4,988.03	1.65	-1.51	-0.66
Final TES Survey									
10,685.00	90.92	269.60	5,448.08	-809.05	-5,775.71	5,045.00	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 458H	0.00	0.00	5,449.74	-808.40	-5,677.72	1,913,912.235	535,693.36142	36.260022	-107.712265
						845	0		
- survey hits target center									
- Point									



Terrapin Energy Services

Survey Report



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well Chaco 2308-04D 458H
Project:	San Juan Co., NM	TVD Reference:	Elev @ 7092.00usft
Site:	Sec.4-T23N-R8W	MD Reference:	Elev @ 7092.00usft
Well:	Chaco 2308-04D 458H	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 (")
6,085.00	5,543.60	7" Casing	7	8-3/4

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
352.00	351.99	-1.20	-1.51	Tie In To Surface Gyro's
478.00	477.99	-0.59	-2.05	First TES Survey
10,613.00	5,449.24	-808.55	-5,703.72	Final TES Survey
10,685.00	5,448.08	-809.05	-5,775.71	Projection To Bit

Checked By: _____	Approved By: _____	Date: _____
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