

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 30-039-31247		*Pool Code 98088		*Pool Name CHACO UNIT NE HZ (OIL)	
*Property Code 313800		*Property Name NE CHACO COM			*Well Number 199H
*OGRIID No. 120782		*Operator Name WPX ENERGY PRODUCTION, LLC			*Elevation 6832'

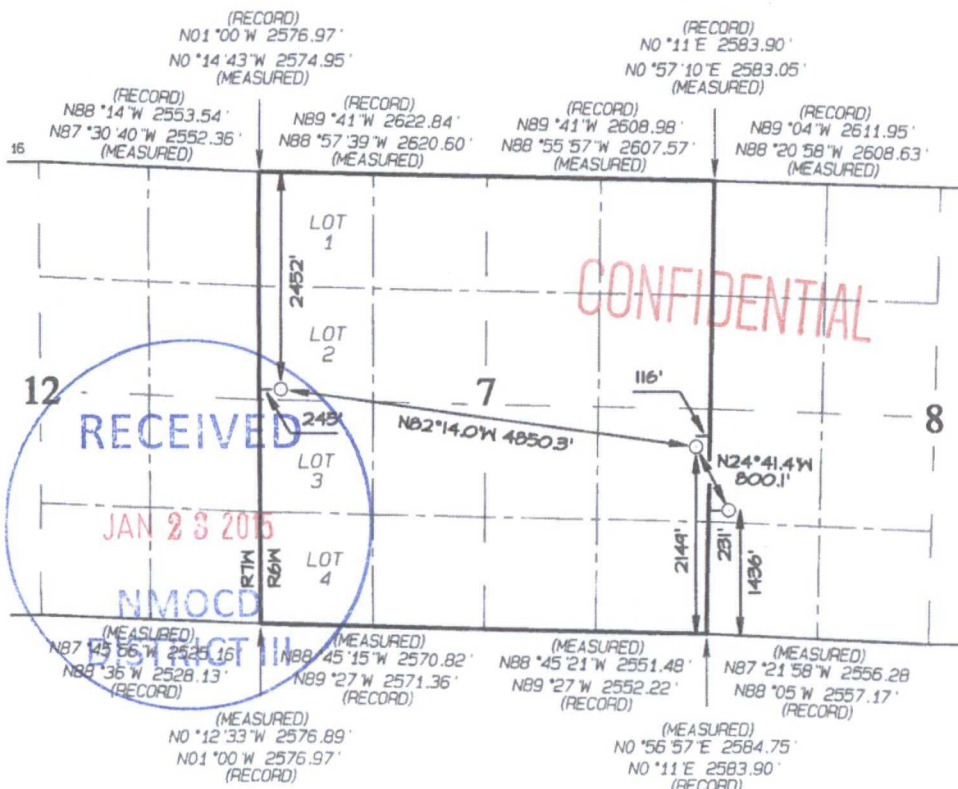
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	8	23N	6W		1436	SOUTH	231	WEST	RIO ARriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	7	23N	6W	2	2452	NORTH	245	WEST	RIO ARriba
¹² Dedicated Acres 642.08 Acres Entire Section 7					¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.

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



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 _____ Date 11/21/15
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: JANUARY 5, 2015
Survey Date: AUGUST 22, 2013

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

END-OF-LATERAL
2452' FNL 245' FWL
SECTION 7, T23N, R6W
LAT: 36.239749°N
LONG: 107.517499°W
DATUM: NAD1927

LAT: 36.239762°N
LONG: 107.518104°W
DATUM: NAD1983

BASE PERFORATION
2461' FNL 303' FWL
SECTION 7, T23N, R6W
LAT: 36.239725°N
LONG: 107.517301°W
DATUM: NAD1927

LAT: 36.239738°N
LONG: 107.517906°W
DATUM: NAD1983

POINT-OF-ENTRY
2149' FSL 116' FEL
SECTION 7, T23N, R6W
LAT: 36.238120°N
LONG: 107.501177°W
DATUM: NAD1927

LAT: 36.238134°N
LONG: 107.501782°W
DATUM: NAD1983

SURFACE LOCATION
1436' FSL 231' FWL
SECTION 8, T23N, R6W
LAT: 36.236136°N
LONG: 107.500012°W
DATUM: NAD1927

LAT: 36.236149°N
LONG: 107.500617°W
DATUM: NAD1983



WELL DETAILS: NE Chaco Com #199H

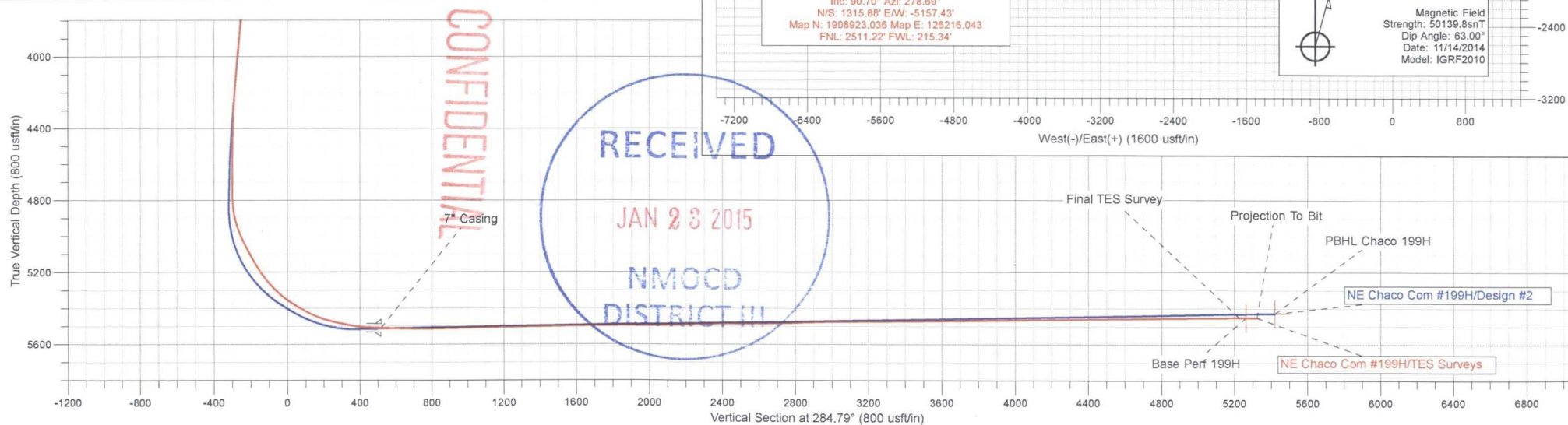
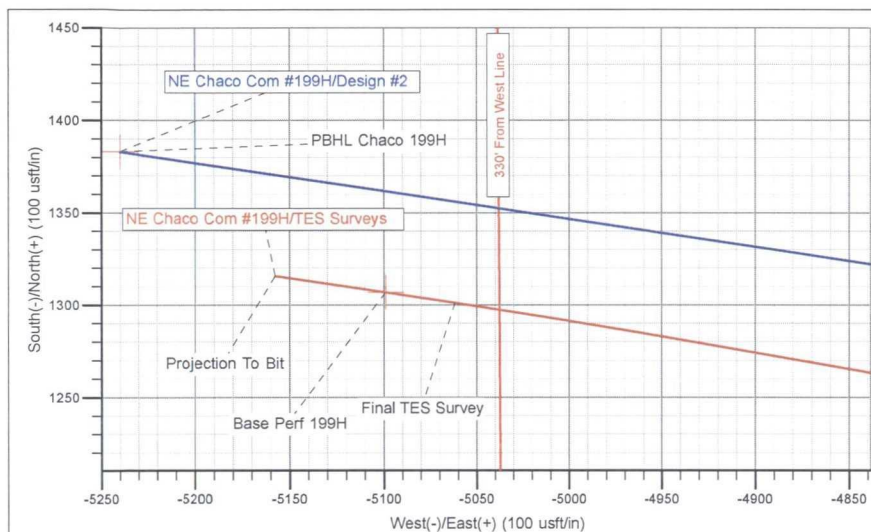
		Ground Level:			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1907540.747280	131356.074140	36.236136	-107.500012

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL Chaco 199H	5428.35	1383.11	-5239.85	36.239934	-107.517778	Point
Base Perf 199H	5452.00	1306.96	-5099.11	36.239725	-107.517301	Point

Survey: TES Surveys (NE Chaco Com #199H/Wellbore #1)

Created By: M. Ramich Date: 9:09, December 30 2014





WPX Energy Production, LLC

Rio Arriba Co., NM

Sec.8-T23N-R6W

NE Chaco Com #199H

Wellbore #1

Survey: TES Surveys

Standard Survey Report

30 December, 2014

CONFIDENTIAL





Terrapin Energy Services

Survey Report



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well NE Chaco Com #199H
Project:	Rio Arriba Co., NM	TVD Reference:	Elev @ 6846.00usft
Site:	Sec.8-T23N-R6W	MD Reference:	Elev @ 6846.00usft
Well:	NE Chaco Com #199H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Rio Arriba Co., NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Site	Sec.8-T23N-R6W		
Site Position:		Northing:	1,907,579.608704 usft
From:	Lat/Long	Easting:	131,335.337172 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	36.236242
		Longitude:	-107.500084
		Grid Convergence:	-0.74 °

Well	NE Chaco Com #199H		
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:	36.236136
		Longitude:	-107.500012
		Ground Level:	6,832.00 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	11/14/14	9.31
			Dip Angle (°)
			63.00
			Field Strength (nT)
			50,140

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 (°)
			284.79

Survey Program	Date 12/30/14		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
64.00	338.00	Surface Gyro's (Wellbore #1)	GYRO
433.00	10,911.00	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)	
338.00	0.11	138.82	338.00	0.88	0.85	-0.59	0.00	0.00	0.00	
Tie In To Surface Gyro's										
433.00	0.71	150.70	432.99	0.30	1.20	-1.08	0.63	0.63	12.51	
First TES Survey										
497.00	0.83	129.49	496.99	-0.34	1.75	-1.78	0.48	0.19	-33.14	
560.00	1.21	67.35	559.98	-0.38	2.71	-2.72	1.75	0.60	-98.63	
623.00	3.29	46.71	622.93	1.12	4.64	-4.20	3.49	3.30	-32.76	
686.00	4.07	47.29	685.80	3.87	7.60	-6.36	1.24	1.24	0.92	
750.00	5.19	40.52	749.59	7.61	11.15	-8.84	1.94	1.75	-10.58	



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)
813.00	6.72	40.00	812.25	12.60	15.37	-11.65	2.43	2.43	-0.83
876.00	7.66	38.72	874.75	18.70	20.37	-14.92	1.51	1.49	-2.03
939.00	8.60	38.43	937.12	25.67	25.92	-18.51	1.49	1.49	-0.46
1,003.00	8.97	40.31	1,000.37	33.22	32.12	-22.58	0.73	0.58	2.94
1,066.00	10.00	41.84	1,062.50	41.04	38.95	-27.19	1.68	1.63	2.43
1,129.00	10.23	40.29	1,124.52	49.39	46.22	-32.08	0.57	0.37	-2.46
1,193.00	9.91	38.76	1,187.54	58.02	53.34	-36.77	0.65	-0.50	-2.39
1,256.00	9.95	38.32	1,249.60	66.51	60.11	-41.14	0.14	0.06	-0.70
1,318.00	9.74	37.52	1,310.68	74.88	66.62	-45.31	0.40	-0.34	-1.29
1,378.00	9.68	38.74	1,369.82	82.84	72.87	-49.32	0.36	-0.10	2.03
1,439.00	10.18	38.15	1,429.91	91.08	79.41	-53.54	0.84	0.82	-0.97
1,500.00	10.45	38.34	1,489.92	99.65	86.17	-57.89	0.45	0.44	0.31
1,561.00	10.25	38.24	1,549.93	108.26	92.96	-62.26	0.33	-0.33	-0.16
1,622.00	9.91	36.76	1,609.99	116.72	99.46	-66.38	0.70	-0.56	-2.43
1,684.00	9.67	33.17	1,671.09	125.36	105.51	-70.02	1.06	-0.39	-5.79
1,745.00	9.64	35.43	1,731.22	133.81	111.27	-73.44	0.62	-0.05	3.70
1,806.00	9.22	41.30	1,791.40	141.64	117.46	-77.42	1.72	-0.69	9.62
1,867.00	8.35	38.47	1,851.68	148.78	123.44	-81.38	1.59	-1.43	-4.64
1,928.00	8.61	41.83	1,912.02	155.65	129.24	-85.23	0.92	0.43	5.51
1,990.00	10.55	50.79	1,973.15	162.70	136.73	-90.68	3.94	3.13	14.45
2,050.00	11.90	53.00	2,032.00	169.89	145.93	-97.74	2.36	2.25	3.68
2,111.00	11.41	51.83	2,091.75	177.41	155.70	-105.26	0.89	-0.80	-1.92
2,171.00	11.04	50.10	2,150.60	184.76	164.77	-112.16	0.83	-0.62	-2.88
2,232.00	10.38	47.64	2,210.54	192.21	173.31	-118.52	1.32	-1.08	-4.03
2,262.00	10.25	45.90	2,240.05	195.89	177.22	-121.36	1.13	-0.43	-5.80
2,323.00	10.01	41.46	2,300.10	203.64	184.63	-126.55	1.34	-0.39	-7.28
2,383.00	9.51	37.43	2,359.23	211.48	191.10	-130.79	1.41	-0.83	-6.72
2,445.00	9.74	37.04	2,420.36	219.73	197.37	-134.75	0.39	0.37	-0.63
2,506.00	10.48	44.29	2,480.42	227.82	204.35	-139.44	2.41	1.21	11.89
2,566.00	10.52	44.89	2,539.41	235.61	212.03	-144.87	0.19	0.07	1.00
2,630.00	11.03	46.44	2,602.28	243.97	220.59	-151.02	0.92	0.80	2.42
2,693.00	10.40	46.18	2,664.18	252.06	229.06	-157.14	1.00	-1.00	-0.41
2,756.00	10.21	44.72	2,726.17	259.96	237.09	-162.89	0.51	-0.30	-2.32
2,819.00	9.76	42.21	2,788.21	267.89	244.61	-168.14	0.99	-0.71	-3.98
2,883.00	10.09	41.39	2,851.26	276.11	251.96	-173.14	0.56	0.52	-1.28
2,947.00	10.88	45.65	2,914.19	284.54	259.98	-178.75	1.73	1.23	6.66
3,010.00	10.64	44.03	2,976.08	292.88	268.28	-184.65	0.61	-0.38	-2.57
3,074.00	10.21	42.59	3,039.02	301.30	276.22	-190.18	0.79	-0.67	-2.25
3,138.00	9.84	41.78	3,102.05	309.56	283.71	-195.31	0.62	-0.58	-1.27
3,201.00	9.49	40.65	3,164.15	317.51	290.68	-200.01	0.63	-0.56	-1.79
3,265.00	8.96	37.28	3,227.32	325.48	297.13	-204.22	1.18	-0.83	-5.27
3,328.00	8.94	40.51	3,289.56	333.10	303.28	-208.22	0.80	-0.03	5.13
3,392.00	9.40	46.61	3,352.74	340.48	310.31	-213.14	1.68	0.72	9.53



Terrapin Energy Services

Survey Report



Company: WPX Energy Production, LLC
Project: Rio Arriba Co., NM
Site: Sec.8-T23N-R6W
Well: NE Chaco Com #199H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well NE Chaco Com #199H
TVD Reference: Elev @ 6846.00usft
MD Reference: Elev @ 6846.00usft
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)
3,456.00	9.24	46.78	3,415.90	347.58	317.85	-218.62	0.25	-0.25	0.27
3,520.00	8.74	46.99	3,479.11	354.42	325.15	-223.93	0.78	-0.78	0.33
3,583.00	8.76	48.52	3,541.38	360.86	332.25	-229.15	0.37	0.03	2.43
3,647.00	9.49	47.98	3,604.57	367.62	339.82	-234.74	1.15	1.14	-0.84
3,710.00	9.29	47.53	3,666.72	374.53	347.43	-240.33	0.34	-0.32	-0.71
3,773.00	9.04	46.52	3,728.92	381.37	354.77	-245.69	0.47	-0.40	-1.60
3,837.00	9.59	47.10	3,792.07	388.46	362.32	-251.18	0.87	0.86	0.91
3,901.00	10.80	48.28	3,855.06	396.08	370.70	-257.34	1.92	1.89	1.84
3,965.00	10.95	45.86	3,917.91	404.30	379.54	-263.79	0.75	0.23	-3.78
4,028.00	10.86	43.75	3,979.78	412.76	387.94	-269.75	0.65	-0.14	-3.35
4,092.00	9.95	41.49	4,042.72	421.26	395.77	-275.15	1.56	-1.42	-3.53
4,155.00	9.95	41.48	4,104.77	429.41	402.98	-280.05	0.00	0.00	-0.02
4,219.00	9.30	40.94	4,167.87	437.46	410.04	-284.81	1.03	-1.02	-0.84
4,282.00	8.95	38.09	4,230.08	445.16	416.39	-288.99	0.91	-0.56	-4.52
4,345.00	7.03	36.51	4,292.46	452.12	421.71	-292.36	3.07	-3.05	-2.51
4,409.00	6.76	33.77	4,356.00	458.40	426.14	-295.03	0.66	-0.42	-4.28
4,472.00	5.64	36.13	4,418.63	463.98	430.02	-297.37	1.82	-1.78	3.75
4,535.00	4.18	28.61	4,481.40	468.50	432.95	-299.04	2.53	-2.32	-11.94
4,599.00	3.85	26.29	4,545.24	472.47	435.02	-300.03	0.57	-0.52	-3.63
4,662.00	3.49	22.27	4,608.11	476.14	436.68	-300.70	0.70	-0.57	-6.38
4,725.00	2.18	11.73	4,671.03	479.09	437.65	-300.88	2.23	-2.08	-16.73
4,788.00	1.36	351.74	4,734.00	481.00	437.79	-300.53	1.61	-1.30	-31.73
4,851.00	1.60	316.69	4,796.98	482.38	437.07	-299.49	1.46	0.38	-55.63
4,914.00	8.49	293.99	4,859.71	484.92	432.22	-294.14	11.18	10.94	-36.03
4,979.00	16.00	292.14	4,923.18	490.25	419.52	-280.50	11.57	11.55	-2.85
5,042.00	21.84	289.88	4,982.75	497.51	400.44	-260.20	9.34	9.27	-3.59
5,105.00	25.78	289.27	5,040.38	506.02	376.48	-234.86	6.27	6.25	-0.97
5,169.00	27.68	287.84	5,097.54	515.17	349.18	-206.14	3.13	2.97	-2.23
5,232.00	30.10	285.24	5,152.70	523.81	320.01	-175.73	4.33	3.84	-4.13
5,295.00	34.21	286.25	5,206.02	532.92	287.75	-142.21	6.58	6.52	1.60
5,358.00	39.52	286.56	5,256.41	543.60	251.51	-104.44	8.43	8.43	0.49
5,421.00	45.53	287.41	5,302.82	556.05	210.81	-61.91	9.58	9.54	1.35
5,484.00	51.75	288.52	5,344.43	570.65	165.86	-14.72	9.96	9.87	1.76
5,547.00	58.44	288.48	5,380.45	587.03	116.89	36.80	10.62	10.62	-0.06
5,610.00	59.78	288.34	5,412.80	604.10	65.59	90.76	2.14	2.13	-0.22
5,673.00	65.97	288.65	5,441.51	621.89	12.44	146.68	9.84	9.83	0.49
5,737.00	73.38	288.00	5,463.72	640.73	-44.49	206.54	11.62	11.58	-1.02
5,801.00	77.33	287.83	5,479.90	659.78	-103.40	268.36	6.18	6.17	-0.27
5,865.00	78.53	285.49	5,493.28	677.71	-163.35	330.91	4.04	1.88	-3.66
5,928.00	81.91	284.45	5,503.98	693.75	-223.32	392.98	5.61	5.37	-1.65
5,994.00	88.55	283.16	5,509.47	709.43	-287.15	458.70	10.25	10.06	-1.95
6,095.00	89.17	282.56	5,511.48	731.90	-385.60	559.63	0.85	0.61	-0.59
6,158.00	88.42	282.47	5,512.80	745.55	-447.09	622.56	1.20	-1.19	-0.14
6,219.00	88.68	282.12	5,514.35	758.54	-506.67	683.48	0.71	0.43	-0.57



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Project: Rio Arriba Co., NM
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Wellbore: Wellbore #1
Design: Wellbore #1

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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)
6,280.00	89.87	280.89	5,515.12	770.70	-566.44	744.38	2.81	1.95	-2.02
6,342.00	91.19	279.75	5,514.55	781.81	-627.43	806.18	2.81	2.13	-1.84
6,403.00	91.36	279.75	5,513.19	792.14	-687.53	866.93	0.28	0.28	0.00
6,465.00	90.57	279.13	5,512.14	802.30	-748.69	928.65	1.62	-1.27	-1.00
6,526.00	90.62	277.00	5,511.51	810.86	-809.08	989.23	3.49	0.08	-3.49
6,586.00	91.19	277.29	5,510.56	818.32	-868.60	1,048.69	1.07	0.95	0.48
6,648.00	90.40	277.20	5,509.70	826.14	-930.10	1,110.14	1.28	-1.27	-0.15
6,709.00	91.49	276.59	5,508.70	833.46	-990.65	1,170.56	2.05	1.79	-1.00
6,771.00	92.07	276.50	5,506.77	840.53	-1,052.22	1,231.89	0.95	0.94	-0.15
6,831.00	91.54	276.32	5,504.88	847.22	-1,111.81	1,291.22	0.93	-0.88	-0.30
6,892.00	90.70	275.79	5,503.69	853.65	-1,172.46	1,351.50	1.63	-1.38	-0.87
6,954.00	91.05	274.83	5,502.74	859.39	-1,234.18	1,412.64	1.65	0.56	-1.55
7,014.00	90.57	274.12	5,501.89	864.07	-1,293.99	1,471.67	1.43	-0.80	-1.18
7,075.00	90.88	273.77	5,501.12	868.27	-1,354.84	1,531.57	0.77	0.51	-0.57
7,136.00	90.44	272.98	5,500.42	871.86	-1,415.73	1,591.36	1.48	-0.72	-1.30
7,197.00	91.14	272.46	5,499.58	874.75	-1,476.66	1,651.01	1.43	1.15	-0.85
7,257.00	90.62	272.19	5,498.66	877.19	-1,536.60	1,709.59	0.98	-0.87	-0.45
7,318.00	89.96	271.93	5,498.35	879.38	-1,597.56	1,769.09	1.16	-1.08	-0.43
7,379.00	91.05	272.19	5,497.81	881.57	-1,658.52	1,828.59	1.84	1.79	0.43
7,440.00	90.44	271.58	5,497.02	883.58	-1,719.48	1,888.04	1.41	-1.00	-1.00
7,501.00	91.45	271.84	5,496.01	885.40	-1,780.44	1,947.45	1.71	1.66	0.43
7,562.00	90.83	271.58	5,494.80	887.22	-1,841.40	2,006.86	1.10	-1.02	-0.43
7,624.00	90.57	271.58	5,494.04	888.93	-1,903.38	2,067.21	0.42	-0.42	0.00
7,686.00	91.32	272.63	5,493.02	891.21	-1,965.32	2,127.69	2.08	1.21	1.69
7,747.00	90.75	272.19	5,491.92	893.77	-2,026.26	2,187.26	1.18	-0.93	-0.72
7,808.00	91.45	272.98	5,490.74	896.52	-2,087.19	2,246.87	1.73	1.15	1.30
7,869.00	91.41	273.33	5,489.22	899.88	-2,148.07	2,306.60	0.58	-0.07	0.57
7,930.00	90.00	272.02	5,488.47	902.72	-2,209.00	2,366.24	3.15	-2.31	-2.15
7,990.00	90.79	272.89	5,488.06	905.29	-2,268.94	2,424.85	1.96	1.32	1.45
8,051.00	91.45	272.54	5,486.87	908.18	-2,329.86	2,484.49	1.22	1.08	-0.57
8,112.00	90.04	272.37	5,486.07	910.79	-2,390.80	2,544.08	2.33	-2.31	-0.28
8,173.00	89.47	272.63	5,486.33	913.46	-2,451.74	2,603.68	1.03	-0.93	0.43
8,233.00	90.66	272.28	5,486.27	916.03	-2,511.68	2,662.29	2.07	1.98	-0.58
8,294.00	92.50	272.81	5,484.58	918.73	-2,572.60	2,721.88	3.14	3.02	0.87
8,354.00	92.28	272.63	5,482.08	921.58	-2,632.48	2,780.50	0.47	-0.37	-0.30
8,415.00	92.11	273.95	5,479.75	925.08	-2,693.33	2,840.23	2.18	-0.28	2.16
8,476.00	91.27	274.39	5,477.95	929.51	-2,754.14	2,900.16	1.55	-1.38	0.72
8,535.00	90.44	275.79	5,477.07	934.74	-2,812.90	2,958.31	2.76	-1.41	2.37
8,599.00	90.22	276.67	5,476.70	941.69	-2,876.52	3,021.60	1.42	-0.34	1.38
8,663.00	90.26	277.64	5,476.43	949.66	-2,940.02	3,085.03	1.52	0.06	1.52
8,727.00	90.44	278.26	5,476.04	958.51	-3,003.41	3,148.57	1.01	0.28	0.97
8,790.00	90.31	278.96	5,475.63	967.94	-3,065.69	3,211.21	1.13	-0.21	1.11
8,853.00	90.40	278.78	5,475.24	977.66	-3,127.94	3,273.87	0.32	0.14	-0.29



Terrapin Energy Services

Survey Report



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well NE Chaco Com #199H
Project:	Rio Arriba Co., NM	TVD Reference:	Elev @ 6846.00usft
Site:	Sec.8-T23N-R6W	MD Reference:	Elev @ 6846.00usft
Well:	NE Chaco Com #199H	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)
8,917.00	90.66	278.87	5,474.64	987.47	-3,191.18	3,337.52	0.43	0.41	0.14
8,980.00	90.62	278.78	5,473.94	997.14	-3,253.43	3,400.18	0.16	-0.06	-0.14
9,043.00	90.75	277.99	5,473.19	1,006.33	-3,315.75	3,462.78	1.27	0.21	-1.25
9,106.00	90.48	277.99	5,472.51	1,015.08	-3,378.14	3,525.33	0.43	-0.43	0.00
9,170.00	90.70	277.73	5,471.85	1,023.83	-3,441.53	3,588.86	0.53	0.34	-0.41
9,233.00	90.79	278.87	5,471.03	1,032.93	-3,503.87	3,651.45	1.82	0.14	1.81
9,297.00	89.87	277.64	5,470.66	1,042.12	-3,567.20	3,715.03	2.40	-1.44	-1.92
9,360.00	91.36	278.87	5,469.99	1,051.16	-3,629.54	3,777.62	3.07	2.37	1.95
9,423.00	91.10	278.61	5,468.63	1,060.73	-3,691.79	3,840.25	0.58	-0.41	-0.41
9,487.00	90.70	278.61	5,467.63	1,070.31	-3,755.06	3,903.87	0.63	-0.63	0.00
9,550.00	91.14	279.40	5,466.62	1,080.17	-3,817.28	3,966.54	1.44	0.70	1.25
9,613.00	90.70	278.69	5,465.61	1,090.07	-3,879.49	4,029.22	1.33	-0.70	-1.13
9,676.00	90.44	278.43	5,464.98	1,099.45	-3,941.78	4,091.84	0.58	-0.41	-0.41
9,739.00	90.75	279.22	5,464.33	1,109.11	-4,004.03	4,154.50	1.35	0.49	1.25
9,802.00	90.44	279.31	5,463.67	1,119.26	-4,066.21	4,217.20	0.51	-0.49	0.14
9,866.00	89.69	279.05	5,463.60	1,129.47	-4,129.39	4,280.90	1.24	-1.17	-0.41
9,929.00	90.88	281.07	5,463.29	1,140.47	-4,191.41	4,343.68	3.72	1.89	3.21
9,992.00	90.75	280.80	5,462.39	1,152.42	-4,253.26	4,406.53	0.48	-0.21	-0.43
10,055.00	90.92	280.80	5,461.47	1,164.22	-4,315.14	4,469.37	0.27	0.27	0.00
10,118.00	90.79	281.07	5,460.53	1,176.17	-4,376.99	4,532.22	0.48	-0.21	0.43
10,182.00	91.19	281.33	5,459.43	1,188.60	-4,439.76	4,596.09	0.75	0.63	0.41
10,245.00	90.62	281.16	5,458.43	1,200.89	-4,501.54	4,658.96	0.94	-0.90	-0.27
10,309.00	90.00	280.28	5,458.08	1,212.79	-4,564.43	4,722.79	1.68	-0.97	-1.38
10,371.00	91.32	280.98	5,457.37	1,224.23	-4,625.36	4,784.63	2.41	2.13	1.13
10,434.00	90.31	280.37	5,456.47	1,235.90	-4,687.26	4,847.46	1.87	-1.60	-0.97
10,497.00	89.60	280.19	5,456.52	1,247.14	-4,749.25	4,910.26	1.16	-1.13	-0.29
10,560.00	91.05	280.45	5,456.17	1,258.42	-4,811.22	4,973.07	2.34	2.30	0.41
10,624.00	90.44	280.01	5,455.33	1,269.79	-4,874.20	5,036.86	1.18	-0.95	-0.69
10,687.00	90.57	279.84	5,454.78	1,280.65	-4,936.26	5,099.63	0.34	0.21	-0.27
10,750.00	91.45	279.39	5,453.67	1,291.17	-4,998.36	5,162.36	1.57	1.40	-0.71
10,814.00	90.70	278.69	5,452.47	1,301.22	-5,061.55	5,226.03	1.60	-1.17	-1.09
Final TES Survey									
10,911.00	90.70	278.69	5,451.28	1,315.88	-5,157.43	5,322.47	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 199H	0.00	0.00	5,452.00	1,306.96	-5,099.11	1,908,913.367 457	126,274.24562 2	36.239725	-107.517301
- survey misses target center by 38.00usft at 10814.00usft MD (5452.47 TVD, 1301.22 N, -5061.55 E)									
- Point									



Terrapin Energy Services

Survey Report



Company:	WPX Energy Production, LLC	Local Co-ordinate Reference:	Well NE Chaco Com #199H
Project:	Rio Arriba Co., NM	TVD Reference:	Elev @ 6846.00usft
Site:	Sec.8-T23N-R6W	MD Reference:	Elev @ 6846.00usft
Well:	NE Chaco Com #199H	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 (")
6,052.00	5,510.76	7" Casing	7	8-3/4

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
338.00	338.00	0.88	0.85	Tie In To Surface Gyro's
433.00	432.99	0.30	1.20	First TES Survey
10,814.00	5,452.47	1,301.22	-5,061.55	Final TES Survey
10,911.00	5,451.28	1,315.88	-5,157.43	Projection To Bit

Checked By: _____ Approved By: _____ Date: _____