

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, N.M. 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

"AS DRILLED"

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35538	² Pool Code 97232	³ Pool Name BASIN MANCOS
⁴ Property Code 313652	⁵ Property Name HEROS	⁶ Well Number 003H
⁷ GRID No. 120782	⁸ Operator Name WPX ENERGY PRODUCTION, LLC	⁹ Elevation 6879

¹⁰ Surface Location

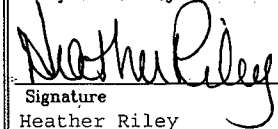
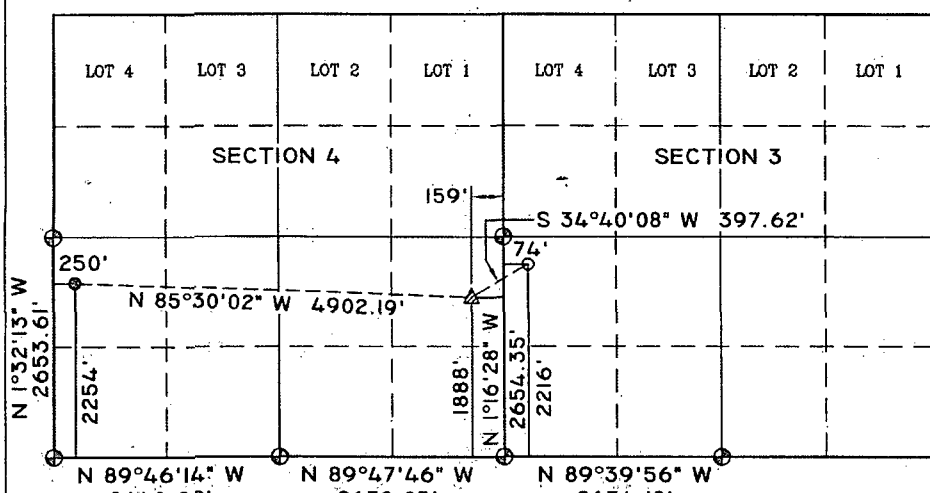
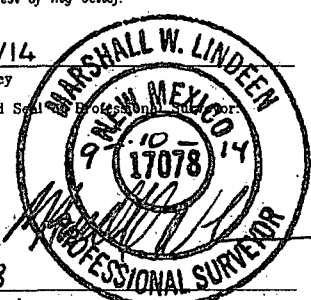
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	3	23 N	8 W		2216	SOUTH	74	WEST	SAN JUAN

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
L	4	23 N	8 W		2254	SOUTH	250	WEST	SAN JUAN

¹² Dedicated Acres 160 ACRES N2/S2 SEC 4	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. RCVD SEP 17 '14 OIL CONS. DIV.
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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

16 BOTTOM HOLE 2254' FSL, 250' FWL LAT: 36.2552258° N LONG: 107.6951132° W NAD 83 LAT: 36°15.31279' N LONG: 107°41.67009' W NAD 27	LANDING POINT 1888' FSL, 159' FEL LAT: 36.2541491° N LONG: 107.6785395° W NAD 83 LAT: 36°15.24818' N LONG: 107°40.67570' W NAD 27	SURFACE 2216' FSL, 74' FWL LAT: 36.2550465° N LONG: 107.6777705° W NAD 83 LAT: 36°15.30203' N LONG: 107°40.62957' W NAD 27	17 OPERATOR CERTIFICATION <i>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.</i>  Signature Heather Riley Printed Name Heather.Riley@wpxenergy.com E-mail Address
 BEARINGS & DISTANCES SHOWN ARE REFERENCED TO THE NEW MEXICO COORDINATE SYSTEM, WEST ZONE, NAD 83, UNLESS OTHERWISE NOTED. NOTE: THE COORDINATES FOR THE LANDING POINT AND THE BOTTOM HOLE LOCATION CAME FROM THE CERTIFIED FINAL DIRECTIONAL SURVEY CONDUCTED BY CATHEDRAL ON 07/31/14. LEGEND: ○ = SURFACE LOCATION ● = BOTTOM HOLE LOCATION ⊕ = FOUND 1947 U.S.G.L.O. BRASS CAP △ = LANDING POINT			18 SURVEYOR CERTIFICATION <i>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.</i> 02/12/14 Date of Survey Signature and Seal  17078 Certificate Number United Field Services, Inc.

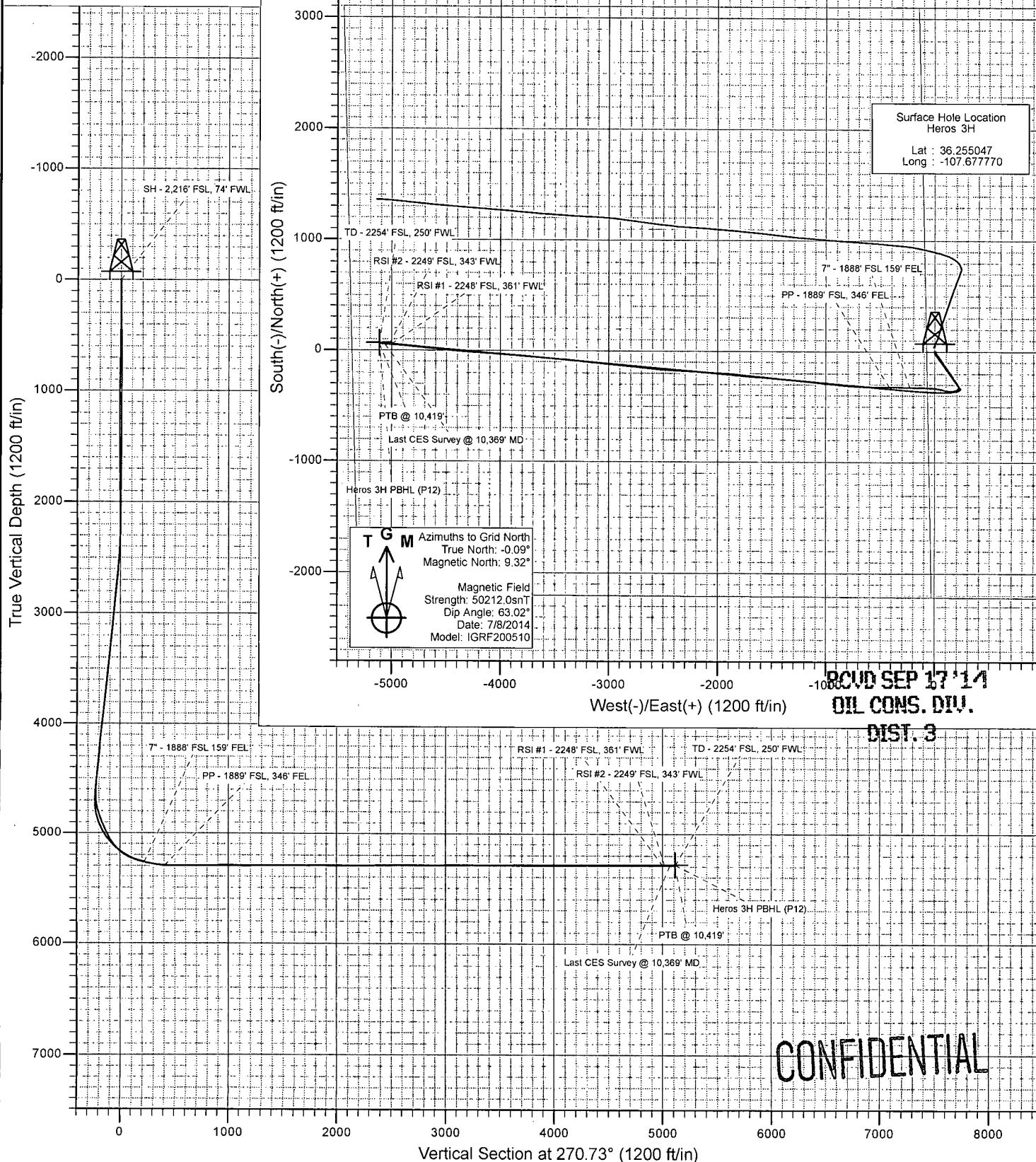
CONFIDENTIAL



Project: San Juan County, NM
Site: S3-T23N-R8W (Heros Pad)
Well: Heros 3H
Wellbore: HZ
Design: FINAL

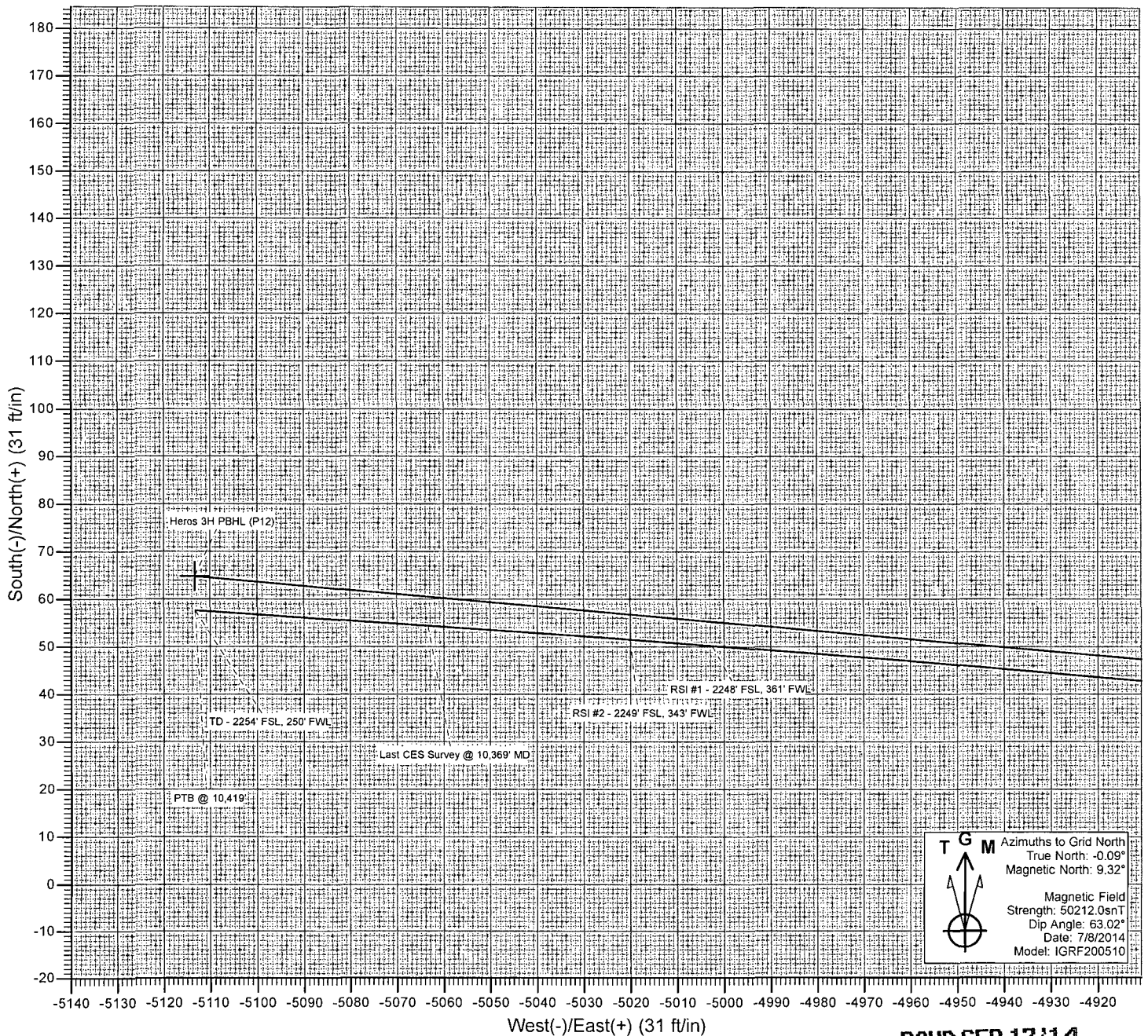


FINAL
Heros 3H
145225/12537: SC
KB=15' @ 6896.0ft (Aztec #222)
Ground Elevation @ 6881.0
North American Datum 1983
Well Heros 3H, Grid North





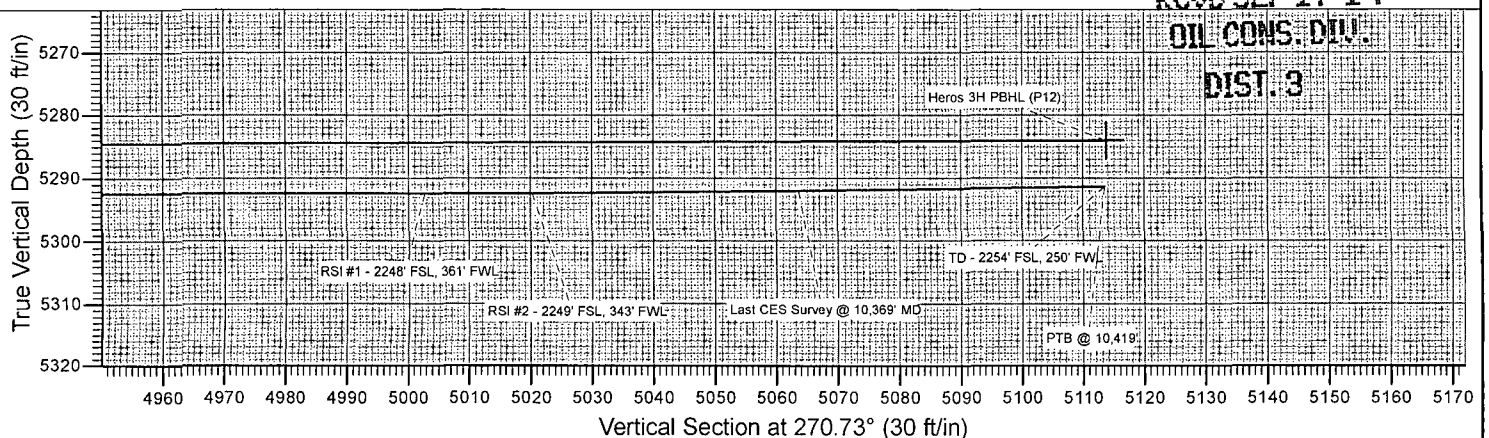
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Site: S3-T23N-R8W (Heros Pad)
Well: Heros 3H
Wellbore: HZ
Design: FINAL



RCUD SEP 17'14

OIL CONS. DIV.

DIST. 3



Cathedral Energy Services

Survey Report

Company:	LOGOS Operating LLC	Local Co-ordinate Reference:	Well: Heros 3H
Project:	San Juan County, NM	TVD Reference:	KB=15' @ 6896.0ft (Aztec #222)
Site:	S3-T23N-R8W (Heros Pad)	MD Reference:	KB=15' @ 6896.0ft (Aztec #222)
Well:	Heros 3H	North Reference:	Grid
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Project	San Juan County, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site S3-T23N-R8W (Heros Pad)					
Site Position:		Northing:	1,913,321.16 ft	Latitude:	36.258189
From:	Lat/Long	Easting:	2,769,675.73 ft	Longitude:	-107.675344
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.09 °

Well	Heros 3H					
Well Position	+N/-S	0.0 ft	Northing:	1,912,176.20 ft	Latitude:	36.255047
	+E/-W	0.0 ft	Easting:	2,768,962.13 ft	Longitude:	-107.677770
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,881.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	7/8/2014	9.41	63.02	50,212

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	270.73	

Survey Program	Date 9/16/2014				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
388.0	10,419.0	Survey #1 (HZ)	ISCWSA MWD	MWD - Standard	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
388.0	0.50	92.01	388.0	-0.1	1.7	-1.7	0.13	0.13	
450.0	0.60	87.31	450.0	-0.1	2.3	-2.3	0.18	0.16	
511.0	0.80	105.91	511.0	-0.2	3.0	-3.0	0.49	0.33	
572.0	1.00	113.21	572.0	-0.5	3.9	-3.9	0.38	0.33	
633.0	0.90	119.21	633.0	-0.9	4.8	-4.8	0.23	-0.16	
693.0	0.90	120.31	693.0	-1.4	5.6	-5.7	0.03	0.00	
754.0	1.00	120.81	754.0	-1.9	6.5	-6.5	0.16	0.16	
815.0	1.10	122.01	814.9	-2.5	7.5	-7.5	0.17	0.16	
876.0	1.30	112.31	875.9	-3.1	8.6	-8.6	0.47	0.33	
938.0	0.50	79.21	937.9	-3.3	9.5	-9.6	1.49	-1.29	
998.0	0.50	21.31	997.9	-3.0	9.9	-9.9	0.81	0.00	
1,059.0	0.60	4.91	1,058.9	-2.4	10.0	-10.0	0.30	0.16	

Cathedral Energy Services

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Company:	LOGOS Operating LLC	Local Co-ordinate Reference:	Well: Heros 3H
Project:	San Juan County, NM	TVD Reference:	KB=15' @ 6896.0ft (Aztec #222)
Site:	S3-T23N-R8W (Heros Pad)	MD Reference:	KB=15' @ 6896.0ft (Aztec #222)
Well:	Heros 3H	North Reference:	Grid:
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,121.0	0.70	17.21	1,120.9	-1.7	10.1	-10.2	0.28	0.16	
1,182.0	0.90	17.61	1,181.9	-0.9	10.4	-10.4	0.33	0.33	
1,244.0	0.90	12.01	1,243.9	0.0	10.6	-10.6	0.14	0.00	
1,306.0	0.40	309.31	1,305.9	0.6	10.6	-10.6	1.29	-0.81	
1,366.0	0.80	273.61	1,365.9	0.8	10.0	-10.0	0.88	0.67	
1,428.0	0.50	262.11	1,427.9	0.8	9.3	-9.3	0.53	-0.48	
1,489.0	0.70	247.11	1,488.9	0.6	8.7	-8.7	0.41	0.33	
1,552.0	0.80	262.01	1,551.9	0.4	7.9	-7.9	0.35	0.16	
1,615.0	0.80	268.31	1,614.9	0.3	7.0	-7.0	0.14	0.00	
1,678.0	0.90	269.91	1,677.9	0.3	6.1	-6.1	0.16	0.16	
1,741.0	0.80	268.91	1,740.9	0.3	5.1	-5.1	0.16	-0.16	
1,804.0	1.00	247.11	1,803.9	0.1	4.2	-4.2	0.62	0.32	
1,867.0	1.00	251.71	1,866.8	-0.3	3.2	-3.2	0.13	0.00	
1,930.0	1.20	235.91	1,929.8	-0.9	2.1	-2.1	0.57	0.32	
1,993.0	1.10	243.01	1,992.8	-1.5	1.0	-1.0	0.28	-0.16	
2,056.0	1.10	237.21	2,055.8	-2.1	0.0	0.0	0.18	0.00	
2,119.0	1.80	209.81	2,118.8	-3.3	-1.0	1.0	1.53	1.11	
2,182.0	2.30	178.41	2,181.8	-5.4	-1.5	1.4	1.92	0.79	
2,245.0	2.90	158.91	2,244.7	-8.2	-0.9	0.8	1.68	0.95	
2,308.0	3.80	144.91	2,307.6	-11.4	0.9	-1.0	1.92	1.43	
2,371.0	4.70	143.01	2,370.4	-15.1	3.7	-3.8	1.45	1.43	
2,433.0	5.70	149.31	2,432.2	-19.8	6.8	-7.0	1.85	1.61	
2,495.0	6.90	149.51	2,493.8	-25.7	10.2	-10.5	1.94	1.94	
2,558.0	8.30	149.81	2,556.2	-32.9	14.4	-14.8	2.22	2.22	
2,621.0	9.40	147.01	2,618.5	-41.1	19.5	-20.0	1.87	1.75	
2,684.0	10.40	142.51	2,680.5	-49.9	25.8	-26.4	2.01	1.59	
2,747.0	9.90	141.41	2,742.5	-58.7	32.6	-33.4	0.85	-0.79	
2,810.0	9.20	142.21	2,804.7	-66.9	39.1	-39.9	1.13	-1.11	
2,873.0	9.20	143.11	2,866.9	-74.9	45.2	-46.1	0.23	0.00	
2,936.0	9.80	144.11	2,929.0	-83.3	51.4	-52.4	0.99	0.95	
2,999.0	9.60	145.11	2,991.1	-91.9	57.5	-58.7	0.42	-0.32	
3,061.0	10.40	144.51	3,052.2	-100.7	63.7	-65.0	1.30	1.29	
3,124.0	10.00	143.11	3,114.2	-109.7	70.3	-71.7	0.75	-0.63	
3,187.0	9.70	143.11	3,176.2	-118.3	76.8	-78.3	0.48	-0.48	
3,250.0	9.60	145.41	3,238.3	-126.9	82.9	-84.5	0.63	-0.16	
3,313.0	11.10	145.41	3,300.3	-136.2	89.4	-91.1	2.38	2.38	
3,376.0	10.70	145.51	3,362.2	-146.0	96.1	-98.0	0.64	-0.63	
3,439.0	10.10	145.71	3,424.1	-155.4	102.5	-104.5	0.95	-0.95	
3,501.0	9.90	144.21	3,485.2	-164.2	108.7	-110.8	0.53	-0.32	
3,564.0	9.60	145.61	3,547.3	-173.0	114.9	-117.0	0.61	-0.48	
3,627.0	10.60	144.71	3,609.3	-182.0	121.2	-123.5	1.61	1.59	
3,690.0	10.70	143.01	3,671.2	-191.4	128.0	-130.5	0.52	0.16	
3,752.0	10.30	139.51	3,732.2	-200.2	135.1	-137.6	1.21	-0.65	
3,815.0	9.50	139.81	3,794.2	-208.5	142.1	-144.7	1.27	-1.27	
3,878.0	9.80	145.11	3,856.4	-216.9	148.5	-151.3	1.49	0.48	
3,940.0	9.80	145.81	3,917.5	-225.6	154.5	-157.4	0.19	0.00	
4,003.0	9.30	146.41	3,979.6	-234.2	160.3	-163.3	0.81	-0.79	
4,066.0	10.20	145.61	4,041.7	-243.1	166.3	-169.4	1.44	1.43	
4,128.0	10.80	144.21	4,102.6	-252.3	172.8	-176.0	1.05	0.97	
4,191.0	11.20	144.71	4,164.5	-262.1	179.8	-183.1	0.65	0.63	
4,253.0	10.70	143.81	4,225.3	-271.7	186.7	-190.1	0.85	-0.81	
4,316.0	9.80	143.31	4,287.3	-280.7	193.3	-196.9	1.44	-1.43	
4,379.0	9.00	142.81	4,349.5	-288.9	199.5	-203.2	1.28	-1.27	

Cathedral Energy Services

Survey Report

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Project:	San Juan County, NM	TVD Reference:	KB=15' @ 6896.0ft (Aztec #222)
Site:	S3-T23N-R8W (Heros Pad)	MD Reference:	KB=15' @ 6896.0ft (Aztec #222)
Well:	Heros 3H	North Reference:	Grid
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
4,441.0	9.00	145.71	4,410.7	-296.8	205.2	-208.9	0.73	0.00	
4,504.0	8.60	142.51	4,473.0	-304.6	210.8	-214.7	1.00	-0.63	
4,567.0	8.40	144.91	4,535.3	-312.1	216.3	-220.3	0.65	-0.32	
4,598.0	8.30	146.31	4,566.0	-315.8	218.9	-222.9	0.73	-0.32	
4,630.0	7.90	146.41	4,597.6	-319.6	221.4	-225.4	1.25	-1.25	
4,662.0	7.60	171.71	4,629.4	-323.5	222.9	-227.0	10.62	-0.94	
4,693.0	9.80	200.81	4,660.0	-328.0	222.3	-226.4	15.64	7.10	
4,724.0	11.30	215.71	4,690.5	-332.9	219.5	-223.8	10.00	4.84	
4,756.0	11.70	221.31	4,721.9	-337.9	215.6	-219.8	3.70	1.25	
4,787.0	12.60	231.41	4,752.2	-342.4	210.9	-215.2	7.43	2.90	
4,819.0	15.10	244.31	4,783.2	-346.4	204.4	-208.8	12.37	7.81	
4,850.0	18.40	251.91	4,812.9	-349.6	196.1	-200.5	12.76	10.65	
4,882.0	19.70	255.31	4,843.2	-352.6	186.1	-190.5	5.34	4.06	
4,913.0	20.70	258.01	4,872.3	-355.0	175.6	-180.1	4.41	3.23	
4,945.0	21.90	261.21	4,902.1	-357.1	164.2	-168.7	5.22	3.75	
4,976.0	23.60	264.31	4,930.7	-358.6	152.3	-156.9	6.71	5.48	
5,008.0	25.40	269.91	4,959.8	-359.3	139.1	-143.6	9.18	5.62	
5,039.0	25.80	277.31	4,987.8	-358.4	125.7	-130.3	10.39	1.29	
5,071.0	27.90	281.31	5,016.3	-356.1	111.5	-116.0	8.65	6.56	
5,103.0	30.40	282.31	5,044.3	-352.9	96.2	-100.7	7.96	7.81	
5,134.0	32.30	283.61	5,070.7	-349.2	80.5	-84.9	6.51	6.13	
5,165.0	36.90	283.91	5,096.2	-345.1	63.4	-67.8	14.85	14.84	
5,197.0	41.40	283.01	5,121.0	-340.4	43.8	-48.1	14.17	14.06	
5,228.0	45.00	280.41	5,143.6	-336.1	23.0	-27.3	12.95	11.61	
5,260.0	48.40	275.11	5,165.6	-333.0	-0.1	-4.2	16.06	10.62	
5,291.0	52.70	273.31	5,185.3	-331.2	-23.9	19.7	14.58	13.87	
5,322.0	57.50	272.41	5,203.0	-330.0	-49.3	45.1	15.67	15.48	
5,354.0	62.80	271.11	5,218.9	-329.1	-77.0	72.9	16.93	16.56	
5,385.0	67.40	271.21	5,232.0	-328.5	-105.1	101.0	14.84	14.84	
5,417.0	69.70	271.11	5,243.7	-327.9	-134.9	130.7	7.19	7.19	
5,448.0	72.70	270.81	5,253.7	-327.5	-164.3	160.1	9.72	9.68	
5,480.0	75.50	270.31	5,262.4	-327.2	-195.0	190.9	8.88	8.75	
5,511.0	78.10	270.11	5,269.5	-327.0	-225.2	221.0	8.41	8.39	
5,512.0	78.15	270.12	5,269.7	-327.0	-226.2	222.0	4.85	4.67	7" - 1888' FSL 159' FEL
5,541.0	79.50	270.51	5,275.4	-326.9	-254.6	250.5	4.85	4.67	
5,580.0	79.80	270.61	5,282.4	-326.5	-293.0	288.8	0.81	0.77	
5,609.0	79.60	270.31	5,287.5	-326.3	-321.5	317.4	1.23	-0.69	
5,640.0	79.80	270.01	5,293.1	-326.2	-352.0	347.9	1.15	0.65	
5,671.0	81.60	270.01	5,298.1	-326.2	-382.6	378.4	5.81	5.81	
5,700.0	84.50	270.20	5,301.6	-326.1	-411.4	407.2	10.02	10.00	PP - 1889' FSL, 346' FEL
5,701.0	84.60	270.21	5,301.7	-326.1	-412.4	408.2	10.02	10.00	
5,731.0	87.80	270.21	5,303.7	-326.0	-442.3	438.2	10.67	10.67	
5,762.0	89.60	270.51	5,304.4	-325.8	-473.3	469.1	5.89	5.81	
5,823.0	90.50	270.51	5,304.3	-325.3	-534.3	530.1	1.48	1.48	
5,885.0	91.20	271.61	5,303.4	-324.2	-596.3	592.1	2.10	1.13	
5,945.0	90.40	273.11	5,302.6	-321.7	-656.2	652.1	2.83	-1.33	
6,006.0	90.20	273.01	5,302.3	-318.4	-717.2	713.0	0.37	-0.33	
6,068.0	89.70	273.61	5,302.3	-314.9	-779.0	775.0	1.26	-0.81	
6,129.0	90.30	275.61	5,302.3	-309.9	-839.8	835.8	3.42	0.98	
6,191.0	90.60	276.01	5,301.8	-303.7	-901.5	897.6	0.81	0.48	
6,253.0	89.70	276.51	5,301.7	-296.9	-963.2	959.3	1.66	-1.45	
6,313.0	89.70	276.11	5,302.0	-290.3	-1,022.8	1,019.0	0.67	0.00	
6,375.0	90.40	275.71	5,301.9	-283.9	-1,084.5	1,080.8	1.30	1.13	

Cathedral Energy Services

Survey Report

Company: LOGOS Operating LLC	Local Co-ordinate Reference: Well Heros 3H
Project: San Juan County, NM	TVD Reference: KB=15' @ 6896.0ft (Aztec #222)
Site: S3-T23N-R8W (Heros Pad)	MD Reference: KB=15' @ 6896.0ft (Aztec #222).
Well: Heros 3H	North Reference: Grid
Wellbore: HZ	Survey Calculation Method: Minimum Curvature
Design: FINAL	Database: USA EDM 5000 Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
6,436.0	91.10	275.41	5,301.1	-278.0	-1,145.2	1,141.5	1.25	1.15	
6,499.0	90.10	275.51	5,300.5	-272.0	-1,207.9	1,204.3	1.60	-1.59	
6,561.0	90.60	275.51	5,300.1	-266.1	-1,269.6	1,266.1	0.81	0.81	
6,624.0	91.40	275.11	5,299.0	-260.3	-1,332.3	1,328.9	1.42	1.27	
6,687.0	90.40	275.61	5,298.0	-254.4	-1,395.0	1,391.7	1.77	-1.59	
6,750.0	90.90	275.71	5,297.3	-248.2	-1,457.7	1,454.4	0.81	0.79	
6,812.0	90.40	275.71	5,296.6	-242.0	-1,519.4	1,516.2	0.81	-0.81	
6,876.0	89.00	276.21	5,296.9	-235.4	-1,583.1	1,579.9	2.32	-2.19	
6,939.0	89.30	275.71	5,297.9	-228.8	-1,645.7	1,642.7	0.93	0.48	
7,001.0	90.40	275.61	5,298.0	-222.7	-1,707.4	1,704.4	1.78	1.77	
7,064.0	89.90	275.01	5,297.9	-216.9	-1,770.1	1,767.2	1.24	-0.79	
7,125.0	90.60	274.91	5,297.6	-211.6	-1,830.9	1,828.1	1.16	1.15	
7,188.0	89.10	274.31	5,297.7	-206.6	-1,893.7	1,890.9	2.56	-2.38	
7,251.0	89.00	273.71	5,298.8	-202.1	-1,956.5	1,953.8	0.97	-0.16	
7,314.0	89.90	273.41	5,299.4	-198.2	-2,019.4	2,016.7	1.51	1.43	
7,377.0	90.80	273.31	5,299.0	-194.5	-2,082.3	2,079.7	1.44	1.43	
7,440.0	91.60	273.11	5,297.7	-191.0	-2,145.2	2,142.6	1.31	1.27	
7,503.0	89.80	273.71	5,296.9	-187.3	-2,208.1	2,205.5	3.01	-2.86	
7,566.0	89.70	273.31	5,297.2	-183.4	-2,271.0	2,268.4	0.65	-0.16	
7,629.0	90.40	272.11	5,297.1	-180.4	-2,333.9	2,331.4	2.21	1.11	
7,691.0	90.30	274.01	5,296.8	-177.1	-2,395.8	2,393.3	3.07	-0.16	
7,754.0	90.60	274.11	5,296.3	-172.7	-2,458.6	2,456.2	0.50	0.48	
7,816.0	91.10	273.71	5,295.4	-168.5	-2,520.5	2,518.1	1.03	0.81	
7,879.0	90.50	275.41	5,294.5	-163.5	-2,583.3	2,581.0	2.86	-0.95	
7,942.0	90.70	276.01	5,293.8	-157.2	-2,646.0	2,643.7	1.00	0.32	
8,004.0	90.20	275.71	5,293.3	-150.9	-2,707.6	2,705.5	0.94	-0.81	
8,067.0	90.80	275.61	5,292.8	-144.6	-2,770.3	2,768.3	0.97	0.95	
8,130.0	89.20	275.41	5,292.8	-138.6	-2,833.0	2,831.1	2.56	-2.54	
8,193.0	89.20	275.41	5,293.7	-132.7	-2,895.8	2,893.8	0.00	0.00	
8,256.0	90.20	275.51	5,294.0	-126.7	-2,958.5	2,956.6	1.60	1.59	
8,319.0	91.20	275.61	5,293.2	-120.6	-3,021.2	3,019.4	1.60	1.59	
8,381.0	90.40	276.31	5,292.3	-114.1	-3,082.8	3,081.1	1.71	-1.29	
8,444.0	89.70	275.91	5,292.3	-107.4	-3,145.5	3,143.8	1.28	-1.11	
8,506.0	90.30	275.31	5,292.3	-101.4	-3,207.2	3,205.6	1.37	0.97	
8,570.0	89.10	276.31	5,292.6	-94.9	-3,270.8	3,269.4	2.44	-1.87	
8,633.0	88.80	276.11	5,293.8	-88.1	-3,333.5	3,332.1	0.57	-0.48	
8,695.0	89.00	275.51	5,295.0	-81.8	-3,395.1	3,393.8	1.02	0.32	
8,758.0	89.50	274.91	5,295.8	-76.1	-3,457.9	3,456.6	1.24	0.79	
8,821.0	90.10	274.61	5,296.0	-70.9	-3,520.6	3,519.5	1.06	0.95	
8,884.0	90.70	274.31	5,295.6	-66.0	-3,583.5	3,582.3	1.06	0.95	
8,947.0	89.80	275.01	5,295.3	-60.9	-3,646.2	3,645.2	1.81	-1.43	
9,010.0	89.80	274.61	5,295.5	-55.6	-3,709.0	3,708.0	0.63	0.00	
9,073.0	90.40	274.01	5,295.4	-50.8	-3,771.8	3,770.9	1.35	0.95	
9,136.0	90.80	273.41	5,294.8	-46.8	-3,834.7	3,833.8	1.14	0.63	
9,199.0	90.50	274.91	5,294.0	-42.2	-3,897.5	3,896.7	2.43	-0.48	
9,262.0	90.10	274.71	5,293.7	-36.9	-3,960.3	3,959.5	0.71	-0.63	
9,325.0	90.70	274.11	5,293.3	-32.1	-4,023.1	4,022.4	1.35	0.95	
9,388.0	89.50	274.21	5,293.2	-27.5	-4,086.0	4,085.3	1.91	-1.90	
9,450.0	89.10	273.91	5,293.9	-23.1	-4,147.8	4,147.2	0.81	-0.65	
9,513.0	89.60	273.41	5,294.6	-19.1	-4,210.7	4,210.1	1.12	0.79	
9,576.0	90.20	273.01	5,294.7	-15.6	-4,273.6	4,273.0	1.14	0.95	
9,639.0	90.70	274.41	5,294.2	-11.5	-4,336.4	4,335.9	2.36	0.79	
9,702.0	89.80	275.51	5,294.0	-6.1	-4,399.2	4,398.8	2.26	-1.43	

Cathedral Energy Services

Survey Report

Company:	LOGOS Operating LLC	Local Co-ordinate Reference:	Well Heros 3H
Project:	San Juan County, NM	TVD Reference:	KB=15' @ 6896.0ft (Aztec #222)
Site:	S3-T23N-R8W (Heros Pad)	MD Reference:	KB=15' @ 6896.0ft (Aztec #222)
Well:	Heros 3H	North Reference:	Grid
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
9,765.0	90.00	275.11	5,294.1	-0.2	-4,461.9	4,461.6	0.71	0.32	
9,827.0	90.80	274.81	5,293.6	5.1	-4,523.7	4,523.4	1.38	1.29	
9,890.0	89.70	276.21	5,293.4	11.2	-4,586.4	4,586.2	2.83	-1.75	
9,953.0	89.40	276.21	5,293.9	18.0	-4,649.0	4,648.9	0.48	-0.48	
10,017.0	90.00	275.81	5,294.2	24.7	-4,712.7	4,712.6	1.13	0.94	
10,079.0	90.60	275.41	5,293.9	30.7	-4,774.4	4,774.4	1.16	0.97	
10,142.0	91.20	274.91	5,292.9	36.4	-4,837.1	4,837.2	1.24	0.95	
10,205.0	89.90	275.11	5,292.3	41.9	-4,899.9	4,900.0	2.09	-2.06	
10,268.0	89.80	274.51	5,292.5	47.2	-4,962.6	4,962.8	0.97	-0.16	
10,308.0	90.12	274.19	5,292.5	50.2	-5,002.5	5,002.8	1.12	0.79	RSI #1 - 2248' FSL, 361' FWL
10,325.6	90.26	274.05	5,292.4	51.5	-5,020.1	5,020.3	1.12	0.79	RSI #2 - 2249' FSL, 343' FWL
10,331.0	90.30	274.01	5,292.4	51.9	-5,025.5	5,025.7	1.12	0.79	
10,369.0	90.80	273.61	5,292.0	54.4	-5,063.4	5,063.7	1.68	1.32	Last CES Survey @ 10,369' MD
10,419.0	90.80	273.61	5,291.3	57.5	-5,113.3	5,113.6	0.00	0.00	TD - 2254' FSL, 250' FWL - PTB @ 10,419'