



Impetro Operating, LLC

Prizehog BWZ State Com 1H
Lea County, New Mexico
Trinidad 117
Lateral 1r4 Final PVA



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	17277.00	93.20	174.17	12785.96	-4569.80	179.36	0.00	0.00	4573.19	Last Weatherford Survey
2	17331.00	93.20	174.17	12782.94	-4623.44	184.83	0.00	0.00	4626.97	Projection to BHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL r4 (Prizehog 1H)	12805.80	-4625.00	146.50	373390.80	859405.50	32° 1' 20.563 N	103° 18' 25.354 W

SITE DETAILS: Prizehog BWZ State Com 1H

Site Centre Northing: 378015.80
Easting: 859259.00

Positional Uncertainty: 0.00
Convergence: 0.54
Local North: Grid



Azimuths to Grid North
True North: -0.54°
Magnetic North: 6.21°

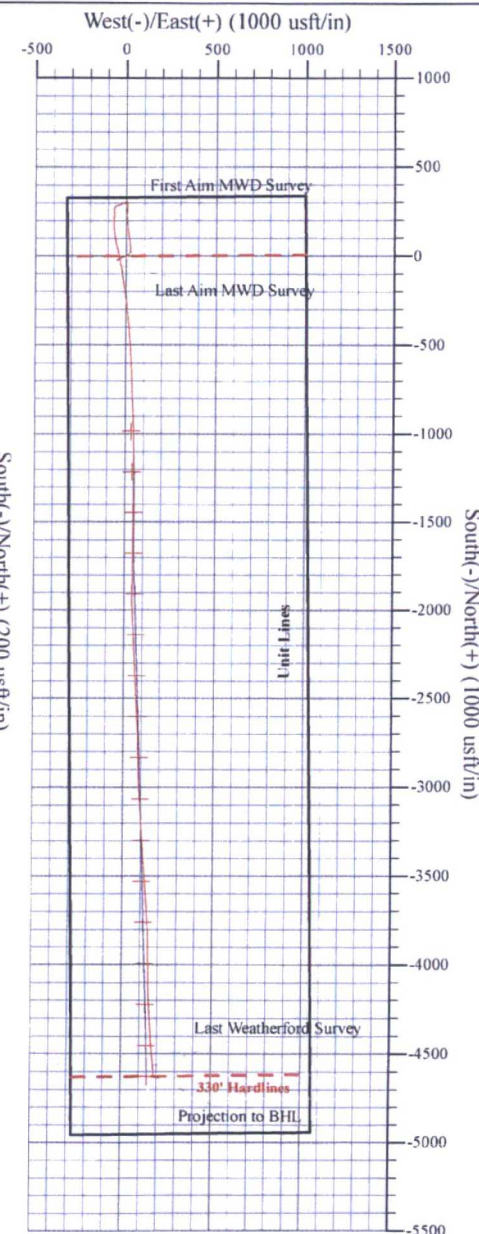
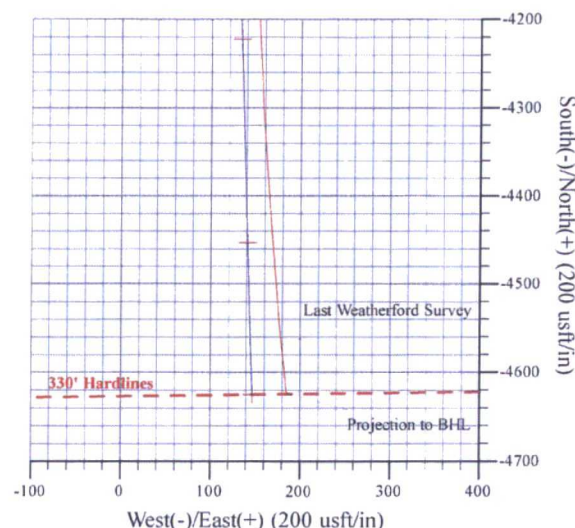
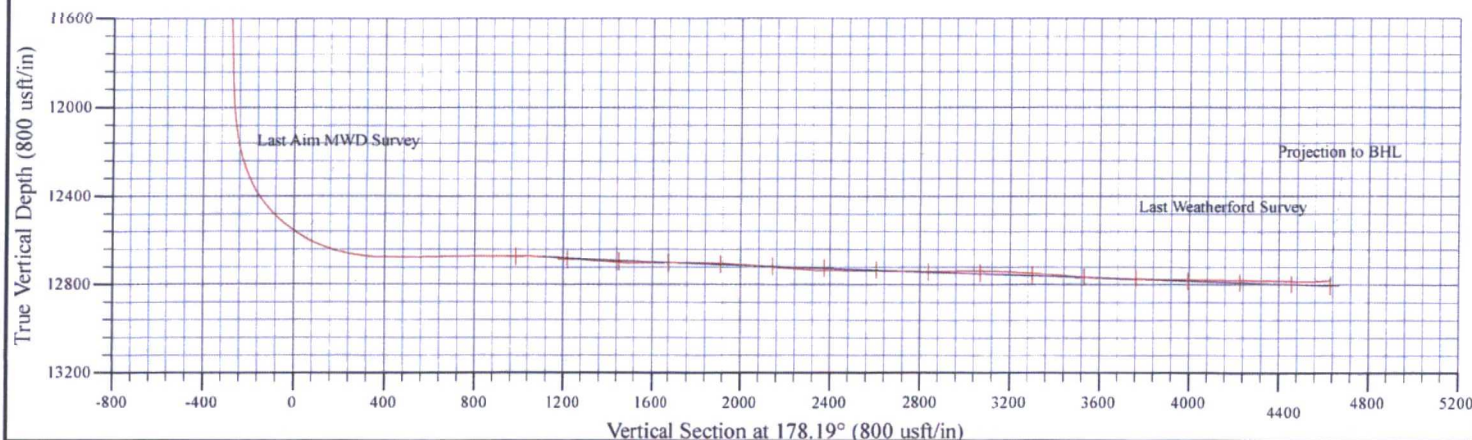
Magnetic Field
Strength: 47872.4snT
Dip Angle: 59.77°
Date: 6/24/2017
Model: HDGM

Magnetic North: 6.21° to Grid North

PROJECT DETAILS: Lea County, New Mexico

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level



Drawn By: IG
Date Created: 6/16/2017
Date Revised: 8/8/2017

petro Operating - Prizehog BWZ State Com 1H Lateral 1r4 Final PVA.wpc

Aim Directional Services, LLC

Survey Report

Company: Impetro Operating, LLC	Local Co-ordinate Reference: Site Prizehog BWZ State Com 1H
Project: Lea County, New Mexico	TVD Reference: 2958'GL+26'KB @ 2984.00usft (Planning)
Site: Prizehog BWZ State Com 1H	MD Reference: 2958'GL+26'KB @ 2984.00usft (Planning)
Well: #1H	North Reference: Grid
Wellbore: Aim MWD Surveys	Survey Calculation Method: Minimum Curvature
Design: Aim MWD Surveys	Database: EDM 5000.14 Single User Db

Project	Lea County, New Mexico		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Prizehog BWZ State Com 1H			
Site Position:		Northing:	378,015.80 usft	Latitude: 32° 2' 6.340 N
From:	Map	Easting:	859,259.00 usft	Longitude: 103° 18' 26.546 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.54 °

Well	#1H			
Well Position	+N/-S	0.00 usft	Northing:	378,015.80 usft
	+E/-W	0.00 usft	Easting:	859,259.00 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft
			Ground Level:	2,958.00 usft

Wellbore	Aim MWD Surveys				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/28/2017	6.75	59.77	47,871.20000000

Design	Aim MWD Surveys				
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	178.19	

Survey Program	Date	8/8/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
116.00	12,782.00	Aim MWD Surveys (Aim MWD Surveys)	B001Mb_MWD+HRGM	OWSG MWD + HRGM	

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116.00	0.31	306.27	116.00	0.19	-0.25	-0.19	0.27	0.27	0.00
First Aim MWD Survey									
491.00	0.44	6.91	490.99	2.22	-0.90	-2.24	0.11	0.03	16.17
664.00	0.79	45.32	663.98	3.71	0.03	-3.71	0.30	0.20	22.20
845.00	0.26	28.01	844.97	4.95	1.11	-4.92	0.30	-0.29	-9.56
913.00	0.40	85.22	912.97	5.11	1.42	-5.06	0.50	0.21	84.13
1,005.00	0.75	80.92	1,004.97	5.23	2.33	-5.15	0.38	0.38	-4.67
1,095.00	0.92	7.44	1,094.96	6.04	3.01	-5.94	1.12	0.19	-81.64
1,186.00	0.35	30.29	1,185.96	7.00	3.24	-6.90	0.67	-0.63	25.11
1,278.00	0.79	241.05	1,277.95	6.94	2.83	-6.85	1.20	0.48	-162.22

Aim Directional Services, LLC

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Well: #1H
Wellbore: Aim MWD Surveys
Design: Aim MWD Surveys

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MD Reference: 2958'GL+26'KB @ 2984.00usft (Planning)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14 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)
1,323.00	1.45	225.50	1,322.94	6.39	2.15	-6.32	1.60	1.47	-34.56
1,440.00	2.15	236.48	1,439.89	4.14	-0.73	-4.16	0.66	0.60	9.38
1,621.00	2.46	245.27	1,620.74	0.64	-7.09	-0.87	0.26	0.17	4.86
1,803.00	2.81	248.35	1,802.55	-2.64	-14.79	2.17	0.21	0.19	1.69
1,985.00	3.38	244.75	1,984.28	-6.57	-23.78	5.82	0.33	0.31	-1.98
2,169.00	2.33	242.55	2,168.05	-10.61	-32.01	9.59	0.57	-0.57	-1.20
2,352.00	1.89	233.14	2,350.93	-14.14	-37.73	12.94	0.31	-0.24	-5.14
2,533.00	1.14	233.32	2,531.86	-17.00	-41.56	15.68	0.41	-0.41	0.10
2,714.00	1.27	223.04	2,712.82	-19.54	-44.37	18.13	0.14	0.07	-5.68
2,896.00	1.01	216.62	2,894.79	-22.30	-46.70	20.82	0.16	-0.14	-3.53
3,077.00	0.97	246.94	3,075.76	-24.19	-49.07	22.62	0.29	-0.02	16.75
3,259.00	0.26	304.69	3,257.75	-24.55	-50.82	22.94	0.47	-0.39	31.73
3,441.00	1.05	54.29	3,439.74	-23.35	-49.81	21.76	0.64	0.43	60.22
3,622.00	1.23	71.16	3,620.70	-21.75	-46.62	20.27	0.21	0.10	9.32
3,804.00	1.71	61.58	3,802.64	-19.83	-42.39	18.48	0.30	0.26	-5.26
3,986.00	1.98	62.28	3,984.55	-17.07	-37.21	15.89	0.15	0.15	0.38
4,168.00	2.07	63.16	4,166.44	-14.13	-31.50	13.12	0.05	0.05	0.48
4,350.00	3.03	61.58	4,348.25	-10.35	-24.33	9.58	0.53	0.53	-0.87
4,531.00	3.82	60.79	4,528.93	-5.13	-14.86	4.66	0.44	0.44	-0.44
4,711.00	3.56	60.17	4,708.56	0.57	-4.78	-0.72	0.15	-0.14	-0.34
4,894.00	3.56	55.78	4,891.20	6.59	4.84	-6.44	0.15	0.00	-2.40
5,031.00	3.03	55.52	5,027.98	11.04	11.35	-10.67	0.39	-0.39	-0.19
5,110.00	2.81	58.86	5,106.87	13.22	14.72	-12.75	0.35	-0.28	4.23
5,223.00	2.81	58.68	5,219.74	16.09	19.46	-15.47	0.01	0.00	-0.16
5,403.00	5.10	359.00	5,399.36	26.39	23.09	-25.65	2.45	1.27	-33.16
5,585.00	7.03	356.98	5,580.34	45.60	22.36	-44.87	1.07	1.06	-1.11
5,767.00	9.98	354.17	5,760.31	72.42	20.18	-71.75	1.64	1.62	-1.54
5,949.00	11.69	354.70	5,939.06	106.47	16.87	-105.88	0.94	0.94	0.29
6,131.00	12.18	352.41	6,117.13	143.86	12.63	-143.39	0.37	0.27	-1.26
6,312.00	12.79	351.53	6,293.85	182.60	7.16	-182.29	0.35	0.34	-0.49
6,494.00	11.60	358.74	6,471.75	220.83	3.79	-220.60	1.06	-0.65	3.96
6,675.00	8.40	6.56	6,649.98	252.16	4.90	-251.88	1.92	-1.77	4.32
6,858.00	7.12	3.92	6,831.31	276.76	7.20	-276.39	0.73	-0.70	-1.44
7,038.00	4.22	0.06	7,010.41	294.51	7.97	-294.12	1.62	-1.61	-2.14
7,220.00	2.42	328.50	7,192.11	304.49	5.97	-304.15	1.37	-0.99	-17.34
7,401.00	1.05	251.69	7,373.04	307.23	2.40	-307.00	1.33	-0.76	-42.44
7,583.00	0.97	237.19	7,555.01	305.87	-0.48	-305.73	0.15	-0.04	-7.97
7,766.00	0.79	225.06	7,737.99	304.14	-2.67	-304.07	0.14	-0.10	-6.63
7,947.00	0.66	225.58	7,918.97	302.53	-4.30	-302.51	0.07	-0.07	0.29
8,130.00	0.44	220.31	8,101.97	301.25	-5.51	-301.28	0.12	-0.12	-2.88
8,311.00	0.18	207.57	8,282.96	300.47	-6.09	-300.51	0.15	-0.14	-7.04
8,494.00	0.22	221.81	8,465.96	299.95	-6.46	-300.01	0.03	0.02	7.78
8,675.00	0.35	147.63	8,646.96	299.23	-6.39	-299.28	0.20	0.07	-40.98

Aim Directional Services, LLC

Survey Report

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Local Co-ordinate Reference: Site Prizehog BWZ State Com 1H
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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)
8,857.00	0.57	150.61	8,828.95	297.97	-5.65	-298.00	0.12	0.12	1.64
9,040.00	0.62	172.41	9,011.94	296.20	-5.07	-296.21	0.13	0.03	11.91
9,220.00	0.22	213.54	9,191.94	294.94	-5.14	-294.96	0.26	-0.22	22.85
9,401.00	0.48	334.57	9,372.94	295.34	-5.65	-295.37	0.34	0.14	66.87
9,583.00	0.92	320.33	9,554.92	297.15	-6.91	-297.22	0.26	0.24	-7.82
9,764.00	1.01	320.42	9,735.90	299.50	-8.86	-299.63	0.05	0.05	0.05
9,946.00	1.05	290.54	9,917.87	301.32	-11.44	-301.53	0.29	0.02	-16.42
10,127.00	1.05	286.67	10,098.84	302.38	-14.58	-302.69	0.04	0.00	-2.14
10,307.00	0.97	199.39	10,278.82	301.41	-16.67	-301.79	0.78	-0.04	-48.49
10,489.00	0.79	202.12	10,460.80	298.80	-17.65	-299.21	0.10	-0.10	1.50
10,672.00	0.66	253.53	10,643.79	297.33	-19.14	-297.79	0.35	-0.07	28.09
10,853.00	1.10	223.21	10,824.76	295.77	-21.33	-296.29	0.35	0.24	-16.75
11,034.00	5.05	252.13	11,005.47	292.06	-30.10	-292.86	2.28	2.18	15.98
11,216.00	5.76	252.57	11,186.66	286.86	-46.44	-288.19	0.39	0.39	0.24
11,397.00	3.30	235.43	11,367.09	281.18	-59.40	-282.92	1.54	-1.36	-9.47
11,579.00	1.93	195.35	11,548.91	275.26	-64.52	-277.16	1.21	-0.75	-22.02
11,670.00	1.98	179.27	11,639.86	272.21	-64.91	-274.12	0.60	0.05	-17.67
11,760.00	1.93	192.10	11,729.81	269.17	-65.21	-271.09	0.49	-0.06	14.26
11,851.00	1.63	207.66	11,820.76	266.52	-66.13	-268.48	0.62	-0.33	17.10
11,944.00	1.98	195.61	11,913.72	263.81	-67.18	-265.80	0.55	0.38	-12.96
12,036.00	2.68	180.85	12,005.64	260.12	-67.64	-262.13	1.00	0.76	-16.04
12,081.00	5.58	169.77	12,050.52	256.92	-67.26	-258.92	6.65	6.44	-24.62
12,126.00	7.69	171.44	12,095.22	251.79	-66.43	-253.76	4.71	4.69	3.71
12,171.00	10.55	178.30	12,139.65	244.69	-65.86	-246.65	6.79	6.36	15.24
12,216.00	12.92	180.76	12,183.70	235.54	-65.80	-237.50	5.38	5.27	5.47
12,261.00	15.82	184.98	12,227.29	224.40	-66.40	-226.38	6.85	6.44	9.38
12,306.00	19.16	184.10	12,270.20	210.92	-67.46	-212.94	7.45	7.42	-1.96
12,352.00	23.08	182.17	12,313.11	194.37	-68.34	-196.43	8.65	8.52	-4.20
12,398.00	26.42	179.35	12,354.88	175.12	-68.57	-177.20	7.70	7.26	-6.13
12,444.00	31.21	175.58	12,395.17	152.99	-67.53	-155.05	11.13	10.41	-8.20
12,489.00	37.27	172.32	12,432.36	127.84	-64.81	-129.82	14.07	13.47	-7.24
12,535.00	43.30	169.69	12,467.44	98.49	-60.12	-100.34	13.62	13.11	-5.72
12,581.00	47.21	168.02	12,499.81	66.44	-53.79	-68.11	8.88	8.50	-3.63
12,626.00	50.51	166.35	12,529.42	33.41	-46.26	-34.85	7.85	7.33	-3.71
12,672.00	53.98	167.67	12,557.58	-2.03	-38.10	0.82	7.88	7.54	2.87
12,718.00	58.86	168.54	12,583.01	-39.52	-30.21	38.54	10.72	10.61	1.89
12,739.00	60.79	169.34	12,593.57	-57.33	-26.73	56.46	9.76	9.19	3.81
Last Aim MWD Survey									
12,782.00	65.00	169.34	12,613.16	-94.94	-19.65	94.27	9.79	9.79	0.00
Projection to TD									

Aim Directional Services, LLC

Survey Report

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Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
116.00	116.00	0.19	-0.25	First Aim MWD Survey
12,739.00	12,593.57	-57.33	-26.73	Last Aim MWD Survey
12,782.00	12,613.16	-94.94	-19.65	Projection to TD