

Bayswater Exploration & Production, LLC

Well Name: **Matrix L-29HC**

Surface Location: Matrix 29- Pad Sec.29-T6N-R65W

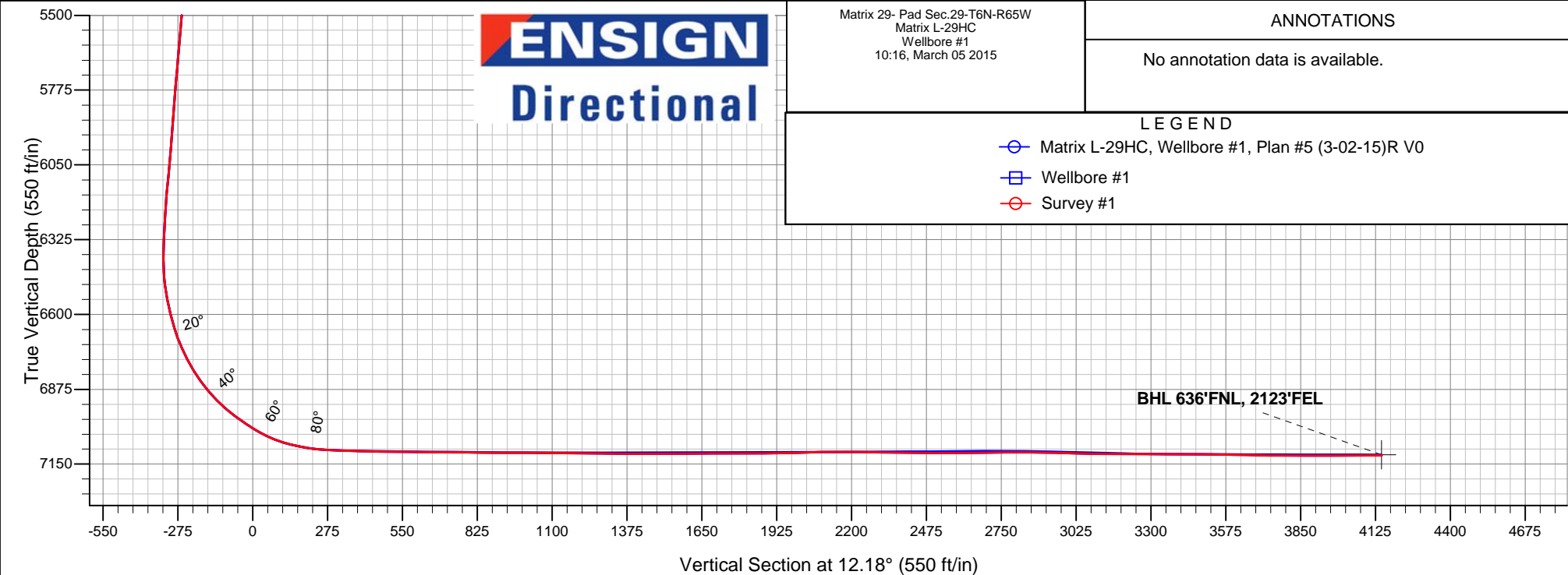
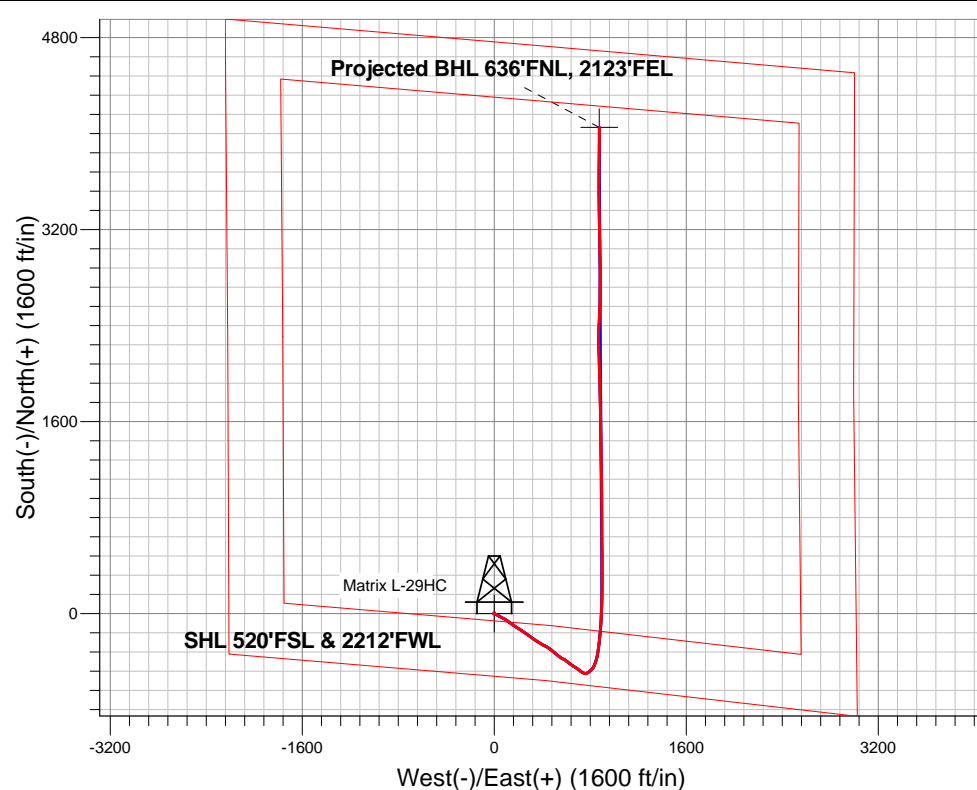
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4708.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1408856.42	3225756.30	40.452878	-104.688771	
RKB - 22.5' WELL @ 4730.5ft (RKB - 22.5')						

FINAL SURVEY

Projected Bottom Hole Location
11492'MD 7118'TVD 4053'N & 879'E of SHL
90.31 degree Incl @ 1.3 degree AZM



Matrix 29- Pad Sec.29-T6N-R65W
Matrix L-29HC
Wellbore #1
10:16, March 05 2015

ANNOTATIONS

No annotation data is available.

LEGEND

- Matrix L-29HC, Wellbore #1, Plan #5 (3-02-15)R V0
- Wellbore #1
- Survey #1



Bayswater Exploration & Production, LLC

SEC.29-T6N-R65W

Matrix 29- Pad Sec.29-T6N-R65W

Matrix L-29HC

Wellbore #1

Survey: Survey #1

Standard Survey Report

05 March, 2015



BAYSWATER
EXPLORATION & PRODUCTION, LLC

Company:	Bayswater Exploration & Production, LLC	Local Co-ordinate Reference:	Well Matrix L-29HC
Project:	SEC.29-T6N-R65W	TVD Reference:	WELL @ 4730.5ft (RKB - 22.5')
Site:	Matrix 29- Pad Sec.29-T6N-R65W	MD Reference:	WELL @ 4730.5ft (RKB - 22.5')
Well:	Matrix L-29HC	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.29-T6N-R65W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		Matrix 29- Pad Sec.29-T6N-R65W			
Site Position:		Northing:	1,408,840.92 ft	Latitude:	40.452836
From:	Lat/Long	Easting:	3,225,730.56 ft	Longitude:	-104.688864
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.52 °

Well	Matrix L-29HC					
Well Position	+N-S	0.0 ft	Northing:	1,408,856.42 ft	Latitude:	40.452878
	+E-W	0.0 ft	Easting:	3,225,756.30 ft	Longitude:	-104.688771
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,708.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/2/2015	8.33	66.98	52,777

Design	Wellbore #1				
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	12.18	

Survey Program	Date	3/5/2015			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
128.0	11,492.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
1.0	0.00	258.90	1.0	0.0	0.0	0.0	0.23	0.23	0.00	
SHL 520'FSL & 2212'FWL										
128.0	0.30	258.90	128.0	-0.1	-0.3	-0.1	0.23	0.23	0.00	
220.0	0.30	189.90	220.0	-0.3	-0.6	-0.5	0.37	0.00	-75.00	
312.0	0.40	211.10	312.0	-0.9	-0.8	-1.0	0.18	0.11	23.04	
404.0	0.60	207.20	404.0	-1.6	-1.2	-1.8	0.22	0.22	-4.24	
496.0	0.80	32.80	496.0	-1.5	-1.1	-1.6	1.52	0.22	-189.57	
588.0	1.20	18.00	588.0	0.0	-0.4	-0.1	0.51	0.43	-16.09	
680.0	0.40	3.30	680.0	1.2	-0.1	1.2	0.89	-0.87	-15.98	
705.0	0.50	4.30	705.0	1.4	-0.1	1.4	0.40	0.40	4.00	
828.0	0.60	22.90	828.0	2.6	0.2	2.5	0.17	0.08	15.12	
923.0	0.60	29.40	923.0	3.5	0.6	3.5	0.07	0.00	6.84	

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Well:	Matrix L-29HC	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,018.0	0.60	20.30	1,018.0	4.4	1.0	4.5	0.10	0.00	-9.58
1,113.0	0.70	14.50	1,112.9	5.4	1.4	5.6	0.13	0.11	-6.11
1,205.0	0.60	18.00	1,204.9	6.4	1.7	6.6	0.12	-0.11	3.80
1,297.0	1.30	234.20	1,296.9	6.2	1.0	6.3	1.98	0.76	-156.30
1,390.0	1.40	231.80	1,389.9	4.9	-0.8	4.6	0.12	0.11	-2.58
1,481.0	1.20	230.50	1,480.9	3.6	-2.4	3.0	0.22	-0.22	-1.43
1,574.0	0.20	303.70	1,573.9	3.1	-3.3	2.3	1.25	-1.08	78.71
1,666.0	0.40	296.60	1,665.9	3.3	-3.7	2.5	0.22	0.22	-7.72
1,758.0	1.40	134.20	1,757.9	2.7	-3.2	2.0	1.94	1.09	-176.52
1,850.0	3.30	128.00	1,849.8	0.3	-0.3	0.2	2.08	2.07	-6.74
1,942.0	4.60	111.00	1,941.6	-2.7	5.2	-1.5	1.89	1.41	-18.48
2,034.0	6.10	106.80	2,033.2	-5.4	13.4	-2.5	1.68	1.63	-4.57
2,126.0	6.90	123.70	2,124.6	-9.9	22.6	-4.9	2.24	0.87	18.37
2,218.0	8.30	119.10	2,215.8	-16.2	33.0	-8.9	1.66	1.52	-5.00
2,310.0	9.30	117.50	2,306.7	-22.9	45.4	-12.8	1.12	1.09	-1.74
2,403.0	10.50	120.00	2,398.3	-30.6	59.4	-17.3	1.37	1.29	2.69
2,495.0	12.40	117.90	2,488.5	-39.4	75.4	-22.6	2.11	2.07	-2.28
2,590.0	12.10	120.80	2,581.3	-49.2	93.0	-28.5	0.72	-0.32	3.05
2,685.0	13.20	126.50	2,674.0	-60.8	110.3	-36.2	1.75	1.16	6.00
2,781.0	14.30	127.00	2,767.2	-74.5	128.6	-45.7	1.15	1.15	0.52
2,876.0	14.00	125.80	2,859.4	-88.2	147.2	-55.2	0.44	-0.32	-1.26
2,971.0	12.20	121.70	2,951.9	-100.2	165.1	-63.1	2.13	-1.89	-4.32
3,066.0	13.40	124.50	3,044.5	-111.7	182.7	-70.7	1.42	1.26	2.95
3,161.0	10.90	119.30	3,137.4	-122.4	199.6	-77.5	2.87	-2.63	-5.47
3,257.0	10.30	121.50	3,231.8	-131.3	214.9	-83.0	0.75	-0.63	2.29
3,352.0	9.90	126.10	3,325.3	-140.6	228.7	-89.1	0.95	-0.42	4.84
3,447.0	10.60	124.90	3,418.8	-150.4	242.5	-95.8	0.77	0.74	-1.26
3,542.0	11.70	128.00	3,512.0	-161.3	257.2	-103.4	1.32	1.16	3.26
3,637.0	12.40	122.40	3,604.9	-172.7	273.4	-111.1	1.43	0.74	-5.89
3,733.0	13.80	124.90	3,698.4	-184.8	291.5	-119.1	1.57	1.46	2.60
3,828.0	15.00	125.60	3,790.4	-198.4	310.8	-128.4	1.28	1.26	0.74
3,923.0	16.40	126.50	3,881.9	-213.5	331.6	-138.8	1.50	1.47	0.95
4,018.0	16.30	123.80	3,973.0	-228.9	353.4	-149.2	0.81	-0.11	-2.84
4,113.0	15.10	121.40	4,064.5	-242.8	375.1	-158.2	1.44	-1.26	-2.53
4,209.0	13.10	117.90	4,157.6	-254.4	395.4	-165.3	2.26	-2.08	-3.65
4,304.0	11.80	117.30	4,250.3	-263.9	413.5	-170.7	1.38	-1.37	-0.63
4,399.0	9.80	115.90	4,343.7	-271.9	429.4	-175.2	2.12	-2.11	-1.47
4,494.0	9.70	123.80	4,437.3	-279.9	443.4	-180.0	1.41	-0.11	8.32
4,589.0	10.60	127.90	4,530.8	-289.7	456.9	-186.8	1.21	0.95	4.32
4,684.0	11.60	127.20	4,624.0	-300.8	471.4	-194.6	1.06	1.05	-0.74
4,780.0	10.30	128.00	4,718.3	-312.0	485.9	-202.4	1.36	-1.35	0.83
4,875.0	11.60	130.50	4,811.5	-323.4	499.8	-210.7	1.46	1.37	2.63
4,970.0	12.10	129.80	4,904.5	-336.0	514.7	-219.8	0.55	0.53	-0.74
5,065.0	11.30	129.60	4,997.5	-348.3	529.5	-228.7	0.84	-0.84	-0.21
5,161.0	11.50	126.30	5,091.6	-359.9	544.5	-237.0	0.71	0.21	-3.44
5,256.0	10.40	121.00	5,184.9	-370.0	559.5	-243.6	1.57	-1.16	-5.58
5,351.0	9.80	116.10	5,278.4	-377.9	574.1	-248.3	1.10	-0.63	-5.16
5,446.0	9.40	120.70	5,372.1	-385.4	588.0	-252.7	0.91	-0.42	4.84
5,541.0	9.30	128.00	5,465.9	-394.1	600.7	-258.5	1.25	-0.11	7.68
5,636.0	11.10	129.10	5,559.4	-404.6	613.9	-266.0	1.91	1.89	1.16
5,731.0	11.80	126.50	5,652.5	-416.2	628.8	-274.1	0.92	0.74	-2.74
5,826.0	13.20	124.20	5,745.2	-428.0	645.6	-282.2	1.56	1.47	-2.42
5,922.0	11.20	121.40	5,839.0	-439.1	662.6	-289.4	2.17	-2.08	-2.92
6,017.0	11.70	123.50	5,932.1	-449.2	678.5	-295.9	0.69	0.53	2.21

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,112.0	12.30	127.30	6,025.1	-460.6	694.6	-303.7	1.04	0.63	4.00
6,207.0	13.20	127.50	6,117.7	-473.4	711.3	-312.7	0.95	0.95	0.21
6,303.0	9.60	123.10	6,211.8	-484.4	726.7	-320.2	3.86	-3.75	-4.58
6,398.0	9.80	120.00	6,305.5	-492.8	740.3	-325.5	0.59	0.21	-3.26
6,446.0	8.60	113.10	6,352.8	-496.2	747.1	-327.5	3.39	-2.50	-14.38
6,493.0	10.00	100.60	6,399.2	-498.4	754.4	-328.0	5.21	2.98	-26.60
6,541.0	10.90	86.20	6,446.4	-498.8	763.0	-326.6	5.74	1.88	-30.00
6,588.0	12.80	64.90	6,492.5	-496.3	772.2	-322.3	10.07	4.04	-45.32
6,636.0	14.30	56.00	6,539.1	-490.8	781.9	-314.8	5.34	3.13	-18.54
6,683.0	16.10	49.80	6,584.5	-483.3	791.7	-305.4	5.16	3.83	-13.19
6,731.0	19.30	49.60	6,630.2	-473.9	802.8	-293.8	6.67	6.67	-0.42
6,778.0	21.80	40.00	6,674.2	-462.1	814.3	-279.9	8.91	5.32	-20.43
6,826.0	24.70	31.20	6,718.3	-446.7	825.3	-262.6	9.41	6.04	-18.33
6,873.0	27.70	23.50	6,760.5	-428.3	834.7	-242.6	9.64	6.38	-16.38
6,921.0	31.20	18.90	6,802.3	-406.3	843.2	-219.3	8.68	7.29	-9.58
6,969.0	35.40	15.70	6,842.4	-381.1	851.0	-193.0	9.48	8.75	-6.67
7,017.0	39.80	11.50	6,880.5	-352.7	857.8	-163.8	10.60	9.17	-8.75
7,064.0	44.50	8.70	6,915.3	-321.6	863.3	-132.3	10.77	10.00	-5.96
7,112.0	50.10	8.00	6,947.8	-286.7	868.4	-97.1	11.72	11.67	-1.46
7,159.0	53.90	7.60	6,976.8	-250.1	873.4	-60.2	8.11	8.09	-0.85
7,207.0	55.80	5.70	7,004.4	-211.1	878.0	-21.1	5.11	3.96	-3.96
7,254.0	60.10	5.40	7,029.3	-171.4	881.8	18.4	9.16	9.15	-0.64
7,296.0	65.20	4.50	7,048.6	-134.3	885.0	55.4	12.29	12.14	-2.14
7,349.0	71.90	3.80	7,068.0	-85.1	888.6	104.3	12.70	12.64	-1.32
7,397.0	77.90	2.70	7,080.5	-38.9	891.2	150.0	12.69	12.50	-2.29
7,445.0	80.20	2.20	7,089.6	8.2	893.2	196.5	4.90	4.79	-1.04
7,508.0	86.60	1.50	7,096.8	70.7	895.3	258.0	10.22	10.16	-1.11
7,566.0	87.85	1.21	7,099.7	128.6	896.6	314.9	2.21	2.16	-0.50
7,628.0	88.20	1.30	7,101.8	190.6	898.0	375.7	0.58	0.56	0.15
Casing Pt. (L-29HC)									
7,723.0	89.25	0.16	7,103.9	285.6	899.2	468.8	1.63	1.11	-1.20
7,817.0	89.52	0.16	7,104.9	379.6	899.5	560.8	0.29	0.29	0.00
7,910.0	89.08	359.28	7,106.0	472.5	899.0	651.6	1.06	-0.47	-0.95
8,005.0	90.04	359.19	7,106.8	567.5	897.7	744.1	1.01	1.01	-0.09
8,099.0	88.72	359.54	7,107.8	661.5	896.7	835.8	1.45	-1.40	0.37
8,193.0	90.40	0.16	7,108.5	755.5	896.4	927.6	1.91	1.79	0.66
8,287.0	89.69	359.89	7,108.4	849.5	896.5	1,019.5	0.81	-0.76	-0.29
8,306.1	89.66	359.87	7,108.6	868.6	896.4	1,038.2	0.20	-0.18	-0.09
WP #1 (L-29HC)									
8,381.0	89.52	359.81	7,109.1	943.5	896.2	1,111.3	0.20	-0.18	-0.09
8,475.0	89.52	359.54	7,109.9	1,037.5	895.7	1,203.1	0.29	0.00	-0.29
8,569.0	88.90	358.58	7,111.2	1,131.5	894.2	1,294.6	1.22	-0.66	-1.02
8,664.0	89.96	359.28	7,112.1	1,226.5	892.4	1,387.1	1.34	1.12	0.74
8,758.0	90.13	358.93	7,112.0	1,320.4	890.9	1,478.7	0.41	0.18	-0.37
8,852.0	90.48	358.84	7,111.5	1,414.4	889.1	1,570.2	0.38	0.37	-0.10
8,946.0	90.22	359.89	7,111.0	1,508.4	888.1	1,661.8	1.15	-0.28	1.12
9,041.0	89.78	358.75	7,111.0	1,603.4	886.9	1,754.4	1.29	-0.46	-1.20
9,103.2	90.24	359.04	7,111.0	1,665.6	885.7	1,814.9	0.88	0.74	0.47
WP #2 (L-29HC)									
9,135.0	90.48	359.19	7,110.8	1,697.4	885.2	1,845.9	0.88	0.74	0.47
9,229.0	90.75	358.49	7,109.7	1,791.4	883.3	1,937.4	0.80	0.29	-0.74
9,323.0	92.07	358.93	7,107.4	1,885.3	881.2	2,028.8	1.48	1.40	0.47
9,417.0	89.87	358.05	7,105.8	1,979.3	878.7	2,120.1	2.52	-2.34	-0.94
9,510.0	90.04	356.91	7,105.9	2,072.2	874.6	2,210.0	1.24	0.18	-1.23

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Survey

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9,605.0	89.16	358.66	7,106.6	2,167.1	871.0	2,302.1	2.06	-0.93	1.84
9,651.2	89.25	359.01	7,107.2	2,213.3	870.0	2,347.0	0.78	0.19	0.76
WP #3 (L-29HC)									
9,699.0	89.34	359.37	7,107.8	2,261.1	869.4	2,393.6	0.78	0.19	0.76
9,793.0	89.34	1.39	7,108.9	2,355.1	870.0	2,485.6	2.15	0.00	2.15
9,887.0	90.22	2.71	7,109.3	2,449.0	873.3	2,578.1	1.69	0.94	1.40
9,981.0	90.84	3.15	7,108.4	2,542.9	878.2	2,670.9	0.81	0.66	0.47
10,075.0	90.75	1.74	7,107.1	2,636.8	882.2	2,763.5	1.50	-0.10	-1.50
10,075.8	90.74	1.72	7,107.1	2,637.6	882.2	2,764.4	2.65	-1.58	-2.13
WP #4 (L-29HC)									
10,170.0	89.25	359.72	7,107.1	2,731.7	883.4	2,856.6	2.65	-1.58	-2.13
10,264.0	88.72	358.31	7,108.7	2,825.7	881.8	2,948.1	1.60	-0.56	-1.50
10,358.0	88.46	359.89	7,111.1	2,919.7	880.3	3,039.7	1.70	-0.28	1.68
10,453.0	89.52	0.16	7,112.7	3,014.7	880.3	3,132.5	1.15	1.12	0.28
10,547.0	90.13	358.84	7,113.0	3,108.7	879.5	3,224.2	1.55	0.65	-1.40
10,623.9	89.70	358.99	7,113.1	3,185.6	878.0	3,299.1	0.59	-0.56	0.19
WP #5 (L-29HC)									
10,642.0	89.60	359.02	7,113.2	3,203.6	877.7	3,316.7	0.59	-0.56	0.19
10,736.0	90.04	358.84	7,113.5	3,297.6	876.0	3,408.2	0.51	0.47	-0.19
10,830.0	89.34	358.31	7,114.0	3,391.6	873.6	3,499.6	0.93	-0.74	-0.56
10,924.0	88.99	358.66	7,115.4	3,485.5	871.2	3,590.9	0.53	-0.37	0.37
11,019.0	88.64	359.98	7,117.4	3,580.5	870.0	3,683.5	1.44	-0.37	1.39
11,113.0	90.13	1.12	7,118.4	3,674.5	870.9	3,775.5	2.00	1.59	1.21
11,207.0	89.52	0.86	7,118.7	3,768.5	872.5	3,867.7	0.71	-0.65	-0.28
11,301.0	90.31	1.30	7,118.8	3,862.5	874.3	3,960.0	0.96	0.84	0.47
11,395.0	90.31	1.30	7,118.3	3,956.4	876.5	4,052.3	0.00	0.00	0.00
11,492.0	90.31	1.30	7,117.8	4,053.4	878.7	4,147.6	0.00	0.00	0.00
BHL 636'FNL, 2127'FEL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
SHL 520'FSL & 2212'I - hit/miss target - Shape - Point	0.00	0.00	1.0	0.0	0.0	1,408,856.45	3,225,756.30	40.452878	-104.688771
BHL 636'FNL, 2127'FI - survey hits target center - Point	0.00	0.00	7,115.5	4,053.6	874.8	1,412,917.70	3,226,593.99	40.464004	-104.685627

Checked By: _____ Approved By: _____ Date: _____