



Anglian Oil Company Ltd.
Northern Lights, AA Pad, AA16, Slot 09, Run #4

Job No. AB-CD-12345678
Survey Date: 23 September 2017

True North Directional Services Inc.

Survey Report

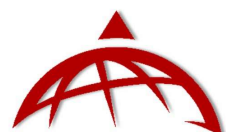
17 November 2025

Surface Coordinates (metres): 6,789,330.21 N, 572,493.04 E (61° 14' 00.2426" N, 109° 38' 59.0443" W)
Grid Coordinate System: Universal Transverse Mercator, Zone 12 North

Surface Coordinates relative to AA Pad: 91.21 S, 114.93 E (Grid)

Kelly Bushing Elevation: 2,065.65ft above Mean Sea Level
Kelly Bushing Elevation: 5.25ft above Ground Level
Ground Level: 2,060.40ft above Mean Sea Level

Survey Ref: svy57



True North
Directional Services Inc.

Survey Report for AA Pad, AA16, Run #4

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
Run #1							
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	
36.09	0.22	120.07	36.09	0.03 S	0.06 E	0.06	0.610
66.67	0.17	210.70	66.67	0.10 S	0.09 E	0.08	0.919
96.11	0.22	129.57	96.11	0.18 S	0.11 E	0.10	0.880
126.29	0.50	99.70	126.29	0.24 S	0.28 E	0.27	1.073
155.36	0.16	271.07	155.36	0.26 S	0.37 E	0.35	2.255
185.42	0.00	285.70	185.42	0.26 S	0.32 E	0.30	0.518
216.99	0.09	77.62	216.99	0.25 S	0.35 E	0.33	0.289
244.51	0.20	96.45	244.51	0.25 S	0.41 E	0.39	0.423
276.98	0.32	254.18	276.98	0.28 S	0.38 E	0.36	1.562
307.18	0.08	200.31	307.18	0.33 S	0.29 E	0.27	0.935
336.85	0.04	237.93	336.85	0.35 S	0.27 E	0.25	0.170
364.69	0.31	263.01	364.69	0.36 S	0.19 E	0.16	0.992
395.92	0.04	187.97	395.92	0.39 S	0.10 E	0.08	0.982
427.42	0.07	34.51	427.41	0.38 S	0.11 E	0.09	0.351
457.20	0.01	172.63	457.20	0.37 S	0.12 E	0.10	0.267
485.85	0.27	203.05	485.85	0.43 S	0.10 E	0.07	0.923
517.80	0.12	55.45	517.80	0.48 S	0.10 E	0.06	1.184
547.52	0.01	1.28	547.52	0.46 S	0.12 E	0.09	0.382
574.87	0.18	196.73	574.87	0.50 S	0.11 E	0.07	0.697
591.40	0.39	141.52	591.40	0.57 S	0.14 E	0.10	1.935
619.50	0.13	279.76	619.50	0.64 S	0.16 E	0.12	1.747
650.05	0.20	145.16	650.05	0.68 S	0.16 E	0.11	0.991
680.86	0.21	266.64	680.86	0.72 S	0.13 E	0.08	1.146
708.54	0.35	227.15	708.54	0.78 S	0.02 E	-0.03	0.835
740.33	0.03	72.73	740.33	0.85 S	0.04 W	-0.10	1.185
769.94	0.28	112.69	769.94	0.87 S	0.03 E	-0.03	0.860
799.40	1.08	92.72	799.40	0.91 S	0.38 E	0.31	2.817
830.49	2.74	116.33	830.46	1.26 S	1.34 E	1.25	5.800
860.59	4.70	105.57	860.50	1.91 S	3.17 E	3.03	6.861
889.35	6.74	105.41	889.12	2.67 S	5.93 E	5.73	7.101
919.42	8.89	105.63	918.91	3.77 S	9.87 E	9.58	7.159
951.24	11.25	107.50	950.24	5.36 S	15.20 E	14.79	7.483
981.26	14.00	112.80	979.53	7.65 S	21.34 E	20.76	9.931
Run #2							
1,007.79	17.10	120.53	1,005.09	10.88 S	27.66 E	26.83	14.023
1,037.57	19.54	125.54	1,033.35	16.00 S	35.48 E	34.28	9.761
1,065.34	22.08	126.37	1,059.31	21.79 S	43.47 E	41.84	9.205
1,096.90	25.14	128.42	1,088.22	29.48 S	53.50 E	51.31	10.024
1,127.85	27.95	130.62	1,115.91	38.29 S	64.16 E	61.33	9.612
1,155.46	30.67	131.45	1,139.98	47.16 S	74.34 E	70.87	9.987
1,186.43	33.27	133.03	1,166.26	58.19 S	86.48 E	82.21	8.798
1,215.04	35.83	132.94	1,189.82	69.25 S	98.35 E	93.28	8.972
1,247.99	38.36	132.82	1,216.10	82.78 S	112.91 E	106.86	7.669
1,276.95	40.91	132.87	1,238.40	95.34 S	126.45 E	119.49	8.802

Survey Report for AA Pad, AA16, Run #4

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
1,304.81	43.01	133.13	1,259.12	108.04 S	140.07 E	132.19	7.566
1,336.66	45.36	133.29	1,281.96	123.24 S	156.25 E	147.27	7.393
1,365.12	47.88	133.28	1,301.51	137.42 S	171.31 E	161.30	8.842
1,395.15	50.20	132.95	1,321.19	152.91 S	187.86 E	176.73	7.785
1,427.45	53.25	132.13	1,341.20	170.05 S	206.54 E	194.18	9.663
1,455.79	55.59	132.17	1,357.68	185.52 S	223.63 E	210.14	8.252
1,485.02	57.95	132.55	1,373.70	201.99 S	241.70 E	227.02	8.146
1,515.86	60.20	132.93	1,389.55	219.95 S	261.13 E	245.15	7.361
1,546.16	62.83	132.36	1,404.00	237.99 S	280.72 E	263.43	8.851
1,575.92	65.58	132.78	1,416.94	256.11 S	300.45 E	281.85	9.329
1,608.06	68.03	132.64	1,429.60	276.14 S	322.16 E	302.11	7.633
1,638.18	70.05	132.94	1,440.37	295.25 S	342.80 E	321.37	6.775
1,666.31	73.04	132.82	1,449.27	313.40 S	362.34 E	339.60	10.634
1,695.92	75.28	132.82	1,457.36	332.77 S	383.24 E	359.10	7.547
1,725.56	77.25	132.17	1,464.39	352.21 S	404.47 E	378.91	6.971
1,755.58	80.09	132.69	1,470.29	372.07 S	426.19 E	399.20	9.620
1,787.19	82.56	132.61	1,475.06	393.24 S	449.17 E	420.65	7.814
1,816.43	82.28	132.66	1,478.92	412.87 S	470.50 E	440.55	0.973
1,846.46	82.69	132.40	1,482.84	433.00 S	492.44 E	461.03	1.620
1,877.47	82.58	132.56	1,486.82	453.77 S	515.11 E	482.21	0.618
1,906.22	82.51	132.31	1,490.55	473.00 S	536.15 E	501.85	0.915
1,937.24	83.24	132.74	1,494.40	493.81 S	558.84 E	523.03	2.740
1,965.87	82.97	131.27	1,497.84	512.83 S	579.96 E	542.77	5.209
1,995.82	82.88	131.14	1,501.53	532.41 S	602.32 E	563.71	0.497
2,027.14	82.68	132.14	1,505.46	553.05 S	625.54 E	585.44	3.214
2,055.51	83.00	130.83	1,509.00	571.70 S	646.63 E	605.17	4.723
2,086.77	82.55	131.36	1,512.93	592.08 S	670.00 E	627.06	2.236
2,118.26	82.64	132.06	1,516.99	612.86 S	693.31 E	648.87	2.205
2,146.16	82.69	131.00	1,520.55	631.21 S	714.03 E	668.26	3.759
2,177.90	83.20	130.97	1,524.45	651.86 S	737.81 E	690.54	1.590
2,206.59	82.36	130.29	1,528.05	670.40 S	759.40 E	710.79	3.747
2,236.31	83.07	128.10	1,531.82	689.03 S	782.26 E	732.29	7.686
2,268.40	83.01	125.89	1,535.71	708.19 S	807.69 E	756.32	6.832
2,297.47	82.93	123.02	1,539.27	724.52 S	831.48 E	778.92	9.827
2,327.48	83.10	120.55	1,542.92	740.20 S	856.80 E	803.08	8.184
2,356.85	83.17	119.05	1,546.43	754.69 S	882.10 E	827.31	5.069
2,385.78	83.76	115.59	1,549.73	767.88 S	907.63 E	851.86	12.050
2,417.32	84.46	113.29	1,552.96	780.86 S	936.19 E	879.44	7.578
2,447.78	84.25	110.91	1,555.96	792.27 S	964.27 E	906.66	7.811
2,478.52	84.46	109.36	1,558.98	802.80 S	992.99 E	934.57	5.079
2,508.28	85.34	106.12	1,561.63	811.83 S	1,021.22 E	962.10	11.221
Run #3							
2,546.57	83.80	104.31	1,565.25	821.83 S	1,058.00 E	998.09	6.177
2,577.84	84.23	101.70	1,568.51	828.83 S	1,088.30 E	1,027.83	8.419
2,606.25	84.50	99.84	1,571.30	834.11 S	1,116.08 E	1,055.17	6.597
2,637.09	84.61	98.43	1,574.23	838.99 S	1,146.39 E	1,085.07	4.552
2,666.52	85.25	95.37	1,576.83	842.51 S	1,175.48 E	1,113.85	10.568

Survey Report for AA Pad, AA16, Run #4

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
2,696.57	85.06	92.72	1,579.37	844.62 S	1,205.35 E	1,143.50	8.834
2,726.43	85.84	89.66	1,581.74	845.24 S	1,235.10 E	1,173.13	10.522
2,756.09	86.50	87.97	1,583.72	844.62 S	1,264.69 E	1,202.69	6.102
2,786.27	86.39	85.87	1,585.59	843.01 S	1,294.77 E	1,232.81	6.978
2,815.86	87.09	82.89	1,587.27	840.11 S	1,324.17 E	1,262.34	10.321
2,845.19	87.19	81.39	1,588.73	836.11 S	1,353.19 E	1,291.57	5.097
2,875.80	87.30	77.72	1,590.21	830.57 S	1,383.25 E	1,321.94	11.986
2,908.25	87.87	74.96	1,591.57	822.91 S	1,414.75 E	1,353.90	8.675
2,935.25	87.96	73.07	1,592.56	815.48 S	1,440.69 E	1,380.29	7.029
2,966.35	88.97	69.39	1,593.39	805.48 S	1,470.12 E	1,410.35	12.274
2,996.28	89.33	67.20	1,593.83	794.42 S	1,497.92 E	1,438.85	7.386
3,026.72	89.38	64.09	1,594.18	781.86 S	1,525.65 E	1,467.39	10.216
3,055.66	89.55	64.55	1,594.44	769.33 S	1,551.73 E	1,494.28	1.686
3,086.70	89.58	65.98	1,594.68	756.34 S	1,579.91 E	1,523.31	4.609
3,116.03	89.69	65.52	1,594.86	744.29 S	1,606.66 E	1,550.82	1.623
3,147.26	90.20	65.16	1,594.89	731.26 S	1,635.04 E	1,580.05	1.989
3,176.98	89.48	65.19	1,594.98	718.78 S	1,662.02 E	1,607.83	2.412
3,205.76	89.93	64.48	1,595.13	706.55 S	1,688.06 E	1,634.66	2.921
3,238.34	90.18	64.96	1,595.09	692.64 S	1,717.52 E	1,665.02	1.669
3,267.40	90.24	65.62	1,594.99	680.49 S	1,743.92 E	1,692.21	2.283
3,296.96	89.71	65.74	1,595.00	668.31 S	1,770.86 E	1,719.93	1.838
3,326.59	90.40	64.24	1,594.97	655.79 S	1,797.71 E	1,747.58	5.572
3,355.69	90.18	65.14	1,594.82	643.35 S	1,824.02 E	1,774.69	3.175
3,387.91	90.12	64.85	1,594.73	629.73 S	1,853.21 E	1,804.77	0.921
3,416.88	90.30	64.12	1,594.62	617.25 S	1,879.36 E	1,831.72	2.593
3,447.85	90.29	64.91	1,594.46	603.92 S	1,907.31 E	1,860.54	2.540
3,477.38	89.81	65.42	1,594.44	591.52 S	1,934.11 E	1,888.14	2.366
3,508.15	89.53	64.98	1,594.61	578.61 S	1,962.04 E	1,916.90	1.699
3,535.51	90.40	64.80	1,594.63	567.00 S	1,986.82 E	1,942.43	3.232
3,566.16	90.20	65.90	1,594.47	554.22 S	2,014.67 E	1,971.10	3.644
3,595.72	90.07	66.03	1,594.40	542.18 S	2,041.67 E	1,998.87	0.611
3,625.87	89.85	65.24	1,594.42	529.74 S	2,069.13 E	2,027.14	2.735
3,656.61	89.40	65.14	1,594.62	516.84 S	2,097.04 E	2,055.88	1.488
3,685.97	89.64	65.23	1,594.87	504.52 S	2,123.69 E	2,083.32	0.876
3,715.57	89.57	64.18	1,595.07	491.87 S	2,150.44 E	2,110.89	3.564
3,747.36	89.90	64.41	1,595.22	478.08 S	2,179.09 E	2,140.43	1.257
3,777.77	89.76	64.59	1,595.31	464.99 S	2,206.54 E	2,168.73	0.756
3,807.40	89.49	63.96	1,595.50	452.13 S	2,233.23 E	2,196.25	2.311
3,838.37	89.67	64.33	1,595.73	438.62 S	2,261.10 E	2,224.99	1.304
3,865.93	89.97	64.83	1,595.82	426.79 S	2,285.99 E	2,250.65	2.145
3,896.31	90.22	65.07	1,595.77	413.93 S	2,313.51 E	2,279.00	1.139
3,926.69	89.90	65.12	1,595.73	401.14 S	2,341.06 E	2,307.38	1.078
Run #4							
3,964.40	90.31	64.06	1,595.66	384.96 S	2,375.13 E	2,342.49	3.014
3,993.73	89.80	64.76	1,595.63	372.29 S	2,401.59 E	2,369.77	2.941
4,025.56	89.68	64.07	1,595.78	358.55 S	2,430.29 E	2,399.36	2.203
4,056.33	90.22	64.64	1,595.80	345.23 S	2,458.03 E	2,427.96	2.553
4,085.04	89.60	65.23	1,595.85	333.07 S	2,484.04 E	2,454.75	2.969

Survey Report for AA Pad, AA16, Run #4

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
4,113.62	89.78	65.04	1,596.00	321.05 S	2,509.96 E	2,481.45	0.912
4,145.83	89.61	65.20	1,596.17	307.50 S	2,539.19 E	2,511.56	0.729
4,174.67	90.33	64.73	1,596.18	295.30 S	2,565.32 E	2,538.47	2.991
4,204.89	90.00	65.82	1,596.10	282.66 S	2,592.77 E	2,566.73	3.799
4,235.01	89.80	65.46	1,596.15	270.24 S	2,620.20 E	2,594.97	1.395
4,264.11	89.77	65.16	1,596.26	258.08 S	2,646.64 E	2,622.19	1.010
4,294.52	90.35	64.87	1,596.23	245.23 S	2,674.21 E	2,650.59	2.121
4,323.79	90.00	65.45	1,596.14	232.94 S	2,700.77 E	2,677.94	2.322
4,355.41	90.34	64.30	1,596.04	219.51 S	2,729.40 E	2,707.44	3.800
4,384.05	89.87	64.13	1,595.99	207.05 S	2,755.19 E	2,734.04	1.765
4,416.57	89.69	64.52	1,596.12	192.97 S	2,784.49 E	2,764.25	1.300
4,443.86	90.26	65.48	1,596.13	181.43 S	2,809.23 E	2,789.73	4.109
4,475.00	89.69	65.95	1,596.14	168.63 S	2,837.61 E	2,818.94	2.354
4,504.46	89.66	64.65	1,596.31	156.32 S	2,864.38 E	2,846.50	4.398
4,536.45	89.57	65.39	1,596.52	142.81 S	2,893.37 E	2,876.36	2.330
4,566.08	89.72	65.65	1,596.70	130.53 S	2,920.34 E	2,904.12	0.998
4,594.52	89.40	64.06	1,596.92	118.45 S	2,946.08 E	2,930.64	5.708
4,625.85	90.09	65.58	1,597.06	105.12 S	2,974.44 E	2,959.86	5.354
4,654.53	90.18	65.00	1,596.99	93.13 S	3,000.49 E	2,986.68	2.046
4,683.99	89.72	64.44	1,597.02	80.55 S	3,027.13 E	3,014.13	2.469
4,713.81	90.11	65.17	1,597.06	67.86 S	3,054.11 E	3,041.94	2.770
4,744.78	89.76	65.85	1,597.10	55.02 S	3,082.30 E	3,070.95	2.466
4,776.34	90.20	65.92	1,597.11	42.12 S	3,111.10 E	3,100.59	1.420
4,804.76	90.15	65.27	1,597.02	30.38 S	3,136.98 E	3,127.22	2.287
4,834.58	89.76	64.01	1,597.05	17.61 S	3,163.93 E	3,154.99	4.412
4,865.39	89.55	64.81	1,597.24	4.31 S	3,191.71 E	3,183.64	2.675
4,894.65	89.77	65.37	1,597.41	8.02 N	3,218.25 E	3,210.97	2.040
4,924.97	89.68	63.53	1,597.55	21.09 N	3,245.60 E	3,239.17	6.063
4,954.00	90.11	65.36	1,597.61	33.62 N	3,271.80 E	3,266.17	6.485
4,985.46	89.75	63.64	1,597.65	47.16 N	3,300.19 E	3,295.44	5.606
5,014.60	90.15	64.14	1,597.68	59.98 N	3,326.35 E	3,322.43	2.225
5,046.75	89.57	64.69	1,597.75	73.86 N	3,355.35 E	3,352.33	2.490
5,075.88	89.99	65.15	1,597.87	86.21 N	3,381.74 E	3,379.52	2.112
5,106.43	90.38	63.57	1,597.77	99.43 N	3,409.28 E	3,407.91	5.323
5,137.04	89.63	63.56	1,597.77	113.06 N	3,436.68 E	3,436.20	2.429
5,165.09	90.26	64.59	1,597.79	125.33 N	3,461.91 E	3,462.22	4.321
5,195.80	89.50	64.08	1,597.86	138.62 N	3,489.59 E	3,490.76	2.983
5,224.31	90.44	64.33	1,597.87	151.03 N	3,515.26 E	3,517.23	3.402
5,256.13	89.98	64.47	1,597.76	164.78 N	3,543.96 E	3,546.82	1.522
5,285.43	89.96	65.02	1,597.77	177.28 N	3,570.46 E	3,574.13	1.868
5,317.26	90.34	64.40	1,597.68	190.88 N	3,599.23 E	3,603.78	2.272
5,344.49	90.01	64.10	1,597.60	202.71 N	3,623.76 E	3,629.07	1.681
5,371.72	89.62	63.62	1,597.69	214.70 N	3,648.20 E	3,654.29	2.247

Bit Projection

5,423.25	89.62	63.62	1,598.03	237.60 N	3,694.36 E	3,701.94	0.000
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Survey Report for AA Pad, AA16, Run #4

All data is in Feet (US Survey) unless otherwise stated. Directions and coordinates are relative to Grid North.
 Vertical depths are relative to RKB. Northings and Eastings are relative to Well AA16.

The dogleg severity is in Degrees per 100 feet (US Survey).
 Vertical Section is from Well AA16 calculated along an azimuth of 86.00° (Grid).

Based upon minimum curvature calculations, at a measured depth of 5,423.25ft, the bottom hole displacement is 3,702.00ft, in the direction of 86.32° (Grid).

The along-hole displacement is 4,177.22ft. The total accumulated dogleg is 168.239°.
 The measured tortuosity is 3.648°/100ft. The directional difficulty index is 5.9.

The survey penetrates target AA16 LP at a measured depth of 3,221.17ft at a distance of 4.81ft from the target centre.
 The survey penetrates target AA16 LP (1) at a measured depth of 1,807.46ft at a distance of 10.47ft from the target centre.
 The survey penetrates target AA16 LP (2) at a measured depth of 3,024.30ft at a distance of 5.38ft from the target centre.

At a measured depth of 5,423.25ft, the bottom hole is 114.29ft below Formation #6.

Comments associated with AA16, Run #4

Station Coordinates						
Survey Depth (ft)	Incl. (°)	(Grid) Azimuth (°)	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Comment
2,514.84	85.07	105.81	1,562.18	813.63 S	1,027.51 E	Shallow test MWD and Motor
2,514.84	85.07	105.81	1,562.18	813.63 S	1,027.51 E	Wash to bottom
2,514.84	85.07	105.81	1,562.18	813.63 S	1,027.51 E	Safety meeting, clean floor
2,514.84	85.07	105.81	1,562.18	813.63 S	1,027.51 E	Pick up BHA
3,942.41	90.07	64.68	1,595.74	394.47 S	2,355.31 E	Circulate Bottoms Up
3,942.41	90.07	64.68	1,595.74	394.47 S	2,355.31 E	FiT
3,955.73	90.22	64.31	1,595.70	388.73 S	2,367.33 E	Replace cap gasket on pump
4,187.80	90.19	65.20	1,596.12	289.74 S	2,577.21 E	Survey Depth: 4,187.80 ft., Inc: 90.25°, Azm: 65.75°
4,214.73	89.93	65.70	1,596.10	278.62 S	2,601.74 E	Swap pumps, sync MWD
4,214.73	89.93	65.70	1,596.10	278.62 S	2,601.74 E	Hanging up, hard time controlling toolface
4,277.23	90.02	65.04	1,596.28	252.55 S	2,658.55 E	CO2 on floor
4,654.53	90.18	65.00	1,596.99	93.13 S	3,000.49 E	Totco crashed
4,881.79	89.67	65.12	1,597.35	2.63 N	3,206.57 E	Auto driller issues
5,063.15	89.80	64.95	1,597.84	80.84 N	3,370.20 E	Work On Pumps
5,119.55	90.06	63.56	1,597.72	105.27 N	3,421.03 E	Work On Pumps
5,181.49	89.86	64.32	1,597.77	132.40 N	3,476.71 E	Swap Pumps
5,269.26	89.97	64.72	1,597.76	170.41 N	3,555.81 E	Attempted to slide, Pressure was up and down, sweep the hole and dusting up mud. Could not c
5,357.61	89.82	63.86	1,597.62	208.46 N	3,635.55 E	Swap pumps
5,371.72	89.62	63.62	1,597.69	214.70 N	3,648.20 E	Rig up and tear down

Casing Program for AA16, Run #4

From Measured Depth (ft)	To Vertical Depth (ft)	From Measured Depth (ft)	To Vertical Depth (ft)	Casing Description
<Surface>	<Surface>	1,312.33	1,264.60	13 3/8in Casing
<Surface>	<Surface>	2,624.67	1,573.06	9 5/8in Casing
<Surface>	<Surface>	5,249.33	1,597.76	7in Casing
4,921.25	1,597.53	<Run to TD>	<Run to TD>	4 1/2in Liner

Survey Report for AA Pad, AA16, Run #4
Formation Tops for AA16, Run #4

Formation Plane (Below Well Origin)			P r o f i l e		P e n e t r a t i o n		P o i n t		Formation Name
Sub-Sea Depth (ft)	Dip Angle (°)	Up-Dip Direction (°)	Measured Depth (ft)	Vertical Depth (ft)	Sub-Sea Depth (ft)	Northings (ft)	Eastings (ft)		
-1,015.78	4.00	80.00	1,052.50	1,047.37	-1,018.28	19.02 S	39.67 E	Formation #1	
-950.16	8.00	100.00	1,116.99	1,106.28	-959.37	35.05 S	60.34 E	Formation #2	
-884.55	12.00	120.00	1,178.80	1,159.86	-905.79	55.37 S	83.44 E	Formation #3	
-818.93	16.00	140.00	1,239.29	1,209.25	-856.40	79.13 S	108.98 E	Formation #4	
-753.31	20.00	160.00	1,303.58	1,258.22	-807.43	107.47 S	139.46 E	Formation #5	
-687.70	24.00	180.00	1,382.26	1,312.85	-752.79	146.21 S	180.67 E	Formation #6	

Survey Tool Program for AA16, Run #4

From		To		Survey Tool Description
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	
0.00	0.00	981.26	979.53	OWSG Gyrocompass Gyro (GYRO-NS)
981.26	979.53	2,508.28	1,561.63	MWD
2,508.28	1,561.63	3,926.69	1,595.73	MWD
3,926.69	1,595.73	5,371.72	1,597.69	MWD+IFR1+FDIR

Targets associated with AA16, Run #4

Target Name	Vertical Depth (ft)	Sub-Sea Depth (ft)	Target Entry Coordinates		Target Type (Shape)
			Northings (ft)	Eastings (ft)	
AA16 LP	1,596.45	-469.19	704.13 S	1,703.93 E	Current Target (Polygon)
			6,789,115.59 N	573,012.40 E	(Map Coordinates (m))
			61° 13' 52.9604" N	109° 38' 24.5300" W	(Geographical Coordinates)
AA16 LP (1)	1,486.68	-578.97	410.05 S	459.58 E	Current Target (Circle)
			6,789,205.23 N	572,633.12 E	(Map Coordinates (m))
			61° 13' 56.1108" N	109° 38' 49.8279" W	(Geographical Coordinates)
AA16 LP (2)	1,596.45	-469.19	787.33 S	1,525.53 E	Current Target (Circle)
			6,789,090.23 N	572,958.02 E	(Map Coordinates (m))
			61° 13' 52.1776" N	109° 38' 28.2102" W	(Geographical Coordinates)
AA16 TD	1,596.45	-469.19	405.12 N	4,082.70 E	Current Target (Polygon)
			6,789,453.69 N	573,737.45 E	(Map Coordinates (m))
			61° 14' 03.3943" N	109° 37' 35.4556" W	(Geographical Coordinates)

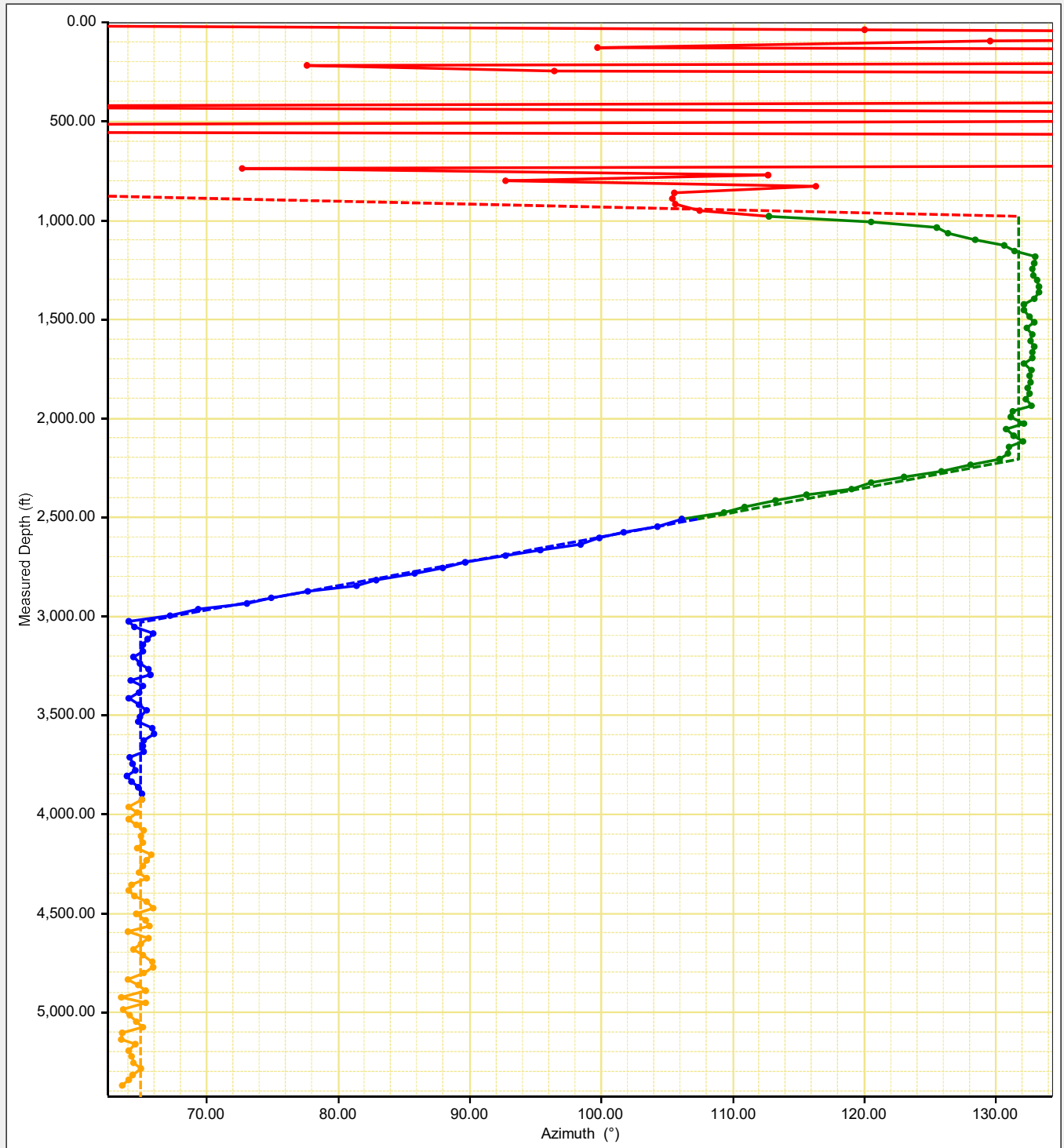
Survey Report for AA Pad, AA16, Run #4

Measured Depth vs. Inclination



Survey Report for AA Pad, AA16, Run #4

Measured Depth vs. Azimuth



Survey Report for AA Pad, AA16, Run #4
REFERENCE DATA

Ellipsoid	Clarke - 1866	Unit System	Feet (US Survey)
Coord. System	Universal Transverse Mercator, Zone 12 North	North Ref.	Grid North
Mag. Model	International Geomagnetic Reference Field 2025	Vertical Ref.	Mean Sea Level
Calc. Date	19 Sep, 2017		

LOCATION DATA

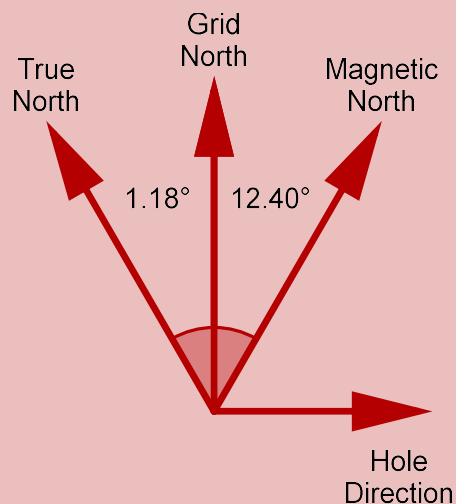
RKB Elevation	2,065.65ft above MSL	Total Field	58,568.4 nT
Map North (m)	6,789,330.21 N	Magnetic Dip	80.73°
Map East (m)	572,493.04 E	Declination	13.58°
Latitude	61° 14' 00.2426" N	Convergence	1.18°
Longitude	109° 38' 59.0443" W	Earth's Gravity Field (Ge)	1.002061Gn

NORTH REFERENCE DATA

Magnetic Model	IGRF 2025
Calculation Date	19 September 2017
Declination	13.58°
Inclination/Dip	80.73°
Horizontal Component	9,436.6 nT
Northerly Component	9,172.7 nT
Easterly Component	2,216.3 nT
Vertical Component	57,803.1 nT
Total Field Strength	58,568.4 nT

Grid North is 1.18 degrees East of True North (Grid Convergence)
 Magnetic North is 13.58 degrees East of True North (Magnetic Declination)
 Magnetic North is 12.40 degrees East of Grid North (Magnetic Convergence)

To convert a True Direction to a Grid Direction, Subtract 1.18 degrees.
 To convert a Magnetic Direction to a True Direction, Add 13.58 degrees.
 To convert a Magnetic Direction to a Grid Direction, Add 12.40 degrees.


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