

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



**Job No. AB-CD-12345678
Survey Date: 11 January 2013**

**True North Directional Services Inc.
Anticollision Report**

18 August 2015

Minimum Distance Proximity Scan (Highside Reference)

Scan Range: 0.00m to 1,638.78m Measured Depth
Scan Radius is 200.00m. Clearance Factor cutoff is Unlimited.



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Directional Services Inc.

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Comparison Survey: AA Pad, AA06, As Drilled Surveys
Combined Surface Error between AA16 and AA06 is 3.00m

Uncertainty Data for Reference Survey					Uncertainty Data for Comparison Survey					Separation (Ref. > Comp.)				
Measured Depth (m)	Vertical Depth (m)	Ellipse Centre		Ellipse Major Axis/2	Measured Depth (m)	Vertical Depth (m)	Ellipse Centre		Ellipse Major Axis/2	Between Centres (m)	Between Ellipsoids (m)	Relative HighSide Bearing	Clrc. Factor	
		Northings (m)	Eastings (m)				Northings (m)	Eastings (m)						
0.00	0.00	0.00 N	0.00 E	1.50	0.00	0.00	9.06 N	4.23 W	1.50	10.00	7.00	-25.000	3.33	
30.00	30.00	0.05 S	0.05 E	1.57	30.00	30.00	9.09 N	4.19 W	1.55	10.07	7.07	-149.853	3.35	
60.00	60.00	0.07 S	0.11 E	1.64	60.00	60.00	9.16 N	4.06 W	1.63	10.13	7.12	-99.091	3.36	
90.00	90.00	0.09 S	0.11 E	1.68	89.96	89.96	9.26 N	3.87 W	1.73	10.16	7.14	96.521	3.36	
120.00	120.00	0.11 S	0.04 E	1.77	119.97	119.96	9.55 N	3.66 W	1.83	10.35	7.29	124.726	3.38	
150.00	150.00	0.14 S	0.04 E	1.80	150.03	150.02	9.70 N	3.44 W	1.92	10.43	7.35	141.080	3.38	
180.00	180.00	0.17 S	0.05 E	1.84	180.09	180.08	9.66 N	2.89 W	2.02	10.26	7.14	-176.274	3.29	
210.00	210.00	0.24 S	0.07 E	1.87	210.09	210.07	9.63 N	2.12 W	2.13	10.11	6.94	101.015	3.19	
240.00	240.00	0.28 S	0.03 E	1.93	240.32	240.28	9.41 N	1.18 W	2.25	9.78	6.55	-117.332	3.03	
270.00	269.96	0.66 S	1.21 E	2.14	271.10	270.86	7.40 N	1.46 E	2.68	8.12	4.77	-104.269	2.42	
300.00	299.56	1.94 S	5.76 E	2.73	301.49	300.21	2.08 N	7.10 E	3.51	4.29	0.69	-89.427	1.19	
304.09	303.53	2.21 S	6.70 E	2.84	305.54	304.02	1.12 N	8.10 E	3.70	3.64	0.07	-84.896	1.02	
323.52	322.11	4.65 S	11.81 E	3.32	324.76	321.68	4.05 S	13.60 E	4.08	2.21	14%	-49.676	0.38	
330.00	328.13	6.41 S	13.55 E	3.48	331.21	327.47	6.01 S	15.69 E	4.19	2.28	11%	-44.381	0.47	
360.00	354.91	14.99 S	23.92 E	4.22	360.65	352.57	16.07 S	27.27 E	4.76	4.23	0.46	-19.885	1.12	
390.00	379.32	26.81 S	36.68 E	4.84	389.86	375.19	27.58 S	41.68 E	5.25	6.53	2.47	-25.770	1.61	
420.00	401.08	40.91 S	51.72 E	5.37	418.68	394.90	39.85 S	58.72 E	5.72	9.39	4.66	-36.614	1.98	
450.00	419.69	56.81 S	69.01 E	5.85	447.50	411.74	53.54 S	77.65 E	6.08	12.18	6.46	-42.610	2.13	
480.00	434.81	74.32 S	88.08 E	6.42	475.97	425.87	67.77 S	97.83 E	6.75	14.76	7.26	-51.060	1.97	
510.00	446.14	93.16 S	108.47 E	7.73	504.41	436.24	83.01 S	119.46 E	8.03	17.94	8.41	-56.790	1.88	
540.00	453.47	112.83 S	129.86 E	9.14	533.30	443.73	99.03 S	142.30 E	9.44	20.98	8.69	-62.772	1.71	
570.00	457.61	132.95 S	151.73 E	10.59	562.89	450.98	115.23 S	165.97 E	10.89	23.68	6.98	-74.264	1.42	
600.00	461.39	153.05 S	173.68 E	12.06	592.50	458.03	131.61 S	189.61 E	12.37	26.92	5.89	-83.507	1.28	
630.00	465.09	172.77 S	195.98 E	13.55	622.21	463.76	148.58 S	213.30 E	13.86	29.78	5.39	-88.125	1.22	
660.00	468.92	192.45 S	218.29 E	15.04	648.24	468.02	162.18 S	235.07 E	15.22	34.63	8.23	-90.033	1.31	

Minimum Distance Proximity Scan (Highside Reference)
Reference Survey: AA Pad, AA16, MWD Run #4 (and parent profiles)
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Uncertainty Data for Reference Survey					Uncertainty Data for Comparison Survey					Separation (Ref. > Comp.)			
Measured Depth (m)	Vertical Depth (m)	Ellipse Centre		Ellipse Major Axis/2	Measured Depth (m)	Vertical Depth (m)	Ellipse Centre		Ellipse Major Axis/2	Between Centres (m)	Between Ellipsoids (m)	Relative HighSide Bearing	Clrc. Factor
		Northings (m)	Eastings (m)				Northings (m)	Eastings (m)					
690.00	472.65	211.59 S	241.08 E	16.55	673.05	471.39	172.69 S	257.27 E	16.53	42.16	14.44	-90.081	1.52
720.00	476.30	227.97 S	265.92 E	18.12	697.15	474.50	180.64 S	279.80 E	17.81	49.35	20.79	-89.485	1.73
750.00	479.48	240.75 S	292.84 E	19.70	720.74	477.43	185.77 S	302.62 E	19.03	55.87	27.02	-88.986	1.94
770.02	481.35	247.28 S	311.67 E	20.73	737.34	479.22	188.19 S	318.95 E	19.86	59.57	30.03	-88.689	2.02
780.00	482.30	249.88 S	321.25 E	21.24	745.14	480.01	188.99 S	326.66 E	20.24	61.18	31.80	-88.844	2.08
810.00	485.28	255.53 S	350.55 E	22.71	766.26	482.11	189.46 S	347.65 E	21.26	66.21	38.09	-88.187	2.35
840.00	487.76	257.20 S	380.37 E	24.10	788.51	484.52	187.05 S	369.63 E	22.24	71.04	44.10	-87.891	2.64
870.00	489.50	254.79 S	410.19 E	25.36	812.67	486.88	182.82 S	393.28 E	23.17	73.98	47.08	-88.215	2.75
900.00	490.79	248.06 S	439.37 E	26.46	832.84	487.61	176.97 S	412.56 E	23.91	76.03	52.25	-87.736	3.20
930.00	491.30	236.84 S	467.15 E	27.38	855.61	488.06	167.30 S	433.15 E	24.67	77.47	55.25	-87.599	3.49
960.00	491.49	224.28 S	494.39 E	28.21	886.98	488.10	154.14 S	461.63 E	25.61	77.49	52.57	-87.493	3.11
990.00	491.56	211.60 S	521.58 E	29.08	917.56	488.02	141.39 S	489.42 E	26.61	77.30	49.90	-87.374	2.82
1,020.00	491.52	199.04 S	548.82 E	29.99	946.94	487.96	129.02 S	516.07 E	27.60	77.38	48.06	-87.366	2.64
1,050.00	491.41	186.20 S	575.93 E	30.94	977.97	488.09	115.89 S	544.19 E	28.67	77.21	45.31	-87.542	2.42
1,080.00	491.45	173.53 S	603.13 E	31.92	1,006.32	487.99	103.77 S	569.81 E	29.69	77.39	44.47	-87.438	2.35
1,110.00	491.38	161.11 S	630.44 E	32.95	1,036.78	488.00	90.85 S	597.40 E	30.81	77.72	42.32	-87.509	2.20
1,140.00	491.61	148.40 S	657.61 E	34.00	1,067.75	487.96	77.95 S	625.55 E	31.98	77.49	39.44	-87.291	2.04
1,170.00	491.75	135.41 S	684.65 E	35.06	1,097.63	488.04	65.45 S	652.69 E	33.14	77.00	37.10	-87.231	1.93
1,200.00	491.77	122.62 S	711.79 E	36.16	1,126.76	488.03	53.17 S	679.11 E	34.29	76.84	35.76	-87.208	1.87
1,201.65	491.77	121.92 S	713.29 E	36.22	1,128.51	488.02	52.43 S	680.69 E	34.36	76.85	35.52	-87.206	1.86
1,230.00	491.80	109.70 S	738.86 E	37.27	1,156.75	487.87	40.39 S	706.23 E	35.48	76.71	33.82	-87.060	1.79
1,260.00	491.88	96.98 S	766.03 E	38.41	1,185.93	487.92	27.97 S	732.64 E	36.65	76.77	32.78	-87.052	1.75
1,290.00	491.89	84.42 S	793.27 E	39.58	1,217.36	488.11	14.76 S	761.15 E	37.94	76.80	29.93	-87.177	1.64
1,320.00	491.91	71.83 S	820.51 E	40.77	1,247.66	488.12	1.87 S	788.58 E	39.19	77.00	28.14	-87.180	1.58
1,350.00	491.90	58.90 S	847.57 E	41.96	1,276.93	488.19	10.34 N	815.18 E	40.42	76.53	26.89	-87.219	1.54

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Measured Depth (m)	Uncertainty Data for Reference Survey				Uncertainty Data for Comparison Survey				Separation (Ref. > Comp.)				
	Vertical Depth (m)	Ellipse Centre		Ellipse Major Axis/2	Measured Depth (m)	Vertical Depth (m)	Ellipse Centre		Ellipse Major Axis/2	Between Centres (m)	Between Ellipsoids (m)	Relative HighSide Bearing	Clrc. Factor
		Northings (m)	Eastings (m)				Northings (m)	Eastings (m)					
1,380.00	491.99	46.37 S	874.83 E	43.17	1,305.93	488.26	22.59 N	841.46 E	41.65	76.70	26.37	-87.214	1.52
1,410.00	492.17	33.73 S	902.04 E	44.40	1,336.44	488.22	35.44 N	869.13 E	42.95	76.69	24.50	-87.043	1.47
1,440.00	492.16	21.04 S	929.22 E	45.64	1,367.04	488.15	48.44 N	896.83 E	44.25	76.76	22.62	-87.006	1.42
1,470.00	492.14	8.64 S	956.54 E	46.90	1,396.96	488.26	61.07 N	923.95 E	45.54	77.05	21.59	-87.119	1.39
1,500.00	492.28	4.19 N	983.65 E	48.15	1,426.21	488.19	73.44 N	950.45 E	46.81	76.91	20.88	-86.949	1.37
1,530.00	492.32	17.23 N	1,010.67 E	49.40	1,457.39	488.19	86.72 N	978.66 E	48.16	76.62	18.49	-86.909	1.32
1,560.00	492.34	30.16 N	1,037.74 E	50.66	1,487.81	488.19	99.59 N	1,006.22 E	49.50	76.36	16.92	-86.890	1.28
1,590.00	492.39	43.26 N	1,064.73 E	51.93	1,516.16	488.04	111.53 N	1,031.94 E	50.74	75.86	17.00	-86.712	1.29
1,620.00	492.32	56.14 N	1,091.82 E	53.21	1,546.95	488.03	124.77 N	1,059.74 E	52.10	75.88	15.34	-86.759	1.25
1,638.78	492.32	64.34 N	1,108.72 E	54.01	1,565.42	488.03	132.58 N	1,076.48 E	52.91	75.59	14.89	-86.742	1.25

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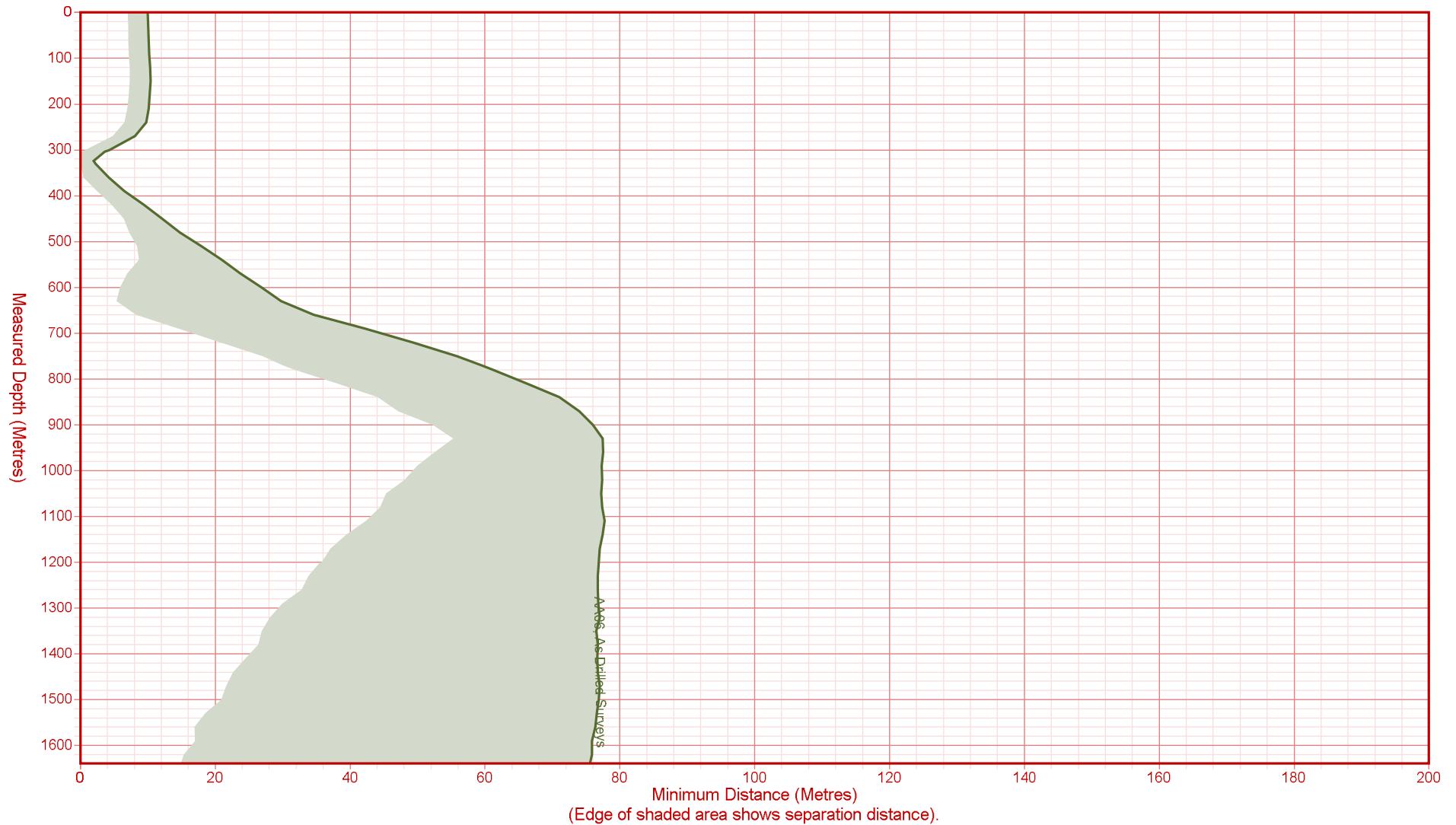
All station coordinates were calculated using the Minimum Curvature method.
All data is in metres unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to RKB. Northings and Eastings are relative to Well AA16.

Coordinate system is Universal Transverse Mercator, Zone 12 North.
Central meridian is -111.000°. Grid convergence at surface is 1.184°.

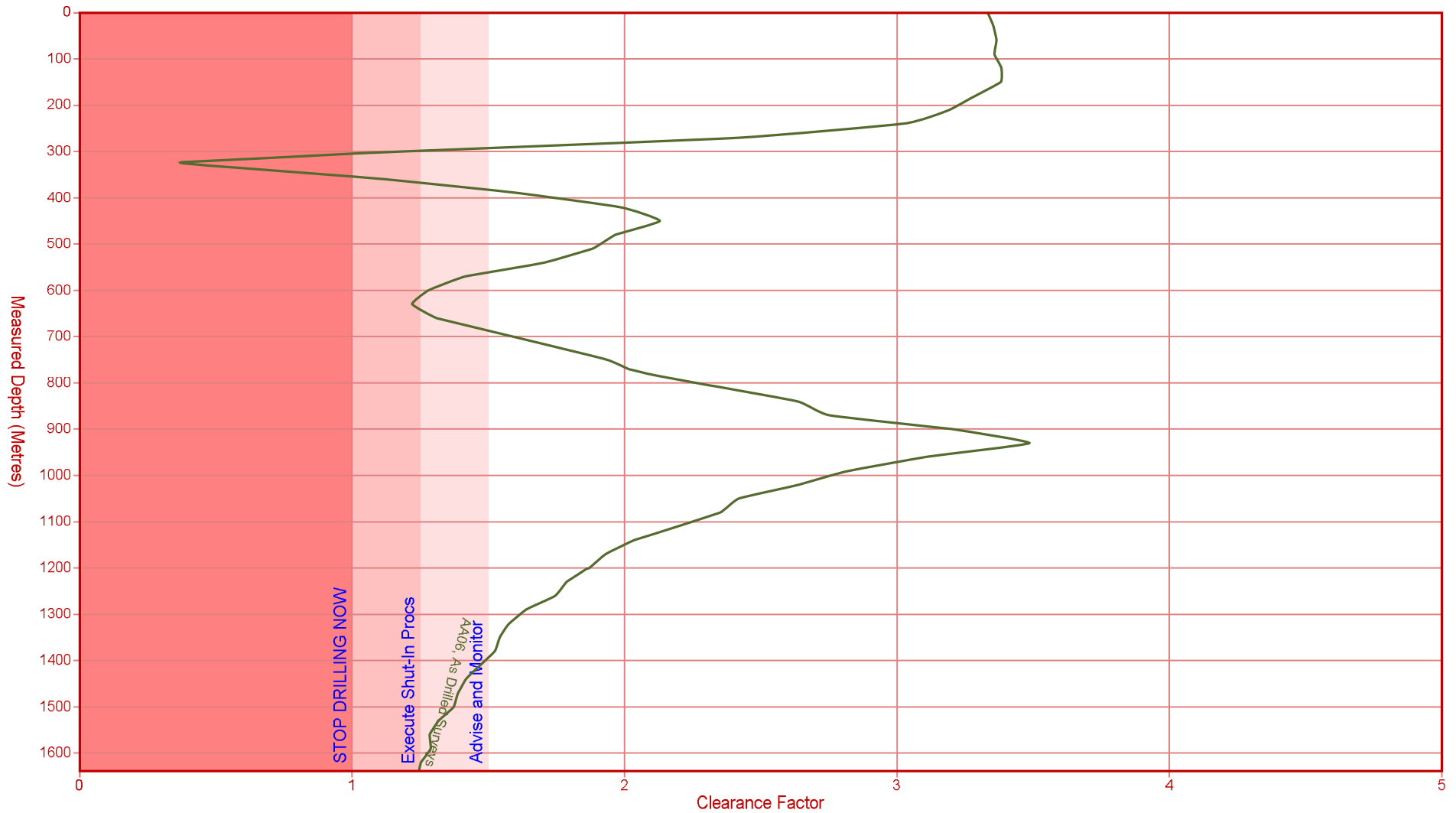
Profile Sections

Survey: MWD Run #1 from 0.00m to 304.09m
Survey: MWD Run #2 from 304.09m to 770.02m
Survey: MWD Run #3 from 770.02m to 1,201.65m
Survey: MWD Run #4 from 1,201.65m to 1,638.78m

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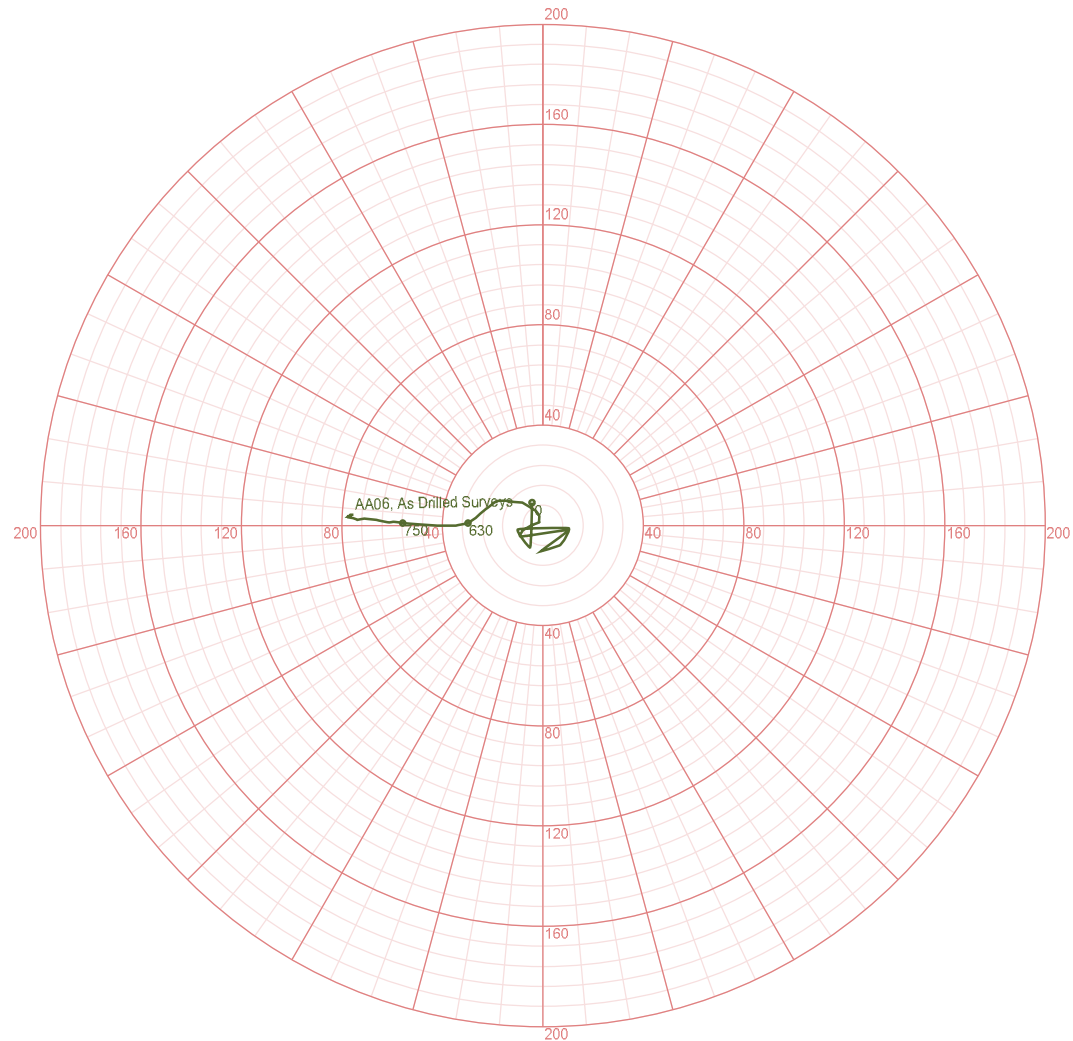


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Survey Tool Program for AA16, MWD Run #4

From		To		Survey Tool Description
Measured Depth (m)	Vertical Depth (m)	Measured Depth (m)	Vertical Depth (m)	
0.00	0.00	240.00	240.00	North Seeking Gyro MS (GYRO-NS)
240.00	240.00	1,638.78	492.32	MWD

Disclaimer Notice

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