



**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.
Anticollision Report**

01 March 2024

Minimum Distance Proximity Scan (Highside Reference)

Scan Range: 0.00m to 1,637.30m Measured Depth
Scan Radius is 500.00m. Clearance Factor cutoff is Unlimited.



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Directional Services Inc.



Company	Anglian Oil Company Ltd.	Local Co-ordinate Reference:	Well AA16
Project:	Northern Lights	TVD Reference:	RKB @ 629.61m (Mean Sea Level)
Reference Structure:	AA Pad	MD Reference:	Local RKB
Structure Error:	5.00m	North Reference:	Grid North
Reference Well:	AA16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.25m	Output errors are at:	2.00 Sigma
Reference wellbore:	Lateral #1	Database:	Example Project Database
Reference Survey:	Run #4	Offset TVD Reference:	629.61m (Mean Sea Level)

Reference	AA Pad, AA16, Run #4	Interpolation Method:	30.00m
Filter Type:	None	Error Model:	ISCWSA
Depth Range:	0.00m to 1,637.30m Measured Depth	Scan Method:	Minimum Distance
Scan Radius:	500.00m	Error Surface:	Elliptical Conic
Clearance Factor:	Unlimited	Casing Model:	Not applied
Warning Levels:	2.00 Sigma		

Survey Program for:		AA Pad, AA16, Run #4	
From (m)	To (m)	Tool Name	Description
0.00	299.09	GYRO-NS	OWSG Gyrocompass Gyro
299.09	764.52	MWD	MWD
764.52	1,196.86	MWD	MWD
1,196.86	1,637.30	MWD	MWD

Summary - Filter: Minimum Clearance Factor						
Structure Name Offset Well - Profile	Reference Measured Depth (m)	Offset Measured Depth (m)	Distance		Separation Factor	Warning
			Between Centres (m)	Between Ellipses (m)		
AA Pad						
AA01, Run #1	1,637.30	1,405.92	553.35	471.89	6.79	
AA02, Gyro Survey Data	299.09	240.04	89.23	81.03	10.88	
AA02, MWD Run #1	180.00	240.04	86.66	79.00	11.32	
AA02, MWD Run #2	1,637.30	1,403.98	475.75	399.98	6.28	
AA02, MWD Run #3	1,637.30	1,406.82	475.76	399.93	6.27	
AA02, Lateral #1, MWD Run #4	1,637.30	1,543.28	496.34	418.22	6.35	
AA03, As Drilled Surveys	1,637.30	1,490.06	636.84	553.51	7.64	
AA04, As Drilled Surveys	1,637.30	1,515.02	157.50	74.16	1.89	
AA05, As Drilled Surveys	1,637.30	1,524.94	237.55	149.80	2.71	
AA06, As Drilled Surveys	341.40	343.13	1.65	61%	0.39	STOP DRILLING NOW
AA07, As Drilled Surveys	1,637.30	1,674.12	13.86	5%	0.95	STOP DRILLING NOW
AA08, As Drilled Surveys	1,637.30	1,454.80	475.16	389.36	5.54	
AA09, As Drilled Surveys	1,637.30	1,429.96	637.84	556.88	7.88	
AA10, As Drilled Surveys	420.00	434.73	97.92	89.89	12.20	
AA10, Sidetrack Surveys	1,637.30	1,453.95	397.03	310.60	4.59	
AA11, As Drilled Surveys	1,637.30	1,618.64	76.77	11.00	1.17	Execute Shut-In Procs
AA12, As Drilled Surveys	1,637.30	1,457.19	551.08	466.70	6.53	
AA13, SAGD Producer	1,637.30	1,482.93	316.48	228.97	3.62	
AA14, SAGD Injector	1,637.30	1,429.77	317.71	232.05	3.71	
AA15, As Drilled Surveys	1,637.30	1,470.61	236.40	151.08	2.77	
BB Pad						
BB02, Leg #5, Run #1	1,080.00	1,695.98	278.37	211.63	4.17	



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Ellipse error terms are uncorrelated across survey tool tie-on points.
 Ellipse separations were reported only if both profiles contained survey tool information.
 Calculated ellipses incorporate combined structure and well surface errors where appropriate.
 The summary shows the data line where the minimum clearance factor is located.
 Distance between Ellipsoids is the actual separation distance between ellipsoids.
 Distance Between Centres is the straight line distance between ellipsoid centres.
 Probability is set at 2 sigma.
 Clearance Factor = Distance Between Profiles / (Distance Between Profiles - Ellipse Separation)

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.

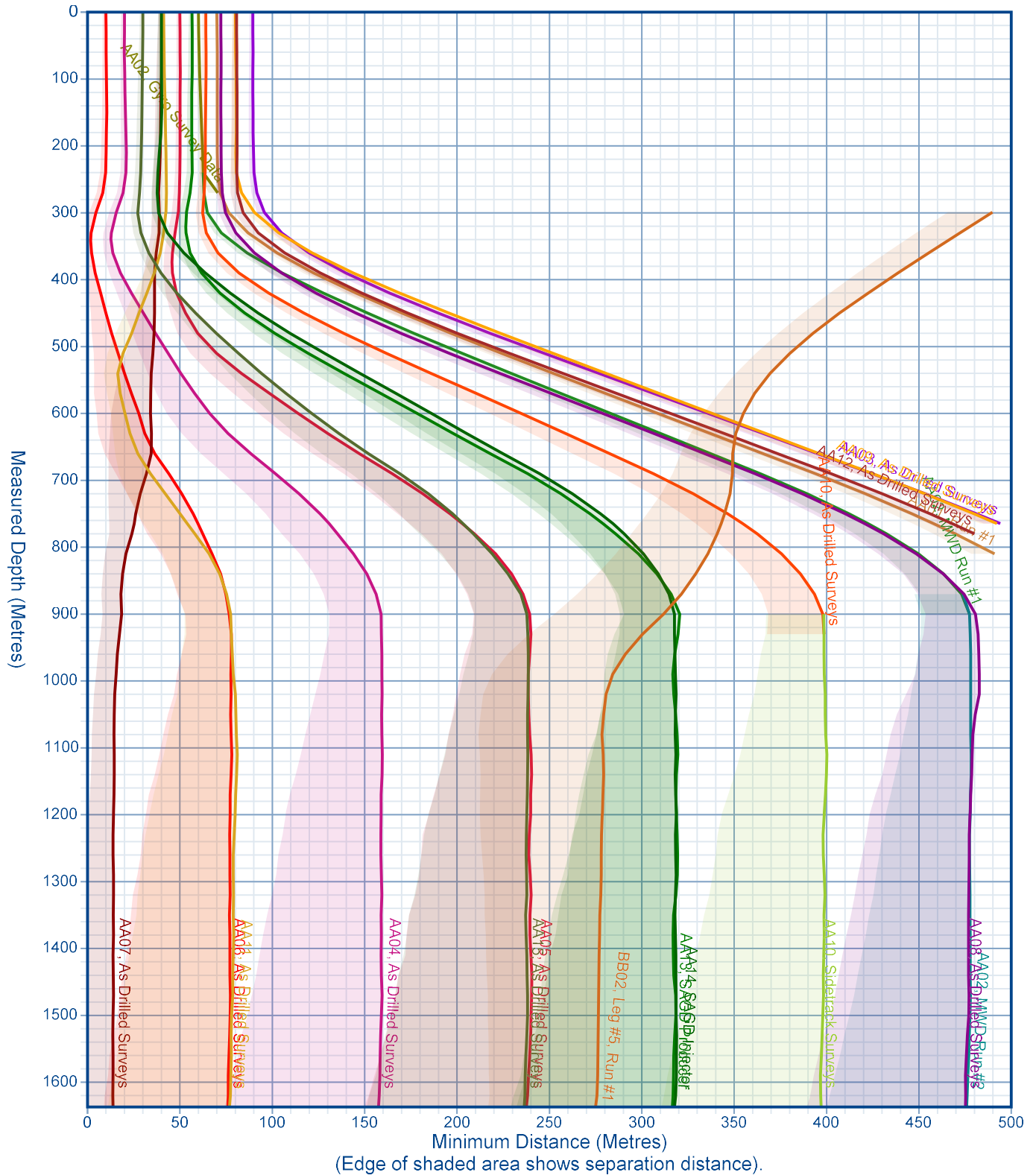
Coordinate system is Universal Transverse Mercator, Zone 12 North.
 Central meridian is -111.00°. Grid convergence at surface is 1.18°.

Profile Sections

- Survey: Run #1 from 0.00m to 299.09m
- Survey: Run #2 from 299.09m to 764.52m
- Survey: Run #3 from 764.52m to 1,196.86m
- Survey: Run #4 from 1,196.86m to 1,637.30m

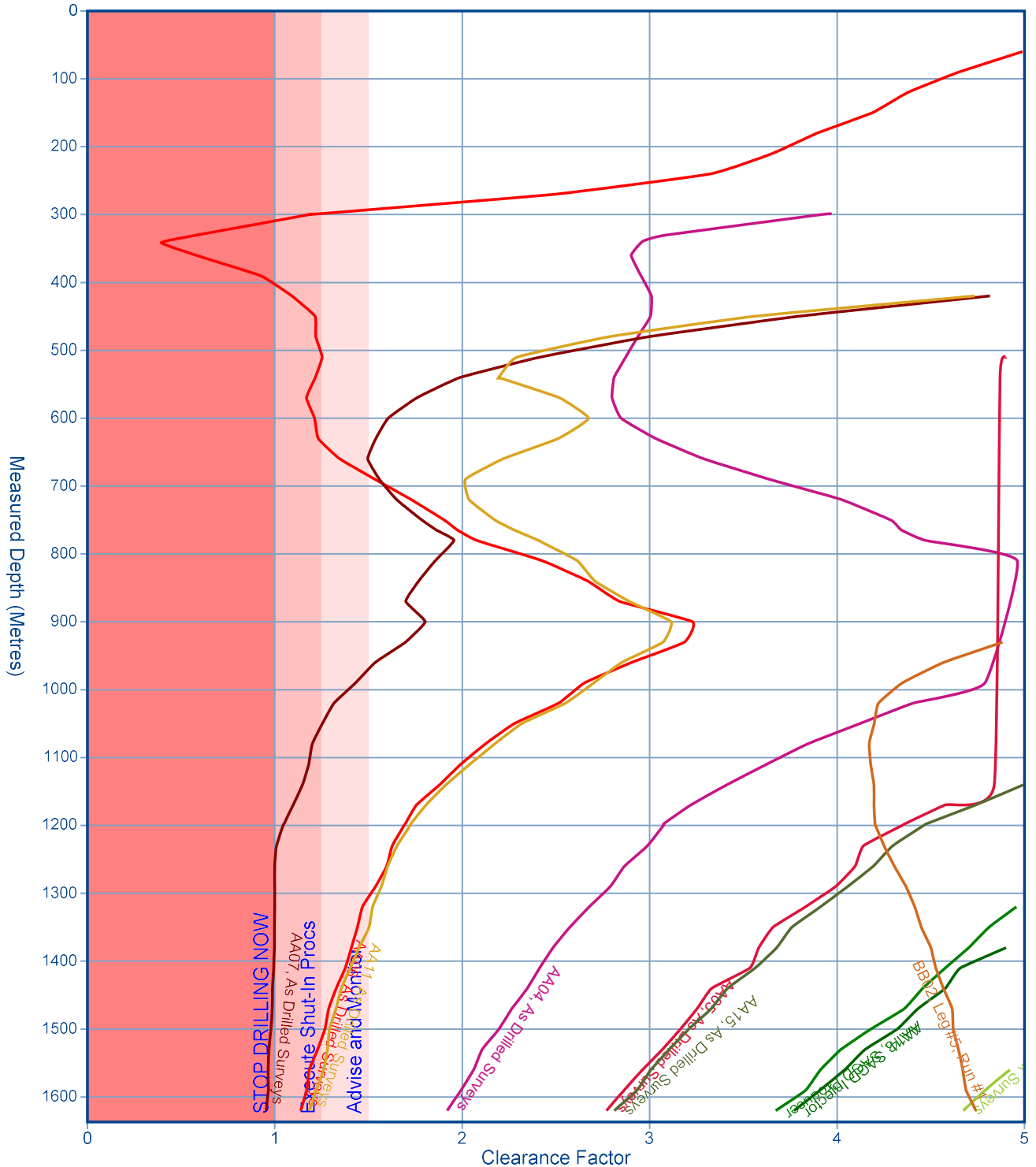


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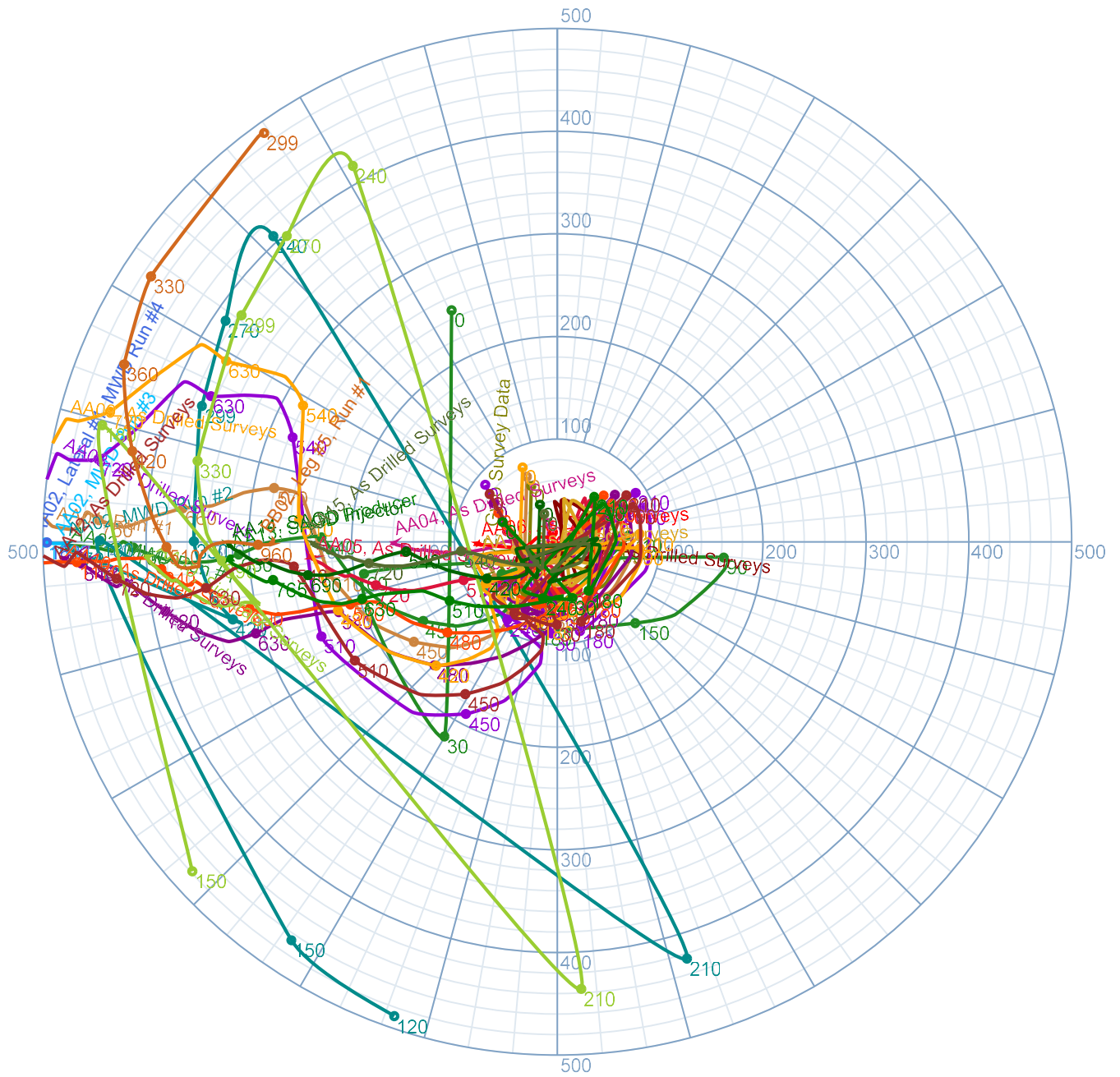


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