

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**9N-59W-01 TIMBRO 0101 PAD**

**TIMBRO 0112-05H**

**Plan A**

**Design #1**

## **Anticollision Summary Report**

**18 January, 2023**

## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 0112-05H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 20' @ 4959.00usft (RIG)
<b>Reference Site:</b>	9N-59W-01 TIMBRO 0101 PAD	<b>MD Reference:</b>	RKB = 20' @ 4959.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	TIMBRO 0112-05H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	3.28 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Plan A	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Design #1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum centre distance of 1,500.00usft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.45 Sigma	<b>Casing Method:</b>	Added to Error Values

<b>Survey Tool Program</b>	<b>Date</b>	1/18/2023		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
20.00	1,598.00	SLB MWD Surface Surveys (Plan A)	ISCWSA MWD	Fixed:v2:standard declination
1,598.00	16,600.35	Design #1 (Plan A)	ISCWSA MWD	Fixed:v2:standard declination

<b>Summary</b>						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
<b>Offset Well - Wellbore - Design</b>						
10N-58W-30 Offsets Incomplete						
RAZOR FEDERAL 30L-1902 - FUNDARE PR Well - Actu						Out of range
RAZOR FEDERAL 30L-3101 - FUNDARE PR Well - Actu						Out of range
10N-59W-36 Offsets						
STATE #1 - US GOLD P&A Well - No Surveys						Out of range
TERRACE 36-11H - FUNDARE Original Wellbore - Actua						Out of range
TERRACE 36-11H - FUNDARE PR Sidetrack - Actual En						Out of range
TERRACE 36-32M - FUNDARE P&A Well - No Surveys						Out of range
WOLF 36-3624H - FUNDARE SI Well - Actual Ensign Su	5,950.00	10,300.00	1,044.85	939.36	9.905	SF
WOLF 36-3624H - FUNDARE SI Well - Actual Ensign Su	5,956.71	10,300.00	1,044.80	939.36	9.909	CC, ES
9N-58W-05 Offsets Incomplete						
HESTON LD06-620 - NBL Original Well (Grid to True) - A						Out of range
HESTON LD06-620 - NBL SI Sidetrack Well (Grid to True						Out of range
HESTON LD06-625 - NBL PR Well - Actual Sperry Surve						Out of range
HESTON LD06-630 - NBL PR Well - Actual Sperry Surve						Out of range
NUGENT LD06-655 - NBL PR Well - Actual SLB Surveys						Out of range
NUGENT LD06-665 - NBL PR Well - Actual SLB Surveys						Out of range
REAGAN LD06-675 - NBL PR Well - Actual BKR Survey						Out of range
REAGAN LD06-685 - NBL PR Well - Actual Gyrodata & S						Out of range
Timbro LD06-64HN - Noble PR Well - Actual DDC Surve						Out of range
9N-58W-07 Offsets Incomplete						
STRIPES FEDERAL LD18-785 - NBL PR Well - Actual B						Out of range
TIMBRO FEDERAL LD 07-78HN - NBL SI Well - Actual D						Out of range
9N-59W-01 Offsets						
BUCHER #1 - Todd Gross P&A Well - No Surveys						Out of range
TIMBRO RANCH 1-41-9-59 - VERDAD Pilot Hole - Actua						Out of range
TIMBRO RANCH 1-41-9-59 - VERDAD PR Well - Actual						Out of range

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<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 0112-05H
<b>Project:</b>	WATTENBERG FIELD	<b>TVD Reference:</b>	RKB = 20' @ 4959.00usft (RIG)
<b>Reference Site:</b>	9N-59W-01 TIMBRO 0101 PAD	<b>MD Reference:</b>	RKB = 20' @ 4959.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	TIMBRO 0112-05H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	3.28 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Plan A	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
9N-59W-01 TIMBRO 0101 PAD						
TIMBRO 0112-01H - Plan A - Actual SLB Surveys	205.27	205.61	63.30	55.71	8.336	CC, ES
TIMBRO 0112-01H - Plan A - Actual SLB Surveys	257.00	256.73	63.55	55.91	8.321	SF
TIMBRO 0112-01H - Plan A - Design #1	205.27	205.61	63.30	55.71	8.336	CC, ES
TIMBRO 0112-01H - Plan A - Design #1	257.00	256.73	63.55	55.91	8.321	SF
TIMBRO 0112-02H - Plan A - Actual SLB Surveys	20.00	20.00	47.91			
TIMBRO 0112-02H - Plan A - Actual SLB Surveys	169.00	168.90	48.11	40.54	6.354	SF
TIMBRO 0112-02H - Plan A - Design #1	20.00	20.00	47.91			
TIMBRO 0112-02H - Plan A - Design #1	169.00	168.90	48.11	40.54	6.354	SF
TIMBRO 0112-03H - Plan A - Actual SLB Surveys	20.00	20.00	31.85			
TIMBRO 0112-03H - Plan A - Actual SLB Surveys	138.00	137.95	31.95	24.40	4.231	SF
TIMBRO 0112-03H - Plan A - Design #1	20.00	20.00	31.85			
TIMBRO 0112-03H - Plan A - Design #1	16,600.35	16,827.52	1,249.73	761.52	2.560	SF
TIMBRO 0112-04H - Plan A - Actual SLB Surveys	152.33	152.35	16.27	8.71	2.152	CC, ES
TIMBRO 0112-04H - Plan A - Actual SLB Surveys	169.00	169.02	16.28	8.71	2.151	SF
TIMBRO 0112-04H - Plan A - Design #1	152.33	152.35	16.27	8.71	2.152	CC, ES
TIMBRO 0112-04H - Plan A - Design #1	16,600.35	16,679.46	624.72	136.53	1.280	Level 3, SF
TIMBRO 0112-05H - Plan A - Actual SLB Surveys	1,900.00	1,659.00	240.97	234.28	36.001	CC, ES, SF
TIMBRO 0112-06H - Plan A - Actual SLB Surveys	600.59	600.54	14.24	6.07	1.743	CC
TIMBRO 0112-06H - Plan A - Actual SLB Surveys	615.00	614.92	14.27	6.07	1.740	ES, SF
TIMBRO 0112-06H - Plan A - Design #1	600.59	600.54	14.24	6.07	1.743	CC
TIMBRO 0112-06H - Plan A - Design #1	615.00	614.92	14.27	6.07	1.740	ES
TIMBRO 0112-06H - Plan A - Design #1	16,600.35	16,565.18	624.33	135.61	1.277	Level 3, SF
TIMBRO 0112-07H - Plan A - Actual SLB Surveys	20.00	20.00	31.85			
TIMBRO 0112-07H - Plan A - Design #1	20.00	20.00	31.85			
TIMBRO 0112-07H - Plan A - Design #1	16,600.35	16,568.32	1,248.82	760.81	2.559	SF
TIMBRO 0112-08H - Plan A - Actual SLB Surveys	20.00	20.00	48.19			
TIMBRO 0112-08H - Plan A - Actual SLB Surveys	257.00	256.52	48.40	40.76	6.333	SF
TIMBRO 0112-08H - Plan A - Design #1	20.00	20.00	48.19			
TIMBRO 0112-08H - Plan A - Design #1	257.00	256.52	48.40	40.76	6.333	SF
TIMBRO 3625-12H - Plan A - Design #1	487.60	487.27	110.47	102.55	13.944	CC
TIMBRO 3625-12H - Plan A - Design #1	495.00	494.63	110.48	102.54	13.922	ES
TIMBRO 3625-12H - Plan A - Design #1	6,159.82	6,152.89	205.06	172.07	6.215	SF
TIMBRO 3625-13H - Plan A - Design #1	656.14	656.12	125.52	117.23	15.134	CC, ES
TIMBRO 3625-13H - Plan A - Design #1	975.00	974.45	137.16	127.95	14.899	SF
TIMBRO 3625-14H - Plan A - Design #1	488.77	488.09	142.42	134.48	17.932	CC
TIMBRO 3625-14H - Plan A - Design #1	495.00	494.02	142.43	134.47	17.909	ES
TIMBRO 3625-14H - Plan A - Design #1	615.00	608.27	145.07	136.90	17.750	SF
TIMBRO 3625-15H - Plan A - Design #1	229.36	227.97	159.84	152.24	21.031	CC, ES
TIMBRO 3625-15H - Plan A - Design #1	257.00	254.15	160.06	152.43	20.999	SF
TIMBRO 3636-09H - Plan A - Design #1	396.69	396.48	63.05	55.27	8.105	CC, ES
TIMBRO 3636-09H - Plan A - Design #1	525.00	524.22	64.15	56.15	8.016	SF
TIMBRO 3636-10H - Plan A - Design #1	404.59	404.43	78.70	70.91	10.103	CC
TIMBRO 3636-10H - Plan A - Design #1	465.00	464.54	78.76	70.88	9.988	ES
TIMBRO 3636-10H - Plan A - Design #1	645.00	643.82	81.19	72.92	9.815	SF
TIMBRO 3636-11H - Plan A - Design #1	473.45	473.08	94.57	86.67	11.972	CC, ES
TIMBRO 3636-11H - Plan A - Design #1	675.00	673.79	96.85	88.51	11.608	SF
9N-59W-02 Offsets Incomplete						
HAMLIN 1 - SNYDER P&A Well - No Surveys						Out of range
MCCLEMENT 1 - TEKOil P&A Well - No Surveys						Out of range
WILDHORSE 02-0214H - FUNDARE PR Well - Actual E						Out of range

## Anticollision Summary Report

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<b>Reference Site:</b>	9N-59W-01 TIMBRO 0101 PAD	<b>MD Reference:</b>	RKB = 20' @ 4959.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	TIMBRO 0112-05H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	3.28 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Plan A	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
9N-59W-11 Offsets Incomplete						
Johnny Federal LC11-715 - NBL PR Well - Actual BKR S						Out of range
Ringo Federal LC23-720 - NBL PR Well - Actual BKR Su						Out of range
9N-59W-12 Offsets						
BEST #1 - DUNWICK P&A Well - No Surveys	16,163.98	5,968.00	1,079.51	635.62	2.432	CC
BEST #1 - DUNWICK P&A Well - No Surveys	16,200.00	5,968.00	1,080.11	635.19	2.428	ES, SF
TIMBRO LC12-78HN - NBL PR Well - Actual DDC Surve						Out of range
9N-59W-13 Offsets						
TIMBRO LC13-72HN - NBL PR Well - Actual DDC Surve						Out of range
9N-59W-24 Offsets Incomplete						
Timbro LC13-73HN - Noble PR Well - Actual Sperry Surv	16,600.35	10,447.00	1,245.76	968.70	4.496	CC, ES, SF
Timbro LC13-74-1HN - Noble PR Well - Actual Sperry Su	16,600.35	10,362.00	1,034.84	822.72	4.879	CC, ES, SF
Timbro LC13-74HN - Noble PR Well - Actual Sperry Surv	16,600.35	10,357.00	898.39	790.44	8.322	CC, ES, SF
Timbro LC13-75-1HN - Noble PR Well - Actual Sperry Su	16,600.35	10,390.00	877.72	801.32	11.489	CC, ES, SF
Timbro LC13-75HN - Noble T/A Well - Actual Ensign Sur	16,600.35	10,388.00	1,007.25	835.56	5.867	CC, ES, SF
Timbro LC13-76-1HN - Noble PR Well - Actual Ensign Su	16,600.35	10,339.00	1,149.54	913.25	4.865	CC, ES, SF
Timbro LC13-76HN - Noble PR Well - Actual Ensign Surv	16,600.35	10,420.00	1,406.79	1,118.33	4.877	CC, ES, SF
Timbro LC13-77-1HN - Noble Original Well - Actual Ensig						Out of range
Timbro LC13-77-1HN - Noble PR Sidetrack Well - Actual						Out of range
WINCHESTER FEDERAL LC24-715 - Noble PR Well - A						Out of range

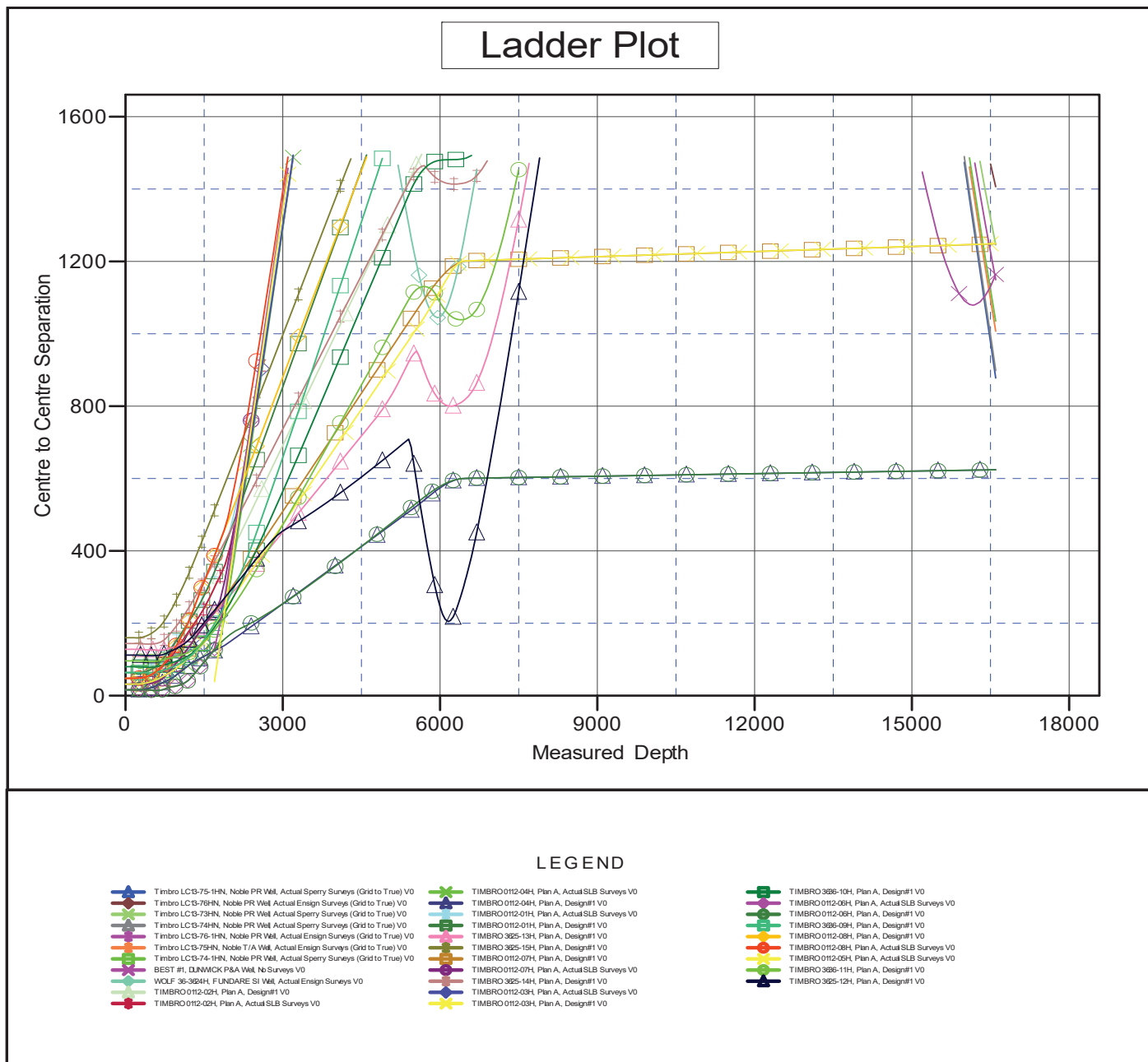
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<b>Reference Site:</b>	9N-59W-01 TIMBRO 0101 PAD	<b>MD Reference:</b>	RKB = 20' @ 4959.00usft (RIG)
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	TIMBRO 0112-05H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	3.28 usft	<b>Output errors are at</b>	2.45 sigma
<b>Reference Wellbore</b>	Plan A	<b>Database:</b>	EDM 5000.16 Single User Db
<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Coordinates are relative to: TIMBRO 0112-05H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 1.02°



## Anticollision Summary Report

<b>Company:</b>	VERDAD RESOURCES	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 0112-05H
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<b>Reference Design:</b>	Design #1	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to RKB = 20' @ 4959.00usft (RIG)

Offset Depths are relative to Offset Datum

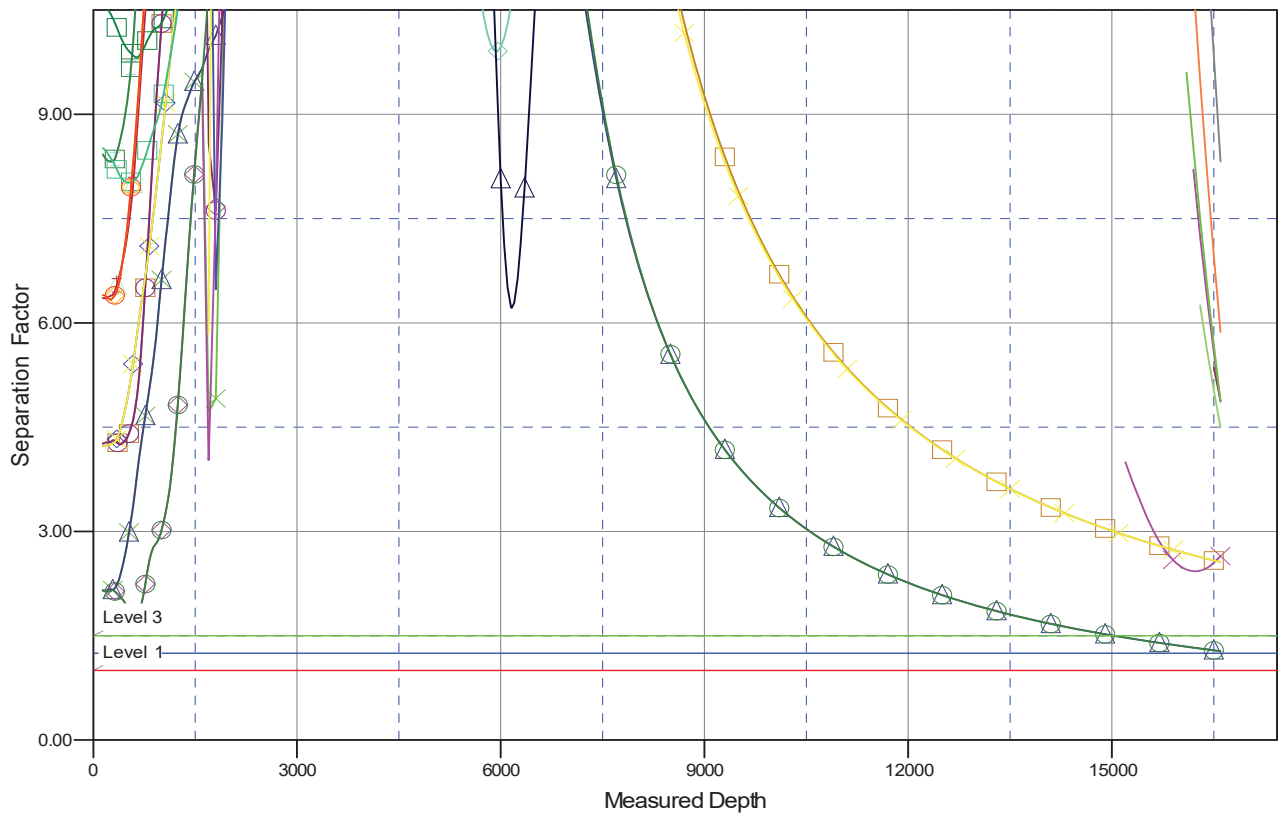
Central Meridian is -105.500000

Coordinates are relative to: TIMBRO 0112-05H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 1.02°

### Separation Factor Plot



#### LEGEND

Timbro LCB-75-11N, Noble PR Well, Actual Sperry Surveys (Grid to True) V0	TIMBRO 0112-04H, Plan A, Actual SLB Surveys V0	TIMBRO 305-10H, Plan A, Design#1 V0
Timbro LCB-70H-N, Noble PR Well, Actual Sperry Surveys (Grid to True) V0	TIMBRO 0112-04H, Plan A, Design#1 V0	TIMBRO 0112-09H, Plan A, Actual SLB Surveys V0
Timbro LCB-73H-N, Noble PR Well, Actual Sperry Surveys (Grid to True) V0	TIMBRO 0112-01H, Plan A, Actual SLB Surveys V0	TIMBRO 0112-09H, Plan A, Design#1 V0
Timbro LCB-74H-N, Noble PR Well, Actual Sperry Surveys (Grid to True) V0	TIMBRO 0112-01H, Plan A, Design#1 V0	TIMBRO 305-09H, Plan A, Design#1 V0
Timbro LCB-76-11N, Noble PR Well, Actual Ensign Surveys (Grid to True) V0	TIMBRO 305-13H, Plan A, Design#1 V0	TIMBRO 0112-08H, Plan A, Design#1 V0
Timbro LCB-79H-N, Noble T/A Well, Actual Ensign Surveys (Grid to True) V0	TIMBRO 305-15H, Plan A, Design#1 V0	TIMBRO 0112-08H, Plan A, Actual SLB Surveys V0
Timbro LCB-74-11N, Noble PR Well, Actual Sperry Surveys (Grid to True) V0	TIMBRO 0112-07H, Plan A, Design#1 V0	TIMBRO 0112-05H, Plan A, Actual SLB Surveys V0
BEST #1, QJMWOK P&A Well, No Surveys V0	TIMBRO 0112-07H, Plan A, Actual SLB Surveys V0	TIMBRO 305-11H, Plan A, Design#1 V0
WOLF 36-324H, FUNDARE SI Well, Actual Ensign Surveys V0	TIMBRO 305-14H, Plan A, Design#1 V0	TIMBRO 305-12H, Plan A, Design#1 V0
TIMBRO 0112-02H, Plan A, Design#1 V0	TIMBRO 0112-03H, Plan A, Actual SLB Surveys V0	
TIMBRO 0112-02H, Plan A, Actual SLB Surveys V0	TIMBRO 0112-03H, Plan A, Design#1 V0	