

VERDAD RESOURCES

**WATTENBERG FIELD
2N-64W-32 KIWI 2920 PAD
KIWI 2929-06H**

**Wellbore #1
Design #2**

Anticollision Summary Report

20 December, 2022

Anticollision Summary Report

Company:	VERDAD RESOURCES	Local Co-ordinate Reference:	Well KIWI 2929-06H
Project:	WATTENBERG FIELD	TVD Reference:	RKB = 20' @ 4991.00usft (RIG)
Reference Site:	2N-64W-32 KIWI 2920 PAD	MD Reference:	RKB = 20' @ 4991.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	KIWI 2929-06H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Reference	Design #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,500.00usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.45 Sigma	Casing Method:	Added to Error Values

Survey Tool Program		Date	12/15/2022		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	2,486.00	Design #2 (Wellbore #1)	ISCWSA MWD	Fixed:v2:standard declination	
2,486.00	12,077.62	Design #2 (Wellbore #1)	ISCWSA MWD	Fixed:v2:standard declination	

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
2N-64W-20 Offsets						
DALE 1 - Noble SI Well - Actual VES Surveys						Out of range
Dale 4A-20H-O264 - CPR PR Well - Actual SDI Surveys	12,077.62	6,887.00	736.28	594.58	5.196	CC, ES, SF
Dale 4B-20H-O264 - CPR PR Well - Actual SDI Surveys	12,077.62	6,888.00	560.52	443.28	4.781	CC, ES, SF
Dale 4C-20H-O264 - CPR PR Well - Actual SDI Surveys	12,077.62	6,792.00	556.62	492.97	8.745	CC, ES, SF
Dale 4D-20H-O264 - CPR PR Well - Actual SDI Surveys	12,077.62	6,826.88	580.92	484.85	6.047	CC, ES, SF
Dale 4E-20H-O264 - CPR PR Well - Actual SDI Surveys	12,077.62	6,851.32	735.77	606.94	5.711	CC, ES, SF
Dale 4F-20H-O264 - CPR PR Well - Actual SDI Surveys	12,077.62	6,732.53	935.65	801.10	6.954	CC, ES, SF
Dale 4G-20H-O264 - CPR PR Well - Actual SDI Surveys	12,077.62	6,796.00	1,085.26	934.88	7.217	CC, ES, SF
Dale 4H-20H-O264 - CPR PR Well - Actual SDI Surveys	12,077.62	6,883.75	1,270.33	1,109.70	7.909	CC, ES, SF
Dale 4I-20H-O264 - CPR PR Well - Actual SDI Surveys						Out of range
Dale 4J-20H-O264 - CPR PR Well - Actual SDI Surveys						Out of range
Dale 4K-20H-O264 - CPR PR Well - Actual SDI Surveys						Out of range
DALE 'E' UNIT #1 - CPR P&A Well - No Surveys						Out of range
FOY #1 - Noble SI Well - Actual VES Surveys						Out of range
FOY Y #20-6 - Noble SI Well - Actual VES Surveys						Out of range
KELLER #20-2 - Noble T/A Well - No Surveys						Out of range
RUHL 1 - Nebraska Drillers DA Well - No Surveys						Out of range
STARKE Y #20-03 - Noble P&A Well - Actual VES Surveys						Out of range
2N-64W-29 Offsets						
BAUMGARTNER 14-29 - Noble P&A Well - Actual VES Surveys						Out of range
BELL #41-29 - Noble T/A Well - No Surveys	11,793.92	6,956.00	1,428.89	1,037.84	3.654	CC
BELL #41-29 - Noble T/A Well - No Surveys	11,800.00	6,956.00	1,428.91	1,037.67	3.652	ES
BELL #41-29 - Noble T/A Well - No Surveys	11,900.00	6,956.00	1,432.83	1,038.95	3.638	SF
Bell USX #Y29-03 - Noble T/A Well - No Surveys	11,943.38	6,983.00	1,054.24	658.77	2.666	CC, ES, SF
JIM CREEK #1-29 - Noble P&A Well - No Surveys						Out of range
KAMINSKY #1-29 - Noble P&A Well - Actual VES Survey						Out of range
NGL C5 - NGL T/A IJ Well - No Surveys						Out of range
NGL C5A - NGL IJ Well - Actual Ensign Surveys	9,250.65	6,868.01	1,436.23	1,328.97	13.390	CC
NGL C5A - NGL IJ Well - Actual Ensign Surveys	9,300.00	6,867.67	1,437.08	1,328.16	13.195	ES
NGL C5A - NGL IJ Well - Actual Ensign Surveys	9,700.00	6,866.00	1,499.56	1,377.93	12.328	SF
NGL C5B - NGL IJ Well - Actual Total Surveys						Out of range
PARKER #29-34 - Noble SI Well - Actual Coretech Survey	8,164.73	6,997.61	151.09	65.13	1.758	CC, ES, SF

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Site Error:	0.00 usft	North Reference:	True
Reference Well:	KIWI 2929-06H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
2N-64W-32 KIWI 2920 PAD						
KIWI 2920-01H - Wellbore #1 - Design #2	200.00	200.00	80.00	72.43	10.570	CC, ES
KIWI 2920-01H - Wellbore #1 - Design #2	270.60	269.27	80.57	72.95	10.569	SF
KIWI 2920-02H - Wellbore #1 - Design #2	200.00	200.00	64.00	56.43	8.456	CC, ES
KIWI 2920-02H - Wellbore #1 - Design #2	270.60	269.91	64.28	56.65	8.430	SF
KIWI 2920-03H - Wellbore #1 - Design #2	207.03	207.03	48.00	40.43	6.338	CC, ES
KIWI 2920-03H - Wellbore #1 - Design #2	270.60	270.35	48.08	40.46	6.306	SF
KIWI 2920-04H - Wellbore #1 - Design #2	208.11	208.11	32.00	24.43	4.225	CC
KIWI 2920-04H - Wellbore #1 - Design #2	270.60	270.57	32.00	24.38	4.197	ES
KIWI 2920-04H - Wellbore #1 - Design #2	12,077.62	12,100.00	892.84	585.06	2.901	SF
KIWI 2929-05H - Wellbore #1 - Design #2	270.60	270.60	16.00	8.38	2.098	CC, ES
KIWI 2929-05H - Wellbore #1 - Design #2	12,077.62	12,042.65	542.36	233.62	1.757	SF
KIWI 2929-07H - Wellbore #1 - Design #2	202.96	202.96	16.00	8.43	2.113	CC, ES
KIWI 2929-07H - Wellbore #1 - Design #2	12,077.62	12,147.10	542.38	234.51	1.762	SF
KIWI 2929-08H - Wellbore #1 - Design #2	205.22	205.22	32.00	24.43	4.226	CC, ES
KIWI 2929-08H - Wellbore #1 - Design #2	12,077.62	12,245.05	1,084.76	777.06	3.525	SF
KIWI 2929-09H - Wellbore #1 - Design #2	200.00	200.00	48.00	40.43	6.342	CC, ES, SF

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Summary						
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Offset Well - Wellbore - Design						
2N-64W-32 Offsets						
NEWNAM 2-32 - CPR P&A Well - No Surveys	1,701.31	1,603.32	1,429.05	1,359.27	20.480	CC
NEWNAM 2-32 - CPR P&A Well - No Surveys	2,300.00	2,173.51	1,440.66	1,347.42	15.452	ES
NEWNAM 2-32 - CPR P&A Well - No Surveys	3,100.00	2,935.43	1,491.31	1,368.04	12.098	SF
Newnam 2A-32H-C264 - CPR PR Well - Actual SDI Surv						Out of range
Newnam 2B-32H-C264 - CPR PR Well - Actual SDI Surv						Out of range
Newnam 2C-32H-C264 - CPR PR Well - Actual SDI Surv						Out of range
Newnam 2D-32H-C264 - CPR PR Well - Actual SDI Surv						Out of range
Newnam 2E-32H-C264 - CPR PR Well - Actual SDI Surv						Out of range
Newnam 2F-32H-C264 - CPR PR Well - Actual SDI Surv						Out of range
Newnam 2G-32H-C264 - CPR PR Well - Actual SDI Surv						Out of range
Newnam 2H-32H-C264 - CPR PR Well - Actual SDI Surv						Out of range
Newnam 2I-32H-C264 - CPR PR Well - Actual SDI Surv	6,285.24	6,042.82	1,292.86	1,237.27	23.260	CC
Newnam 2I-32H-C264 - CPR PR Well - Actual SDI Surv	6,500.00	6,252.30	1,293.94	1,236.51	22.531	ES
Newnam 2I-32H-C264 - CPR PR Well - Actual SDI Surv	7,100.00	6,768.67	1,325.04	1,263.30	21.462	SF
Newnam 2J-32H-C264 - CPR PR Well - Actual SDI Surv	6,410.67	6,172.31	1,073.37	1,012.51	17.636	CC
Newnam 2J-32H-C264 - CPR PR Well - Actual SDI Surv	6,700.00	6,468.30	1,074.52	1,011.67	17.096	ES
Newnam 2J-32H-C264 - CPR PR Well - Actual SDI Surv	6,850.00	6,591.02	1,079.74	1,016.26	17.009	SF
Newnam 2K-32H-C264 - CPR PR Well - Actual SDI Surv	6,755.71	6,576.63	828.74	769.11	13.898	CC, ES
Newnam 2K-32H-C264 - CPR PR Well - Actual SDI Surv	6,800.00	6,598.00	829.53	769.83	13.895	SF
Newnam 2L-32H-C264 - SDI MWD Surveys - Actual SDI	6,918.38	6,717.55	645.37	582.74	10.306	CC, ES, SF
RUHL 1 - CPR P&A Well - No Surveys	5,031.48	4,836.97	1,369.82	1,167.08	6.757	CC
RUHL 1 - CPR P&A Well - No Surveys	5,600.00	5,378.42	1,380.74	1,155.23	6.123	ES
RUHL 1 - CPR P&A Well - No Surveys	6,950.00	6,660.83	1,493.96	1,216.08	5.376	SF
Ruhl 1A-32H-B264 - CPR PR Well - Actual SDI Surveys	6,883.50	6,616.72	353.63	293.46	5.877	CC, ES, SF
Ruhl 1B-32H-B264 - CPR PR Well - Actual SDI Surveys	6,862.09	6,581.24	132.86	72.78	2.211	CC, ES, SF
Ruhl 1C-32H-B264 - CPR PR Well - Actual SDI Surveys	7,056.60	6,736.91	82.44	19.40	1.308	Level 3, CC, ES, SF
Ruhl 1D-32H-B264 - CPR PR Well - Actual SDI Surveys	7,033.04	6,719.29	321.08	258.33	5.117	CC
Ruhl 1D-32H-B264 - CPR PR Well - Actual SDI Surveys	7,050.00	6,726.94	321.42	258.23	5.086	ES, SF
Ruhl 1E-32H-B264 - CPR PR Well - Actual SDI Surveys	7,002.40	6,716.58	539.91	477.13	8.601	CC, ES
Ruhl 1E-32H-B264 - CPR PR Well - Actual SDI Surveys	7,100.00	6,746.05	547.60	483.13	8.494	SF
Ruhl 1F-32H-B264 - CPR PR Well - Actual SDI Surveys	7,154.85	6,800.94	758.08	691.83	11.443	CC
Ruhl 1F-32H-B264 - CPR PR Well - Actual SDI Surveys	7,200.00	6,820.86	759.02	691.54	11.248	ES
Ruhl 1F-32H-B264 - CPR PR Well - Actual SDI Surveys	7,350.00	6,852.00	777.81	706.76	10.948	SF
Ruhl 1G-32H-B264 - CPR SI Well - Actual Cathedral Sur	7,046.51	6,743.85	995.23	932.67	15.908	CC
Ruhl 1G-32H-B264 - CPR SI Well - Actual Cathedral Sur	7,050.00	6,744.53	995.24	932.62	15.895	ES
Ruhl 1G-32H-B264 - CPR SI Well - Actual Cathedral Sur	7,300.00	6,778.00	1,025.27	958.97	15.465	SF
Ruhl 1H-32H-B264 - CPR PR Well - Actual Cathedral Su	7,029.07	6,746.00	1,288.43	1,225.61	20.509	CC
Ruhl 1H-32H-B264 - CPR PR Well - Actual Cathedral Su	7,050.00	6,746.00	1,288.59	1,225.46	20.412	ES
Ruhl 1H-32H-B264 - CPR PR Well - Actual Cathedral Su	7,500.00	6,746.00	1,364.18	1,293.88	19.404	SF
Ruhl 1I-32H-B264 - CPR PR Well - Actual Cathedral Sur	7,157.08	6,839.54	1,445.12	1,379.42	21.994	CC
Ruhl 1I-32H-B264 - CPR PR Well - Actual Cathedral Sur	7,200.00	6,851.00	1,445.74	1,379.14	21.709	ES
Ruhl 1I-32H-B264 - CPR PR Well - Actual Cathedral Sur	7,550.00	6,840.56	1,493.76	1,419.98	20.247	SF
Ruhl 1J-32H-B264 - CPR PR Well - Actual Cathedral Su						Out of range
Ruhl 1K-32H-B264 - CPR PR Well - Actual Cathedral Su						Out of range
Ruhl 1L-32H-B264 - CPR PR Well - Actual Cathedral Su						Out of range

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Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB = 20' @ 4991.00usft (RIG)

Offset Depths are relative to Offset Datum

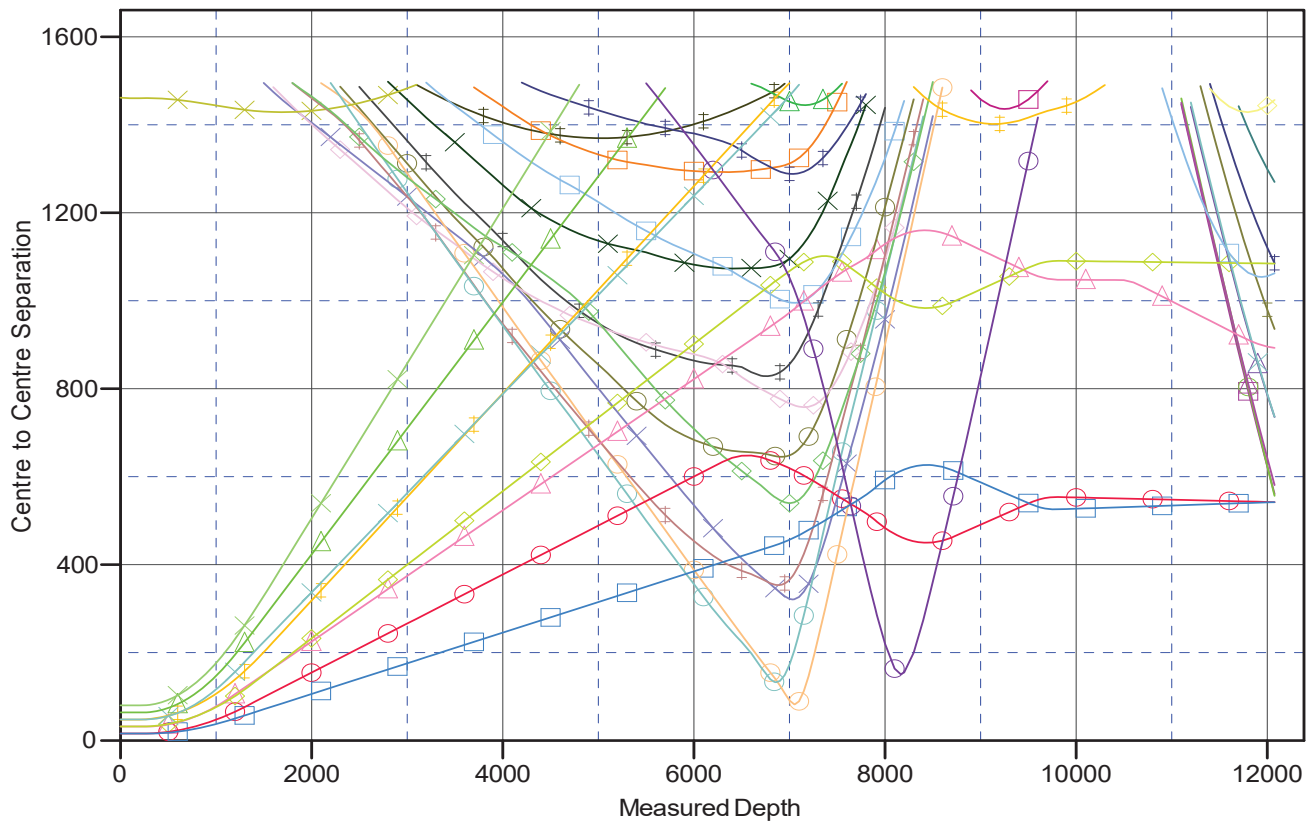
Central Meridian is -105.500000

Coordinates are relative to: KIWI 2929-06H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.60°

Ladder Plot



LEGEND

<ul style="list-style-type: none"> Dale 4E-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4G-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4F-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4B-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4C-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4D-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4A-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4H-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Newnam 2L-32H-C264, SDI MWD Surveys, Actual SDI Surveys V0 Ruhl 1D-32H-B264, CPR PR Wet, Actual SDI Surveys V0 Newnam 2K-32H-C264, CPR PR Wet, Actual SDI Surveys V0 Newnam 2J-32H-C264, CPR PR Wet, Actual SDI Surveys V0 	<ul style="list-style-type: none"> RUHL 1, CPR P&A Well, No Surveys V0 Newnam 2I-32H-C264, CPR PR Wet, Actual SDI Surveys V0 Ruhl 1F-32H-B264, CPR PR Wet, Actual SDI Surveys V0 Ruhl 1C-32H-B264, CPR PR Wet, Actual SDI Surveys V0 NEWNAM 2J2, CPR P&A Well, No Surveys V0 Ruhl 1I-32H-B264, CPR PR Wet, Actual Cathedral Surveys V0 Ruhl 1A-32H-B264, CPR PR Wet, Actual SDI Surveys V0 Ruhl 1G-32H-B264, CPR SI Wet, Actual Cathedral Surveys V0 Ruhl 1H-32H-B264, CPR PR Wet, Actual Cathedral Surveys V0 Ruhl 1B-32H-B264, CPR PR Wet, Actual SDI Surveys V0 Ruhl 1E-32H-B264, CPR PR Wet, Actual SDI Surveys V0 KIWI 2920-01H, Wellbore #1, Design #2 V0 	<ul style="list-style-type: none"> KIWI 2920-04H, Wellbore #1, Design #2 V0 KIWI 2929-09H, Wellbore #1, Design #2 V0 KIWI 2929-07H, Wellbore #1, Design #2 V0 KIWI 2929-05H, Wellbore #1, Design #2 V0 KIWI 2929-08H, Wellbore #1, Design #2 V0 KIWI 2920-03H, Wellbore #1, Design #2 V0 KIWI 2920-02H, Wellbore #1, Design #2 V0 Beil USX #Y29-03, Noble T/A Well, No Surveys V0 NGL CSA, NGL IJ Well, Actual Ensign Surveys V0 PARKER #29-34, Noble SI Well, Actual Coretech Surveys V0 BELL #41-29, Noble T/A Well, No Surveys V0
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Anticollision Summary Report

Company:	VERDAD RESOURCES	Local Co-ordinate Reference:	Well KIWI 2929-06H
Project:	WATTENBERG FIELD	TVD Reference:	RKB = 20' @ 4991.00usft (RIG)
Reference Site:	2N-64W-32 KIWI 2920 PAD	MD Reference:	RKB = 20' @ 4991.00usft (RIG)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	KIWI 2929-06H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.28 usft	Output errors are at	2.45 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.16 Single User Db
Reference Design:	Design #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB = 20' @ 4991.00usft (RIG)

Offset Depths are relative to Offset Datum

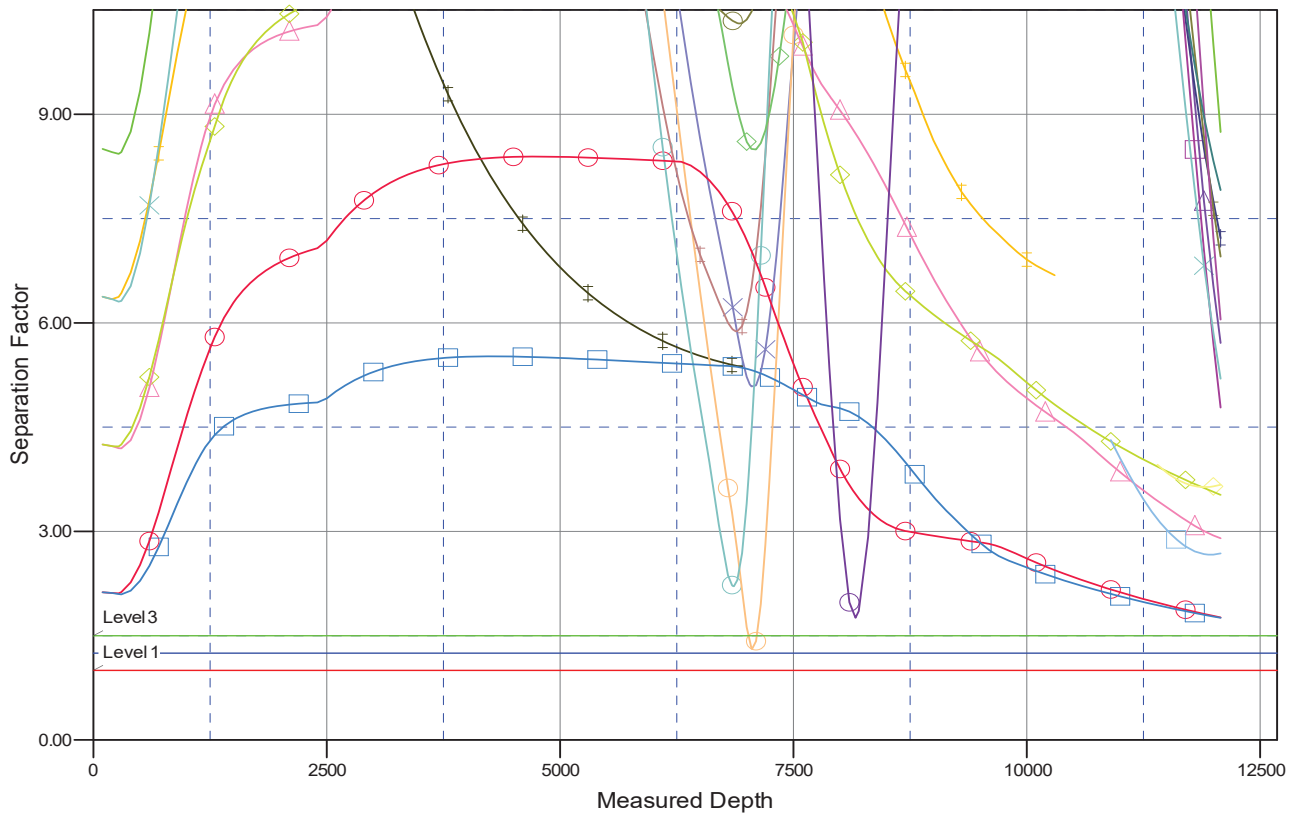
Central Meridian is -105.500000

Coordinates are relative to: KIWI 2929-06H

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.60°

Separation Factor Plot



LEGEND

<ul style="list-style-type: none"> Dale 4E-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4G-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4F-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4B-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4C-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4D-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4A-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Dale 4H-20H-O264, CPR PR Wet, Actual SDI Surveys V0 Newnam 2L-32H-C264, SDI MWD Surveys, Actual SDI Surveys V0 Ruhl 1D-32H-B264, CPR PR Wet, Actual SDI Surveys V0 Newnam 2K-32H-C264, CPR PR Wet, Actual SDI Surveys V0 Newnam 2J-32H-C264, CPR PR Wet, Actual SDI Surveys V0 	<ul style="list-style-type: none"> RUHL 1, CPR P&A Well, No Surveys V0 Newnam 2I-32H-C264, CPR PR Wet, Actual SDI Surveys V0 Ruhl 1F-32H-B264, CPR PR Wet, Actual SDI Surveys V0 Ruhl 1C-32H-B264, CPR PR Wet, Actual SDI Surveys V0 NEWNAM 232, CPR P&A Well, No Surveys V0 Ruhl 1I-32H-B264, CPR PR Wet, Actual Cathedral Surveys V0 Ruhl 1A-32H-B264, CPR PR Wet, Actual SDI Surveys V0 Ruhl 1G-32H-B264, CPR SI Wet, Actual Cathedral Surveys V0 Ruhl 1H-32H-B264, CPR PR Wet, Actual Cathedral Surveys V0 Ruhl 1B-32H-B264, CPR PR Wet, Actual SDI Surveys V0 Ruhl 1E-32H-B264, CPR PR Wet, Actual SDI Surveys V0 KIWI 2920-01H, Wellbore #1, Design #2 V0 	<ul style="list-style-type: none"> KIWI 2920-04H, Wellbore #1, Design #2 V0 KIWI 2929-09H, Wellbore #1, Design #2 V0 KIWI 2929-07H, Wellbore #1, Design #2 V0 KIWI 2929-05H, Wellbore #1, Design #2 V0 KIWI 2929-08H, Wellbore #1, Design #2 V0 KIWI 2920-03H, Wellbore #1, Design #2 V0 KIWI 2920-02H, Wellbore #1, Design #2 V0 Bell USX #Y29-03, Noble T/A Well, No Surveys V0 NGL C5A, NGL IJ Well, Actual Ensign Surveys V0 PARKER #29-34, Noble SI Well, Actual Coretech Surveys V0 BELL #41-29, Noble T/A Well, No Surveys V0
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