

VERDAD RESOURCES

WATTENBERG FIELD

2N-64W-32 KIWI 2920 PAD

KIWI 2929-05H

Wellbore #1

Design #2

Anticollision Summary Report

20 December, 2022

Anticollision Summary Report

Company:	VERDAD RESOURCES	Local Co-ordinate Reference:	Well KIWI 2929-05H
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 2929-05H	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	12,047.17	Design #2 (Wellbore #1)	ISCWSA MWD	Fixed:v2:standard declination	

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						
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	12,048.01	6,887.00	517.69	450.23	7.675	CC, ES, SF
Dale 4B-20H-O264 - CPR PR Well - Actual SDI Surveys	12,048.01	6,888.00	529.72	429.03	5.261	CC, ES, SF
Dale 4C-20H-O264 - CPR PR Well - Actual SDI Surveys	12,048.01	6,792.00	738.63	611.79	5.823	CC, ES, SF
Dale 4D-20H-O264 - CPR PR Well - Actual SDI Surveys	12,048.01	6,849.71	977.82	822.88	6.311	CC, ES, SF
Dale 4E-20H-O264 - CPR PR Well - Actual SDI Surveys	12,048.01	6,853.81	1,194.00	1,031.07	7.328	CC, ES, SF
Dale 4F-20H-O264 - CPR PR Well - Actual SDI Surveys	12,048.01	6,735.95	1,396.11	1,233.99	8.611	CC, ES, SF
Dale 4G-20H-O264 - CPR PR Well - Actual SDI Surveys						Out of range
Dale 4H-20H-O264 - CPR PR Well - Actual SDI Surveys						Out of range
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						Out of range
Bell USX #Y29-03 - Noble T/A Well - No Surveys	11,916.05	6,983.00	512.82	113.56	1.284	Level 3, CC, ES, SF
JIM CREEK #1-29 - Noble P&A Well - No Surveys	8,500.01	6,967.00	1,325.56	1,005.90	4.147	CC, ES
JIM CREEK #1-29 - Noble P&A Well - No Surveys	8,600.00	6,967.00	1,329.33	1,007.65	4.132	SF
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						Out of range
NGL C5B - NGL IJ Well - Actual Total Surveys	11,307.46	7,429.42	994.36	800.90	5.140	CC, ES
NGL C5B - NGL IJ Well - Actual Total Surveys	11,400.00	7,443.86	998.56	802.29	5.088	SF
PARKER #29-34 - Noble SI Well - Actual Coretech Survey	8,148.94	6,983.81	462.65	376.93	5.397	CC, ES
PARKER #29-34 - Noble SI Well - Actual Coretech Survey	8,200.00	6,985.41	465.46	378.80	5.372	SF

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Site Error:	0.00 usft	North Reference:	True
Reference Well:	KIWI 2929-05H	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						
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2N-64W-32 KIWI 2920 PAD						
KIWI 2920-01H - Wellbore #1 - Design #2	200.00	200.00	64.00	56.43	8.456	CC, ES, SF
KIWI 2920-02H - Wellbore #1 - Design #2	200.00	200.00	48.00	40.43	6.342	CC, ES, SF
KIWI 2920-03H - Wellbore #1 - Design #2	206.30	206.30	32.00	24.43	4.226	CC, ES
KIWI 2920-03H - Wellbore #1 - Design #2	12,048.01	12,121.02	1,141.88	829.25	3.652	SF
KIWI 2920-04H - Wellbore #1 - Design #2	206.10	206.10	16.00	8.43	2.113	CC
KIWI 2920-04H - Wellbore #1 - Design #2	300.70	300.64	16.07	8.42	2.099	ES
KIWI 2920-04H - Wellbore #1 - Design #2	12,048.01	12,081.38	350.63	39.80	1.128	Level 2, SF
KIWI 2929-06H - Wellbore #1 - Design #2	202.86	202.86	16.00	8.43	2.113	CC
KIWI 2929-06H - Wellbore #1 - Design #2	300.70	300.66	16.04	8.38	2.095	ES
KIWI 2929-06H - Wellbore #1 - Design #2	12,048.01	12,077.62	542.39	233.42	1.755	SF
KIWI 2929-07H - Wellbore #1 - Design #2	201.42	201.42	32.00	24.43	4.227	CC, ES
KIWI 2929-07H - Wellbore #1 - Design #2	12,048.01	12,147.10	1,084.77	773.13	3.481	SF
KIWI 2929-08H - Wellbore #1 - Design #2	200.00	200.00	48.00	40.43	6.342	CC, ES, SF
KIWI 2929-09H - Wellbore #1 - Design #2	200.00	200.00	64.00	56.43	8.456	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	2,821.25	2,675.62	1,306.12	1,193.21	11.568	CC
NEWNAM 2-32 - CPR P&A Well - No Surveys	3,400.00	3,228.30	1,317.36	1,182.32	9.756	ES
NEWNAM 2-32 - CPR P&A Well - No Surveys	5,300.00	5,042.74	1,498.95	1,291.21	7.216	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	6,893.02	6,651.56	1,307.95	1,248.28	21.919	CC
Newnam 2G-32H-C264 - CPR PR Well - Actual SDI Surv	6,900.00	6,655.23	1,307.96	1,248.23	21.895	ES
Newnam 2G-32H-C264 - CPR PR Well - Actual SDI Surv	7,250.00	6,742.02	1,349.90	1,286.30	21.225	SF
Newnam 2H-32H-C264 - CPR PR Well - Actual SDI Surv	6,768.90	6,507.02	1,084.53	1,026.04	18.543	CC
Newnam 2H-32H-C264 - CPR PR Well - Actual SDI Surv	6,800.00	6,530.47	1,084.73	1,026.01	18.472	ES
Newnam 2H-32H-C264 - CPR PR Well - Actual SDI Surv	7,000.00	6,658.36	1,098.16	1,037.91	18.225	SF
Newnam 2I-32H-C264 - CPR PR Well - Actual SDI Surv	6,986.83	6,720.38	855.43	794.43	14.026	CC
Newnam 2I-32H-C264 - CPR PR Well - Actual SDI Surv	7,000.00	6,727.70	855.49	794.36	13.995	ES
Newnam 2I-32H-C264 - CPR PR Well - Actual SDI Surv	7,100.00	6,771.54	861.04	798.89	13.853	SF
Newnam 2J-32H-C264 - CPR PR Well - Actual SDI Surv	6,882.97	6,626.61	635.43	571.99	10.017	CC
Newnam 2J-32H-C264 - CPR PR Well - Actual SDI Surv	6,900.00	6,636.84	635.55	571.99	10.000	ES
Newnam 2J-32H-C264 - CPR PR Well - Actual SDI Surv	6,950.00	6,664.19	637.44	573.54	9.976	SF
Newnam 2K-32H-C264 - CPR PR Well - Actual SDI Surv	6,825.53	6,613.79	388.19	328.52	6.506	CC, ES, SF
Newnam 2L-32H-C264 - SDI MWD Surveys - Actual SDI	6,995.51	6,767.16	191.75	129.28	3.069	CC, ES, SF
RUHL 1 - CPR P&A Well - No Surveys						Out of range
Ruhl 1A-32H-B264 - CPR PR Well - Actual SDI Surveys	6,913.37	6,639.46	94.98	34.91	1.581	CC, ES, SF
Ruhl 1B-32H-B264 - CPR PR Well - Actual SDI Surveys	6,882.61	6,617.22	312.59	253.10	5.254	CC, ES
Ruhl 1B-32H-B264 - CPR PR Well - Actual SDI Surveys	6,900.00	6,628.05	312.89	253.30	5.250	SF
Ruhl 1C-32H-B264 - CPR PR Well - Actual SDI Surveys	7,004.71	6,696.78	543.76	482.29	8.846	CC, ES
Ruhl 1C-32H-B264 - CPR PR Well - Actual SDI Surveys	7,100.00	6,761.33	547.98	485.07	8.711	SF
Ruhl 1D-32H-B264 - CPR PR Well - Actual SDI Surveys	6,967.05	6,684.67	778.85	717.67	12.731	CC
Ruhl 1D-32H-B264 - CPR PR Well - Actual SDI Surveys	7,000.00	6,703.19	779.31	717.66	12.641	ES
Ruhl 1D-32H-B264 - CPR PR Well - Actual SDI Surveys	7,100.00	6,743.28	787.38	724.44	12.509	SF
Ruhl 1E-32H-B264 - CPR PR Well - Actual SDI Surveys	6,927.72	6,693.48	993.80	932.80	16.292	CC
Ruhl 1E-32H-B264 - CPR PR Well - Actual SDI Surveys	6,950.00	6,708.43	993.98	932.70	16.221	ES
Ruhl 1E-32H-B264 - CPR PR Well - Actual SDI Surveys	7,100.00	6,756.42	1,006.87	943.72	15.944	SF
Ruhl 1F-32H-B264 - CPR PR Well - Actual SDI Surveys	4,725.66	4,362.57	1,197.22	1,160.47	32.581	CC
Ruhl 1F-32H-B264 - CPR PR Well - Actual SDI Surveys	7,000.00	6,704.63	1,222.86	1,160.05	19.468	ES
Ruhl 1F-32H-B264 - CPR PR Well - Actual SDI Surveys	7,450.00	6,852.00	1,287.72	1,216.83	18.166	SF
Ruhl 1G-32H-B264 - CPR SI Well - Actual Cathedral Sur	6,927.92	6,719.99	1,450.92	1,390.51	24.016	CC
Ruhl 1G-32H-B264 - CPR SI Well - Actual Cathedral Sur	6,950.00	6,731.00	1,451.06	1,390.41	23.924	ES
Ruhl 1G-32H-B264 - CPR SI Well - Actual Cathedral Sur	7,300.00	6,778.00	1,499.10	1,434.06	23.051	SF
Ruhl 1H-32H-B264 - CPR PR Well - Actual Cathedral Su						Out of range
Ruhl 1I-32H-B264 - CPR PR Well - Actual Cathedral Sur						Out of range
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 Depths are relative to RKB = 20' @ 4991.00usft (RIG)

Offset Depths are relative to Offset Datum

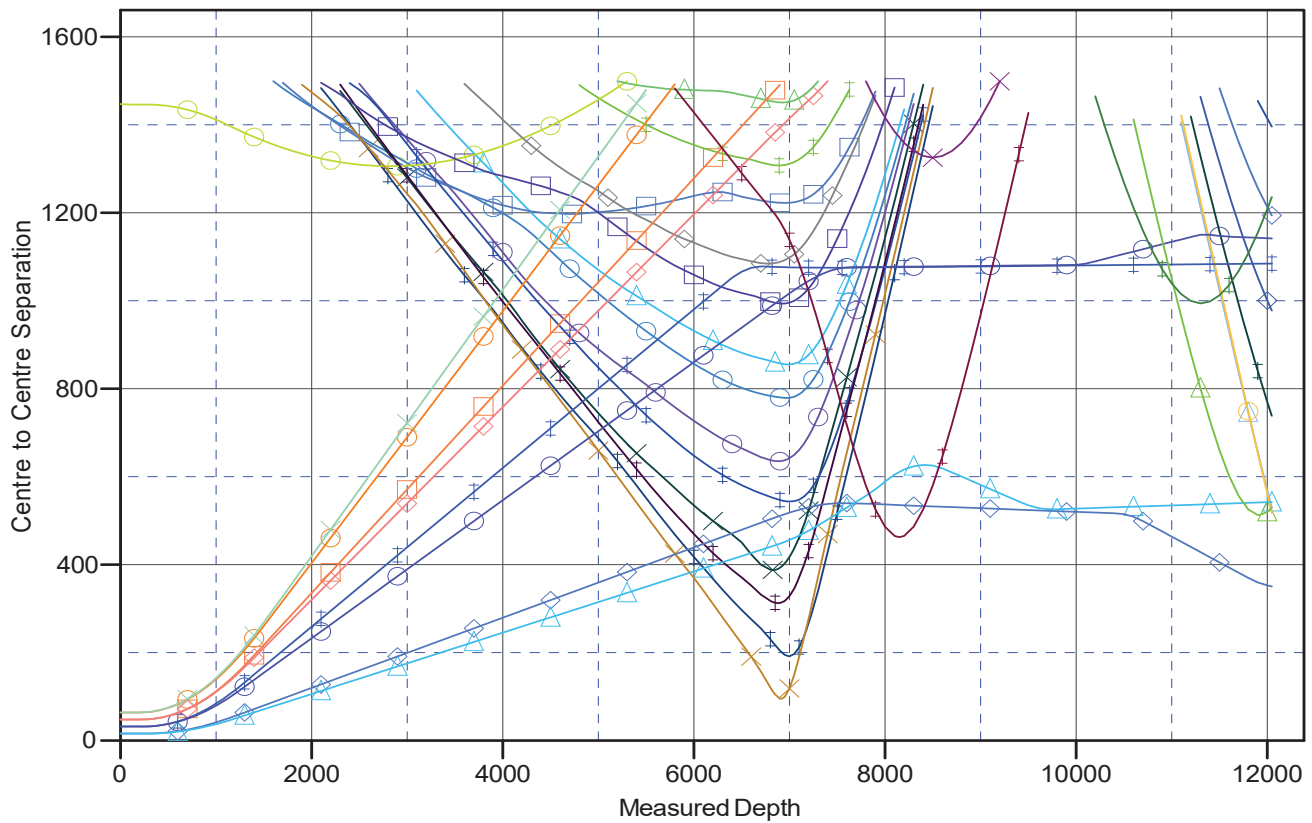
Central Meridian is -105.500000

Coordinates are relative to: KIWI 2929-05H

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-C264, CPR PR Well, Actual SDI Surveys V0 Dale 4F-20H-C264, CPR PR Well, Actual SDI Surveys V0 Dale 4B-20H-C264, CPR PR Well, Actual SDI Surveys V0 Dale 4C-20H-C264, CPR PR Well, Actual SDI Surveys V0 Dale 4D-20H-C264, CPR PR Well, Actual SDI Surveys V0 Dale 4A-20H-C264, CPR PR Well, Actual SDI Surveys V0 Newnam 2L-32H-C264, SDI MWD Surveys, Actual SDI Surveys V0 Ruhl 1D-32H-B264, CPR PR Well, Actual SDI Surveys V0 Newnam 2K-32H-C264, CPR PR Well, Actual SDI Surveys V0 Newnam 2J-32H-C264, CPR PR Well, Actual SDI Surveys V0 Newnam 2I-32H-C264, CPR PR Well, Actual SDI Surveys V0 	<ul style="list-style-type: none"> Ruhl 1F-32H-B264, CPR PR Well, Actual SDI Surveys V0 Newnam 2G-32H-C264, CPR PR Well, Actual SDI Surveys V0 Ruhl 1C-32H-B264, CPR PR Well, Actual SDI Surveys V0 NEWNAM 232, CPR P&A Well, No Surveys V0 Newnam 2H-32H-C264, CPR PR Well, Actual SDI Surveys V0 Ruhl 1A-32H-B264, CPR PR Well, Actual SDI Surveys V0 Ruhl 1G-32H-B264, CPR SI Well, Actual Cathedral Surveys V0 Ruhl 1B-32H-B264, CPR PR Well, Actual SDI Surveys V0 Ruhl 1E-32H-B264, CPR PR Well, Actual SDI Surveys V0 KIWI 2920-01H, Wellbore #1, Design #2 V0 KIWI 2920-04H, Wellbore #1, Design #2 V0 	<ul style="list-style-type: none"> KIWI 2929-06H, Wellbore #1, Design #2 V0 KIWI 2929-09H, Wellbore #1, Design #2 V0 KIWI 2929-07H, 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 JIM CREEK #1-29, Noble P&A Well, No Surveys V0 S&I USX #Y29-03, Noble T/A Well, No Surveys V0 PARKER #29-34, Noble SI Well, Actual Coretech Surveys V0 NGL C5B, NGL IJ Well, Actual Total Surveys V0
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Company:	VERDAD RESOURCES	Local Co-ordinate Reference:	Well KIWI 2929-05H
Project:	WATTENBERG FIELD	TVD Reference:	RKB = 20' @ 4991.00usft (RIG)
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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

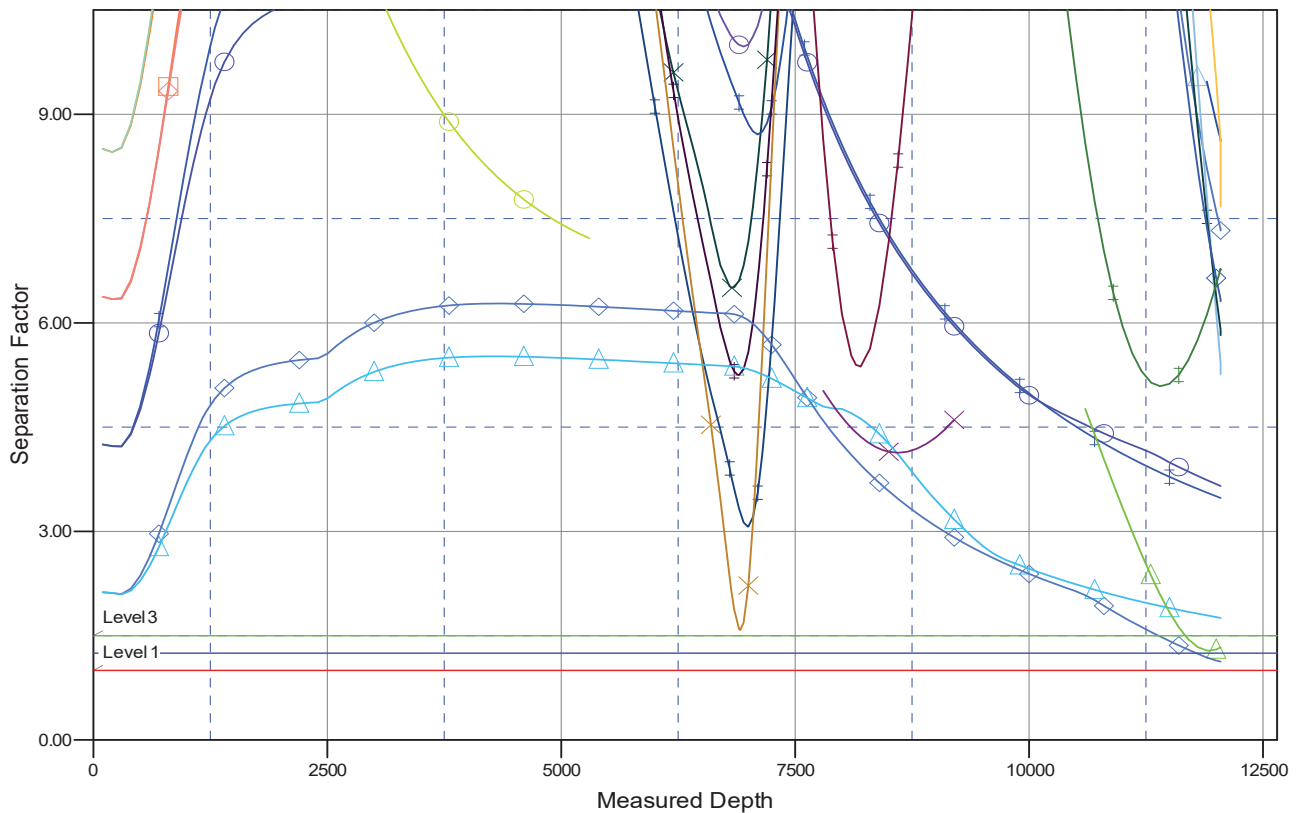
Central Meridian is -105.500000

Coordinates are relative to: KIWI 2929-05H

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-C264, CPR PR Well, Actual SDI Surveys V0 Dale 4F-20H-C264, CPR PR Well, Actual SDI Surveys V0 Dale 4B-20H-C264, CPR PR Well, Actual SDI Surveys V0 Dale 4C-20H-C264, CPR PR Well, Actual SDI Surveys V0 Dale 4D-20H-C264, CPR PR Well, Actual SDI Surveys V0 Dale 4A-20H-C264, CPR PR Well, Actual SDI Surveys V0 Newnam 2L32H-C264, SDI MWD Surveys, Actual SDI Surveys V0 Ruhl 1D-32H-B264, CPR PR Well, Actual SDI Surveys V0 Newnam 2K32H-C264, CPR PR Well, Actual SDI Surveys V0 Newnam 2J32H-C264, CPR PR Well, Actual SDI Surveys V0 Newnam 2I32H-C264, CPR PR Well, Actual SDI Surveys V0 	<ul style="list-style-type: none"> Ruhl 1F-32H-B264, CPR PR Well, Actual SDI Surveys V0 Newnam 2G32H-C264, CPR PR Well, Actual SDI Surveys V0 Ruhl 1C-32H-B264, CPR PR Well, Actual SDI Surveys V0 NEWNAM 232, CPR P&A Well, No Surveys V0 Newnam 2H32H-C264, CPR PR Well, Actual SDI Surveys V0 Ruhl 1A-32H-B264, CPR PR Well, Actual SDI Surveys V0 Ruhl 1G-32H-B264, CPR SI Well, Actual Cathedral Surveys V0 Ruhl 1B-32H-B264, CPR PR Well, Actual SDI Surveys V0 Ruhl 1E-32H-B264, CPR PR Well, Actual SDI Surveys V0 KIWI 2920-01H, Wellbore #1, Design #2 V0 KIWI 2920-04H, Wellbore #1, Design #2 V0 	<ul style="list-style-type: none"> KIWI 2929-06H, Wellbore #1, Design #2 V0 KIWI 2929-09H, Wellbore #1, Design #2 V0 KIWI 2929-07H, 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 JM CREEK #1-29, Noble P&A Well, No Surveys V0 Bel USX #Y29-03, Noble T/A Well, No Surveys V0 PARKER #29-34, Noble SI Well Actual Coretech Surveys V0 NGL C5B, NGL IJ Well, Actual Total Surveys V0
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