



Crestone Peak Resources

Sec 10 T1N-R65W

Warner Pad

WARNER 2I-10H-E165

Wellbore #1

Plan #3 27Sep18 kjs

Anticollision Summary Report

28 September, 2018

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well WARNER 2I-10H-E165
Project:	Sec 10 T1N-R65W	TVD Reference:	WELL @ 4994.00usft (Original Well Elev)
Reference Site:	Warner Pad	MD Reference:	WELL @ 4994.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARNER 2I-10H-E165	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #3 27Sep18 kjs	Offset TVD Reference:	Offset Datum

Reference	Plan #3 27Sep18 kjs		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	9/28/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	14,842.36	Plan #3 27Sep18 kjs (Wellbore #1)	MWD	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Existing Wells (Warner Pad)						
CHAPIN 43-4 - CPR - Gyro	11,948.82	7,153.36	2,592.97	2,486.10	24.262	CC, ES
CHAPIN 43-4 - CPR - Gyro	12,300.00	7,159.04	2,616.64	2,507.02	23.870	SF
CHAPIN 44-4 - CPR - Gyro	10,711.90	7,147.67	2,853.07	2,766.16	32.831	CC, ES
CHAPIN 44-4 - CPR - Gyro	11,300.00	7,152.24	2,913.04	2,821.32	31.757	SF
COLFER 13C-34HZ - KMG - MWD	14,842.36	11,790.00	1,608.84	1,423.35	8.673	CC, ES, SF
COLFER 13N-34HZ - KMG - MWD	14,842.36	11,496.00	1,938.24	1,740.91	9.823	CC, ES, SF
COLFER 14C-34HZX - KMG - MWD	14,842.36	11,779.00	967.84	901.64	14.619	CC, ES, SF
COLFER 14N-34HZ - KMG - MWD	14,842.36	11,568.00	987.62	895.29	10.697	CC, ES, SF
COLFER 35N-34HZ - KMG - MWD	14,842.36	11,687.00	1,352.79	1,185.34	8.079	CC, ES, SF
COLFER 36N-34HZ - KMG - MWD	14,842.36	11,617.00	1,067.50	966.46	10.565	CC, ES, SF
HDI KF 03-231HN - VERDAD - Proposal	6,995.39	6,744.41	3,130.95	3,079.23	60.542	CC
HDI KF 03-231HN - VERDAD - Proposal	7,000.00	6,748.53	3,130.96	3,079.20	60.496	ES
HDI KF 03-231HN - VERDAD - Proposal	7,600.00	7,137.16	3,300.62	3,243.13	57.409	SF
HDI KF 03-232HC - VERDAD - Proposed	6,998.03	6,746.78	3,155.48	3,103.78	61.031	CC
HDI KF 03-232HC - VERDAD - Proposed	7,000.00	6,748.53	3,155.49	3,103.77	61.011	ES
HDI KF 03-232HC - VERDAD - Proposed	7,600.00	7,137.16	3,322.90	3,265.47	57.864	SF
HDI KF 03-232HN - VERDAD - Proposal	6,996.71	6,745.59	3,143.21	3,091.50	60.786	CC
HDI KF 03-232HN - VERDAD - Proposal	7,000.00	6,748.53	3,143.21	3,091.47	60.754	ES
HDI KF 03-232HN - VERDAD - Proposal	7,600.00	7,137.16	3,311.75	3,254.29	57.636	SF
HDI KF 10-1H - VERDAD - Proposal	6,971.80	6,723.18	3,224.89	3,173.02	62.173	CC, ES
HDI KF 10-1H - VERDAD - Proposal	7,600.00	7,137.16	3,413.33	3,355.33	58.852	SF
HDI KF 10-3H - VERDAD - Proposal	6,974.33	6,725.46	3,248.85	3,197.00	62.660	CC, ES
HDI KF 10-3H - VERDAD - Proposal	7,600.00	7,137.16	3,434.94	3,377.01	59.298	SF
JOKER 1N3-9HZ - KMG - MWD	6,587.22	9,603.00	2,566.58	2,490.53	33.749	CC
JOKER 1N3-9HZ - KMG - MWD	6,600.00	9,603.00	2,566.61	2,490.46	33.705	ES
JOKER 1N3-9HZ - KMG - MWD	9,800.00	11,936.00	2,755.55	2,623.86	20.924	SF
JOKER 26N1-9HZ - KMG - MWD	6,743.86	9,629.00	2,497.98	2,421.94	32.851	CC, ES
JOKER 26N1-9HZ - KMG - MWD	9,900.00	12,052.00	2,661.26	2,528.49	20.044	SF
JOKER 26N2-9HZ - KMG - MWD	6,730.86	9,398.33	2,290.19	2,215.58	30.697	CC, ES
JOKER 26N2-9HZ - KMG - MWD	9,700.00	11,975.00	2,408.51	2,277.08	18.326	SF
OLIN 41-4 - CPR - MWD	14,655.31	7,476.43	2,844.75	2,691.81	18.601	CC
OLIN 41-4 - CPR - MWD	14,700.00	7,478.88	2,845.10	2,691.76	18.555	ES
OLIN 41-4 - CPR - MWD	14,842.36	7,486.66	2,850.91	2,696.50	18.463	SF
OLIN 42-4A - CPR - MWD	13,373.79	7,494.48	2,868.40	2,732.26	21.069	CC
OLIN 42-4A - CPR - MWD	13,400.00	7,493.93	2,868.52	2,732.04	21.017	ES
OLIN 42-4A - CPR - MWD	13,800.00	7,485.54	2,899.87	2,759.21	20.616	SF
OTTESEN 1 - VERDAD - Gyro	11,664.89	7,130.36	1,248.69	1,146.72	12.247	CC, ES

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well WARNER 2I-10H-E165
Project:	Sec 10 T1N-R65W	TVD Reference:	WELL @ 4994.00usft (Original Well Elev)
Reference Site:	Warner Pad	MD Reference:	WELL @ 4994.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARNER 2I-10H-E165	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #3 27Sep18 kjs	Offset TVD Reference:	Offset Datum

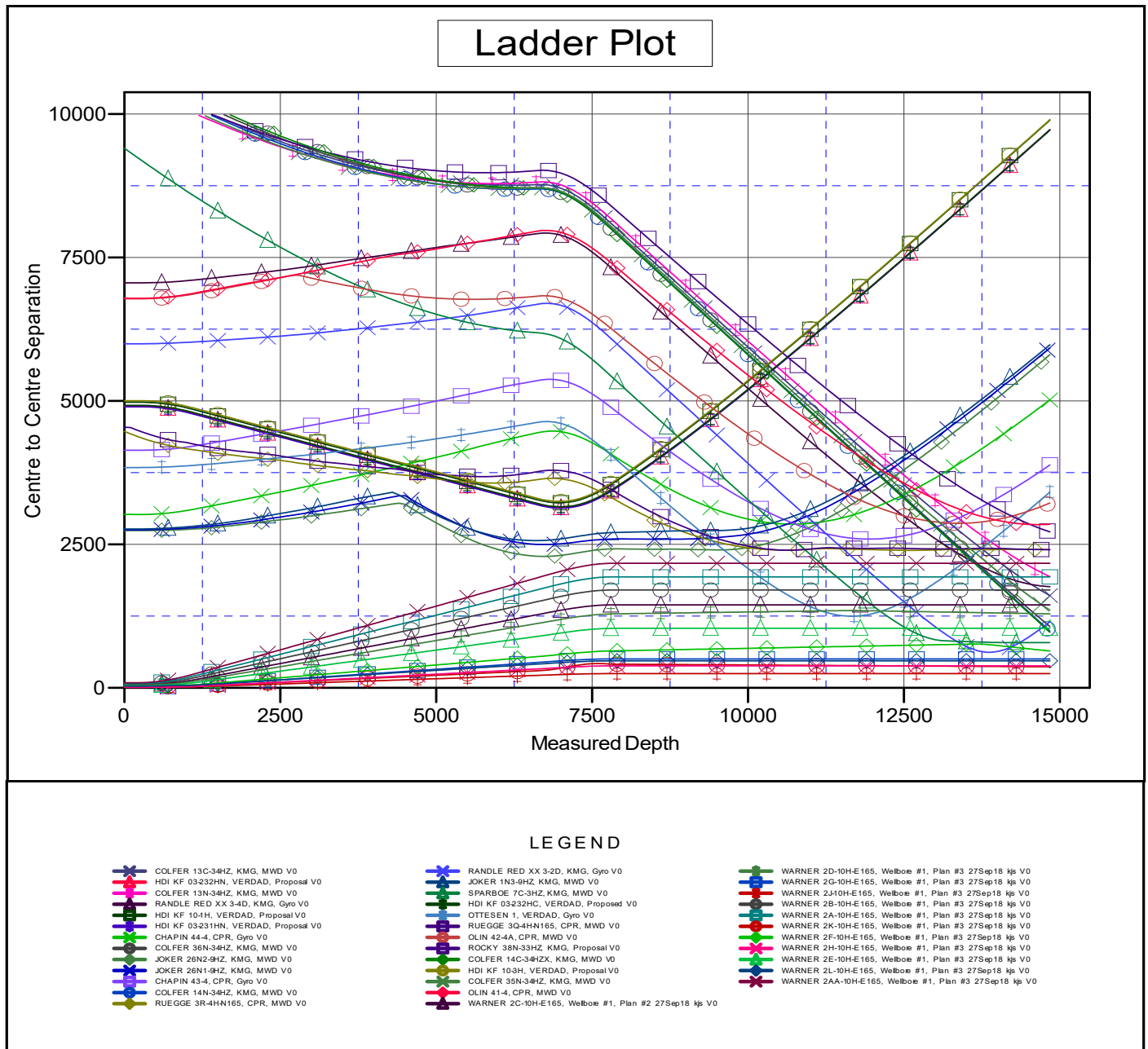
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Existing Wells (Warner Pad)						
OTTESSEN 1 - VERDAD - Gyro	11,700.00	7,131.35	1,249.18	1,147.15	12.244	SF
RANDLE RED XX 3-2D - KMG - Gyro	13,868.65	7,109.97	619.59	477.61	4.364	CC, ES, SF
RANDLE RED XX 3-4D - KMG - Gyro	14,842.36	7,114.98	1,764.55	1,608.18	11.285	CC, ES, SF
ROCKY 38N-33HZ - KMG - Proposal	14,842.36	13,373.00	2,718.27	2,497.36	12.305	CC, ES, SF
RUEGGE 3Q-4H-N165 - CPR - MWD	10,672.15	8,060.00	2,399.27	2,307.44	26.127	CC
RUEGGE 3Q-4H-N165 - CPR - MWD	14,842.36	12,237.99	2,409.99	2,196.78	11.303	ES, SF
RUEGGE 3R-4H-N165 - CPR - MWD	12,601.13	10,386.08	2,396.54	2,251.25	16.495	CC
RUEGGE 3R-4H-N165 - CPR - MWD	14,842.36	12,650.10	2,408.74	2,191.00	11.063	ES, SF
SPARBOE 7C-3HZ - KMG - MWD	14,302.90	13,359.14	788.41	557.77	3.418	CC, ES, SF
Warner Pad						
WARNER 2A-10H-E165 - Wellbore #1 - Plan #3 27Sep1	200.00	199.00	79.77	78.78	80.622	CC
WARNER 2A-10H-E165 - Wellbore #1 - Plan #3 27Sep1	300.00	298.82	80.25	78.56	47.543	ES
WARNER 2A-10H-E165 - Wellbore #1 - Plan #3 27Sep1	14,842.36	14,614.65	1,934.53	1,671.00	7.341	SF
WARNER 2AA-10H-E165 - Wellbore #1 - Plan #3 27Sep	200.00	199.00	89.84	88.85	90.806	CC, ES
WARNER 2AA-10H-E165 - Wellbore #1 - Plan #3 27Sep	14,842.36	14,432.66	2,171.79	1,909.98	8.295	SF
WARNER 2B-10H-E165 - Wellbore #1 - Plan #3 27Sep1	200.00	199.00	69.97	68.98	70.720	CC
WARNER 2B-10H-E165 - Wellbore #1 - Plan #3 27Sep1	300.00	299.33	70.20	68.51	41.521	ES
WARNER 2B-10H-E165 - Wellbore #1 - Plan #3 27Sep1	14,842.36	14,534.17	1,706.27	1,443.58	6.495	SF
WARNER 2C-10H-E165 - Wellbore #1 - Plan #2 27Sep1	200.00	199.00	59.89	58.90	60.537	CC
WARNER 2C-10H-E165 - Wellbore #1 - Plan #2 27Sep1	300.00	299.58	60.01	58.31	35.432	ES
WARNER 2C-10H-E165 - Wellbore #1 - Plan #2 27Sep1	14,842.36	14,761.22	1,446.55	1,183.55	5.500	SF
WARNER 2D-10H-E165 - Wellbore #1 - Plan #3 27Sep1	200.00	200.00	49.82	48.83	50.171	CC
WARNER 2D-10H-E165 - Wellbore #1 - Plan #3 27Sep1	300.00	300.41	50.05	48.35	29.452	ES
WARNER 2D-10H-E165 - Wellbore #1 - Plan #3 27Sep1	14,842.36	14,656.71	1,289.86	1,026.29	4.894	SF
WARNER 2E-10H-E165 - Wellbore #1 - Plan #3 27Sep1	200.00	200.00	39.74	38.75	40.024	CC
WARNER 2E-10H-E165 - Wellbore #1 - Plan #3 27Sep1	300.00	300.25	40.06	38.36	23.548	ES
WARNER 2E-10H-E165 - Wellbore #1 - Plan #3 27Sep1	14,842.36	14,576.77	1,037.77	776.82	3.977	SF
WARNER 2F-10H-E165 - Wellbore #1 - Plan #3 27Sep1	200.00	200.00	29.95	28.95	30.159	CC
WARNER 2F-10H-E165 - Wellbore #1 - Plan #3 27Sep1	400.00	401.24	30.66	28.27	12.826	ES
WARNER 2F-10H-E165 - Wellbore #1 - Plan #3 27Sep1	14,842.36	14,732.12	644.93	381.99	2.453	SF
WARNER 2G-10H-E165 - Wellbore #1 - Plan #3 27Sep1	200.00	200.00	19.87	18.88	20.012	CC
WARNER 2G-10H-E165 - Wellbore #1 - Plan #3 27Sep1	300.00	300.15	20.18	18.47	11.858	ES
WARNER 2G-10H-E165 - Wellbore #1 - Plan #3 27Sep1	14,842.36	14,872.03	504.79	246.98	1.958	SF
WARNER 2H-10H-E165 - Wellbore #1 - Plan #3 27Sep1	200.00	200.00	9.80	8.80	9.865	CC
WARNER 2H-10H-E165 - Wellbore #1 - Plan #3 27Sep1	500.00	500.75	10.98	7.88	3.545	ES
WARNER 2H-10H-E165 - Wellbore #1 - Plan #3 27Sep1	14,842.36	14,755.02	384.82	122.72	1.468	Level 3, SF
WARNER 2J-10H-E165 - Wellbore #1 - Plan #3 27Sep18	200.00	200.00	10.08	9.08	10.147	CC
WARNER 2J-10H-E165 - Wellbore #1 - Plan #3 27Sep18	14,842.36	14,823.77	248.10	-9.16	0.964	Level 3, ES, SF
WARNER 2K-10H-E165 - Wellbore #1 - Plan #3 27Sep1	200.00	200.00	20.15	19.16	20.296	CC
WARNER 2K-10H-E165 - Wellbore #1 - Plan #3 27Sep1	300.00	299.47	20.78	19.09	12.259	ES
WARNER 2K-10H-E165 - Wellbore #1 - Plan #3 27Sep1	14,842.36	15,184.65	367.51	124.66	1.513	SF
WARNER 2L-10H-E165 - Wellbore #1 - Plan #3 27Sep18	200.00	200.00	30.23	29.24	30.442	CC, ES
WARNER 2L-10H-E165 - Wellbore #1 - Plan #3 27Sep18	14,842.36	14,779.75	470.76	216.72	1.853	SF

Anticollision Summary Report

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well WARNER 2I-10H-E165
Project:	Sec 10 T1N-R65W	TVD Reference:	WELL @ 4994.00usft (Original Well Elev)
Reference Site:	Warner Pad	MD Reference:	WELL @ 4994.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	WARNER 2I-10H-E165	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #3 27Sep18 kjs	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4994.00usft (Original Well E
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: WARNER 2I-10H-E165
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.54°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Summary Report

Company: Crestone Peak Resources
Project: Sec 10 T1N-R65W
Reference Site: Warner Pad
Site Error: 0.00 usft
Reference Well: WARNER 2I-10H-E165
Well Error: 0.00 usft
Reference Wellbore: Wellbore #1
Reference Design: Plan #3 27Sep18 kjs

Local Co-ordinate Reference: Well WARNER 2I-10H-E165
TVD Reference: WELL @ 4994.00usft (Original Well Elev)
MD Reference: WELL @ 4994.00usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.15 Single User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to WELL @ 4994.00usft (Original Well E

Offset Depths are relative to Offset Datum

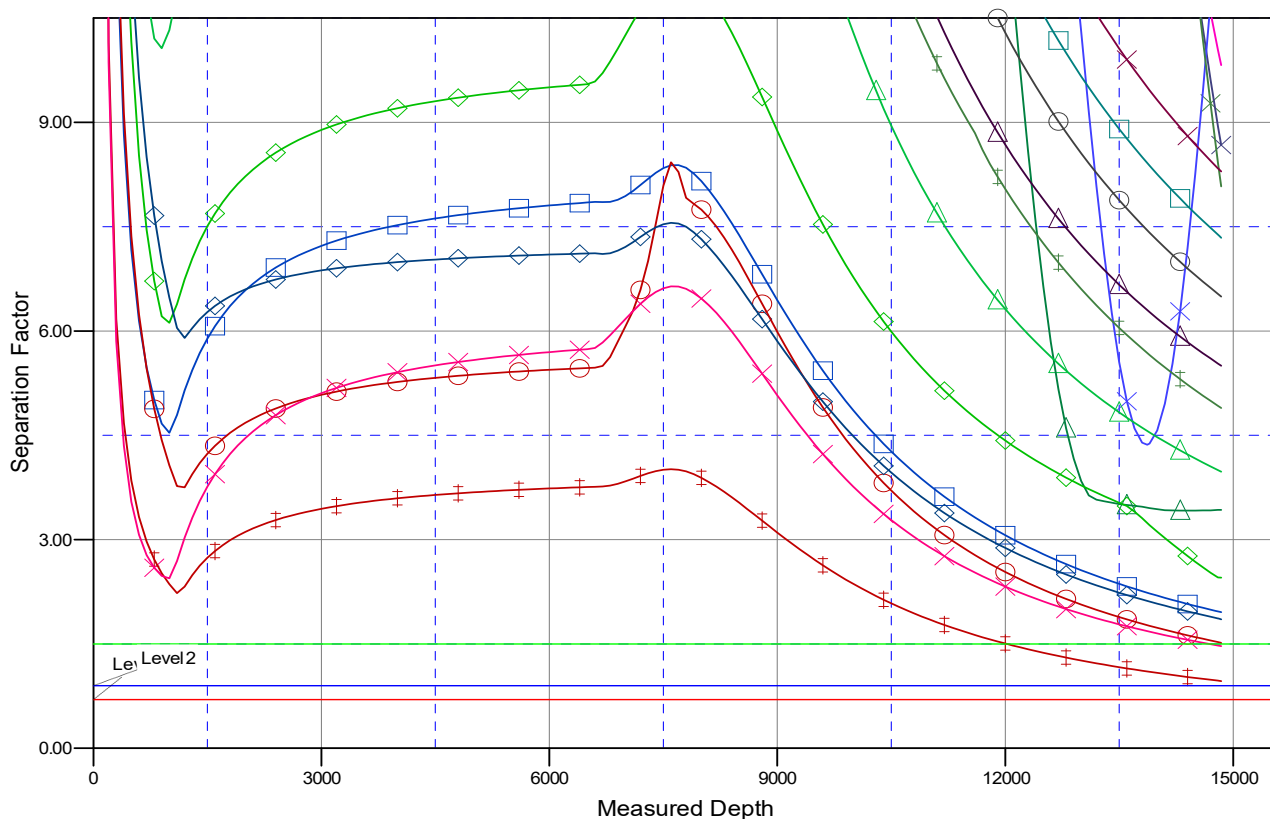
Central Meridian is -105.500000

Coordinates are relative to: WARNER 2I-10H-E165

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.54°

Separation Factor Plot



LEGEND

- | | | |
|-------------------------------------|---|--|
| COLFER 13C-34HZ, KMG, MWD V0 | RANDLE RED XX 3-2D, KMG, Gyo V0 | WARNER 2D-10H-E165, Wellbore #1, Plan #3 27Sep18 kjs V0 |
| HDI KF 03232HN, VERDAD, Proposal V0 | JOKER 1N3-9HZ, KMG, MWD V0 | WARNER 2G-10H-E165, Wellbore #1, Plan #3 27Sep18 kjs V0 |
| COLFER 13N-34HZ, KMG, MWD V0 | SPARBOE 7C-3HZ, KMG, MWD V0 | WARNER 2J-10H-E165, Wellbore #1, Plan #3 27Sep18 kjs V0 |
| RANDLE RED XX 3-4D, KMG, Gyo V0 | HDI KF 03232HC, VERDAD, Proposal V0 | WARNER 2B-10H-E165, Wellbore #1, Plan #3 27Sep18 kjs V0 |
| HDI KF 10-4H, VERDAD, Proposal V0 | OTTESEN 1, VERDAD, Gyo V0 | WARNER 2A-10H-E165, Wellbore #1, Plan #3 27Sep18 kjs V0 |
| HDI KF 03231HN, VERDAD, Proposal V0 | RUEGGE 3Q-4HN165, CPR, MWD V0 | WARNER 2K-10H-E165, Wellbore #1, Plan #3 27Sep18 kjs V0 |
| CHAPIN 44-4, CPR, Gyo V0 | OLIN 42-4A, CPR, MWD V0 | WARNER 2F-10H-E165, Wellbore #1, Plan #3 27Sep18 kjs V0 |
| COLFER 36N-34HZ, KMG, MWD V0 | ROCKY 38N-33HZ, KMG, Proposal V0 | WARNER 2H-10H-E165, Wellbore #1, Plan #3 27Sep18 kjs V0 |
| JOKER 26N2-9HZ, KMG, MWD V0 | COLFER 14C-34HZ, KMG, MWD V0 | WARNER 2E-10H-E165, Wellbore #1, Plan #3 27Sep18 kjs V0 |
| JOKER 26N1-9HZ, KMG, MWD V0 | HDI KF 10-3H, VERDAD, Proposal V0 | WARNER 2L-10H-E165, Wellbore #1, Plan #3 27Sep18 kjs V0 |
| CHAPIN 43-4, CPR, Gyo V0 | COLFER 35N-34HZ, KMG, MWD V0 | WARNER 2AA-10H-E165, Wellbore #1, Plan #3 27Sep18 kjs V0 |
| COLFER 14N-34HZ, KMG, MWD V0 | OLIN 41-4, CPR, MWD V0 | |
| RUEGGE 3R-4HN165, CPR, MWD V0 | WARNER 2C-10H-E165, Wellbore #1, Plan #2 27Sep18 kjs V0 | |