



# **Crestone Peak Resources**

**Sec 4 T2N-R67W**

**Sheley Pad**

**SHELEY 3F-4H-M267**

**Wellbore #1**

**Plan #2 25Jun18 kjs**

## **Anticollision Summary Report**

**29 June, 2018**

## Anticollision Summary Report

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well SHELEY 3F-4H-M267
<b>Project:</b>	Sec 4 T2N-R67W	<b>TVD Reference:</b>	RKB @ 4934.00usft
<b>Reference Site:</b>	Sheley Pad	<b>MD Reference:</b>	RKB @ 4934.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	SHELEY 3F-4H-M267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Plan #2 25Jun18 kjs	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #2 25Jun18 kjs		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.00usft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 9,999.98 usft	<b>Error Surface:</b>	Pedal Curve
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	6/29/2018		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	12,488.73	Plan #2 25Jun18 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
Offset Well - Wellbore - Design						
Existing Wells (Sheley)						
AMES 1 - ENERGY MIN - No Survey	12,489.69	5,030.00	2,550.23	2,497.65	48.502	CC, ES, SF
BABCOCK 11N-33HZ - KMG - MWD	9,535.77	6,880.00	1,336.75	1,251.33	15.650	CC, ES
BABCOCK 11N-33HZ - KMG - MWD	9,900.00	6,880.00	1,385.48	1,292.69	14.932	SF
BABCOCK 12N-33HZ - KMG - KMG	8,457.25	7,002.33	1,316.76	1,244.26	18.161	CC
BABCOCK 12N-33HZ - KMG - KMG	8,500.00	7,002.27	1,317.46	1,244.00	17.934	ES
BABCOCK 12N-33HZ - KMG - KMG	8,900.00	7,001.69	1,389.21	1,307.79	17.064	SF
BABCOCK 13E-33HZ - KMG - MWD	8,630.96	6,997.29	1,309.90	1,236.07	17.742	CC, ES
BABCOCK 13E-33HZ - KMG - MWD	9,000.00	6,971.00	1,361.17	1,279.87	16.743	SF
BABCOCK 14C-33HZ - KMG - MWD	9,895.47	6,972.00	1,318.43	1,222.96	13.810	CC
BABCOCK 14C-33HZ - KMG - MWD	9,900.00	6,972.00	1,318.43	1,222.86	13.795	ES
BABCOCK 14C-33HZ - KMG - MWD	10,200.00	6,972.00	1,353.14	1,251.96	13.374	SF
BABCOCK 19N-33HZ - KMG - MWD	8,885.23	6,879.00	1,350.73	1,276.11	18.101	CC
BABCOCK 19N-33HZ - KMG - MWD	8,900.00	6,879.00	1,350.81	1,275.83	18.015	ES
BABCOCK 19N-33HZ - KMG - MWD	9,300.00	6,879.00	1,412.98	1,329.40	16.907	SF
BABCOCK 22N-33HZ - KMG - MWD	9,336.37	6,879.00	1,353.98	1,272.19	16.555	CC
BABCOCK 22N-33HZ - KMG - MWD	9,400.00	6,879.00	1,355.48	1,272.15	16.268	ES
BABCOCK 22N-33HZ - KMG - MWD	9,700.00	6,879.00	1,401.96	1,312.48	15.668	SF
BABCOCK 23N-33HZ - KMG - MWD	10,128.46	6,885.00	1,373.03	1,273.35	13.775	CC, ES
BABCOCK 23N-33HZ - KMG - MWD	10,400.00	6,885.00	1,399.62	1,295.09	13.390	SF
BABCOCK 32N-33HZ - KMG - MWD	7,953.56	7,108.64	1,292.73	1,220.08	17.795	CC, ES
BABCOCK 32N-33HZ - KMG - MWD	8,300.00	7,107.79	1,338.35	1,259.98	17.077	SF
BABCOCK 33C-33HZ - KMG - MWD	8,328.34	7,147.00	1,250.23	1,176.38	16.929	CC, ES
BABCOCK 33C-33HZ - KMG - MWD	8,700.00	7,147.00	1,304.30	1,223.13	16.069	SF
BABCOCK 35C-33HZ - KMG - MWD	9,015.91	7,013.37	1,280.85	1,201.94	16.231	CC, ES
BABCOCK 35C-33HZ - KMG - MWD	9,400.00	7,015.92	1,337.20	1,249.98	15.331	SF
BARNES 2-4 - KAUFFMAN - Proposed	11,113.09	5,020.00	2,363.78	2,309.23	43.329	CC, ES
BARNES 2-4 - KAUFFMAN - Proposed	12,100.00	5,020.00	2,561.54	2,494.51	38.216	SF
BARNES 2-4X - KAUFFMAN - Proposed	11,140.65	5,022.00	2,365.31	2,310.06	42.816	CC
BARNES 2-4X - KAUFFMAN - Proposed	11,200.00	5,022.00	2,366.05	2,309.98	42.197	ES
BARNES 2-4X - KAUFFMAN - Proposed	12,100.00	5,022.00	2,552.46	2,485.22	37.960	SF
BARNES 34-4 - CPR - Gyro	11,091.15	7,264.70	706.19	576.95	5.464	CC
BARNES 34-4 - CPR - Gyro	11,100.00	7,264.34	706.24	576.80	5.456	ES, SF
BUTTERBALL 12N-34HZ - KMG - MWD	12,489.69	9,019.60	1,161.00	1,086.71	15.629	CC, ES, SF
BUTTERBALL 22N-34HZ - KMG - MWD	12,489.69	9,142.95	1,479.62	1,404.84	19.785	CC, ES, SF
BUTTERBALL 30C-10HZ - KMG - MWD	12,489.69	12,042.00	1,824.98	1,658.31	10.950	CC, ES, SF
BUTTERBALL 32C-34HZ - KMG - Proposed	12,489.69	9,261.78	828.04	750.51	10.681	CC, ES, SF
BUTTERBALL 40N-33HZ - KMG - Proposed	12,489.69	9,132.73	511.33	435.58	6.750	CC, ES, SF

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

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well SHELEY 3F-4H-M267
<b>Project:</b>	Sec 4 T2N-R67W	<b>TVD Reference:</b>	RKB @ 4934.00usft
<b>Reference Site:</b>	Sheley Pad	<b>MD Reference:</b>	RKB @ 4934.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	SHELEY 3F-4H-M267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Plan #2 25Jun18 kjs	<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						
Existing Wells (Sheley)						
Cowboy_21-5HZ - ?? - Proposed	11,684.44	21,398.20	833.20	675.88	5.296	CC
Cowboy_21-5HZ - ?? - Proposed	11,900.00	21,398.20	860.63	655.19	4.189	ES
Cowboy_21-5HZ - ?? - Proposed	12,200.00	21,398.20	979.81	721.33	3.791	SF
Cowboy_21-6HZ - ?? - Proposed	12,033.82	21,300.79	821.66	657.67	5.010	CC
Cowboy_21-6HZ - ?? - Proposed	12,200.00	21,300.79	838.30	639.74	4.222	ES
Cowboy_21-6HZ - ?? - Proposed	12,489.69	21,300.79	939.65	685.68	3.700	SF
Cowboy_21-7HZ - ?? - Proposed	12,100.00	21,613.46	957.44	726.03	4.137	SF
Cowboy_21-7HZ - ?? - Proposed	12,489.69	21,613.46	828.92	648.63	4.598	CC, ES
Cowboy_21-8HZ - ?? - Proposed	12,489.69	21,443.33	862.65	633.02	3.757	CC, ES, SF
HOMESTEAD 22-4 - KMG - MWD	9,125.97	7,746.82	1,465.55	1,373.92	15.994	CC, ES
HOMESTEAD 22-4 - KMG - MWD	9,300.00	7,744.00	1,475.84	1,382.92	15.883	SF
HSR-DODERO 6-4A - KMG - Gyro	9,690.60	7,199.43	2,224.74	2,130.09	23.504	CC
HSR-DODERO 6-4A - KMG - Gyro	9,700.00	7,199.45	2,224.76	2,129.89	23.450	ES
HSR-DODERO 6-4A - KMG - Gyro	10,400.00	7,201.21	2,335.11	2,226.72	21.543	SF
HSR-RHOADES 8-5A - KMG - Gyro	7,201.18	6,936.64	1,940.07	1,881.35	33.040	CC, ES
HSR-RHOADES 8-5A - KMG - Gyro	7,300.00	7,018.44	1,942.02	1,883.23	33.034	SF
HSR-SATER 1-8A - KMG - Gyro	3,588.41	3,455.77	1,629.97	1,600.07	54.505	CC
HSR-SATER 1-8A - KMG - Gyro	4,000.00	3,865.31	1,632.74	1,599.01	48.405	ES
HSR-SATER 1-8A - KMG - Gyro	7,300.00	7,018.25	1,841.29	1,781.13	30.605	SF
HSR-STREAR 4-10A - KMG - Gyro	12,489.69	7,306.03	1,842.15	1,691.54	12.232	CC, ES, SF
LUHMAN 1 - CPR - Gyro	11,198.89	7,268.17	188.70	56.73	1.430	Level 3, CC
LUHMAN 1 - CPR - Gyro	11,200.00	7,268.13	188.71	56.72	1.430	Level 3, ES, SF
LUHMAN 33-4 - CPR - Gyro	10,963.01	7,238.61	957.13	831.19	7.600	CC
LUHMAN 33-4 - CPR - Gyro	11,000.00	7,237.34	957.84	830.98	7.551	ES
LUHMAN 33-4 - CPR - Gyro	11,100.00	7,233.85	966.87	838.22	7.516	SF
LUHMAN 43-4 - CPR - Gyro	12,230.42	7,274.69	923.51	764.72	5.816	CC, ES
LUHMAN 43-4 - CPR - Gyro	12,300.00	7,274.64	926.13	765.74	5.774	SF
LUHMAN 44-4 - CPR - Gyro	12,477.35	7,279.48	602.46	437.18	3.645	CC
LUHMAN 44-4 - CPR - Gyro	12,489.69	7,279.46	602.59	437.06	3.640	ES, SF
Luhman 6-4-4 - CPR - MWD	11,771.80	7,277.58	1,447.79	1,301.73	9.912	CC
Luhman 6-4-4 - CPR - MWD	11,800.00	7,277.23	1,448.06	1,301.25	9.864	ES
Luhman 6-4-4 - CPR - MWD	12,000.00	7,274.72	1,465.66	1,314.82	9.717	SF
MCCLAY 5-4A - KMG - Gyro	8,146.75	7,218.90	1,831.34	1,766.12	28.076	CC, ES
MCCLAY 5-4A - KMG - Gyro	8,800.00	7,230.97	1,944.33	1,871.14	26.567	SF
SATER 40N-5HZ - KMG - MWD	7,264.28	11,260.68	366.36	286.81	4.605	CC
SATER 40N-5HZ - KMG - MWD	7,300.00	11,262.89	368.96	284.54	4.370	ES
SATER 40N-5HZ - KMG - MWD	7,400.00	11,268.18	402.33	307.81	4.256	SF
SCOTT 1C-32HZ - KMG - MWD	7,017.54	6,771.75	1,392.95	1,334.70	23.909	CC, ES, SF
SCOTT 26N-32HZ - KMG - MWD	7,000.00	6,717.91	1,422.47	1,360.58	22.983	SF
SCOTT 26N-32HZ - KMG - MWD	7,125.53	6,753.37	1,419.67	1,358.16	23.079	CC, ES
SHELEY 1 - CPR - Gyro	9,046.18	7,250.59	121.68	41.16	1.511	CC, ES, SF
SHELEY 13-4 - CPR - Gyro	8,097.93	7,227.23	873.76	809.10	13.514	CC
SHELEY 13-4 - CPR - Gyro	8,100.00	7,227.23	873.76	809.09	13.511	ES
SHELEY 13-4 - CPR - Gyro	8,200.00	7,227.47	879.70	814.28	13.447	SF
SHELEY 14-4 - CPR - Gyro	100.00	76.16	80.17	79.90	292.643	CC, ES
SHELEY 14-4 - CPR - Gyro	8,500.00	7,252.18	660.13	588.11	9.166	SF
SHELEY 23-4 - CPR - Gyro	9,726.04	7,241.16	894.60	799.00	9.358	CC, ES
SHELEY 23-4 - CPR - Gyro	9,800.00	7,240.57	897.65	800.49	9.239	SF
SHELEY 24-4 - MACHII-ROSS PET CO - Gyro	9,646.13	7,263.17	579.55	485.78	6.180	CC, ES
SHELEY 24-4 - MACHII-ROSS PET CO - Gyro	9,700.00	7,262.01	582.05	487.32	6.145	SF
SHELEY 24-4 (2) - CPR - Gyro	9,785.90	7,267.21	739.71	642.67	7.622	CC
SHELEY 24-4 (2) - CPR - Gyro	9,800.00	7,266.91	739.85	642.49	7.600	ES
SHELEY 24-4 (2) - CPR - Gyro	9,900.00	7,264.75	748.46	649.57	7.569	SF

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

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well SHELEY 3F-4H-M267
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<b>Reference Site:</b>	Sheley Pad	<b>MD Reference:</b>	RKB @ 4934.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
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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 (Sheley)						
SHELEY 3A-4H - CPR - MWD	531.50	523.65	49.16	45.95	15.322	CC
SHELEY 3A-4H - CPR - MWD	600.00	592.13	49.43	45.73	13.348	ES
SHELEY 3A-4H - CPR - MWD	12,489.69	11,688.72	397.30	132.45	1.500	SF
SHELEY 3B-4H - CPR - MWD	100.00	90.82	40.42	40.14	141.856	CC, ES
SHELEY 3B-4H - CPR - MWD	12,489.69	11,810.61	396.40	131.60	1.497	Level 3, SF
Sheley 4-6-4 - CPR - MWD	10,359.95	7,395.38	110.73	-1.26	0.989	Level 3, CC, ES, SF
SPRAGUE 11-9 - CPR - Gyro	400.00	411.19	1,408.31	1,405.83	568.557	CC, ES
SPRAGUE 11-9 - CPR - Gyro	9,100.00	7,292.60	2,119.07	2,039.58	26.656	SF
SPRAGUE 31-9 - CPR - MWD	10,981.37	7,653.40	1,759.84	1,631.93	13.758	CC
SPRAGUE 31-9 - CPR - MWD	11,000.00	7,651.38	1,759.94	1,631.56	13.709	ES
SPRAGUE 31-9 - CPR - MWD	11,300.00	7,611.26	1,787.80	1,653.26	13.288	SF
SPRAGUE 3A-9H-N267 - CPR - MWD	8,113.07	12,788.00	909.05	831.01	11.650	CC
SPRAGUE 3A-9H-N267 - CPR - MWD	8,200.00	12,788.00	913.19	828.36	10.765	ES
SPRAGUE 3A-9H-N267 - CPR - MWD	8,600.00	12,788.00	1,031.25	916.87	9.016	SF
SPRAGUE 3AA-9H-N267 - CPR - MWD	7,921.08	12,991.00	884.79	806.39	11.285	CC
SPRAGUE 3AA-9H-N267 - CPR - MWD	8,000.00	12,991.00	888.31	804.01	10.538	ES
SPRAGUE 3AA-9H-N267 - CPR - MWD	8,400.00	12,991.00	1,006.09	892.90	8.888	SF
SPRAGUE 3B-9H-N267 - CPR - MWD	8,341.68	12,950.00	856.15	778.03	10.959	CC
SPRAGUE 3B-9H-N267 - CPR - MWD	8,400.00	12,950.00	858.14	775.62	10.400	ES
SPRAGUE 3B-9H-N267 - CPR - MWD	8,800.00	12,950.00	971.11	857.67	8.561	SF
SPRAGUE 3C-9H-N267 - CPR - MWD	8,613.48	12,655.00	832.25	752.88	10.485	CC
SPRAGUE 3C-9H-N267 - CPR - MWD	8,700.00	12,655.00	836.74	750.26	9.676	ES
SPRAGUE 3C-9H-N267 - CPR - MWD	9,100.00	12,655.00	964.03	845.91	8.162	SF
SPRAGUE 3D-9H-N267 - CPR - MWD	8,934.11	12,595.00	911.56	828.10	10.922	CC
SPRAGUE 3D-9H-N267 - CPR - MWD	9,000.00	12,595.00	913.93	826.45	10.447	ES
SPRAGUE 3D-9H-N267 - CPR - MWD	9,400.00	12,595.00	1,023.71	908.36	8.875	SF
SPRAGUE 3E-9HX1-N267 - CPR - MWD	9,349.01	12,714.00	818.22	731.42	9.426	CC
SPRAGUE 3E-9HX1-N267 - CPR - MWD	9,400.00	12,714.00	819.81	729.57	9.085	ES
SPRAGUE 3E-9HX1-N267 - CPR - MWD	9,800.00	12,714.00	934.28	812.07	7.645	SF
SPRAGUE 3F-9H-N267 - CPR - MWD	9,640.18	12,921.00	896.88	802.57	9.510	CC
SPRAGUE 3F-9H-N267 - CPR - MWD	9,700.00	12,921.00	898.88	801.99	9.278	ES
SPRAGUE 3F-9H-N267 - CPR - MWD	10,100.00	12,921.00	1,007.88	884.87	8.193	SF
SPRAGUE 3G-9H-N267 - CPR - MWD	10,010.01	12,696.00	861.47	757.04	8.249	CC, ES
SPRAGUE 3G-9H-N267 - CPR - MWD	10,400.00	12,696.00	945.64	818.39	7.431	SF
SPRAGUE 3H-9H-N267 - CPR - MWD	10,368.74	12,946.00	925.13	810.22	8.051	CC
SPRAGUE 3H-9H-N267 - CPR - MWD	10,400.00	12,946.00	925.66	810.17	8.015	ES
SPRAGUE 3H-9H-N267 - CPR - MWD	10,700.00	12,946.00	982.65	853.57	7.613	SF
SPRAGUE 3I-9H-N267 - CPR - MWD	10,739.28	12,836.00	895.46	767.03	6.972	CC, ES
SPRAGUE 3I-9H-N267 - CPR - MWD	11,000.00	12,836.00	932.64	797.29	6.890	SF
SPRAGUE 3J-9H-N267 - CPR - MWD	11,219.08	13,145.00	1,027.44	880.50	6.992	CC, ES
SPRAGUE 3J-9H-N267 - CPR - MWD	11,300.00	13,145.00	1,030.62	883.05	6.984	SF
SPRAGUE 41-9 - CPR - Gyro	12,343.58	7,283.10	1,660.48	1,498.70	10.264	CC
SPRAGUE 41-9 - CPR - Gyro	12,400.00	7,283.70	1,661.44	1,498.32	10.185	ES
SPRAGUE 41-9 - CPR - Gyro	12,489.69	7,284.66	1,666.90	1,501.97	10.107	SF
TOWNSEND 44-5 - CPR - Gyro	5,573.68	5,376.73	612.51	564.45	12.745	CC
TOWNSEND 44-5 - CPR - Gyro	5,700.00	5,499.96	613.19	563.93	12.448	ES
TOWNSEND 44-5 - CPR - Gyro	6,600.00	6,380.45	650.12	593.41	11.463	SF
WHISTON 10N-33HZ - KMG - MWD	10,768.63	6,956.00	1,081.00	967.93	9.560	CC
WHISTON 10N-33HZ - KMG - MWD	10,800.00	6,956.00	1,081.46	967.49	9.489	ES
WHISTON 10N-33HZ - KMG - MWD	10,900.00	6,956.00	1,088.96	972.58	9.357	SF
WHISTON 15N-33HZ - KMG - MWD	11,514.12	7,025.54	941.71	814.62	7.410	CC, ES
WHISTON 15N-33HZ - KMG - MWD	11,600.00	7,023.61	945.61	817.05	7.355	SF
WHISTON 16N-33HZ - KMG - MWD	12,016.77	6,957.00	918.51	785.18	6.889	CC, ES

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

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well SHELEY 3F-4H-M267
<b>Project:</b>	Sec 4 T2N-R67W	<b>TVD Reference:</b>	RKB @ 4934.00usft
<b>Reference Site:</b>	Sheley Pad	<b>MD Reference:</b>	RKB @ 4934.00usft
<b>Site Error:</b>	0.00 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	SHELEY 3F-4H-M267	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	EDM 5000.15 Single User Db
<b>Reference Design:</b>	Plan #2 25Jun18 kjs	<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						
Existing Wells (Sheley)						
WHISTON 16N-33HZ - KMG - MWD	12,100.00	6,957.00	922.27	787.93	6.865	SF
WHISTON 20N-33HZ - KMG - MWD	11,550.05	6,955.00	1,026.56	896.63	7.901	CC, ES
WHISTON 20N-33HZ - KMG - MWD	11,700.00	6,955.00	1,037.46	904.97	7.831	SF
WHISTON 23C-33HZ - KMG - MWD	10,560.58	7,099.51	877.88	767.79	7.974	CC
WHISTON 23C-33HZ - KMG - MWD	10,600.00	7,099.58	878.77	767.44	7.894	ES
WHISTON 23C-33HZ - KMG - MWD	10,700.00	7,099.74	888.88	775.06	7.809	SF
WHISTON 24C-33HZ - KMG - MWD	11,687.29	7,083.31	883.29	745.99	6.433	CC
WHISTON 24C-33HZ - KMG - MWD	11,700.00	7,083.27	883.38	745.82	6.421	ES
WHISTON 24C-33HZ - KMG - MWD	11,800.00	7,082.97	890.45	751.46	6.407	SF
WHISTON 25-4 - KMG - MWD	10,311.87	7,496.00	1,481.47	1,364.32	12.645	CC
WHISTON 25-4 - KMG - MWD	10,400.00	7,496.00	1,484.09	1,364.21	12.380	ES
WHISTON 25-4 - KMG - MWD	10,700.00	7,485.98	1,531.44	1,404.56	12.070	SF
WHISTON 25N-33HZ - KMG - MWD	10,434.69	7,023.31	903.03	799.15	8.693	CC, ES
WHISTON 25N-33HZ - KMG - MWD	10,600.00	7,024.32	918.03	809.60	8.466	SF
WHISTON 39C-33HZ - KMG - MWD	12,489.69	7,241.00	917.65	753.32	5.584	CC, ES, SF
WHISTON 40N-33HZ - KMG - MWD	12,489.69	7,186.52	1,075.40	913.75	6.653	CC, ES, SF
WHISTON 7-4 - KMG - No Survey	10,823.39	7,258.00	1,991.37	1,881.14	18.066	CC
WHISTON 7-4 - KMG - No Survey	10,900.00	7,258.00	1,992.84	1,880.69	17.770	ES
WHISTON 7-4 - KMG - No Survey	11,300.00	7,258.00	2,047.61	1,927.68	17.074	SF
WHISTON 8-4 - KMG - Gyro	12,257.36	7,248.78	2,139.82	1,980.41	13.424	CC
WHISTON 8-4 - KMG - Gyro	12,300.00	7,248.84	2,140.24	1,979.70	13.332	ES
WHISTON 8-4 - KMG - Gyro	12,489.69	7,249.13	2,152.39	1,987.45	13.050	SF
WHISTON 9N-33HZ - KMG - MWD	11,883.64	6,998.11	1,022.11	882.22	7.306	CC
WHISTON 9N-33HZ - KMG - MWD	11,900.00	6,998.40	1,022.24	882.00	7.289	ES
WHISTON 9N-33HZ - KMG - MWD	12,000.00	7,000.16	1,028.71	886.91	7.255	SF
Sheley Pad						
SHELEY 3C-4H-M267 - Wellbore #1 - Plan #3 25Jun18 k	200.00	198.00	29.87	28.89	30.301	CC, ES
SHELEY 3C-4H-M267 - Wellbore #1 - Plan #3 25Jun18 k	12,400.00	12,730.09	819.47	547.54	3.014	SF
SHELEY 3D-4H-M267 - Wellbore #1 - Plan #3 25Jun18 k	300.00	298.00	20.04	18.33	11.767	CC, ES
SHELEY 3D-4H-M267 - Wellbore #1 - Plan #3 25Jun18 k	12,489.69	12,613.32	658.78	377.56	2.343	SF
SHELEY 3E-4H-M267 - Wellbore #1 - Plan #2 25Jun18 k	383.49	382.44	9.71	7.40	4.218	CC
SHELEY 3E-4H-M267 - Wellbore #1 - Plan #2 25Jun18 k	600.00	598.60	10.84	7.00	2.819	ES
SHELEY 3E-4H-M267 - Wellbore #1 - Plan #2 25Jun18 k	12,489.69	12,649.06	531.60	263.80	1.985	SF
SHELEY 3G-4H-M267 - Wellbore #1 - Plan #2 25Jun18 k	313.29	313.30	10.16	8.36	5.645	CC
SHELEY 3G-4H-M267 - Wellbore #1 - Plan #2 25Jun18 k	400.00	399.93	10.57	8.16	4.379	ES
SHELEY 3G-4H-M267 - Wellbore #1 - Plan #2 25Jun18 k	12,489.69	12,598.33	266.26	28.08	1.118	Level 3, SF
SHELEY 3H-4H-M267 - Wellbore #1 - Plan #2 25Jun18 k	200.00	200.00	20.04	19.04	20.179	CC
SHELEY 3H-4H-M267 - Wellbore #1 - Plan #2 25Jun18 k	300.00	299.88	20.31	18.61	11.930	ES
SHELEY 3H-4H-M267 - Wellbore #1 - Plan #2 25Jun18 k	12,422.05	12,358.76	512.15	237.17	1.862	SF



**Company:** Crestone Peak Resources  
**Project:** Sec 4 T2N-R67W  
**Reference Site:** Sheley Pad  
**Site Error:** 0.00 usft  
**Reference Well:** SHELEY 3F-4H-M267  
**Well Error:** 0.00 usft  
**Reference Wellbore:** Wellbore #1  
**Reference Design:** Plan #2 25Jun18 kjs

**Local Co-ordinate Reference:** Well SHELEY 3F-4H-M267  
**TVD Reference:** RKB @ 4934.00usft  
**MD Reference:** RKB @ 4934.00usft  
**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 RKB @ 4934.00usft

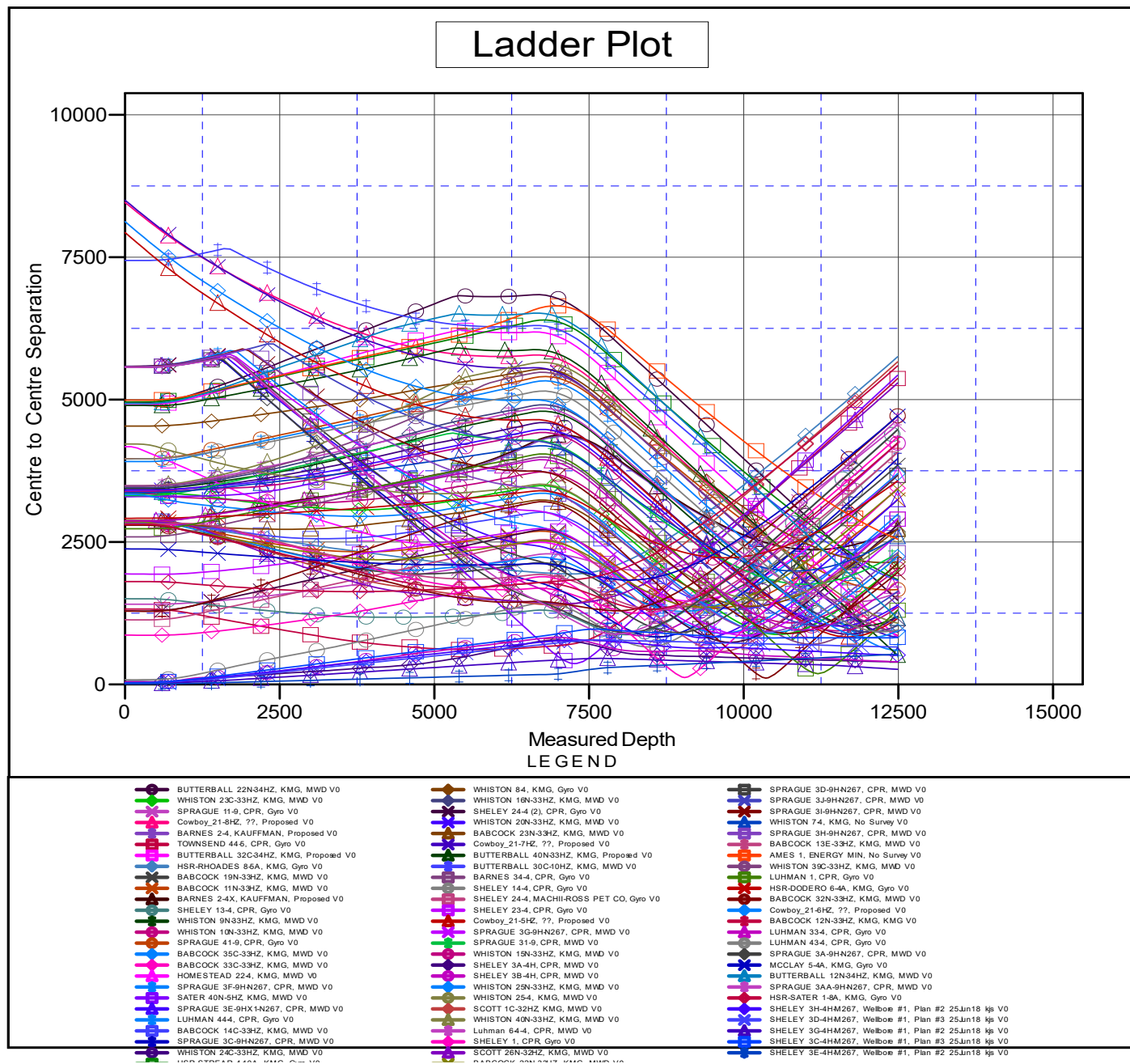
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000

Coordinates are relative to: SHELEY 3F-4H-M267

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.39°



**Company:** Crestone Peak Resources  
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**Local Co-ordinate Reference:** Well SHELEY 3F-4H-M267  
**TVD Reference:** RKB @ 4934.00usft  
**MD Reference:** RKB @ 4934.00usft  
**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 RKB @ 4934.00usft

Offset Depths are relative to Offset Datum

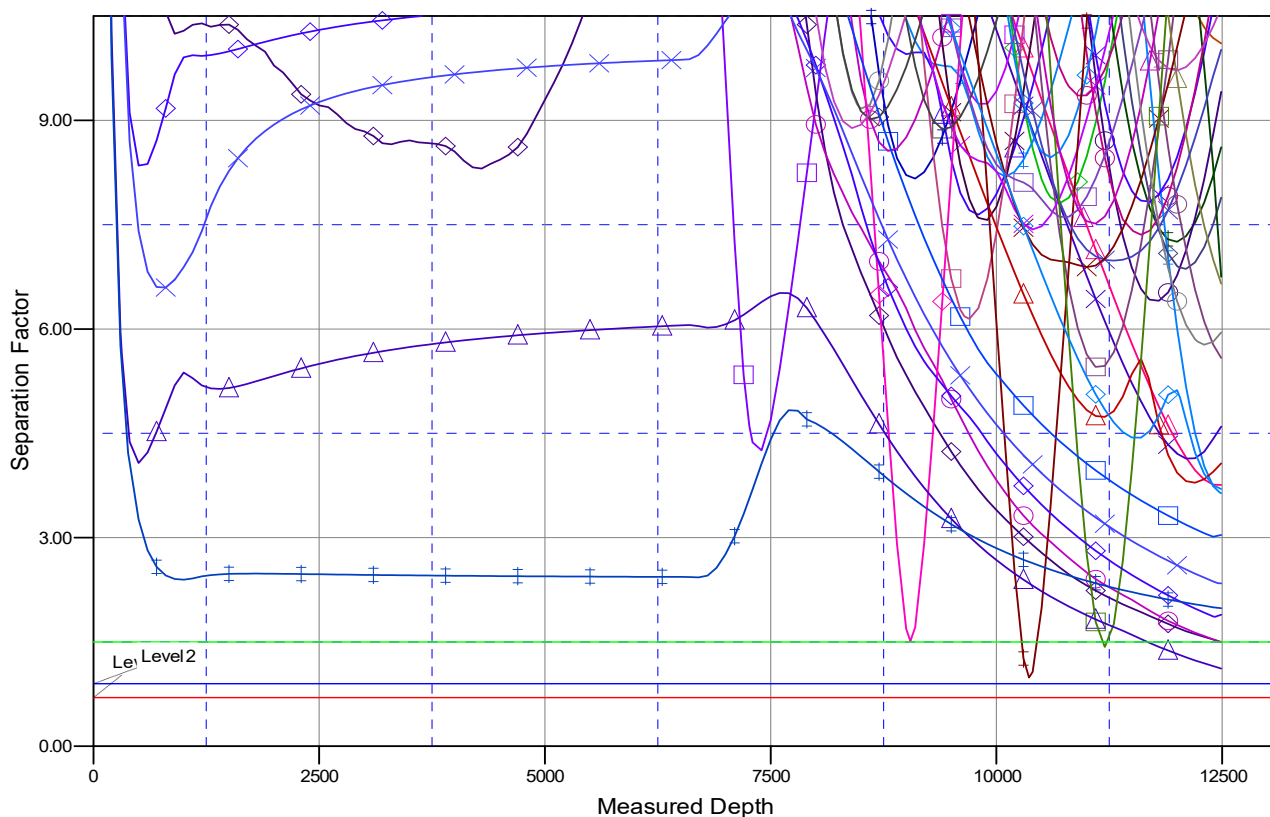
Central Meridian is -105.500000

Coordinates are relative to: SHELEY 3F-4H-M267

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.39°

## Separation Factor Plot



### LEGEND

BUTTERBALL 22N34HZ, KMG, MWD V0	WHISTON 64, KMG, Gyo V0	SPRAGUE 3D-9HN267, CPR, MWD V0
WHISTON 23C-33HZ, KMG, MWD V0	WHISTON 18N-33HZ, KMG, MWD V0	SPRAGUE 3J-9HN267, CPR, MWD V0
SPRAGUE 11-9, CPR, Gyo V0	SHELEY 24-4 (2), CPR, Gyo V0	SPRAGUE 3H-9HN267, CPR, MWD V0
Cowboy_21-8HZ, ??, Proposed V0	WHISTON 20N-33HZ, KMG, MWD V0	WHISTON 74, KMG, No Survey V0
BARNES 2-4, KAUFFMAN, Proposed V0	BABCOCK 23N-33HZ, KMG, MWD V0	SPRAGUE 3H-9HN267, CPR, MWD V0
TOWNSEND 44-6, CPR, Gyo V0	Cowboy_21-7HZ, ??, Proposed V0	BABCOCK 13E-33HZ, KMG, MWD V0
BUTTERBALL 32C-34HZ, KMG, Proposed V0	BUTTERBALL 40N-33HZ, KMG, Proposed V0	AMES 1, ENERGY MIN, No Survey V0
HSR-RHOADES 8-6A, KMG, Gyo V0	BUTTERBALL 30C-10HZ, KMG, MWD V0	WHISTON 39C-33HZ, KMG, MWD V0
BABCOCK 19N-33HZ, KMG, MWD V0	BARNES 34-4, CPR, Gyo V0	LUHMAN 1, CPR, Gyo V0
BABCOCK 11N-33HZ, KMG, MWD V0	SHELEY 14-4, CPR, Gyo V0	HSR-DODERO 6-4A, KMG, Gyo V0
BARNES 2-4X, KAUFFMAN, Proposed V0	SHELEY 24-4, MACHIL-ROSS PET CO, Gyo V0	BABCOCK 32N-33HZ, KMG, MWD V0
SHELEY 13-4, CPR, Gyo V0	SHELEY 23-4, CPR, Gyo V0	Cowboy_21-6HZ, ??, Proposed V0
WHISTON 9N-33HZ, KMG, MWD V0	Cowboy_21-5HZ, ??, Proposed V0	BABCOCK 12N-33HZ, KMG, MWD V0
WHISTON 10N-33HZ, KMG, MWD V0	SPRAGUE 3G-9HN267, CPR, MWD V0	LUHMAN 33-4, CPR, Gyo V0
SPRAGUE 41-8, CPR, Gyo V0	SPRAGUE 31-9, CPR, MWD V0	LUHMAN 43-4, CPR, Gyo V0
BABCOCK 35C-33HZ, KMG, MWD V0	WHISTON 19N-33HZ, KMG, MWD V0	SPRAGUE 3A-9HN267, CPR, MWD V0
BABCOCK 33C-33HZ, KMG, MWD V0	SHELEY 3A-4H, CPR, MWD V0	MCCLAY 5-4A, KMG, Gyo V0
HOMESTEAD 22-4, KMG, MWD V0	SHELEY 3B-4H, CPR, MWD V0	BUTTERBALL 12N-34HZ, KMG, MWD V0
SPRAGUE 3F-9HN267, CPR, MWD V0	WHISTON 29N-33HZ, KMG, MWD V0	SPRAGUE 3AA-9HN267, CPR, MWD V0
SATER 40N-5HZ, KMG, MWD V0	WHISTON 25-4, KMG, MWD V0	HSR-SATER 1-8A, KMG, Gyo V0
SPRAGUE 3E-9HX-1N267, CPR, MWD V0	SCOTT 1C-32HZ, KMG, MWD V0	SHELEY 3H-4HM267, Wellbore #1, Plan #2 25Jun18 kjs V0
LUHMAN 44-4, CPR, Gyo V0	WHISTON 40N-33HZ, KMG, MWD V0	SHELEY 3D-4HM267, Wellbore #1, Plan #3 25Jun18 kjs V0
BABCOCK 14C-33HZ, KMG, MWD V0	LUHMAN 6-4-4, CPR, MWD V0	SHELEY 3G-4HM267, Wellbore #1, Plan #2 25Jun18 kjs V0
SPRAGUE 3C-9HN267, CPR, MWD V0	SHELEY 1, CPR, Gyo V0	SHELEY 3C-4HM267, Wellbore #1, Plan #3 25Jun18 kjs V0
WHISTON 24C-33HZ, KMG, MWD V0	SCOTT 28N-32HZ, KMG, MWD V0	SHELEY 3E-4HM267, Wellbore #1, Plan #2 25Jun18 kjs V0