

State Massive 5-65 2-3 4AH Plan #2 Anti-Collision Summary Report

Analysis Date-24hr Time: April 24, 2020 - 10:35

Client: Crestone Peak Resources

Field: CO, Arapahoe County (NAD 83 CZ)

Crestone Peak 02-05S-65W (State Massive 5-65 2-3 Pad)

Structure: State Massive 5-65 2-3 4AH

Slot: State Massive 5-65 2-3 4AH

Well: Original Hole

Borehole: 0.00ft - 18683.15ft

Analysis Method: 3D Least Distance

Reference Trajectory: State Massive 5-65 2-3 4AH Plan #2 (Def Plan)

Depth Interval: Every 10.00 Measured Depth (ft)

Rule Set: D&M AntiCollision Standard S002 v5.1/5.2

Min Pts: All local minima indicated.

Version / Patch: 2.10.787.0

Database \ Project: us1164app01\drilling-CO, Arapahoe County 2.10

Trajectory Error Model: ISCWSA0 3-D 95.000% Confidence 2.7955 sigma, for subject well. For offset wells, error model version is specified with each well respectively.

Offset Trajectories Summary

Offset Selection Criteria

Wellhead distance scan: Restricted within 59693.65 ft

Selection filters: Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans

- All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		

Results highlighted: Sep-Factor separation <= 1.50 ft

State Massive 5-65 2-3 2CH

Plan #2 (Def Plan)

Warning Alert

25.14	20.30	24.15	4.84	N/A	MAS = 6.19 (m)	0.00	0.00					Enter Alert	
25.14	20.30	24.15	4.83	N/A	MAS = 6.19 (m)	28.00	28.00					WRP	
25.14	21.12	10.73	4.02	1.80	OSF1.50	2200.00	2200.00					MinPt-CtCt	
25.15	21.16	10.71	3.99	1.80	OSF1.50	2210.00	2210.00					MinPts	
25.20	21.21	10.73	3.99	1.80	OSF1.50	2220.00	2220.00					MinPt-O-SF	
69.88	22.09	54.82	47.78	4.90	OSF1.50	2710.00	2707.31		OSF<5.00			Exit Alert	
2309.67	534.31	1953.14	1775.37	6.49	OSF1.50	18680.00	7841.20					MINPT-O-EQU	
2309.72	534.36	1953.15	1775.36	6.49	OSF1.50	18683.15	7841.20					MinPts	

State Challenger 5-65 2-3 3BYH

MWD 0' to 17613' - PR (Def Survey)

Warning Alert

2342.16	32.81	2340.35	2309.35	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2342.16	32.81	2340.29	2309.35	42982.69	MAS = 10.00 (m)	28.00	28.00					WRP	
2341.82	32.81	2338.70	2309.01	1785.96	MAS = 10.00 (m)	320.00	320.00					MinPts	
2338.40	32.81	2327.04	2305.59	244.88	MAS = 10.00 (m)	2190.00	2190.00					MINPT-O-EQU	
503.59	67.68	457.93	435.91	11.40	OSF1.50	7450.00	6855.05					MinPt-CtCt	
503.74	68.19	457.75	435.55	11.31	OSF1.50	7470.00	6872.23					MinPts	
512.74	70.58	465.16	442.17	11.12	OSF1.50	7580.00	6966.76					MinPt-O-SF	
781.37	81.39	726.58	699.99	14.66	OSF1.50	8300.00	7567.62					MinPt-O-SF	
850.16	216.55	705.25	633.60	5.92	OSF1.50	10620.00	7841.20					MinPt-CtCt	
862.46	242.60	700.19	619.86	5.36	OSF1.50	10100.00	7841.20					MINPT-O-EQU	
865.37	246.74	700.35	618.64	5.29	OSF1.50	10100.00	7841.20					MinPt-O-ADP	
895.48	270.92	714.33	624.55	4.98	OSF1.50	11410.00	7841.20		OSF<5.00			Enter Alert	
896.16	318.20	683.49	577.95	4.24	OSF1.50	11960.00	7841.20					MinPt-CtCt	
969.85	416.48	591.66	453.37	3.14	OSF1.50	13240.00	7841.20					MinPt-CtCt	
955.16	548.63	488.87	306.53	2.34	OSF1.50	14950.00	7841.20					MinPt-CtCt	
835.86	704.22	365.85	131.64	1.78	OSF1.50	16960.00	7841.20					MinPt-CtCt	
850.39	790.29	323.00	60.11	1.61	OSF1.50	18080.00	7841.20					MinPts	
1051.88	640.37	624.43	411.51	2.47	OSF1.50	18683.15	7841.20					TD	

State Challenger 5-65 2-3 3BYH

MWD 2370' to 17847' - PR (Def Survey)

Warning Alert

2342.16	32.81	2340.35	2309.35	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2342.16	32.81	2340.29	2309.35	42982.69	MAS = 10.00 (m)	28.00	28.00					WRP	
2341.82	32.81	2338.70	2309.01	1785.96	MAS = 10.00 (m)	320.00	320.00					MinPts	
2338.40	32.81	2327.04	2305.59	244.88	MAS = 10.00 (m)	2190.00	2190.00					MINPT-O-EQU	
504.97	67.85	459.20	437.12	11.40	OSF1.50	7450.00	6855.05					MinPt-CtCt	
505.17	68.36	459.06	436.81	11.32	OSF1.50	7470.00	6872.23					MinPts	
513.01	70.56	465.44	442.45	11.12	OSF1.50	7570.00	6958.17					MinPt-O-SF	
1695.33	292.04	1500.10	1403.29	8.75	OSF1.50	11680.00	7841.20					MinPt-CtCt	
1701.44	309.32	1494.70	1392.13	8.29	OSF1.50	11950.00	7841.20					MINPT-O-EQU	
1708.94	318.19	1496.28	1390.75	8.09	OSF1.50	12090.00	7841.20					MinPt-O-ADP	
1669.06	441.48	1374.21	1227.58	5.69	OSF1.50	13620.00	7841.20					MinPt-CtCt	
1678.45	469.16	1365.14	1209.29	5.38	OSF1.50	14020.00	7841.20					MINPT-O-EQU	
1695.74	509.86	1355.30	1185.88	5.00	OSF1.50	14490.00	7841.20		OSF<5.00			Enter Alert	
1663.12	595.59	1265.53	1067.53	4.20	OSF1.50	15600.00	7841.20					MinPt-CtCt	
1662.41	611.20	1254.41	1051.21	4.09	OSF1.50	15800.00	7841.20					MinPt-CtCt	
1667.36	624.78	1250.30	1042.58	4.01	OSF1.50	16020.00	7841.20					MINPT-O-EQU	
1669.65	627.82	1250.56	1041.82	4.00	OSF1.50	16070.00	7841.20					MinPt-O-ADP	
1731.50	790.16	1204.19	941.34	3.29	OSF1.50	18100.00	7841.20					MINPT-O-EQU	
1731.70	790.42	1204.22	941.28	3.29	OSF1.50	18110.00	7841.20					MinPt-O-ADP	
1732.66	791.04	1204.76	941.61	3.29	OSF1.50	18140.00	7841.20					MinPt-O-SF	
1836.63	764.80	1326.23	1071.84	3.61	OSF1.50	18683.15	7841.20					TD	

State Harvard 1H MWD 0' to

15236' - PR (Def Survey)

Warning Alert

5169.05	32.81	5167.23	5136.24	429089.34	MAS = 10.00 (m)	0.00	0.00					MinPts	
5169.07	32.81	5167.19	5136.27	74875.93	MAS = 10.00 (m)	28.00	28.00					WRP	
5170.77	32.81	5166.49	5137.96	2094.80	MAS = 10.00 (m)	600.00	600.00					MINPT-O-EQU	
5173.42	32.81	5166.46	5140.61	1004.98	MAS = 10.00 (m)	1200.00	1200.00					MINPT-O-EQU	
5182.30	32.81	5170.79	5149.49	523.08	MAS = 10.00 (m)	2290.00	2289.99					MinPt-O-SF	
1160.93	226.32	1008.17	934.61	7.85	OSF1.50	9880.00	7840.95					MinPt-CtCt	
1152.83	340.09	924.23	812.74	5.14	OSF1.50	10530.00	7841.20					MinPt-CtCt	
1155.43	351.16	919.44	804.27	4.99	OSF1.50	10700.00	7841.20		OSF<5.00			Enter Alert	
1158.07	425.34	872.65	732.74	4.12	OSF1.50	11660.00	7841.20					MinPt-CtCt	
1159.84	456.43	853.69	703.41	3.84	OSF1.50	12070.00	7841.20					MinPt-CtCt	
1159.76	470.22	844.42	689.54	3.73	OSF1.50	12250.00	7841.20					MinPt-CtCt	
1159.26	558.51	785.06	600.75	3.13	OSF1.50	13400.00	7841.20					MinPt-CtCt	
1159.30	558.68	784.98	600.62	3.13	OSF1.50	13410.00	7841.20					MINPT-O-EQU	
1159.42	558.80	785.01	600.62	3.13	OSF1.50	13420.00	7841.20					MinPts	
1485.65	452.06	1182.16	1033.58	4.98	OSF1.50	14330.00	7841.20		OSF<5.00			Exit Alert	
5407.98	162.77	5298.93	5245.21	50.32	OSF1.50	18683.15	7841.20					TD	

State Massive 5-65 2-3 2AH

Plan #1 (Def Plan)

Pass

75.04	32.81	74.06	42.23	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
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...State Massive 5-65 2-3 4AH\Original Hole\State Massive 5-65 2-3 4AH Plan #2

