

Reserve 3-65 35-34 3CH Plan #1 Anti-Collision Summary Report

Analysis Date-24hr Time: May 14, 2020 - 15:14
Client: Crestone Peak Resources
Field: CO, Adams County (NAD 83 NZ)
Structure: Crestone Peak 35-03S-65W (Reserve Pad)
Slot: Reserve 3-65 35-34 3CH
Well: Reserve 3-65 35-34 3CH
Borehole: Original Hole
Scan MD Range: 0.00ft - 18204.53ft

Analysis Method: 3D Least Distance
Reference Trajectory: Reserve 3-65 35-34 3CH Plan #1 (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, Adams 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: Not performed!
 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													
Reserve 3-65 35-34 3BH Plan #1 (Def Plan)													
	24.77	20.01	23.79	4.76	N/A	MAS = 6.10 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	Warning Alert
	24.77	20.01	23.79	4.76	N/A	MAS = 6.10 (m)	28.00	28.00				WRP	
	24.77	20.01	22.62	4.76	20.36	MAS = 6.10 (m)	250.00	250.00				MinPts	
	24.78	20.01	22.61	4.77	20.19	MAS = 6.10 (m)	280.00	280.00				MINPT-O-EOU	
	24.78	20.01	22.62	4.77	20.12	MAS = 6.10 (m)	300.00	300.00				MinPt-O-SF	
	26.79	20.01	22.80	6.78	8.59	MAS = 6.10 (m)	860.00	855.40				MINPT-O-EOU	
	33.73	20.01	26.18	13.72	4.99	MAS = 6.10 (m)	1230.00	1211.00				MinPt-O-SF	
	49.21	20.01	39.62	29.20	5.60	MAS = 6.10 (m)	1450.00	1416.34	CtCt<=15m>15.00			Exit Alert	
	509.69	74.35	459.79	435.34	10.40	OSF1.50	7260.00	6826.04				MinPt-O-SF	
	585.43	176.32	467.55	409.11	5.00	OSF1.50	11040.00	7650.00	OSF<5.00			Enter Alert	
	585.42	535.75	227.92	49.67	1.64	OSF1.50	18204.53	7650.00				MinPts	
Reserve 3-65 35-34 4AH Plan #1 (Def Plan)													
	25.14	20.30	24.15	4.83	N/A	MAS = 6.19 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	Warning Alert
	25.14	20.30	24.15	4.83	N/A	MAS = 6.19 (m)	28.00	28.00				WRP	
	25.14	20.30	22.98	4.83	20.66	MAS = 6.19 (m)	250.00	250.00				MinPts	
	25.14	20.30	22.98	4.84	20.51	MAS = 6.19 (m)	290.00	290.00				MINPT-O-EOU	
	25.14	20.30	22.98	4.84	20.48	MAS = 6.19 (m)	300.00	300.00				MinPt-O-SF	
	29.33	20.30	20.98	9.02	3.85	MAS = 6.19 (m)	1320.00	1295.29				MINPT-O-EOU	
	32.21	20.30	22.57	11.91	3.61	MAS = 6.19 (m)	1430.00	1397.72				MinPt-O-SF	
	74.87	23.26	59.04	51.61	4.97	OSF1.50	2080.00	2002.93	OSF>5.00			Exit Alert	
	440.67	82.84	385.12	357.83	8.06	OSF1.50	7336.13	6896.92				MinPt-O-SF	
	444.92	83.63	388.84	361.30	8.06	OSF1.50	7400.00	6956.64	OSF<5.00			MinPt-O-SF	
	585.42	176.39	467.50	409.03	5.00	OSF1.50	11220.00	7650.00				Enter Alert	
	585.41	527.05	233.72	58.36	1.67	OSF1.50	18200.00	7650.00				MinPt-CtCt	
	585.41	527.29	233.56	58.13	1.67	OSF1.50	18204.53	7650.00				MinPts	
Reserve 3-65 35-34 4BH Plan #1 (Def Plan)													
	49.91	32.81	48.92	17.10	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Warning Alert
	49.91	32.81	48.92	17.10	220202.17	MAS = 10.00 (m)	28.00	28.00			WRP		
	49.91	32.81	47.81	17.10	44.22	MAS = 10.00 (m)	240.00	240.00			MinPts		
	49.91	32.81	47.75	17.10	41.56	MAS = 10.00 (m)	290.00	290.00			MINPT-O-EOU		
	49.91	32.81	47.75	17.10	41.52	MAS = 10.00 (m)	300.00	300.00				MinPt-O-SF	
	52.50	32.81	46.91	19.69	11.19	MAS = 10.00 (m)	1070.00	1058.85				MINPT-O-EOU	
	64.65	32.81	54.21	31.84	6.73	MAS = 10.00 (m)	1520.00	1481.52				MinPt-O-SF	
	900.89	86.37	842.98	814.52	15.81	OSF1.50	7336.13	6896.92				MinPt-O-SF	
	1159.70	348.86	926.80	810.84	5.00	OSF1.50	14530.00	7650.00	OSF<5.00			Enter Alert	
	1159.84	536.60	801.78	623.24	3.25	OSF1.50	18204.53	7650.00				MinPts	
Reserve 3-65 35-34 2AH GYRO+MWD 0' to 17727' - PR (Def Survey)													
	174.11	32.81	172.30	141.30	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Warning Alert
	173.76	32.81	171.94	140.95	16752.67	MAS = 10.00 (m)	10.00	10.00			MinPts		
	173.76	32.81	171.95	140.95	N/A	MAS = 10.00 (m)	28.00	28.00			WRP		
	172.16	32.81	169.09	139.36	135.03	MAS = 10.00 (m)	270.00	270.00			MinPts		
	172.17	32.81	169.08	139.37	132.68	MAS = 10.00 (m)	280.00	280.00				MINPT-O-EOU	
	172.30	32.81	169.16	139.49	128.42	MAS = 10.00 (m)	300.00	300.00				MinPt-O-SF	
	376.50	32.81	367.80	343.69	54.38	MAS = 10.00 (m)	1380.00	1351.16				MinPt-O-SF	
	589.79	32.81	577.14	556.98	54.25	MAS = 10.00 (m)	1990.00	1919.13				MinPt-O-SF	
	1804.89	58.00	1765.69	1746.90	47.97	OSF1.50	6980.00	6565.33				MinPt-CtCt	
	1804.97	58.19	1765.64	1746.78	47.81	OSF1.50	7000.00	6583.95				MINPT-O-EOU	
	1805.05	58.28	1765.66	1746.77	47.73	OSF1.50	7010.00	6593.26				MinPt-O-ADP	
	1825.87	60.93	1784.72	1764.94	46.13	OSF1.50	7336.13	6896.92				MinPt-O-SF	
	1884.87	62.71	1842.52	1822.15	46.23	OSF1.50	7800.00	7315.72				MinPts	
	1784.61	162.51	1675.73	1622.10	16.62	OSF1.50	10170.00	7650.00				MinPt-CtCt	
	1765.72	221.42	1617.57	1544.30	12.04	OSF1.50	10960.00	7650.00				MinPt-CtCt	
	1770.85	236.95	1612.34	1533.90	11.28	OSF1.50	11220.00	7650.00				MINPT-O-EOU	
	1773.37	239.90	1612.90	1533.47	11.15	OSF1.50	11280.00	7650.00				MinPt-O-ADP	
	1779.96	301.85	1578.19	1478.10	8.88	OSF1.50	12010.00	7650.00				MinPt-CtCt	
	1775.69	339.91	1548.55	1435.78	7.87	OSF1.50	12500.00	7650.00				MinPt-CtCt	
	1787.96	388.31	1528.56	1399.65	6.93	OSF1.50	13190.00	7650.00				MINPT-O-EOU	
	1798.81	441.24	1504.12	1357.57	6.13	OSF1.50	13800.00	7650.00				MinPt-CtCt	
	1802.89	452.77	1500.51	1350.12	5.99	OSF1.50	14010.00	7650.00				MINPT-O-EOU	
	1807.45	458.22	1501.43	1349.23	5.93	OSF1.50	14110.00	7650.00				MinPt-O-ADP	
	1758.53	528.77	1405.48	1229.76	5.00	OSF1.50	14880.00	7650.00	OSF<5.00			Enter Alert	
	1754.18	541.44	1392.69	1212.74	4.87	OSF1.50	15090.00	7650.00				MinPt-CtCt	
	1754.70	542.90	1392.23	1211.80	4.86	OSF1.50	15140.00	7650.00				MINPT-O-EOU	
	1755.18	543.43	1392.36	1211.75	4.85	OSF1.50	15160.00	7650.00				MinPt-O-ADP	
	1759.21	545.42	1395.06	1213.79	4.85	OSF1.50	15250.00	7650.00				MinPt-O-SF	
	1784.26	568.52	1404.71	1215.73	4.72	OSF1.50	15550.00	7650.00				MinPts	
	1789.52	570.53	1408.63	1218.99	4.71	OSF1.50	15620.00	7650.00				MinPt-O-SF	
	1838.17	624.05	1421.60	1214.12	4.43	OSF1.50	16140.00	7650.00				MinPt-CtCt	
	1783.79	692.82	1321.37	1090.97	3.87	OSF1.50	17030.00	7650.00				MinPt-CtCt	
	1770.20	737.00	1278.33	1033.20	3.61	OSF1.50	17600.00	7650.00				MinPt-CtCt	
	1771.74	741.83	1276.65	1029.91	3.59	OSF1.50	17710.00	7650.00				MINPT-O-EOU	

...Reserve 3-65 35-34 3CH\Original Hole\Reserve 3-65 35-34 3CH Plan #1

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		
	1773.06	743.44	1276.90	1029.62	3.58	OSF1.50	17750.00	7650.00				MinPt-O-ADP	
	1784.83	758.86	1278.43	1026.03	3.53	OSF1.50	17950.00	7650.00				MinPts	
	1773.53	789.81	1246.46	983.72	3.37	OSF1.50	18204.53	7650.00				MinPts	
Reserve 3-65 35-34 1DH GYRO+MWD 0' to 17679' - PR (Def Survey)													
	199.20	32.81	197.39	166.39	N/A	MAS = 10.00 (m)	0.00	0.00				Warning Alert	Surface
	198.90	32.81	197.07	166.09	21978.91	MAS = 10.00 (m)	10.00	10.00				MinPts	
	198.89	32.81	197.08	166.08	N/A	MAS = 10.00 (m)	28.00	28.00				WRP	
	197.04	32.81	194.07	164.23	168.59	MAS = 10.00 (m)	270.00	270.00				MinPts	
	197.05	32.81	194.05	164.24	164.84	MAS = 10.00 (m)	280.00	280.00				MINPT-O-EOU	
	549.93	32.81	538.34	517.12	56.04	MAS = 10.00 (m)	1800.00	1742.22				MinPt-O-SF	
	593.14	32.81	580.83	560.33	56.34	MAS = 10.00 (m)	1920.00	1853.96				MinPt-O-SF	
	1381.98	32.81	1362.98	1349.17	79.34	MAS = 10.00 (m)	4090.00	3874.45				MinPt-O-SF	
	2014.10	54.22	1977.42	1959.88	57.37	OSF1.50	6580.00	6192.89				MinPt-CtCt	
	2014.19	54.53	1977.31	1959.67	57.04	OSF1.50	6610.00	6220.82				MINPT-O-EOU	
	2014.37	54.73	1977.34	1959.63	56.83	OSF1.50	6630.00	6239.44				MinPt-O-ADP	
	2075.17	61.14	2033.88	2014.03	52.25	OSF1.50	7400.00	6956.64				MinPt-O-SF	
	2149.40	99.02	2082.85	2050.38	33.07	OSF1.50	9190.00	7650.00				MinPt-CtCt	
	2150.41	102.11	2081.81	2048.31	32.07	OSF1.50	9280.00	7650.00				MINPT-O-EOU	
	2157.26	124.58	2073.66	2032.67	26.29	OSF1.50	9620.00	7650.00				MINPT-O-EOU	
	2158.88	126.51	2074.00	2032.36	25.91	OSF1.50	9670.00	7650.00				MinPt-O-ADP	
	2184.78	149.56	2084.54	2035.22	22.13	OSF1.50	10030.00	7650.00				MINPT-O-EOU	
	2199.31	190.81	2071.58	2008.51	17.42	OSF1.50	10480.00	7650.00				MinPt-CtCt	
	2154.07	274.46	1970.57	1879.62	11.83	OSF1.50	11580.00	7650.00				MinPt-CtCt	
	2161.36	335.68	1937.04	1825.68	9.70	OSF1.50	12370.00	7650.00				MinPt-CtCt	
	2159.69	378.54	1906.79	1781.15	8.59	OSF1.50	12920.00	7650.00				MinPt-CtCt	
	2164.79	444.35	1868.02	1720.43	7.33	OSF1.50	13760.00	7650.00				MinPt-CtCt	
	2166.24	448.89	1866.45	1717.35	7.26	OSF1.50	13870.00	7650.00				MINPT-O-EOU	
	2167.54	450.46	1866.70	1717.08	7.24	OSF1.50	13910.00	7650.00				MinPt-O-ADP	
	2139.75	581.14	1751.78	1558.60	5.53	OSF1.50	15510.00	7650.00				MinPt-CtCt	
	2140.73	584.13	1750.78	1556.60	5.51	OSF1.50	15590.00	7650.00				MINPT-O-EOU	
	2141.56	585.17	1750.91	1556.39	5.50	OSF1.50	15620.00	7650.00				MinPt-O-ADP	
	2151.25	589.72	1757.56	1561.53	5.48	OSF1.50	15790.00	7650.00				MinPt-O-SF	
	2154.86	648.40	1722.07	1506.47	4.99	OSF1.50	16240.00	7650.00	OSF<5.00			Enter Alert	
	2119.35	695.85	1654.91	1423.50	4.58	OSF1.50	16970.00	7650.00				MinPt-CtCt	
	2121.32	702.42	1652.51	1418.90	4.54	OSF1.50	17110.00	7650.00				MINPT-O-EOU	
	2122.62	704.39	1652.49	1418.23	4.53	OSF1.50	17150.00	7650.00				MINPT-O-EOU	
	2126.98	709.64	1653.35	1417.33	4.50	OSF1.50	17250.00	7650.00				MinPt-O-ADP	
	2131.45	714.29	1654.72	1417.16	4.48	OSF1.50	17330.00	7650.00				MinPt-O-ADP	
	2147.98	756.75	1642.95	1381.25	4.26	OSF1.50	17810.00	7650.00				MINPT-O-EOU	
	2151.71	761.22	1643.70	1390.49	4.25	OSF1.50	17900.00	7650.00				MinPt-O-ADP	
	2172.32	781.61	1650.71	1390.71	4.17	OSF1.50	18204.53	7650.00				MinPts	
Reserve 3-65 35-34 1CH GYRO+MWD 0' to 17779' - PR (Def Survey)													
	223.93	32.81	222.12	191.12	N/A	MAS = 10.00 (m)	0.00	0.00				Warning Alert	Surface
	223.66	32.81	221.85	190.86	34005.03	MAS = 10.00 (m)	10.00	10.00				MinPts	
	223.66	32.81	221.85	190.85	N/A	MAS = 10.00 (m)	28.00	28.00				WRP	
	220.14	32.81	217.14	187.34	184.03	MAS = 10.00 (m)	290.00	290.00				MinPts	
	220.15	32.81	217.13	187.34	181.18	MAS = 10.00 (m)	300.00	300.00				MinPts	
	358.04	32.81	350.55	325.23	62.69	MAS = 10.00 (m)	1180.00	1163.75				MinPt-O-SF	
	570.63	32.81	560.00	537.82	64.55	MAS = 10.00 (m)	1780.00	1723.60				MinPt-O-SF	
	1150.79	32.81	1135.97	1117.98	86.94	MAS = 10.00 (m)	3370.00	3204.05				MinPt-O-SF	
	1263.88	32.81	1247.83	1231.07	87.39	MAS = 10.00 (m)	3680.00	3492.69				MinPt-O-SF	
	2372.85	59.84	2332.43	2313.01	61.07	OSF1.50	7336.13	6896.92				MinPt-O-SF	
	2536.88	71.37	2488.77	2465.52	54.51	OSF1.50	8630.00	7650.00				MinPt-CtCt	
	2537.72	73.78	2487.99	2463.93	52.70	OSF1.50	8720.00	7650.00				MINPT-O-EOU	
	2498.41	149.87	2397.96	2348.53	25.26	OSF1.50	9880.00	7650.00				MinPt-CtCt	
	2510.75	175.71	2393.08	2335.04	21.62	OSF1.50	10320.00	7650.00				MINPT-O-EOU	
	2518.00	184.82	2394.25	2333.18	20.60	OSF1.50	10470.00	7650.00				MinPt-O-ADP	
	2497.28	337.00	2272.08	2160.28	11.16	OSF1.50	12340.00	7650.00				MinPt-CtCt	
	2498.60	341.41	2270.46	2157.20	11.02	OSF1.50	12450.00	7650.00				MINPT-O-EOU	
	2500.15	343.28	2270.76	2156.87	10.97	OSF1.50	12500.00	7650.00				MinPt-O-ADP	
	2531.68	419.78	2251.30	2111.91	9.08	OSF1.50	13400.00	7650.00				MinPt-CtCt	
	2533.43	425.35	2249.33	2108.08	8.96	OSF1.50	13530.00	7650.00				MINPT-O-EOU	
	2522.04	490.76	2194.33	2031.27	7.73	OSF1.50	14310.00	7650.00				MinPt-CtCt	
	2523.37	519.02	2176.82	2004.34	7.31	OSF1.50	14670.00	7650.00				MinPt-CtCt	
	2524.48	612.92	2115.33	1911.56	6.19	OSF1.50	15870.00	7650.00				MinPt-CtCt	
	2526.33	618.58	2113.41	1907.75	6.14	OSF1.50	16000.00	7650.00				MINPT-O-EOU	
	2530.45	623.63	2114.16	1906.81	6.10	OSF1.50	16110.00	7650.00				MinPt-O-ADP	
	2514.08	726.51	2029.21	1787.57	5.20	OSF1.50	17320.00	7650.00				MinPt-CtCt	
	2521.78	758.16	2015.80	1763.62	5.00	OSF1.50	17760.00	7650.00	OSF<5.00			Enter Alert	
	2502.19	803.10	1966.26	1699.09	4.68	OSF1.50	18204.53	7650.00				MinPts	
Reserve 3-65 35-34 2EH Plan #1 (Def Plan)													
	248.93	32.81	247.94	216.12	N/A	MAS = 10.00 (m)	0.00	0.00				Warning Alert	Surface
	248.80	32.81	247.81	215.99	N/A	MAS = 10.00 (m)	28.00	28.00				WRP	
	248.80	32.81	246.67	215.99	216.69	MAS = 10.00 (m)	250.00	250.00				MinPts	
	248.81	32.81	246.66	216.01	211.29	MAS = 10.00 (m)	260.00	260.00				MINPT-O-EOU	
	249.18	32.81	246.96	216.37	200.00	MAS = 10.00 (m)	300.00	300.00				MinPt-O-SF	
	402.70	32.81	388.42	369.89	30.21	MAS = 10.00 (m)	2050.00	1975.00				MinPt-O-SF	
	1004.59	70.29	957.40	934.30	21.72	OSF1.50	7090.00	6667.75				MinPt-O-SF	
	1159.64	349.09	926.59	810.55	4.99	OSF1.50	14610.00	7650.00	OSF<5.00			Enter Alert	
	1159.50	534.05	803.14	625.45	3.26	OSF1.50	18204.53	7650.00				MinPts	
Big Sandy 3-65 36-31 2CH GYRO_MWD 0' to 18415' - PR (Def Survey)													
	1612.86	32.81	1611.04	1580.05	N/A	MAS = 10.00 (m)	0.00	0.00				Pass	Surface
	1612.85	32.81	1611.01	1580.05	55712.76	MAS = 10.00 (m)	28.00	28.00				WRP	
	362.59	39.90	335.46	322.69	14.14	OSF1.50	5020.00	4740.37				MinPt-CtCt	
	362.65	40.10	335.38	322.55	14.07	OSF1.50	5040.00	4758.99				MinPts	
	367.19	41.10	339.25	326.08	13.88	OSF1.50	5150.00	4861.41				MinPt-O-SF	
	1660.53	49.41	1627.06	1611.12	52.05	OSF1.50	7370.00	6928.54				MinPt-O-SF	
	2562.65	65.27	2518.60	2497.37	60.34	OSF1.50	9640.00	7650.00				MinPt-O-SF	
	10189.60	90.36	10128.82	10099.24	172.18	OSF1.50	18204.53	7650.00				TD	
Big Sandy 3-65 36-31 2AH GYRO+MWD 0' to 18177' - PR (Def Survey)													
	1652.23	32.81	1650.42	1619.42	N/A	MAS = 10.00 (m)	0.00	0.00				Pass	Surface
	1652.23	32.81	1650.42	1619.42	N/A	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1652.23	32.81	1650.40	1619.42	73747.33	MAS = 10.00 (m)	28.00	28.00				WRP	

...Reserve 3-65 35-34 3CH\Original Hole\Reserve

...Reserve 3-65 35-34 3CH\Original Hole\Reserve 3-65 35-34 3CH Plan #1

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			
Blue 3-65 32-33 1H GYRO+MWD 0' to 17393' - PR (Def Survey)														Pass
	10459.17	32.81	10457.22	10426.36	75160.77	MAS = 10.00 (m)	0.00	0.00					Surface	
	10459.15	32.81	10457.17	10426.34	62355.27	MAS = 10.00 (m)	28.00	28.00					WRP	
	10459.15	32.81	10457.15	10426.34	57215.92	MAS = 10.00 (m)	40.00	40.00					MinPts	
	10458.89	32.81	10456.15	10426.08	11218.92	MAS = 10.00 (m)	260.00	260.00					MinPts	
	10458.89	32.81	10456.15	10426.08	11185.82	MAS = 10.00 (m)	270.00	270.00					MINPT-O-EOU	
	10458.96	32.81	10456.20	10426.16	10941.70	MAS = 10.00 (m)	300.00	300.00					MinPt-O-SF	
	11573.67	60.04	11533.11	11513.63	297.04	OSF1.50	7400.00	6956.64					MinPt-O-SF	
	11578.14	60.09	11537.54	11518.05	296.93	OSF1.50	7500.00	7050.29					MinPt-O-SF	
	3190.41	364.27	2946.97	2826.14	13.19	OSF1.50	18204.53	7650.00					MinPts	