

Schuh 3-65 21-20 3BH Plan #0 Anti-Collision Summary Report

Analysis Date-24hr Time: March 03, 2020 - 11:38
Client: Crestone Peak Resources
Field: CO, Adams County (NAD 83 NZ)
Structure: Crestone Peak 21-03S-65W (Shuh Pad)
Slot: Schuh 3-65 21-20 3BH
Well: Schuh 3-65 21-20 3BH
Borehole: Original Hole
Scan MD Range: 0.00ft - 18370.50ft

Analysis Method: 3D Least Distance
Reference Trajectory: Schuh 3-65 21-20 3BH Plan #0 (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

Bear 3-65 22-23 3BH

GYRO+MWD 0' to 18165' - PR
 (Def Survey)

Fail Major

1027.89	32.81	1026.08	995.08	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1026.79	32.81	1024.86	993.98	8814.69	MAS = 10.00 (m)	28.00	28.00					MinPt-O-SF	
1026.45	32.81	1024.54	993.64	10357.36	MAS = 10.00 (m)	70.00	70.00					MinPts	
1026.82	32.81	1023.10	994.01	537.91	MAS = 10.00 (m)	460.00	460.00					MinPts	
1025.36	32.81	1018.09	992.55	187.60	MAS = 10.00 (m)	1210.00	1210.00					MinPts	
1023.01	32.81	1010.89	990.20	99.00	MAS = 10.00 (m)	2180.00	2180.00					MINPT-O-EOU	
1022.88	32.81	1010.86	990.07	98.06	MAS = 10.00 (m)	2270.00	2270.00					MinPts	
1022.88	32.81	1010.86	990.07	98.03	MAS = 10.00 (m)	2280.00	2280.00					MINPT-O-EOU	
114.85	37.51	88.95	77.34	4.83	OSF1.50	6560.00	6477.75	OSF<5.00				Enter Alert	
38.13	39.74	10.69	-1.61	1.43	OSF1.50	6720.00	6634.34		OSF<1.50			Enter Minor	
28.77	40.67	0.70	-11.90	1.03	OSF1.50	6740.00	6653.92				StcRul<10.00	Enter Major	
12.78	44.58	-17.63	-31.80	0.38	OSF1.50	6790.00	6702.86					MinPts	
29.12	37.93	3.30	-8.81	1.14	OSF1.50	6840.00	6751.79				StcRul>10.00	Exit Major	
34.00	37.70	8.33	-3.71	1.35	OSF1.50	6850.00	6761.58		OSF>1.50			Exit Minor	
120.51	38.19	94.52	82.32	4.88	OSF1.50	7010.00	6918.17	OSF>5.00				Exit Alert	
292.45	46.05	261.22	246.40	9.82	OSF1.50	7950.00	7777.31					MinPt-CtCt	
292.51	46.26	261.13	246.25	9.77	OSF1.50	7960.00	7783.75					MinPts	
294.22	46.82	262.47	247.40	9.71	OSF1.50	7990.00	7802.44					MinPt-O-SF	
10294.10	52.02	10258.88	10242.08	306.23	OSF1.50	18370.50	7950.00					TD	

Schuh 3-65 21-20 3AH MWD 0'
 to 18028' - DRL (Def Survey)

Fail Minor

31.85	25.72	30.04	6.14	N/A	MAS = 7.84 (m)	0.00	0.00	CtCt<=15m<15.00				Enter Alert	
31.68	25.72	29.88	5.98	N/A	MAS = 7.84 (m)	28.00	28.00					MinPts	
31.74	25.72	29.83	6.03	292.92	MAS = 7.84 (m)	60.00	60.00					MINPT-O-EOU	
42.93	25.72	34.60	17.21	6.31	MAS = 7.84 (m)	1520.00	1520.00					MINPT-O-EOU	
44.09	25.72	32.69	18.37	4.41	MAS = 7.84 (m)	2180.00	2180.00					MINPT-O-EOU	
40.92	25.72	29.68	15.20	4.08	MAS = 7.84 (m)	2600.00	2599.45					MinPts	
40.93	25.72	29.69	15.22	4.09	MAS = 7.84 (m)	2610.00	2609.40					MinPt-O-SF	
50.37	25.72	38.91	24.65	4.95	MAS = 7.84 (m)	2810.00	2807.31	OSF>5.00				Exit Alert	
524.83	38.13	498.87	486.70	21.49	OSF1.50	6280.00	6203.71					MinPt-CtCt	
524.96	38.49	498.76	486.47	21.28	OSF1.50	6310.00	6233.07					MINPT-O-EOU	
525.06	38.61	498.79	486.45	21.22	OSF1.50	6320.00	6242.86					MinPt-O-ADP	
555.75	42.45	526.92	513.30	20.35	OSF1.50	6680.00	6595.20					MinPt-O-SF	
597.92	45.32	567.18	552.61	20.46	OSF1.50	6950.00	6859.45					MinPt-O-SF	
649.89	46.35	618.45	603.54	21.73	OSF1.50	7770.00	7644.62					MinPt-O-SF	
635.26	45.87	604.14	589.39	21.47	OSF1.50	8060.00	7842.13					MinPt-CtCt	
635.29	45.93	604.13	589.35	21.44	OSF1.50	8070.00	7847.33					MINPT-O-EOU	
635.36	46.00	604.15	589.35	21.41	OSF1.50	8080.00	7852.42					MinPt-O-ADP	
707.81	90.13	647.19	617.68	11.97	OSF1.50	9160.00	7950.00					MinPt-CtCt	
711.35	99.80	644.28	611.55	10.84	OSF1.50	9320.00	7950.00					MINPT-O-EOU	
715.48	104.76	645.11	610.72	10.38	OSF1.50	9400.00	7950.00					MinPt-O-ADP	
726.38	125.12	642.43	601.26	8.80	OSF1.50	9680.00	7950.00					MINPT-O-EOU	
713.64	215.57	569.39	498.07	4.99	OSF1.50	10870.00	7950.00	OSF<5.00				Enter Alert	
713.59	217.03	568.37	496.56	4.96	OSF1.50	10890.00	7950.00					MinPt-CtCt	
709.19	357.09	470.60	352.10	2.99	OSF1.50	12690.00	7950.00					MinPt-CtCt	
706.86	383.73	450.51	323.13	2.77	OSF1.50	13030.00	7950.00					MinPt-CtCt	
722.90	427.39	437.44	295.51	2.54	OSF1.50	13610.00	7950.00					MINPT-O-EOU	
682.83	558.68	309.83	124.14	1.83	OSF1.50	15260.00	7950.00					MinPt-CtCt	
692.96	694.43	229.47	-1.47	1.50	OSF1.50	16980.00	7950.00	OSF<1.50				Enter Minor	
678.12	720.89	196.99	-42.77	1.41	OSF1.50	17320.00	7950.00					MinPt-CtCt	
674.48	784.77	150.76	-110.29	1.29	OSF1.50	18130.00	7950.00					MinPt-CtCt	
676.56	793.40	147.09	-116.84	1.28	OSF1.50	18260.00	7950.00					MINPT-O-EOU	
677.84	795.07	147.26	-117.23	1.28	OSF1.50	18290.00	7950.00					MinPt-O-SF	
678.34	795.60	147.41	-117.26	1.28	OSF1.50	18300.00	7950.00					MinPt-O-ADP	
682.59	800.42	148.44	-117.83	1.28	OSF1.50	18370.50	7950.00					MinPts	

Schuh 3-65 21-20 4AH Plan #0
 (Def Plan)

Warning Alert

31.33	25.26	30.34	6.07	N/A	MAS = 7.70 (m)	0.00	0.00	CtCt<=15m<15.00				Enter Alert	
31.33	25.26	30.34	6.07	27317.22	MAS = 7.70 (m)	28.00	28.00					WRP	
31.33	25.26	16.94	6.07	2.26	MAS = 7.70 (m)	2290.00	2290.00					MinPts	
31.33	25.26	16.94	6.07	2.26	MAS = 7.70 (m)	2300.00	2300.00					MinPts	
70.78	25.26	55.81	45.52	4.99	MAS = 7.70 (m)	2920.00	2915.20	OSF>5.00				Exit Alert	
682.43	205.79	544.91	476.64	4.99	OSF1.50	11830.00	7950.00	OSF<5.00				Enter Alert	
682.41	540.73	321.59	141.67	1.89	OSF1.50	18360.00	7950.00					MinPt-CtCt	
682.42	541.15	321.33	141.27	1.89	OSF1.50	18370.50	7950.00					MinPts	

Schuh 3-65 21-20 4BH Plan #0
 (Def Plan)

Warning Alert

63.79	32.81	62.80	30.98	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
63.79	32.81	62.80	30.98	70671.31	MAS = 10.00 (m)	28.00	28.00					WRP	
63.79	32.81	50.20	30.98	4.98	MAS = 10.00 (m)	2070.00	2070.00	OSF<5.00				Enter Alert	
63.79	32.81	49.40	30.98	4.69	MAS = 10.00 (m)	2290.00	2290.00					MinPts	
63.79	32.81	49.40	30.98	4.69	MAS = 10.00 (m)	2300.00	2300.00					MinPts	
67.94	32.81	53.52	35.13	4.99	MAS = 10.00 (m)	2450.00	2449.93	OSF>5.00				Exit Alert	
1359.72	408.61	1086.99	951.12	5.00	OSF1.50	15750.00	7950.00	OSF<5.00				Enter Alert	

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		
	1359.83	544.04	996.81	815.80	3.76	OSF1.50	18370.50	7950.00				MinPts	
Bear 3-65 22-23 3CH GYRO+MWD 0' to 17968' - PR (Def Survey)													
	1023.06	32.81	1021.25	990.25	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Warning Alert
	1021.99	32.81	1020.06	989.18	9077.49	MAS = 10.00 (m)	28.00	28.00				MinPt-O-SF	
	1021.67	32.81	1019.76	988.86	10239.98	MAS = 10.00 (m)	70.00	70.00				MinPts	
	1017.88	32.81	1007.31	985.07	116.02	MAS = 10.00 (m)	1760.00	1760.00				MinPts	
	1018.59	32.81	1006.45	985.78	98.48	MAS = 10.00 (m)	2180.00	2180.00				MINPT-O-EOU	
	1018.62	32.81	1006.65	985.81	97.86	MAS = 10.00 (m)	2200.00	2200.00				MINPT-O-EOU	
	116.76	36.88	91.45	79.88	4.95	OSF1.50	6510.00	6428.81	OSF<5.00			Enter Alert	
	78.22	41.32	50.14	36.90	2.89	OSF1.50	6690.00	6604.98				MinPts	
	78.41	41.52	50.19	36.89	2.89	OSF1.50	6700.00	6614.77				MinPts	
	130.50	41.21	102.49	89.29	4.88	OSF1.50	6900.00	6810.51	OSF>5.00			Exit Alert	
	334.64	44.28	304.59	290.36	11.70	OSF1.50	7360.00	7262.67				MinPt-O-ADP	
	132.40	42.45	103.56	89.95	4.80	OSF1.50	7790.00	7660.79	OSF<5.00			Enter Alert	
	107.52	45.41	76.71	62.11	3.63	OSF1.50	7870.00	7722.08				MinPts	
	133.56	43.40	104.05	90.16	4.74	OSF1.50	7950.00	7777.31	OSF>5.00			Exit Alert	
	10309.63	49.54	10276.07	10260.09	322.54	OSF1.50	18370.50	7950.00				TD	
Bear 3-65 22-23 3AH GYRO+MWD 0' to 18081' - PR (Def Survey)													
	1082.30	32.81	1080.49	1049.49	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1081.26	32.81	1079.34	1048.46	9775.57	MAS = 10.00 (m)	28.00	28.00				MinPt-O-SF	
	1070.96	32.81	1057.46	1038.15	91.46	MAS = 10.00 (m)	2180.00	2180.00				MINPT-O-EOU	
	1070.88	32.81	1057.46	1038.07	90.54	MAS = 10.00 (m)	2260.00	2260.00				MinPts	
	1070.88	32.81	1057.46	1038.08	90.46	MAS = 10.00 (m)	2280.00	2280.00				MINPT-O-EOU	
	215.49	43.74	185.64	171.75	7.68	OSF1.50	6610.00	6526.69				MinPts	
	215.65	43.77	185.81	171.88	7.67	OSF1.50	6630.00	6546.26				MinPt-O-SF	
	571.61	46.86	539.83	524.75	18.89	OSF1.50	7820.00	7684.44				MinPt-O-SF	
	10370.18	60.01	10329.64	10310.18	266.30	OSF1.50	18370.50	7950.00				TD	
Bear 3-65 22-23 3DH GYRO+MWD 0' to 17995' - PR (Def Survey)													
	1068.97	32.81	1067.16	1036.17	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1067.94	32.81	1066.02	1035.14	9913.02	MAS = 10.00 (m)	28.00	28.00				MinPt-O-SF	
	1063.07	32.81	1051.47	1030.26	108.37	MAS = 10.00 (m)	2050.00	2050.00				MinPts	
	1063.13	32.81	1051.02	1030.32	103.13	MAS = 10.00 (m)	2180.00	2180.00				MINPT-O-EOU	
	1063.15	32.81	1051.29	1030.34	102.61	MAS = 10.00 (m)	2200.00	2200.00				MinPts	
	221.76	42.16	193.12	179.60	8.14	OSF1.50	6800.00	6712.64				MinPt-CtCt	
	221.82	42.33	193.07	179.48	8.11	OSF1.50	6810.00	6722.43				MinPts	
	223.90	43.10	194.63	180.80	8.04	OSF1.50	6860.00	6771.37				MinPt-O-SF	
	243.61	46.16	212.30	197.45	8.15	OSF1.50	7840.00	7699.76				MinPt-O-SF	
	243.38	46.05	212.14	197.33	8.16	OSF1.50	7850.00	7707.29				MinPts	
	10366.53	47.79	10334.14	10318.74	336.64	OSF1.50	18370.50	7950.00				TD	
Emma E McVay 1 Blind 0' to 8831' - DA (Def Survey)													
	7032.79	32.81	7030.97	6999.98	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	7032.55	32.81	7030.71	6999.75	245854.45	MAS = 10.00 (m)	28.00	28.00				MinPt-O-SF	
	7032.41	129.24	6945.72	6903.17	82.62	OSF1.50	2300.00	2300.00				MinPt-CtCt	
	7034.89	136.36	6943.44	6898.53	78.29	OSF1.50	2420.00	2419.96				MINPT-O-EOU	
	7037.37	139.32	6943.96	6898.05	76.63	OSF1.50	2470.00	2469.90				MinPt-O-ADP	
	2403.50	542.10	2041.57	1861.40	6.67	OSF1.50	15370.00	7950.00				MinPt-CtCt	
	2403.66	542.61	2041.39	1861.05	6.66	OSF1.50	15400.00	7950.00				MINPT-O-EOU	
	2403.80	542.78	2041.41	1861.02	6.66	OSF1.50	15410.00	7950.00				MinPt-O-ADP	
	2408.06	544.47	2044.55	1863.59	6.65	OSF1.50	15520.00	7950.00				MinPt-O-SF	
	3843.01	523.58	3493.42	3319.43	11.04	OSF1.50	18370.50	7950.00				TD	
King Ranch 1 Blind 0' to 8631' - DA (Def Survey)													
	3365.97	32.81	3364.16	3333.16	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	3365.55	32.81	3363.68	3332.74	66855.29	MAS = 10.00 (m)	28.00	28.00				MinPt-O-SF	
	2864.62	470.91	2549.92	2393.72	9.16	OSF1.50	8790.00	7950.00				MinPt-CtCt	
	2864.63	470.93	2549.91	2393.70	9.16	OSF1.50	8800.00	7950.00				MinPts	
	2864.98	471.02	2550.21	2393.96	9.16	OSF1.50	8840.00	7950.00				MinPt-O-SF	
	9995.27	480.92	9674.13	9514.36	31.27	OSF1.50	18370.50	7950.00				TD	
Quicksilver 18E-20-15 - Plan (Def Plan)													
	9264.29	455.10	8960.29	8809.19	30.65	OSF1.50	0.00	0.00				Surface	Pass
	9239.83	455.89	8935.30	8783.94	30.52	OSF1.50	28.00	28.00				WRP	
	4006.87	775.84	3487.62	3231.03	7.80	OSF1.50	8600.00	7950.00				MinPts	
	4022.96	410.19	3747.57	3612.77	14.90	OSF1.50	18370.50	7950.00				MinPts	
Scranton Well Blind 0' to 801' - DRY (Def Survey)													
	6244.44	32.81	6242.63	6211.63	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	6243.96	32.81	6242.08	6211.15	93016.58	MAS = 10.00 (m)	28.00	28.00				MinPt-O-SF	
	6243.28	48.12	6210.60	6195.16	202.17	OSF1.50	920.00	920.00				MinPt-CtCt	
	6243.29	48.21	6210.54	6195.08	201.80	OSF1.50	930.00	930.00				MinPts	
	6270.04	48.64	6237.01	6221.40	200.80	OSF1.50	1500.00	1500.00				MinPt-O-SF	
	8170.10	143.10	8074.17	8027.00	86.59	OSF1.50	12760.00	7950.00				MinPt-CtCt	
	8171.52	147.24	8072.82	8024.28	84.15	OSF1.50	12910.00	7950.00				MINPT-O-EOU	
	8173.12	149.16	8073.15	8023.96	83.07	OSF1.50	12980.00	7950.00				MinPt-O-ADP	
	9411.72	240.13	9251.10	9171.59	59.18	OSF1.50	17430.00	7950.00				MinPt-O-SF	
	9912.30	250.58	9744.71	9661.71	59.71	OSF1.50	18370.50	7950.00				TD	