



Crestone Peak Resources

Schlumberger

Plan 0

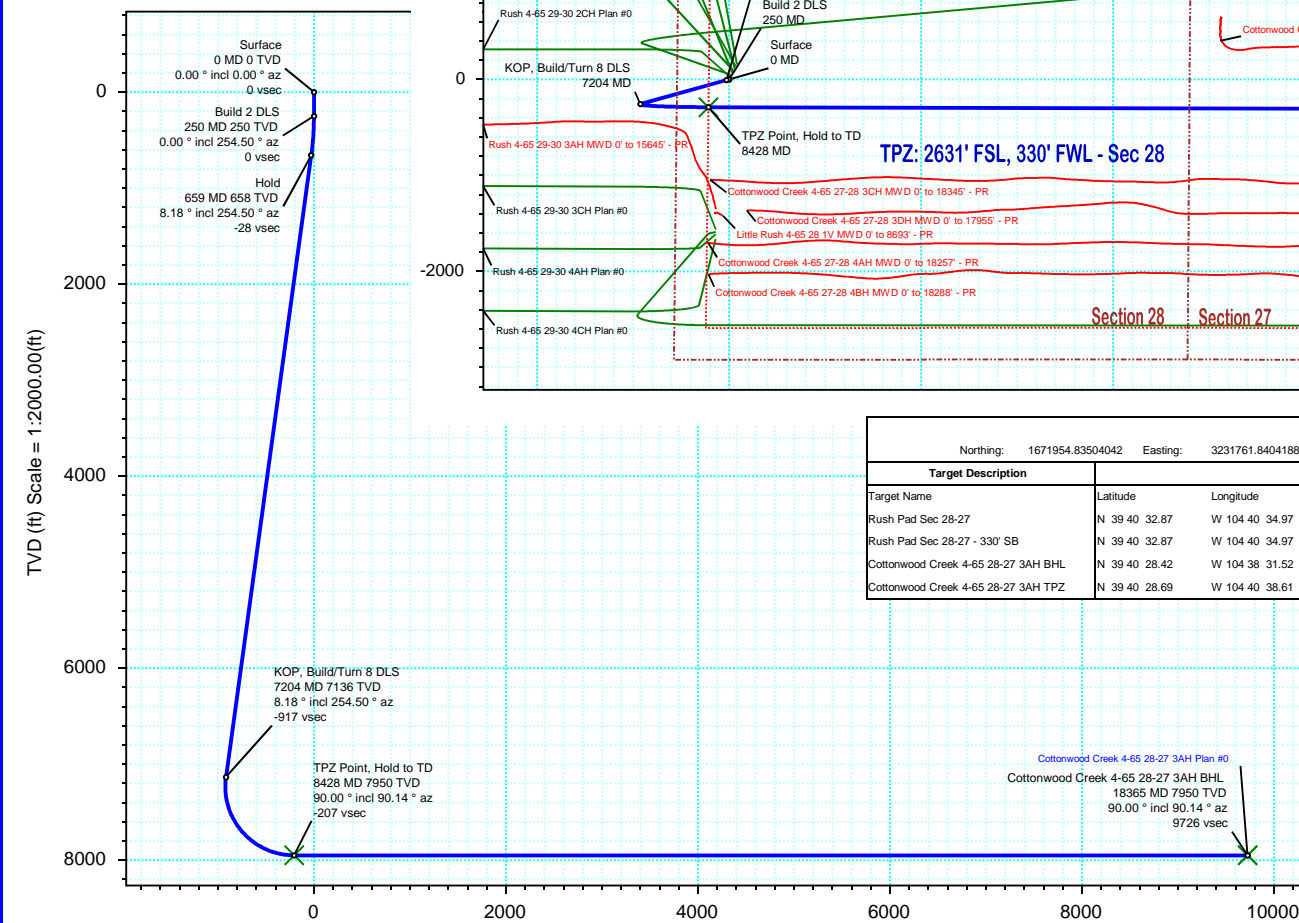
Borehole:	Well:	Field:	Structure:
Original Hole	Cottonwood Creek 4-65 28-27 3AH	CO, Arapahoe County (NAD 83 CZ)	Crestone Peak 28-04S-65W (Rush North Pad)

Gravity & Magnetic Parameters				Surface Location				Miscellaneous			
Model:	HDGM 2020	Dip:	66.345°	Date:	22-Jun-2020	Lat:	N 39 40 31.55	Northing:	1671954.84ftUS	Grid Conv:	0.5193°
MagDec:	8.575°	FS:	51550.441nT	Gravity FS:	998.914mgn (9.80665 Based)	Lon:	W 104 40 35.84	Easting:	3231761.84ftUS	Scale Fact:	0.9999861
								Slot: Cottonwood Creek 4-65 28-27 3AH			
								TVD Ref: KB 28ft(5684ft above MSL)			
								Plan: Cottonwood Creek 4-65 28-27 3AH Plan #0			

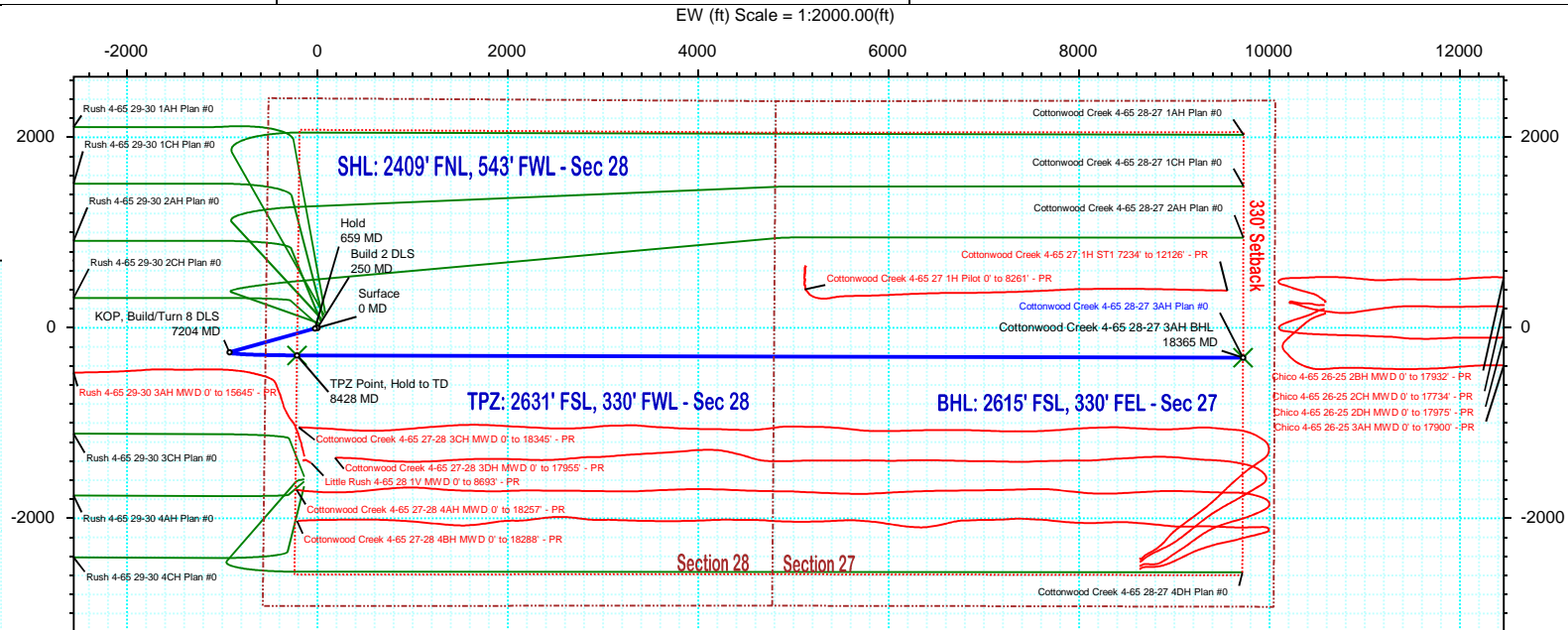
Proposal



True North
Tot Corr (M->T 8.575°)
Mag Dec (8.575°)
Grid Conv (0.519°)



Vertical Section (ft) Azim = 91.85° Scale = 1:2000.00(ft) Origin = 0N/-S, 0E/-W



Target Description		Surface Location		Grid Coord		Local Coord	
Target Name	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)/S(-)
Rush Pad Sec 28-27	N 39 40 32.87	W 104 40 34.97	1672088.77	3231829.03	5684.00	64.05	133.32
Rush Pad Sec 28-27 - 330' SB	N 39 40 32.87	W 104 40 34.97	1672088.77	3231829.03	5684.00	64.05	68.40
Cottonwood Creek 4-65 28-27 3AH BHL	N 39 40 28.42	W 104 38 31.52	1671728.26	3241485.08	7950.00	9726.03	-314.70
Cottonwood Creek 4-65 28-27 3AH TPZ	N 39 40 28.69	W 104 40 38.61	1671662.94	3231548.30	7950.00	-206.69	-289.96

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Build 2 DLS	250.00	0.00	254.50	250.00	0.00	0.00	0.00	0.00
Hold	659.02	8.18	254.50	657.63	-27.82	-7.79	-28.09	2.00
KOP, Build/Turn 8 DLS	7204.27	8.18	254.50	7136.28	-916.76	-256.65	-925.54	0.00
TPZ Point, Hold to TD	8427.71	90.00	90.14	7950.00	-206.69	-289.96	-216.18	8.00
Cottonwood Creek 4-65 28-27 3AH BHL	18364.86	90.00	90.14	7950.00	9726.03	-314.70	9720.94	0.00

Cottonwood Creek 4-65 28-27 3AH Plan #0 Proposal Geodetic Report

(Def Plan)

Report Date: June 23, 2020 - 02:36 PM
Client: Crestone Peak Resources
Field: CO, Arapahoe County (NAD 83 CZ)
Structure / Slot: Crestone Peak 28-04S-65W (Rush North Pad) / Cottonwood Creek 4-65 28-27 3AH
Well: Cottonwood Creek 4-65 28-27 3AH
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Cottonwood Creek 4-65 28-27 3AH Plan #0
Survey Date: June 22, 2020
Tort / AHD / DDI / ERD Ratio: 106.056 * / 11624.123 ft / 6.455 / 1.462
Coordinate Reference System: NAD83 Colorado State Plane, Central Zone, US Feet
Location Lat / Long: N 39° 40' 31.55160", W 104° 40' 35.84280"
Location Grid N/E Y/X: N 1671954.835 ftUS, E 3231761.840 ftUS
CRS Grid Convergence Angle: 0.5193 *
Grid Scale Factor: 0.9999861
Version / Patch: 2.10.810.1

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 91.854 * (True North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: KB 28ft
TVD Reference Elevation: 5684.000 ft above MSL
Seabed / Ground Elevation: 5656.000 ft above MSL
Magnetic Declination: 8.575 *
Total Gravity Field Strength: 998.9143mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 51550.441 nT
Magnetic Dip Angle: 66.345 *
Declination Date: June 22, 2020
Magnetic Declination Model: HDGM 2020
North Reference: True North
Grid Convergence Used: 0.0000 *
Total Corr Mag North->True North: 8.5749 *
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	1671954.84	3231761.84	39.675431	-104.676623
Build 2 DLS	100.00	0.00	254.50	100.00	0.00	0.00	0.00	0.00	1671954.84	3231761.84	39.675431	-104.676623
	200.00	0.00	254.50	200.00	0.00	0.00	0.00	0.00	1671954.84	3231761.84	39.675431	-104.676623
	250.00	0.00	254.50	250.00	0.00	0.00	0.00	0.00	1671954.84	3231761.84	39.675431	-104.676623
	300.00	1.00	254.50	300.00	-0.42	-0.12	-0.42	2.00	1671954.71	3231761.42	39.675431	-104.676624
	400.00	3.00	254.50	399.93	-3.75	-1.05	-3.78	2.00	1671953.75	3231758.07	39.675428	-104.676636
	500.00	5.00	254.50	499.68	-10.41	-2.91	-10.50	2.00	1671951.83	3231751.36	39.675423	-104.676660
Hold	600.00	7.00	254.50	599.13	-20.38	-5.71	-20.58	2.00	1671948.94	3231741.32	39.675415	-104.676696
	659.02	8.18	254.50	657.63	-27.82	-7.79	-28.09	2.00	1671946.79	3231733.82	39.675410	-104.676723
	700.00	8.18	254.50	698.19	-33.39	-9.35	-33.71	0.00	1671945.18	3231728.22	39.675405	-104.676743
	800.00	8.18	254.50	797.18	-46.97	-13.15	-47.42	0.00	1671941.26	3231714.54	39.675395	-104.676791
	900.00	8.18	254.50	896.16	-60.55	-16.95	-61.13	0.00	1671937.33	3231700.87	39.675384	-104.676840
	1000.00	8.18	254.50	995.14	-74.13	-20.75	-74.84	0.00	1671933.40	3231687.19	39.675374	-104.676889
	1100.00	8.18	254.50	1094.12	-87.71	-24.56	-88.55	0.00	1671929.48	3231673.51	39.675364	-104.676938
	1200.00	8.18	254.50	1193.11	-101.30	-28.36	-102.27	0.00	1671925.55	3231659.84	39.675353	-104.676986
	1300.00	8.18	254.50	1292.09	-114.88	-32.16	-115.98	0.00	1671921.63	3231646.16	39.675343	-104.677035
	1400.00	8.18	254.50	1391.07	-128.46	-35.96	-129.69	0.00	1671917.70	3231632.48	39.675332	-104.677084
	1500.00	8.18	254.50	1490.05	-142.04	-39.76	-143.40	0.00	1671913.77	3231618.81	39.675322	-104.677132
	1600.00	8.18	254.50	1589.04	-155.62	-43.57	-157.11	0.00	1671909.85	3231605.13	39.675311	-104.677181
	1700.00	8.18	254.50	1688.02	-169.20	-47.37	-170.82	0.00	1671905.92	3231591.46	39.675301	-104.677230
	1800.00	8.18	254.50	1787.00	-182.78	-51.17	-184.54	0.00	1671901.99	3231577.78	39.675291	-104.677279
	1900.00	8.18	254.50	1885.98	-196.36	-54.97	-198.25	0.00	1671898.07	3231564.10	39.675280	-104.677327
	2000.00	8.18	254.50	1984.97	-209.95	-58.78	-211.96	0.00	1671894.14	3231550.43	39.675270	-104.677376
	2100.00	8.18	254.50	2083.95	-223.53	-62.58	-225.67	0.00	1671890.22	3231536.75	39.675259	-104.677425
	2200.00	8.18	254.50	2182.93	-237.11	-66.38	-239.38	0.00	1671886.29	3231523.07	39.675249	-104.677473
	2300.00	8.18	254.50	2281.91	-250.69	-70.18	-253.09	0.00	1671882.36	3231509.40	39.675238	-104.677522
	2400.00	8.18	254.50	2380.90	-264.27	-73.98	-266.80	0.00	1671878.44	3231495.72	39.675228	-104.677571
	2500.00	8.18	254.50	2479.88	-277.85	-77.79	-280.52	0.00	1671874.51	3231482.04	39.675217	-104.677620
	2600.00	8.18	254.50	2578.86	-291.43	-81.59	-294.23	0.00	1671870.58	3231468.37	39.675207	-104.677668
	2700.00	8.18	254.50	2677.84	-305.02	-85.39	-307.94	0.00	1671866.66	3231454.69	39.675197	-104.677717
	2800.00	8.18	254.50	2776.83	-318.60	-89.19	-321.65	0.00	1671862.73	3231441.02	39.675186	-104.677766
	2900.00	8.18	254.50	2875.81	-332.18	-93.00	-335.36	0.00	1671858.81	3231427.34	39.675176	-104.677814
	3000.00	8.18	254.50	2974.79	-345.76	-96.80	-349.07	0.00	1671854.88	3231413.66	39.675165	-104.677863
	3100.00	8.18	254.50	3073.77	-359.34	-100.60	-362.79	0.00	1671850.95	3231399.99	39.675155	-104.677912
	3200.00	8.18	254.50	3172.76	-372.92	-104.40	-376.50	0.00	1671847.03	3231386.31	39.675144	-104.677961
	3300.00	8.18	254.50	3271.74	-386.50	-108.20	-390.21	0.00	1671843.10	3231372.63	39.675134	-104.678009
	3400.00	8.18	254.50	3370.72	-400.08	-112.01	-403.92	0.00	1671839.17	3231358.96	39.675124	-104.678058
	3500.00	8.18	254.50	3469.70	-413.67	-115.81	-417.63	0.00	1671835.25	3231345.28	39.675113	-104.678107
	3600.00	8.18	254.50	3568.69	-427.25	-119.61	-431.34	0.00	1671831.32	3231331.61	39.675103	-104.678155
	3700.00	8.18	254.50	3667.67	-440.83	-123.41	-445.06	0.00	1671827.40	3231317.93	39.675092	-104.678204
	3800.00	8.18	254.50	3766.65	-454.41	-127.21	-458.77	0.00	1671823.47	3231304.25	39.675082	-104.678253
3900.00	8.18	254.50	3865.64	-467.99	-131.02	-472.48	0.00	1671819.54	3231290.58	39.675071	-104.678302	
4000.00	8.18	254.50	3964.62	-481.57	-134.82	-486.19	0.00	1671815.62	3231276.90	39.675061	-104.678350	
4100.00	8.18	254.50	4063.60	-495.15	-138.62	-499.90	0.00	1671811.69	3231263.22	39.675050	-104.678399	
4200.00	8.18	254.50	4162.58	-508.74	-142.42	-513.61	0.00	1671807.76	3231249.55	39.675040	-104.678448	
4300.00	8.18	254.50	4261.57	-522.32	-146.23	-527.32	0.00	1671803.84	3231235.87	39.675030	-104.678496	
4400.00	8.18	254.50	4360.55	-535.90	-150.03	-541.04	0.00	1671799.91	3231222.19	39.675019	-104.678545	
4500.00	8.18	254.50	4459.53	-549.48	-153.83	-554.75	0.00	1671795.99	3231208.52	39.675009	-104.678594	
4600.00	8.18	254.50	4558.51	-563.06	-157.63	-568.46	0.00	1671792.06	3231194.84	39.674998	-104.678642	
4700.00	8.18	254.50	4657.50	-576.64	-161.43	-582.17	0.00	1671788.13	3231181.17	39.674988	-104.678691	
4800.00	8.18	254.50	4756.48	-590.22	-165.24	-595.88	0.00	1671784.21	3231167.49	39.674977	-104.678740	
4900.00	8.18	254.50	4855.46	-603.81	-169.04	-609.59	0.00	1671780.28	3231153.81	39.674967	-104.678789	
5000.00	8.18	254.50	4954.44	-617.39	-172.84	-623.31	0.00	1671776.35	3231140.14	39.674956	-104.678837	
5100.00	8.18	254.50	5053.43	-630.97	-176.64	-637.02	0.00	1671772.43	3231126.46	39.674946	-104.678886	
5200.00	8.18	254.50	5152.41	-644.55	-180.45	-650.73	0.00	1671768.50	3231112.78	39.674936	-104.678935	
5300.00	8.18	254.50	5251.39	-658.13	-184.25	-664.44	0.00	1671764.58	3231099.11	39.674925	-104.678983	
5400.00	8.18	254.50	5350.37	-671.71	-188.05	-678.15	0.00	1671760.65	3231085.43	39.674915	-104.679032	
5500.00	8.18	254.50	5449.36	-685.29	-191.85	-691.86	0.00	1671756.72	3231071.76	39.674904	-104.679081	
5600.00	8.18	254.50	5548.34	-698.87	-195.65	-705.57	0.00	1671752.80	3231058.08	39.674894	-104.679130	
5700.00	8.18	254.50	5647.32	-712.46	-199.46	-719.29	0.00	1671748.87	3231044.40	39.674883	-104.679178	
5800.00	8.18	254.50	5746.30	-726.04	-203.26	-733.00	0.00	1671744.95	3231030.73	39.674873	-104.679227	
5900.00	8.18	254.50	5845.29	-739.62	-207.06	-746.71	0.00	1671741.02	3231017.05	39.674863	-104.679276	
6000.00	8.18	254.50	5944.27	-753.20	-210.86	-760.42	0.00	1671737.09	3231003.37	39.674852	-104.679324	
6100.00	8.18	254.50	6043.25	-766.78	-214.66	-774.13	0.00	1671733.17	3230989.70	39.674842	-104.679373	
6200.00	8.18	254.50	6142.23	-780.36	-218.47	-787.84	0.00	1671729.24	3230976.02	39.674831	-104.679422	
6300.00	8.18	254.50	6241.22	-793.94	-222.27	-801.56	0.00	1671725.31	3230962.34	39.674821	-104.679471	
6400.00	8.18	254.50	6340.20	-807.53	-226.07	-815.27	0.00	1671721.39	3230948.67	39.674810	-104.679519	
6500.00	8.18	254.50	6439.18	-821.11	-229.87	-828.98	0.00	1671717.46	3230934.99	39.674800	-104.679568	
6600.00	8.18	254.50	6538.16	-834.69	-233.68	-842.69	0.00	1671713.54	3230921.32	39.674789	-104.679617	
6700.00	8.18	254.50	6637.15	-848.27	-237.48	-856.40	0.00	1671709.61	3230907.64	39.674779	-104.679665	
6800.00	8.18	254.50	6736.13	-861.85	-241.28	-870.11	0.00	1671705.68	3230893.96	39.674769	-104.679714	
6900.00	8.18	254.50	6835.11	-875.43	-245.08	-883.83	0.00	1671701.76	3230880.29	39.674758	-104.679763	
7000.00	8.18	254.50	6934.09	-889.01	-248.88	-897.54	0.00	1671697.83	3230866.61	39.674748	-104.679812	
7100.00	8.18	254.50	7033.08	-902.60	-252.69	-911.25	0.00	1671693.90	3230852.93	39.674737	-104.679860	
7200.00	8.18	254.50	7132.06	-916.18	-256.49	-924.96	0.00	1671689.98	3230839.26	39.674727	-104.679909	
KOP_Build/Turn 8-DLS	7204.27	8.18	254.50	7136.28	-916.76	-256.65	-925.54	0.00	1671689.81	3230838.67	39.674726	-104.679911

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	7300.00	2.23	185.72	7231.63	-923.39	-260.33	-932.30	8.00	1671686.07	3230831.95	39.674716	-104.679935
	7400.00	8.09	105.96	7331.26	-916.69	-264.21	-925.72	8.00	1671682.25	3230838.57	39.674706	-104.679912
	7500.00	15.93	97.94	7429.00	-896.18	-268.05	-905.33	8.00	1671678.60	3230859.00	39.674695	-104.679839
	7600.00	23.88	95.16	7522.95	-862.27	-271.77	-871.52	8.00	1671675.18	3230892.84	39.674685	-104.679719
	7700.00	31.85	93.72	7611.28	-815.61	-275.31	-824.95	8.00	1671672.06	3230939.43	39.674675	-104.679554
	7800.00	39.83	92.81	7692.28	-757.12	-278.60	-766.53	8.00	1671669.31	3230997.88	39.674666	-104.679346
	7900.00	47.82	92.16	7764.36	-687.93	-281.56	-697.40	8.00	1671666.97	3231067.03	39.674658	-104.679101
	8000.00	55.81	91.65	7826.13	-609.39	-284.15	-618.91	8.00	1671665.09	3231145.55	39.674651	-104.678822
	8100.00	63.80	91.24	7876.38	-523.03	-286.31	-532.57	8.00	1671663.71	3231231.90	39.674645	-104.678515
	8200.00	71.80	90.87	7914.13	-430.52	-288.01	-440.07	8.00	1671662.86	3231324.40	39.674640	-104.678186
	8300.00	79.79	90.54	7938.65	-333.68	-289.20	-343.22	8.00	1671662.54	3231421.27	39.674637	-104.677842
	8400.00	87.78	90.23	7949.46	-234.38	-289.87	-243.89	8.00	1671662.78	3231520.60	39.674635	-104.677489
TPZ Point, Hold to TD	8427.71	90.00	90.14	7950.00	-206.69	-289.96	-216.18	8.00	1671662.94	3231548.30	39.674635	-104.677391
	8500.00	90.00	90.14	7950.00	-134.43	-290.14	-143.89	0.00	1671663.41	3231620.59	39.674635	-104.677134
	8600.00	90.00	90.14	7950.00	-34.47	-290.38	-43.89	0.00	1671664.07	3231720.58	39.674634	-104.676779
	8700.00	90.00	90.14	7950.00	65.48	-290.63	56.11	0.00	1671664.73	3231820.58	39.674633	-104.676424
	8800.00	90.00	90.14	7950.00	165.44	-290.88	156.11	0.00	1671665.38	3231920.57	39.674632	-104.676068
	8900.00	90.00	90.14	7950.00	265.39	-291.13	256.11	0.00	1671666.04	3232020.57	39.674632	-104.675713
	9000.00	90.00	90.14	7950.00	365.35	-291.38	356.11	0.00	1671666.70	3232120.57	39.674631	-104.675358
	9100.00	90.00	90.14	7950.00	465.30	-291.63	456.11	0.00	1671667.36	3232220.56	39.674630	-104.675003
	9200.00	90.00	90.14	7950.00	565.26	-291.88	556.11	0.00	1671668.01	3232320.56	39.674630	-104.674647
	9300.00	90.00	90.14	7950.00	665.21	-292.13	656.10	0.00	1671668.67	3232420.56	39.674629	-104.674292
	9400.00	90.00	90.14	7950.00	765.17	-292.38	756.10	0.00	1671669.33	3232520.55	39.674628	-104.673937
	9500.00	90.00	90.14	7950.00	865.12	-292.63	856.10	0.00	1671669.99	3232620.55	39.674628	-104.673582
	9600.00	90.00	90.14	7950.00	965.08	-292.87	956.10	0.00	1671670.64	3232720.54	39.674627	-104.673226
	9700.00	90.00	90.14	7950.00	1065.04	-293.12	1056.10	0.00	1671671.30	3232820.54	39.674626	-104.672871
	9800.00	90.00	90.14	7950.00	1164.99	-293.37	1156.10	0.00	1671671.96	3232920.54	39.674626	-104.672516
	9900.00	90.00	90.14	7950.00	1264.95	-293.62	1256.10	0.00	1671672.61	3233020.53	39.674625	-104.672161
	10000.00	90.00	90.14	7950.00	1364.90	-293.87	1356.10	0.00	1671673.27	3233120.53	39.674624	-104.671805
	10100.00	90.00	90.14	7950.00	1464.86	-294.12	1456.10	0.00	1671673.93	3233220.53	39.674623	-104.671450
	10200.00	90.00	90.14	7950.00	1564.81	-294.37	1556.10	0.00	1671674.59	3233320.52	39.674623	-104.671095
	10300.00	90.00	90.14	7950.00	1664.77	-294.62	1656.10	0.00	1671675.24	3233420.52	39.674622	-104.670740
	10400.00	90.00	90.14	7950.00	1764.72	-294.87	1756.10	0.00	1671675.90	3233520.51	39.674621	-104.670384
	10500.00	90.00	90.14	7950.00	1864.68	-295.12	1856.10	0.00	1671676.56	3233620.51	39.674621	-104.670029
	10600.00	90.00	90.14	7950.00	1964.63	-295.36	1956.10	0.00	1671677.22	3233720.51	39.674620	-104.669674
	10700.00	90.00	90.14	7950.00	2064.59	-295.61	2056.10	0.00	1671677.87	3233820.50	39.674619	-104.669319
	10800.00	90.00	90.14	7950.00	2164.54	-295.86	2156.10	0.00	1671678.53	3233920.50	39.674619	-104.668963
	10900.00	90.00	90.14	7950.00	2264.50	-296.11	2256.10	0.00	1671679.19	3234020.50	39.674618	-104.668608
	11000.00	90.00	90.14	7950.00	2364.46	-296.36	2356.10	0.00	1671679.85	3234120.49	39.674617	-104.668253
	11100.00	90.00	90.14	7950.00	2464.41	-296.61	2456.10	0.00	1671680.50	3234220.49	39.674616	-104.667898
	11200.00	90.00	90.14	7950.00	2564.37	-296.86	2556.10	0.00	1671681.16	3234320.48	39.674616	-104.667542
	11300.00	90.00	90.14	7950.00	2664.32	-297.11	2656.10	0.00	1671681.82	3234420.48	39.674615	-104.667187
	11400.00	90.00	90.14	7950.00	2764.28	-297.36	2756.10	0.00	1671682.47	3234520.48	39.674614	-104.666832
	11500.00	90.00	90.14	7950.00	2864.23	-297.61	2856.10	0.00	1671683.13	3234620.47	39.674614	-104.666477
	11600.00	90.00	90.14	7950.00	2964.19	-297.85	2956.10	0.00	1671683.79	3234720.47	39.674613	-104.666121
	11700.00	90.00	90.14	7950.00	3064.14	-298.10	3056.10	0.00	1671684.45	3234820.47	39.674612	-104.665766
	11800.00	90.00	90.14	7950.00	3164.10	-298.35	3156.10	0.00	1671685.10	3234920.46	39.674611	-104.665411
	11900.00	90.00	90.14	7950.00	3264.05	-298.60	3256.10	0.00	1671685.76	3235020.46	39.674611	-104.665056
	12000.00	90.00	90.14	7950.00	3364.01	-298.85	3356.10	0.00	1671686.42	3235120.45	39.674610	-104.664700
	12100.00	90.00	90.14	7950.00	3463.96	-299.10	3456.10	0.00	1671687.08	3235220.45	39.674609	-104.664345
	12200.00	90.00	90.14	7950.00	3563.92	-299.35	3556.10	0.00	1671687.73	3235320.45	39.674609	-104.663990
	12300.00	90.00	90.14	7950.00	3663.88	-299.60	3656.10	0.00	1671688.39	3235420.44	39.674608	-104.663635
	12400.00	90.00	90.14	7950.00	3763.83	-299.85	3756.10	0.00	1671689.05	3235520.44	39.674607	-104.663279
	12500.00	90.00	90.14	7950.00	3863.79	-300.10	3856.09	0.00	1671689.70	3235620.44	39.674606	-104.662924
	12600.00	90.00	90.14	7950.00	3963.74	-300.34	3956.09	0.00	1671690.36	3235720.43	39.674606	-104.662569
	12700.00	90.00	90.14	7950.00	4063.70	-300.59	4056.09	0.00	1671691.02	3235820.43	39.674605	-104.662214
	12800.00	90.00	90.14	7950.00	4163.65	-300.84	4156.09	0.00	1671691.68	3235920.42	39.674604	-104.661858
	12900.00	90.00	90.14	7950.00	4263.61	-301.09	4256.09	0.00	1671692.33	3236020.42	39.674603	-104.661503
	13000.00	90.00	90.14	7950.00	4363.56	-301.34	4356.09	0.00	1671692.99	3236120.42	39.674603	-104.661148
	13100.00	90.00	90.14	7950.00	4463.52	-301.59	4456.09	0.00	1671693.65	3236220.41	39.674602	-104.660793
	13200.00	90.00	90.14	7950.00	4563.47	-301.84	4556.09	0.00	1671694.31	3236320.41	39.674601	-104.660437
	13300.00	90.00	90.14	7950.00	4663.43	-302.09	4656.09	0.00	1671694.96	3236420.41	39.674601	-104.660082
	13400.00	90.00	90.14	7950.00	4763.38	-302.34	4756.09	0.00	1671695.62	3236520.40	39.674600	-104.659727
	13500.00	90.00	90.14	7950.00	4863.34	-302.59	4856.09	0.00	1671696.28	3236620.40	39.674599	-104.659372
	13600.00	90.00	90.14	7950.00	4963.30	-302.83	4956.09	0.00	1671696.94	3236720.39	39.674598	-104.659016
	13700.00	90.00	90.14	7950.00	5063.25	-303.08	5056.09	0.00	1671697.59	3236820.39	39.674598	-104.658661
	13800.00	90.00	90.14	7950.00	5163.21	-303.33	5156.09	0.00	1671698.25	3236920.39	39.674597	-104.658306
	13900.00	90.00	90.14	7950.00	5263.16	-303.58	5256.09	0.00	1671698.91	3237020.38	39.674596	-104.657951
	14000.00	90.00	90.14	7950.00	5363.12	-303.83	5356.09	0.00	1671699.56	3237120.38	39.674595	-104.657595
	14100.00	90.00	90.14	7950.00	5463.07	-304.08	5456.09	0.00	1671700.22	3237220.38	39.674595	-104.657240
	14200.00	90.00	90.14	7950.00	5563.03	-304.33	5556.09	0.00	1671700.88	3237320.37	39.674594	-104.656885
	14300.00	90.00	90.14	7950.00	5662.98	-304.58	5656.09	0.00	1671701.54	3237420.37	39.674593	-104.656530
	14400.00	90.00	90.14	7950.00	5762.94	-304.83	5756.09	0.00	1671702.19	3237520.36	39.674592	-104.656174
	14500.00	90.00	90.14	7950.00	5862.89	-305.08	5856.09	0.00	1671702.85	3237620.36	39.674592	-104.655819
	14600.00	90.00	90.14	7950.00	5962.85	-305.32	5956.09	0.00	1671703.51	3237720.36	39.674591	-104.655464
	14700.00	90.00	90.14	7950.00	6062.80	-305.57	6056.09	0.00	1671704.17	3237820.35	39.674590	-104.655109
	14800.00	90.00	90.14	7950.00	6162.76	-305.82	6156.09	0.00	1671704.82	3237920.35	39.674589	-104.654753
	14900.00	90.00	90.14	7950.00	6262.72	-306.07	6256.09	0.00	1671705.48	3238020.35	39.674588	-104.654398
	15000.00	90.00	90.14									

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	18000.00	90.00	90.14	7950.00	9361.33	-313.79	9356.08	0.00	1671725.86	3241120.23	39.674565	-104.643385
	18100.00	90.00	90.14	7950.00	9461.29	-314.04	9456.08	0.00	1671726.51	3241220.23	39.674564	-104.643030
	18200.00	90.00	90.14	7950.00	9561.24	-314.29	9556.08	0.00	1671727.17	3241320.22	39.674563	-104.642675
	18300.00	90.00	90.14	7950.00	9661.20	-314.54	9656.08	0.00	1671727.83	3241420.22	39.674563	-104.642319
Cottonwood Creek 4-65 28- 27 3AH BHL	18364.86	90.00	90.14	7950.00	9726.03	-314.70	9720.94	0.00	1671728.26	3241485.08	39.674562	-104.642089

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	28.000	1/100.000	13.500	9.625		NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Hole / Cottonwood Creek 4-65 28-27 3AH Plan #0
	1	28.000	2000.000	1/100.000	13.500	9.625		NAL_MWD_PLUS_0.5_DEG	Original Hole / Cottonwood Creek 4-65 28-27 3AH Plan #0
	1	2000.000	18364.864	1/100.000	8.500	5.500		NAL_MWD_PLUS_0.5_DEG	Original Hole / Cottonwood Creek 4-65 28-27 3AH Plan #0

Cottonwood Creek 4-65 28-27 3AH Plan #0 Anti-Collision Summary Report

Analysis Date-24hr Time: June 23, 2020 - 14:37
Client: Crestone Peak Resources
Field: CO, Arapahoe County (NAD 83 CZ)
Structure: Crestone Peak 28-04S-65W (Rush North Pad)
Slot: Cottonwood Creek 4-65 28-27 3AH
Well: Cottonwood Creek 4-65 28-27 3AH
Borehole: Original Hole
Scan MD Range: 0.00ft - 18364.86ft

Analysis Method: 3D Least Distance
Reference Trajectory: Cottonwood Creek 4-65 28-27 3AH 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: 2.10.810.1
Database \ Project: localhost\drilling-Colorado

Trajectory Error Model: ICSWSA0 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														
Rush 4-65 29-30 2CH Plan #0 (Def Plan)														
	24.93	20.12	23.95	4.81	N/A	MAS = 6.13 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	Warning Alert	
	24.91	20.12	23.93	4.79	N/A	MAS = 6.13 (m)	28.00	28.00				WRP		
	24.91	20.12	22.76	4.79	20.53	MAS = 6.13 (m)	250.00	250.00				MinPts		
	24.96	20.12	22.72	4.84	19.12	MAS = 6.13 (m)	270.00	270.00				MINPT-O-EOU		
	31.87	20.12	28.72	11.75	14.25	MAS = 6.13 (m)	480.00	479.75	CtCt<=15m>15.00			MinPt-O-SF		
	48.76	20.12	44.71	28.64	15.58	MAS = 6.13 (m)	660.00	658.60				Exit Alert		
	841.35	54.27	804.84	787.08	23.66	OSF1.50	7204.27	7136.28				MinPt-O-SF		
	848.08	54.72	811.27	793.36	23.65	OSF1.50	7300.00	7231.63				MinPt-O-SF		
	847.23	55.09	810.18	792.14	23.46	OSF1.50	7340.00	7271.59				MinPt-O-SF		
	592.23	57.09	553.84	535.14	15.81	OSF1.50	8000.00	7826.13				MinPts		
	592.25	57.10	553.86	535.15	15.81	OSF1.50	8010.00	7831.69				MinPt-O-SF		
	10045.80	63.12	10003.39	9982.67	242.47	OSF1.50	18364.86	7950.00				TD		
Cottonwood Creek 4-65 28-27 2AH Plan #0 (Def Plan)														
	49.99	32.81	49.00	17.18	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Warning Alert	
	49.95	32.81	48.96	17.14	N/A	MAS = 10.00 (m)	28.00	28.00				WRP		
	49.95	32.81	47.80	17.14	42.12	MAS = 10.00 (m)	250.00	250.00				MinPts		
	49.99	32.81	47.77	17.18	39.73	MAS = 10.00 (m)	270.00	270.00				MINPT-O-EOU		
	180.45	32.81	167.70	147.64	15.25	MAS = 10.00 (m)	2000.00	1984.97				MinPt-O-SF		
	631.07	56.62	593.00	574.45	16.99	OSF1.50	7160.00	7092.46				MinPt-O-SF		
	1255.63	377.57	1003.59	878.06	5.00	OSF1.50	15200.00	7950.00	OSF<5.00			Enter Alert		
	1261.75	541.21	900.62	720.54	3.50	OSF1.50	18364.86	7950.00					MinPts	
Cottonwood Creek 4-65 28-27 1CH Plan #0 (Def Plan)														
	99.98	32.81	98.99	67.17	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Warning Alert	
	99.90	32.81	98.91	67.09	N/A	MAS = 10.00 (m)	28.00	28.00				WRP		
	99.90	32.81	97.76	67.09	85.54	MAS = 10.00 (m)	250.00	250.00				MinPts		
	99.91	32.81	97.73	67.10	82.59	MAS = 10.00 (m)	260.00	260.00				MINPT-O-EOU		
	369.85	32.81	356.72	337.04	30.38	MAS = 10.00 (m)	2000.00	1984.97				MinPt-O-SF		
	1350.12	58.59	1310.73	1291.53	35.13	OSF1.50	7204.27	7136.28	OSF<5.00			MinPt-O-SF		
	1799.30	540.73	1438.49	1258.57	5.00	OSF1.50	18310.00	7950.00				Enter Alert		
	1799.48	543.57	1436.77	1255.91	4.97	OSF1.50	18364.86	7950.00					MinPts	
Cottonwood Creek 4-65 27 1H ST1 7234' to 12126' - PR (Def Survey)														
	5164.18	32.81	5162.32	5131.38	101129.86	MAS = 10.00 (m)	0.00	0.00				Surface	Warning Alert	
	5164.18	32.81	5162.25	5131.37	45326.63	MAS = 10.00 (m)	28.00	28.00				WRP		
	5164.17	32.81	5162.13	5131.36	22728.25	MAS = 10.00 (m)	60.00	60.00				MinPts		
	5164.26	32.81	5161.19	5131.46	4078.97	MAS = 10.00 (m)	260.00	260.00				MINPT-O-EOU		
	6091.94	41.98	6063.42	6049.96	226.24	OSF1.50	7270.00	7201.67	OSF<5.00			MinPt-O-SF		
	669.07	203.88	532.10	465.19	4.98	OSF1.50	13780.00	7950.00				Enter Alert		
	636.73	221.55	488.46	415.18	4.33	OSF1.50	14020.00	7950.00				MinPt-CtCt		
	637.20	222.87	488.09	414.33	4.31	OSF1.50	14050.00	7950.00				MINPT-O-EOU		
	637.56	223.29	488.16	414.26	4.30	OSF1.50	14060.00	7950.00				MinPt-O-ADP		
	643.47	229.56	489.89	413.90	4.22	OSF1.50	14160.00	7950.00				MINPT-O-EOU		
	649.92	242.01	488.05	407.92	4.05	OSF1.50	14430.00	7950.00				MINPT-O-EOU		
	667.33	262.96	491.49	404.37	3.82	OSF1.50	14860.00	7950.00				MinPt-O-ADP		
	698.71	330.00	478.17	368.70	3.18	OSF1.50	16020.00	7950.00				MINPT-O-EOU		
	717.53	478.54	397.96	238.99	2.25	OSF1.50	18200.00	7950.00				MinPt-CtCt		
	717.64	478.75	397.94	238.89	2.25	OSF1.50	18210.00	7950.00				MinPts		
	736.90	470.74	422.54	266.16	2.35	OSF1.50	18364.86	7950.00				TD		
Cottonwood Creek 4-65 27 1H Pilot 0' to 8261' - PR (Def Survey)														
	5164.18	32.81	5162.32	5131.38	101129.86	MAS = 10.00 (m)	0.00	0.00				Surface	Warning Alert	
	5164.18	32.81	5162.25	5131.37	45326.63	MAS = 10.00 (m)	28.00	28.00				WRP		
	5164.17	32.81	5162.13	5131.36	22728.25	MAS = 10.00 (m)	60.00	60.00				MinPts		
	5164.26	32.81	5161.19	5131.46	4078.97	MAS = 10.00 (m)	260.00	260.00				MINPT-O-EOU		
	6092.91	42.03	6064.36	6050.89	226.03	OSF1.50	7300.00	7231.63	OSF<5.00			MinPt-O-SF		
	706.22	214.02	562.81	492.19	4.98	OSF1.50	13690.00	7950.00				Enter Alert		
	702.70	216.86	557.59	485.83	4.89	OSF1.50	13760.00	7950.00				MinPt-CtCt		
	702.76	217.18	557.44	485.58	4.88	OSF1.50	13770.00	7950.00				MINPT-O-EOU		
	702.97	217.46	557.46	485.51	4.87	OSF1.50	13780.00	7950.00				MinPt-O-ADP		
	703.81	217.89	558.02	485.92	4.87	OSF1.50	13800.00	7950.00				MinPt-O-SF		
	718.43	217.25	573.06	501.18	4.99	OSF1.50	13910.00	7950.00	OSF>5.00			Exit Alert		
	4657.62	69.33	4610.86	4588.28	103.12	OSF1.50	18364.86	7950.00					TD	
Cottonwood Creek 4-65 27-28 3CH MWD 0' to 18345' - PR (Def Survey)														
	7981.92	247.64	7816.23	7734.29	48.69	OSF1.50	0.00	0.00				Surface	Warning Alert	
	7954.17	247.86	7788.33	7706.31	48.48	OSF1.50	28.00	28.00				WRP		
	1444.09	437.80	1150.27	1006.29	4.99	OSF1.50	7000.00	6934.09	OSF<5.00			Enter Alert		
	758.76	723.03	275.37	35.73	1.57	OSF1.50	8440.00	7950.00					MinPts	
	758.72	722.92	275.44	35.79	1.57	OSF1.50	8450.00	7950.00					MinPt-CtCt	

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		
	750.96	625.73	332.25	125.23	1.80	OSF1.50	9830.00	7950.00				MinPt-O-SF	
	738.93	615.12	327.31	123.82	1.80	OSF1.50	10000.00	7950.00				MinPt-O-SF	
	735.17	611.96	325.67	123.21	1.80	OSF1.50	10060.00	7950.00				MinPt-O-SF	
	733.03	610.02	324.85	123.01	1.80	OSF1.50	10100.00	7950.00				MinPt-O-ADP	
	730.12	606.66	324.28	123.53	1.81	OSF1.50	10170.00	7950.00				MINPT-O-EQU	
	728.11	600.59	326.37	127.52	1.82	OSF1.50	10290.00	7950.00				MinPt-CiCt	
	761.41	531.71	405.44	229.70	2.15	OSF1.50	11360.00	7950.00				MINPT-O-EQU	
	737.10	515.17	392.18	221.93	2.15	OSF1.50	11660.00	7950.00				MinPts	
	734.91	512.42	391.87	222.50	2.16	OSF1.50	11720.00	7950.00				MINPT-O-EQU	
	731.14	504.24	393.56	226.90	2.18	OSF1.50	11870.00	7950.00				MINPT-O-EQU	
	730.35	501.92	394.39	228.43	2.19	OSF1.50	11930.00	7950.00				MinPt-CiCt	
	767.91	454.39	463.65	313.51	2.54	OSF1.50	12830.00	7950.00				MinPt-CiCt	
	739.32	419.79	458.02	319.53	2.65	OSF1.50	13560.00	7950.00				MinPt-O-SF	
	738.78	419.37	457.79	319.40	2.65	OSF1.50	13580.00	7950.00				MinPt-O-ADP	
	738.58	419.15	457.76	319.43	2.65	OSF1.50	13590.00	7950.00				MINPT-O-EQU	
	738.27	418.18	458.15	320.09	2.66	OSF1.50	13630.00	7950.00				MinPt-CiCt	
	775.86	370.43	527.53	405.43	3.16	OSF1.50	15060.00	7950.00				MinPt-O-ADP	
	775.30	369.87	527.35	405.42	3.16	OSF1.50	15090.00	7950.00				MinPt-O-ADP	
	774.86	369.36	527.27	405.50	3.17	OSF1.50	15120.00	7950.00				MINPT-O-EQU	
	774.29	366.66	528.45	407.54	3.19	OSF1.50	15270.00	7950.00				MinPt-CiCt	
	785.58	355.31	547.31	430.26	3.34	OSF1.50	16200.00	7950.00				MinPt-O-SF	
	745.06	358.51	504.73	386.55	3.14	OSF1.50	17010.00	7950.00				MinPt-CiCt	
	745.12	358.78	504.64	386.34	3.13	OSF1.50	17030.00	7950.00				MINPT-O-EQU	
	745.21	358.90	504.66	386.31	3.13	OSF1.50	17040.00	7950.00				MinPt-O-ADP	
	746.01	359.36	505.21	386.65	3.13	OSF1.50	17080.00	7950.00				MinPt-O-SF	
	746.35	375.29	494.84	371.06	3.00	OSF1.50	17950.00	7950.00				MinPt-CiCt	
	746.45	375.77	494.66	370.68	2.99	OSF1.50	17970.00	7950.00				MINPT-O-EQU	
	746.79	376.19	494.76	370.61	2.99	OSF1.50	17990.00	7950.00				MinPt-O-ADP	
	747.38	376.55	495.14	370.83	2.99	OSF1.50	18010.00	7950.00				MinPt-O-SF	
	779.43	382.22	523.73	397.21	3.07	OSF1.50	18364.86	7950.00				TD	

Cottonwood Creek 4-65 27-28
3DH MWD 0' to 17955' - PR
(Def Survey)

Warning Alert

8109.73	249.75	7942.63	7859.98	49.05	OSF1.50	0.00	0.00
8082.14	250.02	7914.86	7832.12	48.83	OSF1.50	28.00	28.00
1603.01	489.20	1274.18	1113.82	4.97	OSF1.50	7580.00	7504.55
1078.72	696.48	613.14	382.24	2.33	OSF1.50	8810.00	7950.00
1078.00	692.89	614.86	385.10	2.34	OSF1.50	8880.00	7950.00
1101.19	615.66	689.38	485.53	2.69	OSF1.50	9980.00	7950.00
1086.93	597.97	686.98	488.96	2.73	OSF1.50	10290.00	7950.00
1083.98	588.43	680.49	485.55	2.77	OSF1.50	10480.00	7950.00
1064.73	528.18	711.27	536.55	3.04	OSF1.50	11430.00	7950.00
1063.75	527.48	710.81	536.27	3.04	OSF1.50	11460.00	7950.00
1063.51	527.23	710.75	536.29	3.04	OSF1.50	11470.00	7950.00
1041.23	503.79	703.93	537.45	3.11	OSF1.50	11810.00	7950.00
1035.03	500.15	700.21	534.88	3.12	OSF1.50	11910.00	7950.00
984.12	462.68	674.32	521.44	3.21	OSF1.50	12650.00	7950.00
983.22	462.05	673.87	521.17	3.21	OSF1.50	12680.00	7950.00
982.82	461.59	673.80	521.23	3.21	OSF1.50	12700.00	7950.00
982.46	460.12	674.47	522.34	3.22	OSF1.50	12750.00	7950.00
1092.15	412.34	815.99	679.81	4.00	OSF1.50	13780.00	7950.00
1091.78	411.89	815.93	679.89	4.00	OSF1.50	13800.00	7950.00
1091.17	408.13	817.88	683.04	4.03	OSF1.50	13920.00	7950.00
1088.57	390.70	826.90	697.87	4.20	OSF1.50	14420.00	7950.00
1084.86	376.21	832.79	708.65	4.35	OSF1.50	14900.00	7950.00
1084.44	375.95	832.58	708.50	4.35	OSF1.50	14930.00	7950.00
1084.36	375.85	832.58	708.51	4.36	OSF1.50	14940.00	7950.00
1084.31	375.65	832.67	708.66	4.36	OSF1.50	14960.00	7950.00
1086.22	358.39	846.09	727.83	4.58	OSF1.50	16560.00	7950.00
1086.23	358.50	846.04	727.73	4.58	OSF1.50	16580.00	7950.00
1085.89	358.55	845.62	727.34	4.57	OSF1.50	16680.00	7950.00
1043.33	369.04	796.09	674.29	4.27	OSF1.50	17500.00	7950.00
1043.67	370.07	795.78	673.60	4.26	OSF1.50	17550.00	7950.00
1044.00	370.47	795.86	673.53	4.25	OSF1.50	17570.00	7950.00
1048.31	372.69	798.80	675.62	4.24	OSF1.50	17690.00	7950.00
1082.11	384.28	824.91	697.83	4.25	OSF1.50	18170.00	7950.00
1100.84	386.89	842.14	713.95	4.28	OSF1.50	18364.86	7950.00

Chico 4-65 26-25 2BH MWD 0'
to 17932' - PR (Def Survey)

Warning Alert

10581.52	32.81	10579.65	10548.71	186108.29	MAS = 10.00 (m)	0.00	0.00
10581.78	32.81	10579.89	10548.98	125015.94	MAS = 10.00 (m)	28.00	28.00
10817.90	32.81	10807.75	10785.09	1266.39	MAS = 10.00 (m)	2100.00	2083.95
10835.57	32.81	10825.45	10802.77	1271.84	MAS = 10.00 (m)	2230.00	2212.63
10938.95	34.73	10915.26	10904.22	495.22	OSF1.50	5670.00	5617.63
10939.03	34.97	10915.19	10904.07	491.73	OSF1.50	5710.00	5657.22
10939.13	35.09	10915.20	10904.04	490.00	OSF1.50	5730.00	5677.01
11041.57	43.96	11011.73	10997.61	390.95	OSF1.50	7204.27	7136.28
11048.33	43.97	11018.48	11004.36	391.08	OSF1.50	7300.00	7231.63
1050.22	322.00	833.45	728.22	4.96	OSF1.50	18330.00	7950.00
1033.84	327.51	813.47	706.32	4.80	OSF1.50	18364.86	7950.00

Cottonwood Creek 4-65 27-28
4AH MWD 0' to 18257' - PR
(Def Survey)

Warning Alert

8100.79	270.83	7919.63	7829.96	45.16	OSF1.50	0.00	0.00
8073.44	271.20	7892.03	7802.24	44.94	OSF1.50	28.00	28.00
1908.57	576.21	1522.85	1332.36	5.00	OSF1.50	6950.00	6884.60
1416.15	729.15	928.99	687.01	2.92	OSF1.50	8420.00	7949.96
1416.13	729.09	929.02	687.04	2.92	OSF1.50	8427.71	7950.00
1410.09	665.01	965.40	745.08	3.19	OSF1.50	9210.00	7950.00
1401.29	660.56	959.62	740.74	3.19	OSF1.50	9310.00	7950.00
1389.44	653.05	952.91	736.39	3.20	OSF1.50	9510.00	7950.00
1388.55	651.95	952.77	736.59	3.20	OSF1.50	9540.00	7950.00
1387.41	648.43	954.07	738.98	3.22	OSF1.50	9630.00	7950.00
1418.03	576.06	1032.83	841.97	3.71	OSF1.50	10700.00	7950.00
1416.48	574.20	1032.55	842.28	3.71	OSF1.50	10750.00	7950.00
1415.08	569.03	1034.68	846.06	3.74	OSF1.50	10870.00	7950.00
1416.13	547.22	1050.27	868.91	3.90	OSF1.50	11230.00	7950.00
1414.65	492.06	1085.41	922.59	4.33	OSF1.50	12110.00	7950.00
1410.38	487.72	1084.05	922.67	4.36	OSF1.50	12200.00	7950.00
1400.02	474.48	1082.55	925.53	4.45	OSF1.50	12480.00	7950.00
1399.21	473.34	1082.53	925.88	4.46	OSF1.50	12510.00	7950.00
1397.55	468.19	1084.37	929.36	4.50	OSF1.50	12650.00	7950.00

Cottonwood Creek 4-65 27-28
 4BH MWD 0' to 18288' - PR
 (Def Survey)

Rush 4-65 29-30 2AH Plan #0 (Def Plan)	Pass
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Rush 4-65 29-30 1CH Plan #0 (Def Plan)	Pass
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Cottonwood Creek 4-65 28-27
1AH Plan #0 (Def Plan) Pass

Rush 4-65 29-30 1AH Plan #0 (Def Plan)	Pass
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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		
	607.44	32.81	594.40	574.63	50.28	MAS = 10.00 (m)	2000.00	1984.97				MinPt-O-SF	
	2238.74	58.93	2198.13	2179.81	57.93	OSF1.50	7204.27	7136.28				MinPt-O-SF	
	2696.04	81.40	2614.45	2614.65	50.27	OSF1.50	9660.00	7950.00				MinPt-O-SF	
	10250.76	104.66	10180.66	10146.11	148.30	OSF1.50	18364.86	7950.00				TD	
Rush 4-65 29-30 3AH MWD 0' to 15645' - PR (Def Survey)													
	1356.26	32.81	1354.29	1323.45	8765.40	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1355.62	32.81	1353.36	1322.81	3005.93	MAS = 10.00 (m)	28.00	28.00				WRP	
	1228.11	32.81	1213.06	1195.30	91.34	MAS = 10.00 (m)	2970.00	2945.10				MinPt-O-SF	
	562.67	47.61	530.32	515.06	18.38	OSF1.50	7380.00	7311.42				MinPt-O-SF	
	192.99	50.42	158.36	142.57	6.01	OSF1.50	7930.00	7784.04				MinPts	
	7674.09	53.31	7638.02	7620.79	222.60	OSF1.50	15840.00	7950.00				MinPt-O-SF	
	10188.74	55.17	10151.43	10133.57	285.29	OSF1.50	18364.86	7950.00				TD	
Chico 4-65 26-25 3AH MWD 0' to 17900' - PR (Def Survey)													
	10578.72	32.81	10576.80	10545.91	99409.68	MAS = 10.00 (m)	0.00	0.00				MinPts	Pass
	10578.90	32.81	10576.91	10546.09	60719.30	MAS = 10.00 (m)	28.00	28.00				WRP	
	10822.20	32.81	10811.91	10789.39	1246.12	MAS = 10.00 (m)	2150.00	2133.44				MinPt-O-SF	
	10846.77	32.81	10836.44	10813.96	1241.94	MAS = 10.00 (m)	2330.00	2311.61				MinPt-O-SF	
	10960.70	37.55	10935.14	10923.15	457.34	OSF1.50	5680.00	5637.42				MinPt-CtCt	
	10960.79	37.77	10935.07	10923.02	454.58	OSF1.50	5730.00	5677.01				MINPT-O-EOU	
	10960.88	37.88	10935.10	10923.01	453.21	OSF1.50	5750.00	5696.81				MinPt-O-ADP	
	11061.76	46.09	11030.50	11015.68	372.97	OSF1.50	7204.27	7136.28				MinPt-O-SF	
	660.51	140.64	563.30	519.88	7.49	OSF1.50	18364.86	7950.00				MinPts	
Chico 4-65 26-25 2DH MWD 0' to 17975' - PR (Def Survey)													
	10579.23	32.81	10577.26	10546.42	68896.95	MAS = 10.00 (m)	0.00	0.00				MinPt-O-SF	Pass
	10579.17	32.81	10577.22	10546.36	77501.59	MAS = 10.00 (m)	28.00	28.00				WRP	
	10579.07	32.81	10576.75	10546.26	21111.79	MAS = 10.00 (m)	170.00	170.00				MinPts	
	10579.11	32.81	10576.36	10546.30	11345.97	MAS = 10.00 (m)	260.00	260.00				MINPT-O-EOU	
	10931.98	35.27	10907.93	10896.71	486.97	OSF1.50	5730.00	5677.01				MinPt-CtCt	
	10932.08	35.57	10907.84	10896.52	482.78	OSF1.50	5780.00	5726.51				MINPT-O-EOU	
	10932.19	35.68	10907.87	10896.51	481.12	OSF1.50	5800.00	5746.30				MinPt-O-ADP	
	11027.49	44.08	10997.57	10983.41	389.33	OSF1.50	7204.27	7136.28				MinPt-O-SF	
	664.60	203.17	525.81	461.43	5.09	OSF1.50	18364.86	7950.00				MinPts	
Rush 4-65 29-30 3CH Plan #0 (Def Plan)													
	1571.05	32.81	1570.04	1538.25	60403.17	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1571.05	32.81	1569.98	1538.25	17801.44	MAS = 10.00 (m)	28.00	28.00				WRP	
	1102.27	56.40	1064.31	1045.87	29.85	OSF1.50	7220.00	7151.88				MinPt-O-SF	
	843.48	57.68	804.44	785.80	22.58	OSF1.50	7920.00	7777.58				MinPt-O-SF	
	841.62	57.41	802.75	784.20	22.64	OSF1.50	7970.00	7808.76				MinPt-O-ADP	
	841.57	57.35	802.75	784.22	22.66	OSF1.50	7980.00	7814.66				MinPts	
	10082.51	69.80	10035.64	10012.70	219.74	OSF1.50	18364.86	7950.00				TD	
Chico 4-65 26-25 2CH MWD 0' to 17734' - PR (Def Survey)													
	10579.97	32.81	10577.87	10547.16	37042.49	MAS = 10.00 (m)	0.00	0.00				MinPts	Pass
	10580.01	32.81	10577.80	10547.20	26764.95	MAS = 10.00 (m)	28.00	28.00				WRP	
	10580.46	32.81	10577.45	10547.65	8873.68	MAS = 10.00 (m)	240.00	240.00				MINPT-O-EOU	
	10580.48	32.81	10577.47	10547.67	8843.37	MAS = 10.00 (m)	250.00	250.00				MinPt-O-SF	
	10824.43	32.81	10814.22	10791.62	1258.01	MAS = 10.00 (m)	2230.00	2212.63				MinPt-O-SF	
	11030.51	32.81	11008.72	10997.70	546.38	MAS = 10.00 (m)	5570.00	5518.64				MinPts	
	11030.62	32.81	11008.62	10997.82	540.77	MAS = 10.00 (m)	5620.00	5568.13				MINPT-O-EOU	
	11144.67	42.28	11115.95	11102.39	410.97	OSF1.50	7204.27	7136.28				MinPt-O-SF	
	11151.79	42.29	11123.06	11109.50	411.09	OSF1.50	7300.00	7231.63				MinPt-O-SF	
	921.04	255.06	748.08	665.97	5.56	OSF1.50	18364.86	7950.00				MinPts	
Little Rush 4-65 28 1V MWD 0' to 8693' - PR (Def Survey)													
	1395.55	32.81	1393.71	1362.74	49607.81	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1395.52	32.81	1393.62	1362.72	14846.16	MAS = 10.00 (m)	28.00	28.00				WRP	
	1305.40	32.81	1288.14	1272.59	83.30	MAS = 10.00 (m)	4690.00	4647.60				MinPts	
	1305.66	32.81	1287.72	1272.85	79.85	MAS = 10.00 (m)	4850.00	4805.97				MINPT-O-EOU	
	1396.33	41.98	1367.81	1354.35	51.82	OSF1.50	7204.27	7136.28				MinPt-O-SF	
	1128.76	44.49	1098.47	1084.27	39.66	OSF1.50	8570.00	7950.00				MinPt-CtCt	
	1128.86	44.82	1098.35	1084.04	39.36	OSF1.50	8590.00	7950.00				MinPts	
	1220.96	52.57	1185.37	1168.38	35.88	OSF1.50	9040.00	7950.00				MinPt-O-SF	
	9854.47	60.44	9813.64	9794.03	251.18	OSF1.50	18364.86	7950.00				TD	
Rush 4-65 29-30 4AH Plan #0 (Def Plan)													
	1620.82	32.81	1619.79	1588.01	38374.54	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1620.82	32.81	1619.73	1588.01	15513.11	MAS = 10.00 (m)	28.00	28.00				WRP	
	1573.00	32.81	1557.28	1540.19	106.70	MAS = 10.00 (m)	3730.00	3697.36				MinPts	
	1574.98	32.81	1555.51	1542.17	85.15	MAS = 10.00 (m)	4430.00	4390.24				MINPT-O-EOU	
	1491.76	56.37	1453.80	1435.39	40.46	OSF1.50	7790.00	7684.56				MinPt-O-SF	
	1490.05	56.31	1452.14	1433.74	40.47	OSF1.50	7810.00	7699.91				MinPt-O-SF	
	1485.16	55.84	1447.56	1429.32	40.68	OSF1.50	7930.00	7784.04				MinPts	
	1485.15	55.80	1447.58	1429.36	40.71	OSF1.50	7940.00	7790.38				MinPt-CtCt	
	1549.97	56.15	1512.22	1493.83	42.12	OSF1.50	8470.00	7950.00				MinPt-O-SF	
	1640.06	59.64	1599.98	1580.42	41.92	OSF1.50	8790.00	7950.00				MinPt-O-SF	
	1661.95	60.45	1621.32	1601.50	41.90	OSF1.50	8850.00	7950.00				MinPt-O-SF	
	10163.30	83.20	10107.51	10080.11	185.42	OSF1.50	18364.86	7950.00				TD	
Cottonwood Creek 4-65 28-27 4DH Plan #0 (Def Plan)													
	1596.12	32.81	1595.11	1563.31	65871.36	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1596.12	32.81	1595.04	1563.31	18457.53	MAS = 10.00 (m)	28.00	28.00				WRP	
	1596.12	32.81	1594.08	1563.31	1523.81	MAS = 10.00 (m)	210.00	210.00				MinPts	
	1596.18	32.81	1593.97	1563.37	1310.35	MAS = 10.00 (m)	250.00	250.00				MINPT-O-EOU	
	1592.51	32.81	1588.11	1559.70	466.33	MAS = 10.00 (m)	820.00	816.97				MinPts	
	1592.55	32.81	1588.08	1559.74	456.19	MAS = 10.00 (m)	840.00	836.77				MINPT-O-EOU	
	2195.73	56.88	2157.47	2138.84	58.89	OSF1.50	7300.00	7231.63				MinPt-O-SF	
	2257.33	544.74	1893.84	1712.59	6.22	OSF1.50	18364.86	7950.00				MinPts	
Rush 4-65 29-30 4CH Plan #0 (Def Plan)													
	1670.59	32.81	1669.55	1637.78	31444.33	MAS = 10.00 (m)	0.00	0.00				Surface	Pass

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		
1670.59	32.81	1669.49	1637.78	14480.14		MAS = 10.00 (m)	28.00	28.00					WRP
1670.59	32.81	1668.64	1637.78	1723.66		MAS = 10.00 (m)	190.00	190.00					MinPts
1670.60	32.81	1668.57	1637.80	1587.93		MAS = 10.00 (m)	210.00	210.00					MINPT-O-EOU
1671.27	32.81	1669.07	1638.46	1382.59		MAS = 10.00 (m)	280.00	280.00					MinPt-O-SF
2173.72	55.63	2136.30	2118.09	59.64		OSF1.50	7300.00	7231.63					MinPt-O-SF
2172.98	55.83	2135.43	2117.14	59.40		OSF1.50	7520.00	7448.15					MinPt-O-SF
2170.35	55.77	2132.85	2114.59	59.40		OSF1.50	7540.00	7467.14					MinPt-O-SF
2121.22	55.22	2084.08	2066.00	58.64		OSF1.50	7980.00	7814.66					MinPt-O-SF
2120.07	55.28	2082.91	2064.82	58.58		OSF1.50	8060.00	7857.73					MinPts
2523.40	75.36	2472.83	2448.04	50.87		OSF1.50	9620.00	7950.00					MinPt-O-SF
10266.67	100.28	10199.49	10166.39	155.07		OSF1.50	18364.86	7950.00					TD