



# Crestone Peak Resources

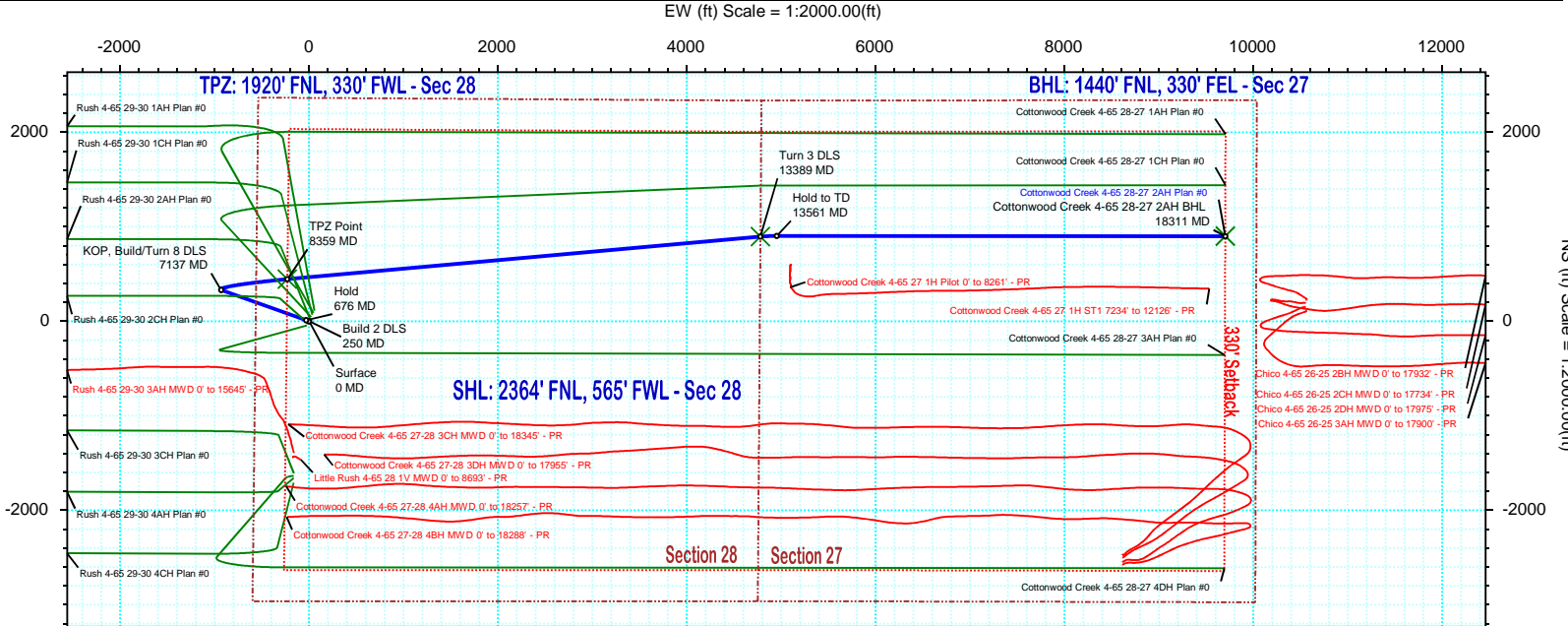
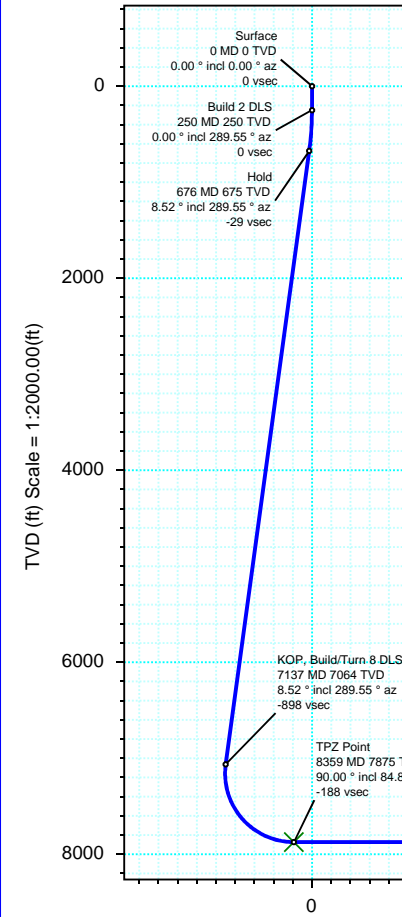
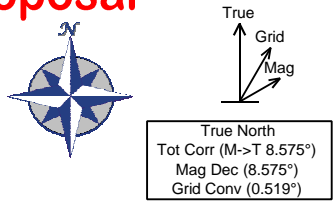


## Plan 0

<b>Borehole:</b> Original Hole	<b>Well:</b> Cottonwood Creek 4-65 28-27 2AH	<b>Field:</b> CO, Arapahoe County (NAD 83 CZ)	<b>Structure:</b> Crestone Peak 28-04S-65W (Rush North Pad)
-----------------------------------	---	--	--

<b>Gravity &amp; Magnetic Parameters</b>		<b>Surface Location</b> NAD83 Colorado State Plane, Central Zone, US Feet			<b>Miscellaneous</b>		
Model: HDGM 2020	Dip: 66.345°	Date: 22-Jun-2020	Lat: N 39 40 31.99	Northing: 1671999.48ftUS	Grid Conv: 0.5193°	Slot: Cottonwood Creek 4-65 28-27 2AH	TVD Ref: KB 28ft(5682ft above MSL)
MagDec: 8.575°	FS: 51550.448nT	Gravity FS: 998.915mgN (9.80665 Based)	Lon: W 104 40 35.55	Easting: 3231784.24ftUS	Scale Fact: 0.99998612	Plan: Cottonwood Creek 4-65 28-27 2AH Plan #0	

### Proposal



Target Description		Surface Location						
Target Name	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)/S(-)	E(+)/W(-)
Rush Pad Sec 28-27	N 39 40 32.87	W 104 40 34.97	1672088.77	3231829.03	5682.00	53.62	88.88	45.60
Rush Pad Sec 28-27 - 330' SB	N 39 40 32.87	W 104 40 34.97	1672088.77	3231829.03	5682.00	53.62	88.88	45.60
Cottonwood Creek 4-65 28-27 2AH TPZ	N 39 40 36.39	W 104 40 38.49	1672442.50	3231550.25	7875.00	-187.85	445.13	-229.97
Cottonwood Creek 4-65 28-27 2AH VP	N 39 40 40.84	W 104 39 34.42	1672938.20	3236555.86	7875.00	4842.31	895.45	4780.01
Cottonwood Creek 4-65 28-27 2AH BHL	N 39 40 40.87	W 104 38 31.47	1672987.85	3241477.41	7875.00	9743.58	900.49	9701.88

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	289.55	250.00	0.00	0.00	0.00	0.00
Hold	676.20	8.52	289.55	674.63	-28.71	10.59	-29.82	2.00
KOP, Build/Turn 8 DLS	7136.87	8.52	289.55	7063.93	-897.66	331.04	-932.25	0.00
TPZ Point	8358.62	90.00	84.86	7875.00	-187.85	445.13	-229.97	8.00
Turn 3 DLS	13388.80	90.00	84.86	7875.00	4842.31	895.45	4780.01	0.00
Hold to TD	13561.06	90.00	90.03	7875.00	5014.32	903.12	4952.05	3.00
Cottonwood Creek 4-65 28-27 2AH BHL	18310.90	90.00	90.03	7875.00	9743.58	900.49	9701.88	0.00

Vertical Section (ft) Azim = 84.70° Scale = 1:2000.00(ft) Origin = 0N/-S, 0E/-W

## Cottonwood Creek 4-65 28-27 2AH Plan #0 Proposal Geodetic Report

(Def Plan)

**Report Date:** June 23, 2020 - 02:17 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 2AH  
**Well:** Cottonwood Creek 4-65 28-27 2AH  
**Borehole:** Original Hole  
**UWI / API#:** Unknown / Unknown  
**Survey Name:** Cottonwood Creek 4-65 28-27 2AH Plan #0  
**Survey Date:** June 22, 2020  
**Tort / AHD / DDI / ERD Ratio:** 111.432 ° / 11672.174 ft / 6.481 / 1.482  
**Coordinate Reference System:** NAD83 Colorado State Plane, Central Zone, US Feet  
**Location Lat / Long:** N 39° 40' 31.99080", W 104° 40' 35.55120"  
**Location Grid N/E Y/X:** N 1671999.480 ftUS, E 3231784.237 ftUS  
**CRS Grid Convergence Angle:** 0.5193 °  
**Grid Scale Factor:** 0.99998612  
**Version / Patch:** 2.10.810.1

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 84.697 ° (True North)  
**Vertical Section Origin:** 0.000 ft, 0.000 ft  
**TVD Reference Datum:** KB 28ft  
**TVD Reference Elevation:** 5682.000 ft above MSL  
**Seabed / Ground Elevation:** 5654.000 ft above MSL  
**Magnetic Declination:** 8.575 °  
**Total Gravity Field Strength:** 998.9145mgn (9.80665 Based)  
**Gravity Model:** GARM  
**Total Magnetic Field Strength:** 51550.448 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	1671999.48	3231784.24	39.675553	-104.676542
	100.00	0.00	289.55	100.00	0.00	0.00	0.00	0.00	1671999.48	3231784.24	39.675553	-104.676542
	200.00	0.00	289.55	200.00	0.00	0.00	0.00	0.00	1671999.48	3231784.24	39.675553	-104.676542
Build 2 DLS	250.00	0.00	289.55	250.00	0.00	0.00	0.00	0.00	1671999.48	3231784.24	39.675553	-104.676542
	300.00	1.00	289.55	300.00	-0.40	0.15	-0.41	2.00	1671999.62	3231783.82	39.675553	-104.676543
	400.00	3.00	289.55	399.93	-3.56	1.31	-3.70	2.00	1672000.76	3231780.53	39.675557	-104.676555
	500.00	5.00	289.55	499.68	-9.89	3.65	-10.27	2.00	1672003.03	3231773.93	39.675563	-104.676578
	600.00	7.00	289.55	599.13	-19.38	7.15	-20.12	2.00	1672006.44	3231764.05	39.675573	-104.676613
Hold	676.20	8.52	289.55	674.63	-28.71	10.59	-29.82	2.00	1672009.80	3231754.32	39.675582	-104.676648
	700.00	8.52	289.55	698.17	-31.92	11.77	-33.14	0.00	1672010.95	3231750.99	39.675585	-104.676660
	800.00	8.52	289.55	797.06	-45.37	16.73	-47.11	0.00	1672015.78	3231736.97	39.675599	-104.676709
	900.00	8.52	289.55	895.96	-58.82	21.69	-61.08	0.00	1672020.61	3231722.96	39.675613	-104.676759
	1000.00	8.52	289.55	994.85	-72.26	26.65	-75.05	0.00	1672025.45	3231708.95	39.675626	-104.676809
	1100.00	8.52	289.55	1093.75	-85.71	31.61	-89.02	0.00	1672030.28	3231694.94	39.675640	-104.676858
	1200.00	8.52	289.55	1192.64	-99.16	36.57	-102.98	0.00	1672035.11	3231680.93	39.675653	-104.676908
	1300.00	8.52	289.55	1291.54	-112.61	41.53	-116.95	0.00	1672039.95	3231666.91	39.675667	-104.676957
	1400.00	8.52	289.55	1390.43	-126.06	46.49	-130.92	0.00	1672044.78	3231652.90	39.675681	-104.677007
	1500.00	8.52	289.55	1489.33	-139.51	51.45	-144.89	0.00	1672049.61	3231638.89	39.675694	-104.677057
	1600.00	8.52	289.55	1588.22	-152.96	56.41	-158.86	0.00	1672054.45	3231624.88	39.675708	-104.677106
	1700.00	8.52	289.55	1687.12	-166.41	61.37	-172.82	0.00	1672059.28	3231610.87	39.675721	-104.677156
	1800.00	8.52	289.55	1786.02	-179.86	66.33	-186.79	0.00	1672064.11	3231596.85	39.675735	-104.677206
	1900.00	8.52	289.55	1884.91	-193.31	71.29	-200.76	0.00	1672068.95	3231582.84	39.675749	-104.677255
	2000.00	8.52	289.55	1983.81	-206.76	76.25	-214.73	0.00	1672073.78	3231568.83	39.675762	-104.677305
	2100.00	8.52	289.55	2082.70	-220.21	81.21	-228.70	0.00	1672078.61	3231554.82	39.675776	-104.677354
	2200.00	8.52	289.55	2181.60	-233.66	86.17	-242.66	0.00	1672083.44	3231540.80	39.675790	-104.677404
	2300.00	8.52	289.55	2280.49	-247.11	91.13	-256.63	0.00	1672088.28	3231526.79	39.675803	-104.677454
	2400.00	8.52	289.55	2379.39	-260.56	96.09	-270.60	0.00	1672093.11	3231512.78	39.675817	-104.677503
	2500.00	8.52	289.55	2478.28	-274.01	101.05	-284.57	0.00	1672097.94	3231498.77	39.675830	-104.677553
	2600.00	8.52	289.55	2577.18	-287.46	106.01	-298.54	0.00	1672102.78	3231484.76	39.675844	-104.677603
	2700.00	8.52	289.55	2676.07	-300.91	110.97	-312.50	0.00	1672107.61	3231470.74	39.675858	-104.677652
	2800.00	8.52	289.55	2774.97	-314.36	115.93	-326.47	0.00	1672112.44	3231456.73	39.675871	-104.677702
	2900.00	8.52	289.55	2873.86	-327.81	120.89	-340.44	0.00	1672117.28	3231442.72	39.675885	-104.677751
	3000.00	8.52	289.55	2972.76	-341.26	125.85	-354.41	0.00	1672122.11	3231428.71	39.675898	-104.677801
	3100.00	8.52	289.55	3071.66	-354.71	130.81	-368.38	0.00	1672126.94	3231414.70	39.675912	-104.677851
	3200.00	8.52	289.55	3170.55	-368.16	135.77	-382.34	0.00	1672131.78	3231400.68	39.675926	-104.677900
	3300.00	8.52	289.55	3269.45	-381.61	140.73	-396.31	0.00	1672136.61	3231386.67	39.675939	-104.677950
	3400.00	8.52	289.55	3368.34	-395.06	145.69	-410.28	0.00	1672141.44	3231372.66	39.675953	-104.678000
	3500.00	8.52	289.55	3467.24	-408.51	150.65	-424.25	0.00	1672146.27	3231358.65	39.675967	-104.678049
	3600.00	8.52	289.55	3566.13	-421.96	155.61	-438.22	0.00	1672151.11	3231344.63	39.675980	-104.678099
	3700.00	8.52	289.55	3665.03	-435.41	160.57	-452.18	0.00	1672155.94	3231330.62	39.675994	-104.678148
	3800.00	8.52	289.55	3763.92	-448.86	165.53	-466.15	0.00	1672160.77	3231316.61	39.676007	-104.678198
	3900.00	8.52	289.55	3862.82	-462.31	170.49	-480.12	0.00	1672165.61	3231302.60	39.676021	-104.678248
	4000.00	8.52	289.55	3961.71	-475.76	175.45	-494.09	0.00	1672170.44	3231288.59	39.676035	-104.678297
	4100.00	8.52	289.55	4060.61	-489.21	180.41	-508.06	0.00	1672175.27	3231274.57	39.676048	-104.678347
	4200.00	8.52	289.55	4159.50	-502.66	185.37	-522.02	0.00	1672180.11	3231260.56	39.676062	-104.678397
	4300.00	8.52	289.55	4258.40	-516.11	190.33	-535.99	0.00	1672184.94	3231246.55	39.676075	-104.678446
	4400.00	8.52	289.55	4357.30	-529.56	195.29	-549.96	0.00	1672189.77	3231232.54	39.676089	-104.678496
	4500.00	8.52	289.55	4456.19	-543.01	200.25	-563.93	0.00	1672194.61	3231218.52	39.676103	-104.678545
	4600.00	8.52	289.55	4555.09	-556.46	205.21	-577.90	0.00	1672199.44	3231204.51	39.676116	-104.678595
	4700.00	8.52	289.55	4653.98	-569.91	210.17	-591.86	0.00	1672204.27	3231190.50	39.676130	-104.678645
	4800.00	8.52	289.55	4752.88	-583.36	215.13	-605.83	0.00	1672209.10	3231176.49	39.676144	-104.678694
	4900.00	8.52	289.55	4851.77	-596.81	220.09	-619.80	0.00	1672213.94	3231162.48	39.676157	-104.678744
	5000.00	8.52	289.55	4950.67	-610.26	225.05	-633.77	0.00	1672218.77	3231148.46	39.676171	-104.678794
	5100.00	8.52	289.55	5049.56	-623.71	230.01	-647.74	0.00	1672223.60	3231134.45	39.676184	-104.678843
	5200.00	8.52	289.55	5148.46	-637.16	234.97	-661.70	0.00	1672228.44	3231120.44	39.676198	-104.678893
	5300.00	8.52	289.55	5247.35	-650.61	239.93	-675.67	0.00	1672233.27	3231106.43	39.676212	-104.678942
	5400.00	8.52	289.55	5346.25	-664.06	244.89	-689.64	0.00	1672238.10	3231092.42	39.676225	-104.678992
	5500.00	8.52	289.55	5445.14	-677.51	249.85	-703.61	0.00	1672242.94	3231078.40	39.676239	-104.679042
	5600.00	8.52	289.55	5544.04	-690.96	254.81	-717.58	0.00	1672247.77	3231064.39	39.676252	-104.679091
	5700.00	8.52	289.55	5642.94	-704.41	259.77	-731.54	0.00	1672252.60	3231050.38	39.676266	-104.679141
	5800.00	8.52	289.55	5741.83	-717.86	264.73	-745.51	0.00	1672257.44	3231036.37	39.676280	-104.679191
	5900.00	8.52	289.55	5840.73	-731.31	269.69	-759.48	0.00	1672262.27	3231022.35	39.676293	-104.679240
	6000.00	8.52	289.55	5939.62	-744.76	274.65	-773.45	0.00	1672267.10	3231008.34	39.676307	-104.679290
	6100.00	8.52	289.55	6038.52	-758.21	279.61	-787.42	0.00	1672271.93	3230994.33	39.676321	-104.679339
	6200.00	8.52	289.55	6137.41	-771.66	284.57	-801.38	0.00	1672276.77	3230980.32	39.676334	-104.679389
	6300.00	8.52	289.55	6236.31	-785.11	289.53	-815.35	0.00	1672281.60	3230966.31	39.676348	-104.679439
	6400.00	8.52	289.55	6335.20	-798.56							

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	7300.00	6.40	50.96	7226.36	-901.08	340.85	-936.59	8.00	1672331.83	3230844.61	39.676489	-104.679869
	7400.00	13.78	70.07	7324.77	-884.90	348.44	-921.05	8.00	1672339.55	3230860.09	39.676509	-104.679814
	7500.00	21.60	75.77	7419.97	-855.15	357.03	-891.97	8.00	1672348.41	3230889.08	39.676533	-104.679711
	7600.00	29.51	78.51	7510.12	-812.42	366.48	-849.93	8.00	1672358.23	3230931.04	39.676559	-104.679561
	7700.00	37.46	80.18	7593.46	-757.53	376.59	-795.74	8.00	1672368.83	3230985.13	39.676587	-104.679369
	7800.00	45.42	81.33	7668.37	-691.56	387.16	-730.47	8.00	1672380.00	3231050.30	39.676616	-104.679137
	7900.00	53.39	82.20	7733.39	-615.78	398.00	-655.37	8.00	1672391.51	3231125.29	39.676646	-104.678870
	8000.00	61.37	82.91	7787.25	-531.68	408.88	-571.92	8.00	1672403.16	3231208.64	39.676675	-104.678574
	8100.00	69.35	83.51	7828.90	-440.89	419.61	-481.73	8.00	1672414.70	3231298.73	39.676705	-104.678253
	8200.00	77.34	84.06	7857.54	-345.18	429.96	-386.57	8.00	1672425.91	3231393.79	39.676733	-104.677915
	8300.00	85.32	84.57	7872.61	-246.40	439.74	-288.28	8.00	1672436.59	3231491.99	39.676760	-104.677566
TPZ Point	8358.62	90.00	84.86	7875.00	-187.85	445.13	-229.97	8.00	1672442.50	3231550.25	39.676775	-104.677359
	8400.00	90.00	84.86	7875.00	-146.47	448.84	-188.76	0.00	1672446.58	3231591.42	39.676785	-104.677213
	8500.00	90.00	84.86	7875.00	-46.47	457.79	-89.16	0.00	1672456.44	3231690.93	39.676810	-104.676859
	8600.00	90.00	84.86	7875.00	53.53	466.74	10.44	0.00	1672466.29	3231790.45	39.676834	-104.676505
	8700.00	90.00	84.86	7875.00	153.53	475.70	110.04	0.00	1672476.15	3231889.96	39.676859	-104.676151
	8800.00	90.00	84.86	7875.00	253.53	484.65	209.64	0.00	1672486.00	3231989.47	39.676883	-104.675797
	8900.00	90.00	84.86	7875.00	353.53	493.60	309.24	0.00	1672495.85	3232088.98	39.676908	-104.675443
	9000.00	90.00	84.86	7875.00	453.53	502.55	408.83	0.00	1672505.71	3232188.49	39.676933	-104.675090
	9100.00	90.00	84.86	7875.00	553.53	511.50	508.43	0.00	1672515.56	3232288.00	39.676957	-104.674736
	9200.00	90.00	84.86	7875.00	653.53	520.46	608.03	0.00	1672525.42	3232387.52	39.676982	-104.674382
	9300.00	90.00	84.86	7875.00	753.53	529.41	707.63	0.00	1672535.27	3232487.03	39.677006	-104.674028
	9400.00	90.00	84.86	7875.00	853.53	538.36	807.23	0.00	1672545.13	3232586.54	39.677031	-104.673674
	9500.00	90.00	84.86	7875.00	953.53	547.31	906.83	0.00	1672554.98	3232686.05	39.677055	-104.673320
	9600.00	90.00	84.86	7875.00	1053.53	556.27	1006.43	0.00	1672564.84	3232785.56	39.677080	-104.672967
	9700.00	90.00	84.86	7875.00	1153.53	565.22	1106.02	0.00	1672574.69	3232885.07	39.677105	-104.672613
	9800.00	90.00	84.86	7875.00	1253.53	574.17	1205.62	0.00	1672584.55	3232984.59	39.677129	-104.672259
	9900.00	90.00	84.86	7875.00	1353.53	583.12	1305.22	0.00	1672594.40	3233084.10	39.677154	-104.671905
	10000.00	90.00	84.86	7875.00	1453.53	592.08	1404.82	0.00	1672604.25	3233183.61	39.677178	-104.671551
	10100.00	90.00	84.86	7875.00	1553.52	601.03	1504.42	0.00	1672614.11	3233283.12	39.677203	-104.671197
	10200.00	90.00	84.86	7875.00	1653.52	609.98	1604.02	0.00	1672623.96	3233382.63	39.677227	-104.670843
	10300.00	90.00	84.86	7875.00	1753.52	618.93	1703.61	0.00	1672633.82	3233482.14	39.677252	-104.670490
	10400.00	90.00	84.86	7875.00	1853.52	627.88	1803.21	0.00	1672643.67	3233581.65	39.677277	-104.670136
	10500.00	90.00	84.86	7875.00	1953.52	636.84	1902.81	0.00	1672653.53	3233681.17	39.677301	-104.669782
	10600.00	90.00	84.86	7875.00	2053.52	645.79	2002.41	0.00	1672663.38	3233780.68	39.677326	-104.669428
	10700.00	90.00	84.86	7875.00	2153.52	654.74	2102.01	0.00	1672673.24	3233880.19	39.677350	-104.669074
	10800.00	90.00	84.86	7875.00	2253.52	663.69	2201.61	0.00	1672683.09	3233979.70	39.677375	-104.668720
	10900.00	90.00	84.86	7875.00	2353.52	672.65	2301.21	0.00	1672692.95	3234079.21	39.677399	-104.668367
	11000.00	90.00	84.86	7875.00	2453.52	681.60	2400.80	0.00	1672702.80	3234178.72	39.677424	-104.668013
	11100.00	90.00	84.86	7875.00	2553.52	690.55	2500.40	0.00	1672712.65	3234278.24	39.677448	-104.667659
	11200.00	90.00	84.86	7875.00	2653.52	699.50	2600.00	0.00	1672722.51	3234377.75	39.677473	-104.667305
	11300.00	90.00	84.86	7875.00	2753.52	708.45	2699.60	0.00	1672732.36	3234477.26	39.677497	-104.666951
	11400.00	90.00	84.86	7875.00	2853.52	717.41	2799.20	0.00	1672742.22	3234576.77	39.677522	-104.666597
	11500.00	90.00	84.86	7875.00	2953.52	726.36	2898.80	0.00	1672752.07	3234676.28	39.677547	-104.666243
	11600.00	90.00	84.86	7875.00	3053.52	735.31	2998.39	0.00	1672761.93	3234775.79	39.677571	-104.665889
	11700.00	90.00	84.86	7875.00	3153.52	744.26	3097.99	0.00	1672771.78	3234875.31	39.677596	-104.665536
	11800.00	90.00	84.86	7875.00	3253.52	753.22	3197.59	0.00	1672781.64	3234974.82	39.677620	-104.665182
	11900.00	90.00	84.86	7875.00	3353.52	762.17	3297.19	0.00	1672791.49	3235074.33	39.677645	-104.664828
	12000.00	90.00	84.86	7875.00	3453.52	771.12	3396.79	0.00	1672801.35	3235173.84	39.677669	-104.664474
	12100.00	90.00	84.86	7875.00	3553.52	780.07	3496.39	0.00	1672811.20	3235273.35	39.677694	-104.664120
	12200.00	90.00	84.86	7875.00	3653.52	789.03	3595.99	0.00	1672821.05	3235372.87	39.677718	-104.663767
	12300.00	90.00	84.86	7875.00	3753.52	797.98	3695.58	0.00	1672830.91	3235472.38	39.677743	-104.663413
	12400.00	90.00	84.86	7875.00	3853.52	806.93	3795.18	0.00	1672840.76	3235571.89	39.677767	-104.663059
	12500.00	90.00	84.86	7875.00	3953.51	815.88	3894.78	0.00	1672850.62	3235671.40	39.677792	-104.662705
	12600.00	90.00	84.86	7875.00	4053.51	824.83	3994.38	0.00	1672860.47	3235770.91	39.677817	-104.662351
	12700.00	90.00	84.86	7875.00	4153.51	833.79	4093.98	0.00	1672870.33	3235870.42	39.677841	-104.661997
	12800.00	90.00	84.86	7875.00	4253.51	842.74	4193.58	0.00	1672880.18	3235969.93	39.677866	-104.661643
	12900.00	90.00	84.86	7875.00	4353.51	851.69	4293.17	0.00	1672890.04	3236069.45	39.677890	-104.661290
	13000.00	90.00	84.86	7875.00	4453.51	860.64	4392.77	0.00	1672899.89	3236168.96	39.677915	-104.660936
	13100.00	90.00	84.86	7875.00	4553.51	869.60	4492.37	0.00	1672909.74	3236268.47	39.677939	-104.660582
	13200.00	90.00	84.86	7875.00	4653.51	878.55	4591.97	0.00	1672919.60	3236367.98	39.677964	-104.660228
Turn 3 DLS	13300.00	90.00	84.86	7875.00	4753.51	887.50	4691.57	0.00	1672929.45	3236467.49	39.677988	-104.659874
	13388.80	90.00	84.86	7875.00	4842.31	895.45	4780.01	0.00	1672938.20	3236565.86	39.678010	-104.659520
	13400.00	90.00	85.20	7875.00	4853.51	896.42	4791.17	3.00	1672939.28	3236567.01	39.678013	-104.659520
Hold to TD	13500.00	90.00	88.20	7875.00	4953.44	902.18	4890.99	3.00	1672945.94	3236666.77	39.678028	-104.659166
	13561.06	90.00	90.03	7875.00	5014.32	903.12	4952.05	3.00	1672947.43	3236727.81	39.678031	-104.658949
	13600.00	90.00	90.03	7875.00	5053.09	903.10	4990.98	0.00	1672947.76	3236766.75	39.678031	-104.658810
	13700.00	90.00	90.03	7875.00	5152.65	903.04	5090.98	0.00	1672948.61	3236866.74	39.678031	-104.658455
	13800.00	90.00	90.03	7875.00	5252.22	902.99	5190.98	0.00	1672949.47	3236966.74	39.678030	-104.658100
	13900.00	90.00	90.03	7875.00	5351.79	902.93	5290.98	0.00	1672950.32	3237066.73	39.678030	-104.657745
	14000.00	90.00	90.03	7875.00	5451.35	902.87	5390.98	0.00	1672951.17	3237166.73	39.678030	-104.657389
	14100.00	90.00	90.03	7875.00	5550.92	902.82	5490.98	0.00	1672952.02	3237266.72	39.678030	-104.657034
	14200.00	90.00	90.03	7875.00	5650.49	902.76	5590.98	0.00	1672952.87	3237366.72	39.678030	-104.656679
	14300.00	90.00	90.03	7875.00	5750.05	902.71	5690.98	0.00	1672953.72	3237466.71	39.678029	-104.656324
	14400.00	90.00	90.03	7875.00	5849.62	902.65	5790.98	0.00	1672954.57	3237566.71	39.678029	-104.655968
	14500.00	90.00	90.03	7875.00	5949.19	902.60	5890.98	0.00	1672955.42	3237666.70	39.678029	-104.655613
	14600.00	90.00	90.03	7875.00	6048.75	902.54	5990.98	0.00	1672956.27	3237766.70	39.678029	-104.655258
	14700.00	90.00	90.03	7875.00	6148.32	902.49	6090.98	0.00	1672957.12	3237866.69	39.678029	-104.654902

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
	17900.00	90.00	90.03	7875.00	9334.46	900.71	9290.98	0.00	1672984.36	3241066.53	39.678021	-104.643534
	18000.00	90.00	90.03	7875.00	9434.03	900.66	9390.98	0.00	1672985.21	3241166.52	39.678021	-104.643179
	18100.00	90.00	90.03	7875.00	9533.60	900.60	9490.98	0.00	1672986.06	3241266.52	39.678021	-104.642823
	18200.00	90.00	90.03	7875.00	9633.16	900.55	9590.98	0.00	1672986.91	3241366.51	39.678020	-104.642468
	18300.00	90.00	90.03	7875.00	9732.73	900.49	9690.98	0.00	1672987.76	3241466.50	39.678020	-104.642113
Cottonwood Creek 4-65 28-27 2AH BHL	18310.90	90.00	90.03	7875.00	9743.58	900.49	9701.88	0.00	1672987.85	3241477.41	39.678020	-104.642074

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 2AH 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 2AH Plan #0
	1	2000.000	18310.902	1/100.000	8.500	5.500		NAL_MWD_PLUS_0.5_DEG	Original Hole / Cottonwood Creek 4-65 28-27 2AH Plan #0

## Cottonwood Creek 4-65 28-27 2AH Plan #0 Anti-Collision Summary Report

**Analysis Date-24hr Time:** June 23, 2020 - 14:19  
**Client:** Crestone Peak Resources  
**Field:** CO, Arapahoe County (NAD 83 CZ)  
**Structure:** Crestone Peak 28-04S-6SW (Rush North Pad)  
**Slot:** Cottonwood Creek 4-65 28-27 2AH  
**Well:** Cottonwood Creek 4-65 28-27 2AH  
**Borehole:** Original Hole  
**Scan MD Range:** 0.00ft - 18310.90ft

**Analysis Method:** 3D Least Distance  
**Reference Trajectory:** Cottonwood Creek 4-65 28-27 2AH 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)													
	25.04	20.22	24.05	4.82	N/A	MAS = 6.16 (m)	0.00	0.00				CtCt<=15m<15.00	Enter Alert
	25.04	20.22	24.05	4.82	10827.31	MAS = 6.16 (m)	28.00	28.00					WRP
	24.80	20.22	21.92	4.58	12.57	MAS = 6.16 (m)	390.00	389.94					MinPts
	24.90	20.22	21.80	4.68	11.30	MAS = 6.16 (m)	430.00	429.88					MINPT-O-EOU
	29.97	20.22	25.51	9.74	8.34	MAS = 6.16 (m)	680.00	678.39					MinPt-O-SF
	48.84	20.22	42.74	28.62	9.35	MAS = 6.16 (m)	950.00	945.41				CtCt<=15m>15.00	Exit Alert
	641.18	54.39	604.59	586.79	17.98	OSF1.50	7136.87	7063.93					MinPt-O-SF
	635.30	54.99	598.31	580.30	17.62	OSF1.50	7320.00	7246.20					MinPt-O-SF
	170.51	53.86	134.27	116.64	4.81	OSF1.50	7890.00	7727.37			OSF<5.00		Enter Alert
	146.13	57.53	107.45	88.60	3.85	OSF1.50	7980.00	7777.42					MinPts
	171.54	53.72	135.40	117.82	4.85	OSF1.50	8080.00	7821.59			OSF>5.00		Exit Alert
	10048.55	58.42	10009.27	9990.12	262.39	OSF1.50	18310.90	7875.00					TD

Rush 4-65 29-30 2AH 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
	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
	25.08	20.12	22.51	4.96	15.21	MAS = 6.13 (m)	330.00	329.99					MINPT-O-EOU
	30.80	20.12	27.08	10.68	10.90	MAS = 6.13 (m)	540.00	539.50					MinPt-O-SF
	48.52	20.12	43.66	28.40	12.26	MAS = 6.13 (m)	730.00	727.84				CtCt<=15m>15.00	Exit Alert
	776.58	54.54	739.89	722.04	21.72	OSF1.50	7136.87	7063.93					MinPt-O-SF
	781.35	54.87	744.45	726.49	21.72	OSF1.50	7200.00	7126.66					MinPt-O-SF
	776.86	55.10	739.80	721.76	21.51	OSF1.50	7310.00	7236.29					MinPt-O-SF
	445.20	58.54	405.85	386.66	11.58	OSF1.50	8020.00	7796.58					MinPts
	445.31	58.56	405.94	386.75	11.58	OSF1.50	8030.00	7801.07					MinPt-O-SF
	10024.84	62.59	9982.79	9962.25	244.07	OSF1.50	18310.90	7875.00					TD

Cottonwood Creek 4-65 28-27 1CH Plan #0 (Def Plan)													
	49.99	32.81	49.00	17.18	N/A	MAS = 10.00 (m)	0.00	0.00					Warning Alert
	49.95	32.81	48.96	17.14	N/A	MAS = 10.00 (m)	28.00	28.00					Surface
	49.95	32.81	47.80	17.14	42.12	MAS = 10.00 (m)	250.00	250.00					WRP
	50.02	32.81	47.72	17.21	37.38	MAS = 10.00 (m)	280.00	280.00					MinPts
	191.17	32.81	177.56	158.36	15.06	MAS = 10.00 (m)	2000.00	1983.81					MINPT-O-EOU
	714.42	59.04	674.73	655.38	18.43	OSF1.50	7136.87	7063.93					MinPt-O-SF
	633.87	191.11	506.14	442.76	4.99	OSF1.50	11500.00	7875.00			OSF<5.00		Enter Alert
	539.44	292.61	344.04	246.83	2.77	OSF1.50	13560.00	7875.00					MinPt-CtCt
	545.31	535.66	187.87	9.64	1.53	OSF1.50	18310.90	7875.00					MinPts

Cottonwood Creek 4-65 28-27 3AH Plan #0 (Def Plan)													
	49.95	32.81	48.96	17.14	N/A	MAS = 10.00 (m)	0.00	0.00					Warning Alert
	49.95	32.81	48.96	17.14	11019.76	MAS = 10.00 (m)	28.00	28.00					Surface
	49.95	32.81	47.85	17.14	44.02	MAS = 10.00 (m)	240.00	240.00					WRP
	50.00	32.81	47.77	17.19	39.52	MAS = 10.00 (m)	270.00	270.00					MinPts
	180.37	32.81	167.64	147.56	15.27	MAS = 10.00 (m)	2000.00	1983.81					MINPT-O-EOU
	628.97	56.38	591.05	572.59	17.00	OSF1.50	7136.87	7063.93					MinPt-O-SF
	1255.64	377.84	1003.42	877.81	4.99	OSF1.50	15150.00	7875.00			OSF<5.00		Enter Alert
	1261.75	541.28	900.59	720.50	3.50	OSF1.50	18310.90	7875.00					MinPts

Cottonwood Creek 4-65 28-27 1AH Plan #0 (Def Plan)													
	99.98	32.81	98.99	67.17	N/A	MAS = 10.00 (m)	0.00	0.00					Warning Alert
	99.90	32.81	98.91	67.09	N/A	MAS = 10.00 (m)	28.00	28.00					Surface
	99.90	32.81	97.76	67.09	85.54	MAS = 10.00 (m)	250.00	250.00					WRP
	99.98	32.81	97.69	67.17	75.55	MAS = 10.00 (m)	280.00	280.00					MinPts
	355.56	32.81	341.66	322.75	27.47	MAS = 10.00 (m)	2000.00	1983.81					MINPT-O-EOU
	1410.84	62.29	1368.99	1348.56	34.50	OSF1.50	7136.87	7063.93					MinPt-O-SF
	1087.72	327.26	869.22	760.46	5.00	OSF1.50	14100.00	7875.00			OSF<5.00		Enter Alert
	1079.70	544.10	716.64	535.60	2.98	OSF1.50	18310.90	7875.00					MinPts

Cottonwood Creek 4-65 27 1H ST1 7234' to 12126' - PR (Def Survey)													
	5136.29	32.81	5134.42	5103.48	91850.24	MAS = 10.00 (m)	0.00	0.00					Warning Alert
	5136.28	32.81	5134.35	5103.47	43159.55	MAS = 10.00 (m)	28.00	28.00					Surface
	5136.27	32.81	5134.19	5103.46	18645.99	MAS = 10.00 (m)	70.00	70.00					WRP
	5136.40	32.81	5133.25	5103.59	3865.70	MAS = 10.00 (m)	270.00	270.00					MinPts
	6039.74	41.26	6011.70	5998.49	228.41	OSF1.50	7200.00	7126.66					MINPT-O-EOU
	677.26	205.43	539.77	471.82	4.97	OSF1.50	13710.00	7875.00			OSF<5.00		Enter Alert
	582.05	288.43	389.23	293.62	3.04	OSF1.50	15260.00	7875.00					MinPt-CtCt
	537.51	396.04	272.94	141.46	2.04	OSF1.50	16950.00	7875.00					MinPt-CtCt
	557.68	479.65	237.37	78.02	1.74	OSF1.50	18150.00	7875.00					MinPts
	582.83	459.16	276.19	123.66	1.91	OSF1.50	18310.90	7875.00					TD

Cottonwood Creek 4-65 27 1H Pilot 0' to 8261' - PR (Def Survey)													
													Warning Alert

Offset Trajectory	Separation				Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Allow Dev. (ft)		Sep. Fact.	MD (ft)	TVD (ft)	Alert	Minor		
5136.29	32.81	5134.42	5103.48	91850.24	MAS = 10.00 (m)	0.00	0.00				Surface	
5136.28	32.81	5134.35	5103.47	43159.55	MAS = 10.00 (m)	28.00	28.00				WRP	
5136.27	32.81	5134.19	5103.46	18645.99	MAS = 10.00 (m)	70.00	70.00				MinPts	
5136.40	32.81	5133.25	5103.59	3865.70	MAS = 10.00 (m)	270.00	270.00				MINPT-O-EOU	
6039.74	41.26	6011.70	5996.48	228.41	OSF1.50	7200.00	7126.66				MinPt-O-SF	
622.24	190.94	493.91	431.31	4.94	OSF1.50	13400.00	7875.00	OSF<5.00			Enter Alert	
549.20	214.72	405.52	334.48	3.85	OSF1.50	13700.00	7875.00				MinPts	
549.19	214.68	405.54	334.51	3.85	OSF1.50	13710.00	7875.00				MinPt-CtCt	
623.31	189.13	496.68	434.17	4.97	OSF1.50	14000.00	7875.00	OSF>5.00			Exit Alert	
4638.14	46.01	4606.93	4592.13	156.61	OSF1.50	18310.90	7875.00				TD	

Chico 4-65 26-25 2BH MWD 0' to 17932' - PR (Def Survey)											
Warning Alert											
10557.68	32.81	10555.81	10524.87	182433.32	MAS = 10.00 (m)	0.00	0.00				MinPts
10557.95	32.81	10556.05	10525.14	122909.25	MAS = 10.00 (m)	28.00	28.00				WRP
10793.79	32.81	10783.27	10760.98	1210.13	MAS = 10.00 (m)	2100.00	2082.70				MinPt-O-SF
10909.55	34.61	10885.94	10874.94	495.73	OSF1.50	5680.00	5623.16				MinPt-CtCt
10909.62	34.84	10885.86	10874.78	492.31	OSF1.50	5720.00	5662.71				MINPT-O-EOU
10909.77	35.01	10885.89	10874.75	489.77	OSF1.50	5750.00	5692.38				MinPt-O-ADP
11007.33	43.20	10978.00	10964.13	396.90	OSF1.50	7200.00	7126.66				MinPt-O-SF
783.41	244.40	617.41	539.01	4.94	OSF1.50	18200.00	7875.00	OSF<5.00			Enter Alert
706.39	266.77	525.67	439.62	4.05	OSF1.50	18310.90	7875.00				MinPts

Chico 4-65 26-25 2DH MWD 0' to 17975' - PR (Def Survey)											
Warning Alert											
10555.70	32.81	10553.73	10522.89	67944.72	MAS = 10.00 (m)	0.00	0.00				MinPt-O-SF
10555.64	32.81	10553.70	10522.84	78356.97	MAS = 10.00 (m)	28.00	28.00				WRP
10555.54	32.81	10553.23	10522.73	21003.67	MAS = 10.00 (m)	170.00	170.00				MinPts
10555.58	32.81	10552.82	10522.77	11147.37	MAS = 10.00 (m)	260.00	260.00				MINPT-O-EOU
10923.75	35.07	10899.84	10888.68	489.53	OSF1.50	5690.00	5633.05				MinPt-CtCt
10923.84	35.36	10899.74	10888.49	485.41	OSF1.50	5740.00	5682.49				MINPT-O-EOU
10923.94	35.47	10899.76	10888.47	483.78	OSF1.50	5760.00	5702.27				MinPt-O-ADP
11020.91	43.54	10991.35	10977.38	394.19	OSF1.50	7200.00	7126.66				MinPt-O-SF
1138.68	346.12	906.29	792.56	4.98	OSF1.50	18300.00	7875.00	OSF<5.00			Enter Alert
1134.21	347.55	900.90	786.67	4.94	OSF1.50	18310.90	7875.00				MinPts

Cottonwood Creek 4-65 27-28 3CH MWD 0' to 18345' - PR (Def Survey)											
Warning Alert											
7985.95	248.47	7819.70	7737.48	48.55	OSF1.50	0.00	0.00				Surface
7958.22	248.70	7791.82	7709.52	48.34	OSF1.50	28.00	28.00				WRP
1875.19	566.92	1495.54	1308.27	4.99	OSF1.50	6960.00	6889.02	OSF<5.00			Enter Alert
1532.02	720.98	1049.99	811.03	3.20	OSF1.50	8220.00	7861.65				MinPt-CtCt
1532.28	722.04	1049.61	810.24	3.19	OSF1.50	8250.00	7866.79				MINPT-O-EOU
1532.49	722.33	1049.65	810.16	3.19	OSF1.50	8260.00	7868.23				MinPt-O-ADP
1533.49	723.02	1050.25	810.47	3.19	OSF1.50	8290.00	7871.72				MinPt-O-SF
1652.07	636.25	1226.61	1015.83	3.91	OSF1.50	9490.00	7875.00				MinPt-CtCt
1800.96	542.85	1438.08	1258.11	5.00	OSF1.50	11160.00	7875.00	OSF>5.00			Exit Alert
1805.18	518.39	1458.32	1286.79	5.25	OSF1.50	11360.00	7875.00				MINPT-O-EOU
1805.08	518.04	1458.47	1287.04	5.25	OSF1.50	11390.00	7875.00				MinPt-CtCt
1979.79	420.19	1698.48	1559.60	7.11	OSF1.50	13280.00	7875.00				MinPts
1979.86	420.19	1698.57	1559.67	7.11	OSF1.50	13300.00	7875.00				MinPt-O-SF
1984.63	418.33	1704.84	1566.30	7.15	OSF1.50	13570.00	7875.00				MinPt-CtCt
1989.45	408.59	1716.15	1580.86	7.34	OSF1.50	13810.00	7875.00				MinPt-CtCt
2021.66	369.13	1774.64	1652.53	8.27	OSF1.50	15040.00	7875.00				MinPt-O-ADP
2021.33	368.75	1774.57	1652.58	8.27	OSF1.50	15070.00	7875.00				MINPT-O-EOU
2020.91	366.90	1775.42	1654.01	8.31	OSF1.50	15190.00	7875.00				MinPt-CtCt
2033.28	354.49	1795.95	1678.79	8.66	OSF1.50	16100.00	7875.00				MinPt-O-ADP
2033.02	354.21	1795.90	1678.81	8.67	OSF1.50	16110.00	7875.00				MINPT-O-EOU
2025.90	352.20	1790.01	1673.70	8.69	OSF1.50	16220.00	7875.00				MinPt-O-SF
1991.59	358.40	1751.75	1633.19	8.39	OSF1.50	16950.00	7875.00				MinPt-CtCt
1991.76	358.97	1751.57	1632.79	8.37	OSF1.50	16990.00	7875.00				MINPT-O-EOU
1991.87	359.11	1751.60	1632.76	8.37	OSF1.50	17000.00	7875.00				MinPt-O-ADP
2000.15	361.51	1758.44	1636.64	8.34	OSF1.50	17210.00	7875.00				MinPt-O-SF
2013.57	366.37	1768.43	1647.20	8.29	OSF1.50	17490.00	7875.00				MinPt-O-SF
1992.99	375.47	1741.77	1617.52	8.01	OSF1.50	17890.00	7875.00				MinPt-CtCt
1993.22	376.29	1741.50	1616.94	7.99	OSF1.50	17930.00	7875.00				MINPT-O-EOU
1993.55	376.67	1741.52	1616.88	7.98	OSF1.50	17950.00	7875.00				MinPt-O-ADP
2011.28	381.30	1756.49	1629.98	7.94	OSF1.50	18230.00	7875.00				MinPt-O-SF
2018.58	384.40	1761.67	1634.18	7.91	OSF1.50	18310.90	7875.00				MinPt-O-SF

Cottonwood Creek 4-65 27-28 3DH MWD 0' to 17955' - PR (Def Survey)											
Warning Alert											
8114.90	251.51	7946.62	7863.39	48.74	OSF1.50	0.00	0.00				Surface
8087.33	251.79	7918.87	7835.54	48.52	OSF1.50	28.00	28.00				WRP
2043.72	617.74	1629.77	1425.98	5.00	OSF1.50	7770.00	7646.87	OSF<5.00			Enter Alert
1889.18	692.94	1426.02	1196.24	4.10	OSF1.50	8580.00	7875.00				MinPt-CtCt
1889.41	693.79	1425.78	1195.68	4.10	OSF1.50	8610.00	7875.00				MINPT-O-EOU
1889.59	693.95	1425.83	1195.64	4.10	OSF1.50	8620.00	7875.00				MinPt-O-ADP
1890.85	694.65	1426.68	1196.20	4.09	OSF1.50	8660.00	7875.00				MinPt-O-SF
2025.69	609.90	1618.07	1415.79	5.00	OSF1.50	9940.00	7875.00	OSF>5.00			Exit Alert
2115.32	528.19	1762.07	1587.13	6.04	OSF1.50	11140.00	7875.00				MINPT-O-EOU
2115.30	528.14	1762.10	1587.17	6.04	OSF1.50	11150.00	7875.00				MinPt-CtCt
2128.99	504.11	1791.81	1624.88	6.37	OSF1.50	11570.00	7875.00				MinPt-CtCt
2343.67	409.39	2069.94	1934.28	8.63	OSF1.50	13720.00	7875.00				MinPt-O-ADP
2343.41	409.10	2069.88	1934.31	8.63	OSF1.50	13740.00	7875.00				MINPT-O-EOU
2343.04	406.48	2071.29	1936.56	8.69	OSF1.50	13840.00	7875.00				MinPt-CtCt
2341.25	388.36	2081.59	1952.89	9.09	OSF1.50	14350.00	7875.00				MinPt-CtCt
2338.12	373.08	2088.61	1965.04	9.45	OSF1.50	14850.00	7875.00				MinPt-O-SF
2337.91	372.98	2088.49	1964.93	9.45	OSF1.50	14880.00	7875.00				MinPts
2337.88	372.90	2088.52	1964.98	9.45	OSF1.50	14900.00	7875.00				MinPt-CtCt
2342.17	355.01	2104.74	1987.16	9.95	OSF1.50	16490.00	7875.00				MinPt-CtCt
2342.21	355.19	2104.66	1987.01	9.94	OSF1.50	16520.00	7875.00				MINPT-O-EOU
2342.24	355.23	2104.67	1987.01	9.94	OSF1.50	16530.00	7875.00				MinPts
2342.05	355.03	2104.58	1987.02	9.95	OSF1.50	16590.00	7875.00				MinPts
2300.67	365.28	2056.37	1935.39	9.50	OSF1.50	17430.00	7875.00				MinPt-CtCt
2301.07	366.65	2055.91	1934.43	9.46	OSF1.50	17500.00	7875.00				MINPT-O-EOU
2301.54	367.22	2056.02	1934.32	9.45	OSF1.50	17530.00	7875.00				MinPt-O-ADP
2334.75	378.33	2081.90	1956.42	9.30	OSF1.50	18030.00	7875.00				MinPts
2351.97	384.44	2095.15	1967.53	9.21	OSF1.50	18310.90	7875.00				MinPt-O-SF

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		
8108.58	272.04	7926.62	7836.54	45.00	OSF1.50	0.00	0.00					Surface	
8081.26	272.41	7899.04	7808.84	44.79	OSF1.50	28.00	28.00					WRP	
2264.19	683.80	1806.76	1580.39	4.99	OSF1.50	7480.00	7401.28			OSF<5.00		Enter Alert	
2184.41	726.09	1699.27	1458.32	4.53	OSF1.50	8130.00	7838.89					MinPt-CiCt	
2184.66	726.88	1699.04	1457.78	4.52	OSF1.50	8160.00	7847.69					MINPT-O-EOU	
2185.03	727.32	1699.14	1457.71	4.52	OSF1.50	8180.00	7852.88					MinPt-O-ADP	
2187.15	728.30	1700.69	1458.85	4.52	OSF1.50	8240.00	7865.22					MinPt-O-SF	
2259.09	680.61	1804.34	1578.48	4.99	OSF1.50	8840.00	7875.00			OSF<5.00		Exit Alert	
2257.28	663.40	1813.99	1593.89	5.12	OSF1.50	9080.00	7875.00					MinPt-CiCt	
2658.73	368.61	2412.33	2290.12	10.87	OSF1.50	15130.00	7875.00					MinPt-O-ADP	
2657.37	367.10	2412.00	2290.27	10.91	OSF1.50	15240.00	7875.00					MINPT-O-EOU	
2652.46	360.21	2411.67	2292.25	11.10	OSF1.50	15640.00	7875.00					MinPt-O-ADP	
2652.33	360.08	2411.63	2292.26	11.10	OSF1.50	15650.00	7875.00					MINPT-O-EOU	
2639.82	356.79	2401.35	2283.03	11.15	OSF1.50	16180.00	7875.00					MinPt-CiCt	
2639.94	357.13	2401.27	2282.81	11.14	OSF1.50	16210.00	7875.00					MINPT-O-EOU	
2640.03	357.24	2401.29	2282.80	11.13	OSF1.50	16220.00	7875.00					MinPt-O-ADP	
2648.27	359.52	2408.06	2288.75	11.09	OSF1.50	16440.00	7875.00					MinPt-O-SF	
2660.70	368.03	2414.74	2292.67	10.89	OSF1.50	17570.00	7875.00					MinPt-CiCt	
2661.38	370.14	2414.05	2291.24	10.83	OSF1.50	17670.00	7875.00					MINPT-O-EOU	
2662.85	371.84	2414.42	2291.01	10.78	OSF1.50	17750.00	7875.00					MinPt-O-ADP	
2677.06	384.23	2420.36	2292.83	10.49	OSF1.50	18240.00	7875.00					MINPT-O-EOU	
2678.04	385.47	2420.52	2292.57	10.46	OSF1.50	18290.00	7875.00					MinPt-O-ADP	
2678.61	385.98	2420.76	2292.63	10.45	OSF1.50	18310.00	7875.00					MinPt-O-SF	
Rush 4-65 29-30 1CH Plan #0 (Def Plan)													Pass
74.92	32.81	73.93	42.11	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
74.86	32.81	73.87	42.05	N/A	MAS = 10.00 (m)	28.00	28.00					WRP	
74.86	32.81	72.71	42.05	63.72	MAS = 10.00 (m)	250.00	250.00					MinPts	
75.11	32.81	72.44	42.30	44.15	MAS = 10.00 (m)	350.00	349.98					MINPT-O-EOU	
123.67	32.81	117.43	90.86	23.36	MAS = 10.00 (m)	950.00	945.41					MinPt-O-SF	
1152.87	56.78	1114.69	1096.10	30.97	OSF1.50	7136.87	7063.93					MinPt-O-SF	
1161.67	57.14	1123.25	1104.53	31.00	OSF1.50	7200.00	7126.66					MinPt-O-SF	
1000.67	62.12	958.93	938.56	24.53	OSF1.50	8240.00	7865.22					MinPts	
1000.73	62.20	958.94	938.54	24.50	OSF1.50	8250.00	7866.79					MinPt-O-ADP	
1017.99	64.19	974.87	953.80	24.14	OSF1.50	8470.00	7875.00					MinPt-O-SF	
10021.76	72.84	9972.87	9948.92	209.17	OSF1.50	18310.00	7875.00					TD	
Rush 4-65 29-30 1AH Plan #0 (Def Plan)													Pass
125.08	32.81	124.09	92.27	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
124.93	32.81	123.95	92.13	N/A	MAS = 10.00 (m)	28.00	28.00					WRP	
124.93	32.81	122.80	92.13	107.78	MAS = 10.00 (m)	250.00	250.00					MinPts	
124.97	32.81	122.73	92.16	98.79	MAS = 10.00 (m)	270.00	270.00					MINPT-O-EOU	
441.54	32.81	427.95	408.79	34.94	MAS = 10.00 (m)	2000.00	1983.81					MinPt-O-SF	
1645.69	59.67	1605.58	1586.02	42.04	OSF1.50	7136.87	7063.93					MinPt-O-SF	
1603.02	67.13	1557.94	1535.89	36.33	OSF1.50	8400.00	7875.00					MinPt-CiCt	
1603.08	67.35	1557.86	1535.74	36.21	OSF1.50	8420.00	7875.00					MinPts	
1700.48	75.14	1650.05	1625.34	34.38	OSF1.50	8990.00	7875.00					MinPt-O-SF	
10050.74	89.27	9990.89	9961.46	170.74	OSF1.50	18310.00	7875.00					TD	
Rush 4-65 29-30 3AH MWD 0' to 15645' - PR (Def Survey)													Pass
1402.86	32.81	1400.86	1370.05	7505.46	MAS = 10.00 (m)	0.00	0.00					Surface	
1402.18	32.81	1399.90	1369.38	2998.09	MAS = 10.00 (m)	28.00	28.00					WRP	
1391.26	32.81	1386.39	1358.46	453.37	MAS = 10.00 (m)	560.00	559.40					MinPts	
1391.39	32.81	1386.29	1358.58	423.75	MAS = 10.00 (m)	600.00	599.13					MINPT-O-EOU	
1486.81	32.81	1471.51	1454.01	108.39	MAS = 10.00 (m)	2950.00	2923.31					MinPt-O-SF	
1066.42	47.65	1034.01	1018.77	34.93	OSF1.50	7270.00	7196.49					MinPt-O-SF	
909.97	52.24	874.38	857.73	27.26	OSF1.50	7770.00	7646.87					MinPt-O-SF	
909.82	52.23	874.24	857.60	27.26	OSF1.50	7780.00	7654.14					MinPts	
909.81	52.21	874.24	857.61	27.27	OSF1.50	7790.00	7661.30					MinPt-CiCt	
9302.58	60.73	9261.56	9241.85	235.99	OSF1.50	17300.00	7875.00					MinPt-O-SF	
10298.85	61.52	10257.31	10237.34	257.81	OSF1.50	18310.00	7875.00					TD	
Chico 4-65 26-25 2CH MWD 0' to 17734' - PR (Def Survey)													Pass
10556.28	32.81	10554.18	10523.47	36046.08	MAS = 10.00 (m)	0.00	0.00					MinPts	
10556.32	32.81	10554.11	10523.52	26243.89	MAS = 10.00 (m)	28.00	28.00					WRP	
10556.76	32.81	10553.78	10523.95	9040.78	MAS = 10.00 (m)	230.00	230.00					MINPT-O-EOU	
10556.80	32.81	10553.80	10524.00	8855.78	MAS = 10.00 (m)	250.00	250.00					MinPt-O-SF	
10783.50	32.81	10772.95	10750.70	1203.98	MAS = 10.00 (m)	2100.00	2082.70					MinPt-O-SF	
10801.26	32.81	10790.67	10768.45	1202.98	MAS = 10.00 (m)	2230.00	2211.27					MinPt-O-SF	
11010.14	32.81	10988.45	10977.33	548.01	MAS = 10.00 (m)	5560.00	5504.48					MinPts	
11010.22	32.81	10988.36	10977.41	543.60	MAS = 10.00 (m)	5600.00	5544.04					MINPT-O-EOU	
11123.16	41.57	11094.91	11081.59	417.44	OSF1.50	7200.00	7126.66					MinPt-O-SF	
986.68	299.39	784.77	687.29	5.03	OSF1.50	18310.00	7875.00					MinPts	
Chico 4-65 26-25 3AH MWD 0' to 17900' - PR (Def Survey)													Pass
10555.38	32.81	10553.45	10522.57	94317.28	MAS = 10.00 (m)	0.00	0.00					MinPts	
10555.56	32.81	10553.57	10522.75	58739.28	MAS = 10.00 (m)	28.00	28.00					WRP	
10800.40	32.81	10789.74	10767.59	1192.51	MAS = 10.00 (m)	2150.00	2132.15					MinPt-O-SF	
10825.28	32.81	10814.58	10792.47	1189.47	MAS = 10.00 (m)	2330.00	2310.16					MinPt-O-SF	
10960.79	37.33	10935.37	10923.46	460.18	OSF1.50	5630.00	5573.71					MinPt-CiCt	
10960.86	37.54	10935.30	10923.32	457.47	OSF1.50	5670.00	5613.27					MINPT-O-EOU	
10960.95	37.64	10935.32	10923.30	456.12	OSF1.50	5690.00	5633.05					MinPt-O-ADP	
11060.67	45.60	11029.74	11015.07	377.05	OSF1.50	7136.87	7063.93					MinPt-O-SF	
11066.43	45.63	11035.48	11020.80	376.99	OSF1.50	7200.00	7126.66					MinPt-O-SF	
1377.46	349.34	1143.42	1028.13	5.96	OSF1.50	18310.00	7875.00					MinPts	
Little Rush 4-65 28 1V MWD 0' to 8693' - PR (Def Survey)													Pass
1442.14	32.81	1440.29	1409.33	44100.05	MAS = 10.00 (m)	0.00	0.00					Surface	
1442.11	32.81	1440.20	1409.30	14666.08	MAS = 10.00 (m)	28.00	28.00					WRP	
1441.13	32.81	1438.04	1408.32	1126.11	MAS = 10.00 (m)	300.00	300.00					MinPts	
1441.17	32.81	1438.01	1408.36	1070.05	MAS = 10.00 (m)	330.00	329.99					MINPT-O-EOU	
1516.46	32.81	1505.81	1483.66	167.43	MAS = 10.00 (m)	2100.00	2082.70					MinPt-O-SF	
1934.34	41.50	1906.14	1892.84	72.66	OSF1.50	7136.87	7063.93					MinPt-O-SF	
1912.29	42.12	1883.68	1870.17	70.74	OSF1.50	8310.00	7873.35					MinPt-CiCt	
1912.37	42.37	1883.58	1869.99	70.30	OSF1.50	8330.00	7874.43					MINPT-O-EOU	
1912.46	42.50	1883.60	1869.97	70.09	OSF1.50	8340.00	7874.76					MinPt-O-ADP	
2236.16	61.03	2194.94	2175.13	56.41	OSF1.50	9480.00	7875.00					MinPt-O-SF	

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		
	10078.19	78.56	10025.28	9999.63	196.40	OSF1.50	18310.90	7875.00				TD	
Rush 4-65 29-30 3CH Plan #0 (Def Plan)													
	1617.45	32.81	1616.43	1584.64	53109.45	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1617.45	32.81	1616.37	1584.64	17448.43	MAS = 10.00 (m)	28.00	28.00				WRP	
	1581.52	32.81	1566.72	1548.71	114.46	MAS = 10.00 (m)	2840.00	2814.53				MinPts	
	1582.32	32.81	1566.12	1549.51	103.97	MAS = 10.00 (m)	3270.00	3239.78				MINPT-O-EOU	
	1566.75	57.98	1527.77	1508.77	41.21	OSF1.50	7670.00	7569.28				MinPt-O-SF	
	1563.46	57.70	1524.67	1505.76	41.33	OSF1.50	7760.00	7639.52				MinPts	
	1563.46	57.66	1524.69	1505.80	41.36	OSF1.50	7770.00	7646.87				MinPt-CiCt	
	10264.00	81.12	10209.59	10182.88	192.11	OSF1.50	18310.90	7875.00				TD	
Cottonwood Creek 4-65 28-27 4DH Plan #0 (Def Plan)													
	1642.48	32.81	1641.47	1609.68	57276.71	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1642.48	32.81	1641.41	1609.68	18065.27	MAS = 10.00 (m)	28.00	28.00				WRP	
	1642.48	32.81	1640.51	1609.68	1655.65	MAS = 10.00 (m)	200.00	200.00				MinPts	
	1642.55	32.81	1640.35	1609.74	1346.13	MAS = 10.00 (m)	250.00	250.00				MINPT-O-EOU	
	1921.16	32.81	1909.12	1888.36	173.71	MAS = 10.00 (m)	2330.00	2310.16				MinPt-O-SF	
	2814.87	55.62	2777.46	2759.25	77.25	OSF1.50	7200.00	7126.66				MinPt-O-SF	
	3514.33	542.96	3152.03	2971.38	9.72	OSF1.50	18310.90	7875.00				MinPts	
Rush 4-65 29-30 4AH Plan #0 (Def Plan)													
	1667.16	32.81	1666.13	1634.35	35713.22	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1667.16	32.81	1666.07	1634.35	15305.67	MAS = 10.00 (m)	28.00	28.00				WRP	
	1667.16	32.81	1664.85	1634.35	1251.21	MAS = 10.00 (m)	250.00	250.00				MinPts	
	1667.31	32.81	1664.68	1634.51	1007.98	MAS = 10.00 (m)	310.00	310.00				MINPT-O-EOU	
	2218.79	54.10	2182.40	2164.70	62.64	OSF1.50	7200.00	7126.66				MinPt-O-SF	
	2195.29	56.40	2157.37	2138.90	59.40	OSF1.50	7580.00	7492.58				MinPt-O-SF	
	2194.05	56.28	2156.20	2137.77	59.49	OSF1.50	7650.00	7552.75				MinPts	
	2695.19	68.07	2649.48	2627.12	60.24	OSF1.50	9440.00	7875.00				MinPt-O-SF	
	10415.16	96.60	10350.43	10318.56	163.38	OSF1.50	18310.90	7875.00				TD	
Rush 4-65 29-30 4CH Plan #0 (Def Plan)													
	1716.89	32.81	1715.85	1684.08	29820.88	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1716.89	32.81	1715.79	1684.08	14329.51	MAS = 10.00 (m)	28.00	28.00				WRP	
	1716.89	32.81	1714.93	1684.08	1758.27	MAS = 10.00 (m)	190.00	190.00				MinPts	
	1716.91	32.81	1714.88	1684.10	1631.75	MAS = 10.00 (m)	210.00	210.00				MINPT-O-EOU	
	1977.20	32.81	1964.67	1944.38	171.09	MAS = 10.00 (m)	2250.00	2231.04				MinPt-O-SF	
	2776.30	54.57	2739.59	2721.72	77.68	OSF1.50	7200.00	7126.66				MinPt-O-SF	
	2825.90	55.14	2788.81	2770.76	78.24	OSF1.50	7630.00	7535.92				MinPt-O-SF	
	2852.28	55.09	2815.22	2797.19	79.05	OSF1.50	8010.00	7791.98				MinPt-O-SF	
	3600.40	81.96	3545.43	3518.43	66.67	OSF1.50	10140.00	7875.00				MinPt-O-SF	
	10587.57	114.14	10511.15	10473.43	140.34	OSF1.50	18310.90	7875.00				TD	
Cottonwood Creek 4-65 27-28 4BH MWD 0' to 18288' - PR (Def Survey)													
	8260.09	278.20	8074.02	7981.89	44.82	OSF1.50	0.00	0.00				Surface	Pass
	8232.99	278.62	8046.63	7954.36	44.60	OSF1.50	28.00	28.00				WRP	
	2511.75	724.61	2027.78	1787.14	5.21	OSF1.50	8120.00	7835.69				MinPt-CiCt	
	2512.02	725.56	2027.46	1786.46	5.21	OSF1.50	8160.00	7847.69				MINPT-O-EOU	
	2512.19	725.77	2027.51	1786.43	5.21	OSF1.50	8170.00	7850.35				MinPt-O-SF	
	2514.49	726.85	2029.17	1787.64	5.20	OSF1.50	8240.00	7865.22				MinPt-O-ADP	
	2705.61	582.93	2316.15	2122.67	6.99	OSF1.50	10260.00	7875.00				MinPts	
	2705.59	582.91	2316.16	2122.68	6.99	OSF1.50	10270.00	7875.00				MinPt-CiCt	
	2711.94	554.53	2341.35	2157.41	7.38	OSF1.50	10640.00	7875.00				MinPt-O-SF	
	2710.75	553.99	2340.57	2156.75	7.37	OSF1.50	10710.00	7875.00				MinPt-O-ADP	
	2710.67	553.98	2340.55	2156.76	7.37	OSF1.50	10720.00	7875.00				MINPT-O-EOU	
	2710.57	553.62	2340.66	2156.94	7.37	OSF1.50	10750.00	7875.00				MinPt-CiCt	
	2983.38	409.03	2710.16	2574.36	10.98	OSF1.50	13780.00	7875.00				MinPt-O-ADP	
	2982.80	408.41	2710.00	2574.40	10.99	OSF1.50	13810.00	7875.00				MINPT-O-EOU	
	2970.82	398.06	2704.91	2572.76	11.23	OSF1.50	14080.00	7875.00				MinPt-O-SF	
	2969.90	397.87	2704.11	2572.02	11.24	OSF1.50	14160.00	7875.00				MinPt-O-ADP	
	2969.88	397.85	2704.11	2572.02	11.24	OSF1.50	14170.00	7875.00				MinPts	
	2973.17	363.85	2730.05	2609.33	12.31	OSF1.50	15270.00	7875.00				MinPt-O-SF	
	2963.74	361.24	2722.37	2602.49	12.35	OSF1.50	15620.00	7875.00				MinPts	
	2951.41	358.85	2711.64	2592.56	12.39	OSF1.50	15960.00	7875.00				MinPt-CiCt	
	2951.66	359.49	2711.47	2592.17	12.36	OSF1.50	16000.00	7875.00				MINPT-O-EOU	
	2951.79	359.64	2711.49	2592.14	12.36	OSF1.50	16010.00	7875.00				MinPt-O-SF	
	2955.58	360.88	2714.45	2594.69	12.33	OSF1.50	16140.00	7875.00				MinPt-O-ADP	
	2970.64	361.48	2728.12	2609.16	12.38	OSF1.50	16420.00	7875.00				MinPt-O-SF	
	2986.51	360.15	2745.87	2626.35	12.49	OSF1.50	17030.00	7875.00				MinPt-CiCt	
	2986.95	361.41	2745.47	2625.54	12.45	OSF1.50	17090.00	7875.00				MINPT-O-EOU	
	2987.48	362.02	2745.59	2625.46	12.43	OSF1.50	17120.00	7875.00				MinPt-O-SF	
	3031.08	372.26	2782.37	2658.82	12.29	OSF1.50	17740.00	7875.00				MinPt-O-SF	
	3029.81	375.87	2778.70	2653.94	12.14	OSF1.50	17910.00	7875.00				MinPt-CiCt	
	3030.59	378.23	2777.90	2652.36	12.06	OSF1.50	18000.00	7875.00				MINPT-O-EOU	
	3031.66	379.51	2778.12	2652.15	12.03	OSF1.50	18050.00	7875.00				MinPt-O-ADP	
	3041.91	386.64	2783.62	2655.27	11.84	OSF1.50	18310.90	7875.00				MinPts	