

# Minimum Radius of Curvature

**API: 05-123-46641**      **Well: Cinnamon Teal 35-3HN**      **Wellhead Location N+/S- : 40.613060**  
**Operator: Bison IV Operating**      **Area: DJ**      **E+/W- : -104.061305**  
**Rig:**      **Type: U-Lateral**      **Magnetic Declination: 7.32**  
**TD: 16,918'**      **Plane of Proposal: 1.15**

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
0.00	0.00	0.00		0.0	0.00	0.00	0.00	0.00	0.00			
6	0.00	0.00	6	6.0	-38.52	0.00	0.00	0.00	#DIV/0!	0.00		
142	1.50	289.50	136	142.0	-37.96	0.59	-1.68	1.78	289.50	1.10	1.10	212.87
232	1.50	303.30	90	232.0	-36.96	1.63	-3.77	4.11	293.42	0.40	0.00	15.33
324	0.60	301.40	92	323.9	-36.07	2.55	-5.19	5.78	296.13	0.98	-0.98	-2.07
412	0.60	273.80	88	411.9	-35.82	2.82	-6.04	6.67	294.99	0.33	0.00	-31.36
499	0.40	29.90	87	498.9	-35.53	3.11	-6.35	7.07	296.11	0.98	-0.23	-280.34
586	1.20	193.80	87	585.9	-36.16	2.49	-6.41	6.88	291.21	1.83	0.92	188.39
673	3.30	202.30	87	672.9	-39.38	-0.71	-7.58	7.61	264.63	2.44	2.41	9.77
760	5.00	196.30	87	759.6	-45.38	-6.67	-9.59	11.68	235.20	2.01	1.95	-6.90
847	7.60	197.30	87	846.1	-54.56	-15.80	-12.37	20.07	218.05	2.99	2.99	1.15
935	9.50	193.40	88	933.1	-67.25	-28.42	-15.78	32.51	209.04	2.26	2.16	-4.43
1022	10.30	193.00	87	1018.8	-81.88	-42.99	-19.20	47.08	204.06	0.92	0.92	-0.46
1109	12.10	197.00	87	1104.2	-98.27	-59.29	-23.61	63.82	201.72	2.25	2.07	4.60
1196	13.00	200.00	87	1189.1	-116.30	-77.20	-29.63	82.69	200.99	1.28	1.03	3.45
1284	13.10	206.80	88	1274.8	-134.66	-95.41	-37.51	102.51	201.46	1.75	0.11	7.73
1371	14.00	206.30	87	1359.4	-153.07	-113.64	-46.62	122.83	202.30	1.04	1.03	-0.57
1458	14.40	207.80	87	1443.7	-172.27	-132.65	-56.33	144.11	203.01	0.62	0.46	1.72
1545	13.80	207.50	87	1528.1	-191.23	-151.42	-66.16	165.24	203.60	0.69	-0.69	-0.34
1692	13.59	207.62	147	1670.9	-222.40	-182.27	-82.26	199.98	204.29	0.14	-0.14	0.08
1782	12.88	197.59	90	1758.5	-241.49	-201.21	-90.20	220.50	204.15	2.67	-0.79	-11.14
1871	12.32	189.77	89	1845.4	-260.40	-220.02	-94.81	239.58	203.31	2.02	-0.63	-8.79
1961	12.13	180.99	90	1933.4	-279.35	-238.94	-96.60	257.73	202.01	2.07	-0.21	-9.76
2051	11.77	180.37	90	2021.4	-297.98	-257.57	-96.82	275.17	200.60	0.42	-0.40	-0.69
2140	11.39	180.51	89	2108.6	-315.84	-275.44	-96.96	292.01	199.39	0.43	-0.43	0.16
2230	10.90	178.88	90	2196.9	-333.23	-292.83	-96.87	308.44	198.30	0.65	-0.54	-1.81
2320	10.77	179.02	90	2285.3	-350.14	-309.75	-96.56	324.45	197.31	0.15	-0.14	0.16
2409	10.11	176.85	89	2372.8	-366.24	-325.86	-95.99	339.71	196.41	0.86	-0.74	-2.44
2499	10.93	182.00	90	2461.3	-382.65	-342.28	-95.86	355.45	195.64	1.39	0.91	5.72
2589	10.47	181.88	90	2549.8	-399.36	-358.98	-96.42	371.70	195.03	0.51	-0.51	-0.13
2678	12.15	183.58	89	2637.0	-416.80	-376.41	-97.27	388.77	194.49	1.92	1.89	1.91
2768	11.96	182.78	90	2725.0	-435.59	-395.18	-98.32	407.22	193.97	0.28	-0.21	-0.89
2857	11.70	182.06	89	2812.2	-453.83	-413.40	-99.09	425.11	193.48	0.34	-0.29	-0.81
2947	11.54	181.52	90	2900.3	-471.95	-431.52	-99.65	442.88	193.00	0.21	-0.18	-0.60
3036	11.29	181.15	89	2987.6	-489.57	-449.13	-100.06	460.14	192.56	0.29	-0.28	-0.42
3126	10.49	180.96	90	3075.9	-506.57	-466.13	-100.38	476.82	192.15	0.89	-0.89	-0.21
3216	11.40	180.60	90	3164.3	-523.66	-483.22	-100.61	493.58	191.76	1.01	1.01	-0.40
3305	11.76	178.30	89	3251.5	-541.51	-501.08	-100.43	511.05	191.33	0.66	0.40	-2.58
3395	12.60	180.86	90	3339.5	-560.49	-520.06	-100.31	529.65	190.92	1.11	0.93	2.84
3485	12.98	181.61	90	3427.2	-580.41	-539.98	-100.74	549.30	190.57	0.46	0.42	0.83
3574	11.88	179.32	89	3514.1	-599.56	-559.13	-100.91	568.17	190.23	1.35	-1.24	-2.57
3664	12.22	177.74	90	3602.2	-618.33	-577.92	-100.43	586.58	189.86	0.53	0.38	-1.76
3753	12.56	175.95	89	3689.1	-637.37	-596.98	-99.37	605.19	189.45	0.58	0.38	-2.01
3843	11.62	181.63	90	3777.1	-656.18	-615.80	-98.94	623.70	189.13	1.68	-1.04	6.31
3933	11.22	181.13	90	3865.3	-674.00	-633.62	-99.37	641.36	188.91	0.46	-0.44	-0.56
4022	10.45	180.41	89	3952.7	-690.73	-650.35	-99.60	657.93	188.71	0.88	-0.87	-0.81
4112	11.40	178.19	90	4041.1	-707.77	-667.40	-99.37	674.76	188.47	1.15	1.06	-2.47
4201	12.02	180.77	89	4128.2	-725.83	-685.46	-99.22	692.60	188.24	0.91	0.70	2.90
4291	10.78	182.30	90	4216.5	-743.61	-703.24	-99.68	710.27	188.07	1.42	-1.38	1.70
4380	10.96	183.49	89	4303.9	-760.39	-720.00	-100.53	726.98	187.95	0.32	0.20	1.34
4470	11.27	181.72	90	4392.2	-777.73	-737.33	-101.32	744.26	187.82	0.51	0.34	-1.97
4559	11.77	182.17	89	4479.4	-795.50	-755.09	-101.92	761.94	187.69	0.57	0.56	0.51
4649	12.28	180.28	90	4567.4	-814.25	-773.84	-102.32	780.57	187.53	0.72	0.57	-2.10
4738	12.40	178.89	89	4654.3	-833.26	-792.85	-102.18	799.41	187.34	0.36	0.13	-1.56
4828	12.73	176.29	90	4742.2	-852.80	-812.41	-101.35	818.71	187.11	0.73	0.37	-2.89
4918	10.82	179.51	90	4830.3	-871.12	-830.76	-100.64	836.83	186.91	2.24	-2.12	3.58
5007	11.49	181.14	89	4917.6	-888.34	-847.97	-100.74	853.94	186.78	0.83	0.75	1.83
5097	10.80	175.68	90	5005.9	-905.70	-865.34	-100.28	871.13	186.61	1.40	-0.77	-6.07

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						N-S Ft	E-W Ft	Distance FT	Direction Deg			
5187	10.96	178.06	90	5094.3	-922.64	-882.30	-99.36	887.88	186.43	0.53	0.18	2.64
5276	11.70	172.65	89	5181.6	-940.01	-899.71	-97.92	905.02	186.21	1.45	0.83	-6.08
5366	11.72	171.02	90	5269.7	-958.03	-917.79	-95.32	922.72	185.93	0.37	0.02	-1.81
5456	12.71	170.06	90	5357.7	-976.75	-936.57	-92.19	941.10	185.62	1.12	1.10	-1.07
5545	12.50	177.41	89	5444.5	-995.97	-955.84	-90.06	960.07	185.38	1.82	-0.24	8.26
5635	5.98	182.96	90	5533.3	-1010.39	-970.26	-89.86	974.42	185.29	7.30	-7.24	6.17
5725	3.35	0.87	90	5623.2	-1012.45	-972.32	-90.07	976.48	185.29	10.37	-2.92	-202.32
5814	13.84	350.61	89	5711.1	-999.35	-959.18	-91.77	963.56	185.47	11.87	11.79	392.97
5904	20.46	1.00	90	5797.0	-973.00	-932.80	-93.25	937.45	185.71	8.08	7.36	-388.46
5994	25.06	11.32	90	5880.0	-938.47	-898.35	-89.23	902.77	185.67	6.75	5.11	11.47
6084	30.56	9.51	90	5959.6	-897.04	-857.06	-81.70	860.95	185.45	6.18	6.11	-2.01
6173	35.94	1.52	89	6034.0	-848.48	-808.58	-77.27	812.26	185.46	7.78	6.04	-8.98
6263	43.00	356.26	90	6103.5	-791.40	-751.46	-78.57	755.56	185.97	8.67	7.84	394.16
6352	47.34	355.52	89	6166.2	-728.57	-688.52	-83.11	693.52	186.88	4.91	4.88	-0.83
6442	54.71	355.17	90	6222.8	-659.01	-618.83	-88.80	625.17	188.17	8.19	8.19	-0.39
6532	62.27	357.84	90	6269.8	-582.59	-542.31	-93.40	550.29	189.77	8.77	8.40	2.97
6622	68.16	2.56	90	6307.5	-500.96	-460.67	-93.03	469.97	191.42	8.09	6.54	-394.76
6711	75.54	5.21	89	6335.2	-416.55	-376.36	-87.26	386.34	193.05	8.76	8.29	2.98
6801	82.40	5.61	90	6352.5	-328.51	-288.47	-78.94	299.07	195.30	7.63	7.62	0.44
6891	90.43	4.91	90	6358.1	-238.99	-199.10	-70.71	211.28	199.55	8.96	8.92	-0.78
7004	89.23	2.66	113	6358.4	-126.12	-86.35	-63.25	107.04	216.22	2.26	-1.06	-1.99
7093	89.76	2.32	89	6359.2	-37.15	2.56	-59.39	59.44	272.47	0.71	0.60	-0.38
7183	90.42	1.81	90	6359.1	52.84	92.50	-56.14	108.20	328.74	0.93	0.73	-0.57
7272	89.22	2.12	89	6359.3	141.83	181.44	-53.09	189.05	343.69	1.39	-1.35	0.35
7362	89.45	2.40	90	6360.4	231.80	271.37	-49.54	275.85	349.65	0.40	0.26	0.31
7452	90.59	1.33	90	6360.4	321.79	361.32	-46.61	364.31	352.65	1.74	1.27	-1.19
7541	89.12	0.46	89	6360.6	410.79	450.30	-45.22	452.57	354.26	1.92	-1.65	-0.98
7631	89.18	0.90	90	6361.9	500.78	540.29	-44.16	542.09	355.33	0.49	0.07	0.49
7720	88.87	1.88	89	6363.4	589.76	629.25	-42.00	630.65	356.18	1.15	-0.35	1.10
7810	88.76	1.22	90	6365.3	679.74	719.19	-39.56	720.28	356.85	0.74	-0.12	-0.73
7900	89.06	1.44	90	6367.0	769.72	809.15	-37.48	810.02	357.35	0.41	0.33	0.24
7989	89.92	2.31	89	6367.8	858.71	898.10	-34.56	898.77	357.80	1.37	0.97	0.98
8079	90.38	1.77	90	6367.6	948.70	988.04	-31.36	988.54	358.18	0.79	0.51	-0.60
8169	90.81	1.52	90	6366.6	1038.69	1078.00	-28.78	1078.38	358.47	0.55	0.48	-0.28
8258	90.17	357.75	89	6365.9	1127.64	1166.98	-29.34	1167.35	358.56	4.30	-0.72	400.26
8348	89.56	358.08	90	6366.1	1217.49	1256.92	-32.62	1257.34	358.51	0.77	-0.68	0.37
8438	89.21	355.51	90	6367.0	1307.22	1346.76	-37.65	1347.29	358.40	2.88	-0.39	-2.86
8527	90.60	355.28	89	6367.2	1395.77	1435.48	-44.79	1436.17	358.21	1.58	1.56	-0.26
8617	90.51	357.85	90	6366.3	1485.47	1525.30	-50.19	1526.13	358.12	2.86	-0.10	2.86
8706	89.53	357.96	89	6366.3	1574.33	1614.24	-53.44	1615.13	358.10	1.11	-1.10	0.12
8796	91.46	1.34	90	6365.5	1664.28	1704.22	-53.99	1705.07	358.19	4.32	2.14	-396.24
8886	91.80	3.85	90	6362.9	1754.20	1794.08	-49.92	1794.78	358.41	2.81	0.38	2.79
8975	90.59	4.72	89	6361.1	1843.05	1882.81	-43.27	1883.31	358.68	1.67	-1.36	0.98
9065	90.74	4.45	90	6360.0	1932.88	1972.52	-36.07	1972.85	358.95	0.34	0.17	-0.30
9155	90.46	4.19	90	6359.1	2022.74	2062.26	-29.30	2062.47	359.19	0.42	-0.31	-0.29
9244	89.84	4.28	89	6358.9	2111.61	2151.01	-22.72	2151.13	359.39	0.70	-0.70	0.10
9334	89.21	5.05	90	6359.6	2201.43	2240.71	-15.40	2240.76	359.61	1.11	-0.70	0.86
9424	89.45	3.89	90	6360.7	2291.28	2330.43	-8.39	2330.44	359.79	1.32	0.27	-1.29
9513	91.51	3.79	89	6359.9	2380.17	2419.22	-2.43	2419.22	359.94	2.32	2.31	-0.11
9603	91.65	2.85	90	6357.4	2470.07	2509.04	2.78	2509.04	0.06	1.06	0.16	-1.04
9693	89.94	1.94	90	6356.2	2560.04	2598.94	6.54	2598.95	0.14	2.15	-1.90	-1.01
9782	90.40	359.06	89	6355.9	2649.02	2687.93	7.32	2687.94	0.16	3.28	0.52	401.26
9872	90.09	356.45	90	6355.5	2738.85	2777.85	3.79	2777.86	0.08	2.92	-0.34	-2.90
9962	89.55	358.00	90	6355.8	2828.64	2867.74	-0.57	2867.74	359.99	1.82	-0.60	1.72
10051	89.27	1.74	89	6356.7	2917.60	2956.72	-0.77	2956.72	359.99	4.21	-0.31	-400.29
10141	89.52	1.31	90	6357.7	3007.59	3046.69	1.63	3046.69	0.03	0.55	0.28	-0.48
10231	89.51	0.12	90	6358.5	3097.58	3136.67	2.75	3136.68	0.05	1.32	-0.01	-1.32
10320	90.03	358.49	89	6358.8	3186.53	3225.66	1.67	3225.66	0.03	1.92	0.58	402.66

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10410	89.08	358.15	90	6359.5	3276.42	3315.62	-0.97	3315.62	359.98	1.12	-1.06	-0.38
10499	90.89	1.75	89	6359.5	3365.38	3404.60	-1.04	3404.60	359.98	4.53	2.03	-400.45
10589	91.17	1.86	90	6357.9	3455.36	3494.54	1.79	3494.54	0.03	0.33	0.31	0.12
10678	91.70	1.57	89	6355.7	3544.33	3583.48	4.45	3583.48	0.07	0.68	0.60	-0.33
10768	90.34	357.53	90	6354.1	3634.26	3673.44	3.75	3673.44	0.06	4.74	-1.51	395.51
10858	87.54	349.14	90	6355.8	3723.32	3762.73	-6.69	3762.73	359.90	9.83	-3.11	-9.32
10947	86.85	340.96	89	6360.1	3808.65	3848.54	-29.60	3848.65	359.56	9.21	-0.78	-9.19
11037	87.77	333.44	90	6364.3	3890.75	3931.35	-64.41	3931.88	359.06	8.41	1.02	-8.36
11127	88.39	326.12	90	6367.4	3967.50	4009.02	-109.65	4010.52	358.43	8.16	0.69	-8.13
11216	91.48	318.76	89	6367.5	4036.89	4079.52	-163.86	4082.81	357.70	8.97	3.47	-8.27
11306	89.64	312.10	90	6366.6	4099.68	4143.59	-226.98	4149.80	356.86	7.68	-2.04	-7.40
11395	90.37	304.63	89	6366.6	4153.47	4198.79	-296.72	4209.26	355.96	8.43	0.82	-8.39
11485	92.31	296.82	90	6364.5	4197.85	4244.72	-374.00	4261.17	354.96	8.94	2.16	-8.68
11574	91.58	290.35	89	6361.4	4231.77	4280.29	-455.47	4304.46	353.93	7.31	-0.82	-7.27
11664	91.05	283.59	90	6359.4	4256.29	4306.54	-541.48	4340.45	352.83	7.53	-0.59	-7.51
11754	91.65	276.93	90	6357.3	4270.53	4322.56	-629.97	4368.22	351.71	7.43	0.67	-7.40
11843	91.39	271.35	89	6354.9	4275.16	4328.98	-718.67	4388.23	350.57	6.27	-0.29	-6.27
11933	91.83	264.42	90	6352.4	4270.04	4325.66	-808.52	4400.57	349.41	7.71	0.49	-7.70
12022	91.68	260.03	89	6349.6	4256.25	4313.63	-896.63	4405.83	348.26	4.93	-0.17	-4.93
12112	91.95	253.89	90	6346.8	4234.21	4293.34	-984.23	4404.71	347.09	6.83	0.30	-6.82
12202	90.86	245.89	90	6344.6	4201.61	4262.43	-1068.64	4394.35	345.93	8.97	-1.21	-8.89
12291	91.07	240.52	89	6343.1	4159.92	4222.33	-1148.05	4375.62	344.79	6.04	0.24	-6.03
12381	90.74	235.13	90	6341.6	4110.50	4174.43	-1224.19	4350.23	343.66	6.00	-0.37	-5.99
12470	91.84	227.94	89	6339.6	4053.81	4119.12	-1293.81	4317.53	342.56	8.17	1.24	-8.08
12560	93.41	221.54	90	6335.5	3988.73	4055.30	-1357.06	4276.33	341.50	7.31	1.74	-7.11
12649	94.10	214.00	89	6329.7	3917.50	3985.15	-1411.42	4227.71	340.50	8.49	0.78	-8.47
12739	92.82	206.17	90	6324.2	3838.94	3907.47	-1456.41	4170.07	339.56	8.80	-1.42	-8.70
12829	94.21	200.14	90	6318.7	3755.70	3824.92	-1491.72	4105.52	338.69	6.86	1.54	-6.70
12918	94.28	192.53	89	6312.1	3670.10	3739.81	-1516.67	4035.65	337.93	8.53	0.08	-8.55
13008	94.21	183.35	90	6305.4	3581.08	3651.02	-1529.05	3958.27	337.28	10.17	-0.08	-10.20
13098	93.36	180.58	90	6299.5	3491.29	3561.27	-1532.13	3876.87	336.72	3.21	-0.94	-3.08
13187	91.67	181.58	89	6295.6	3402.38	3472.38	-1533.80	3796.05	336.17	2.21	-1.90	1.12
13277	92.58	180.90	90	6292.3	3312.44	3382.46	-1535.75	3714.78	335.58	1.26	1.01	-0.76
13366	90.53	181.01	89	6289.8	3223.48	3293.51	-1537.23	3634.60	334.98	2.31	-2.30	0.12
13456	88.92	180.67	90	6290.3	3133.49	3203.53	-1538.55	3553.83	334.35	1.83	-1.79	-0.38
13546	89.95	180.70	90	6291.2	3043.50	3113.54	-1539.63	3473.41	333.69	1.14	1.14	0.03
13635	90.58	179.54	89	6290.7	2954.51	3024.54	-1539.82	3393.95	333.02	1.48	0.71	-1.30
13725	90.16	180.89	90	6290.2	2864.53	2934.55	-1540.15	3314.16	332.31	1.57	-0.47	1.50
13814	91.40	181.55	89	6289.0	2775.54	2845.58	-1542.05	3236.55	331.55	1.58	1.39	0.74
13904	89.31	181.04	90	6288.4	2685.55	2755.61	-1544.08	3158.73	330.74	2.39	-2.32	-0.57
13993	90.05	181.14	89	6288.9	2596.55	2666.63	-1545.77	3082.26	329.90	0.84	0.83	0.11
14083	88.37	181.61	90	6290.1	2506.56	2576.66	-1547.93	3005.88	329.00	1.94	-1.87	0.52
14172	88.12	181.55	89	6292.9	2417.61	2487.74	-1550.39	2931.31	328.07	0.29	-0.28	-0.07
14262	87.80	182.06	90	6296.1	2327.67	2397.84	-1553.22	2856.95	327.07	0.67	-0.36	0.57
14352	89.33	182.37	90	6298.3	2237.72	2307.94	-1556.70	2783.86	326.00	1.73	1.70	0.34
14441	88.95	182.70	89	6299.7	2148.75	2219.04	-1560.63	2712.88	324.88	0.57	-0.43	0.37
14531	90.39	181.32	90	6300.2	2058.77	2129.10	-1563.79	2641.69	323.70	2.22	1.60	-1.53
14620	91.44	181.62	89	6298.8	1969.78	2040.14	-1566.07	2571.92	322.49	1.23	1.18	0.34
14710	90.05	181.63	90	6297.6	1879.80	1950.19	-1568.62	2502.76	321.19	1.54	-1.54	0.01
14800	90.21	179.54	90	6297.4	1789.81	1860.20	-1569.54	2433.89	319.84	2.33	0.18	-2.32
14889	91.20	179.71	89	6296.3	1700.84	1771.21	-1568.96	2366.18	318.47	1.13	1.11	0.19
14979	90.22	179.92	90	6295.2	1610.88	1681.22	-1568.67	2299.39	316.98	1.11	-1.09	0.23
15069	90.95	179.90	90	6294.2	1520.90	1591.22	-1568.53	2234.34	315.41	0.81	0.81	-0.02
15158	88.77	180.27	89	6294.5	1431.92	1502.23	-1568.66	2171.95	313.76	2.48	-2.45	0.42
15248	88.57	180.79	90	6296.6	1341.95	1412.26	-1569.49	2111.34	311.98	0.62	-0.22	0.58
15337	88.86	180.07	89	6298.6	1252.98	1323.28	-1570.16	2053.41	310.12	0.87	0.33	-0.81
15427	89.45	180.12	90	6299.9	1163.01	1233.29	-1570.31	1996.72	308.15	0.66	0.66	0.06
15516	90.07	179.55	89	6300.3	1074.04	1144.29	-1570.05	1942.80	306.09	0.95	0.70	-0.64

## Minimum Radius of Curvature

**API: 05-123-46641**      **Well: Cinnamon Teal 35-3HN**      **Wellhead Location N+/S- : 40.613060**  
**Operator: Bison IV Operating**      **Area: DJ**      **E+/W- : -104.061305**  
**Rig:**      **Type: U-Lateral**      **Magnetic Declination: 7.32**  
**TD: 16,918'**      **Plane of Proposal: 1.15**

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
15606	91.21	179.28	90	6299.2	984.08	1054.30	-1569.13	1890.43	303.90	1.30	1.27	-0.30
15695	90.09	179.82	89	6298.2	895.13	965.32	-1568.44	1841.69	301.61	1.40	-1.26	0.61
15785	89.60	182.31	90	6298.5	805.13	875.34	-1570.11	1797.63	299.14	2.82	-0.54	2.77
15875	90.78	181.77	90	6298.2	715.15	785.40	-1573.31	1758.45	296.53	1.44	1.31	-0.60
15964	91.64	181.50	89	6296.3	626.17	696.45	-1575.85	1722.89	293.84	1.01	0.97	-0.30
16054	90.53	182.41	90	6294.6	536.20	606.53	-1578.92	1691.41	291.01	1.59	-1.23	1.01
16143	90.56	182.26	89	6293.8	447.22	517.60	-1582.55	1665.04	288.11	0.17	0.03	-0.17
16233	91.28	181.81	90	6292.3	357.24	427.67	-1585.74	1642.40	285.09	0.94	0.80	-0.50
16322	89.92	183.52	89	6291.4	268.29	338.78	-1589.88	1625.57	282.03	2.45	-1.53	1.92
16412	89.95	182.52	90	6291.5	178.34	248.91	-1594.62	1613.93	278.87	1.11	0.03	-1.11
16501	90.39	181.49	89	6291.2	89.35	159.96	-1597.74	1605.72	275.72	1.26	0.49	-1.16
16591	88.88	183.80	90	6291.8	-0.61	70.07	-1601.89	1603.42	272.50	3.07	-1.68	2.57
16681	89.11	183.28	90	6293.4	-90.52	-19.75	-1607.44	1607.57	269.30	0.63	0.26	-0.58
16770	89.64	183.28	89	6294.3	-179.45	-108.59	-1612.54	1616.19	266.15	0.60	0.60	0.00
16855	90.11	181.67	85	6294.5	-264.43	-193.51	-1616.21	1627.75	263.17	1.97	0.55	-1.89
16918	90.11	181.67	63	6294.4	-327.42	-256.49	-1618.04	1638.24	260.99	0.00	0.00	0.00