30-015-41135

LEAM Drilling Systems, Inc. 2027A Airport Rd., Conroe, TX 77301

Survey Report

MINIMUM CURVATURE CALCULATION

Operator	Devon Energy
Well Name	Lone Tree Draw 13 State C
Location	Eddy Co, NM
Start Date	8/6/2013
End Date	8/12/2013
Direction	177.55°

LEAM Drilling Systems Inc.

SUR NUM	MD ft	INC °	AZM °	TVD ft	N-S ft	E-W ft	SECT ft	DLS °/100'
TIE IN	4387	0.27	166.09	4386.90	-10.29	-0.53	-10.29	0.21
1	4541	1.93	159.02	4540.87	-13.06	0.49	13.07	1.08
2	4590	6.95	165.53	4589.70	-16.71	1.52	16.76	10.28
3	4636	11.70	170.63	4635.08	-24.01	2.98	24.11	10.47
4	4683	17.15	170.80	4680.58	-35.56	4.86	35.73	11.60
5	4731	23.13	169.92	4725.63	-51.84	7.65	52.12	12.47
6	4778	29.55	171.68	4767.73	-72.42	10.94	72.82	13.76
7	4826	35.17	173.09	4808.26	-97.88	14.32	98.40	11.81
8	4873	41.33	174.67	4845.15	-126.80	17.40	127.42	13.27
9	4921	46.78	175.02	4879.63	-160.02	20.39	160.75	11.37
10	4967	48.45	178.71	4910.65	-193.94	22.23	194.71	6.95
11	5015	55.40	180.29	4940.23	-231.70	22.54	232.45	14.71
12	5062	64.89	181.17	4963.60	-272.41	22.00	273.10	20.26
13	5110	73.95	182.23	4980.46	-317.28	20.66	317.87	18.99
14	5141	80.99	182.93	4987.18	-347.49	19.29	348.00	22.82
15	5188	89.78	181.88	4990.96	-394.25	17.33	394.63	18.83
16	5240	91.19	181.17	4990.52	-446.23	15.95	446.50	3.04
17	5331	92.33	180.82	4987.72	-537.17	14.37	537.29	1.31
18	5422	93.12	180.47	4983.40	-628.06	13.35	628.06	0.95
19	5513	91.28	178.54	4979.90	-718.98	14.13	718.93	2.93
20	5603	89.96	176.60	4978.93	-808.89	17.95	808.92	2.61
21	5694	90.84	176.43	4978.29	-899.72	23.48	899.90	0.98
22	5785	89.43	175.37	4978.08	-990.48	29.99	990.86	1.94
23	5876	90.04	175.02	4978.50	-1081.16	37.61	1081.78	0.77
24	5967	89.87	173.61	4978.57	-1171.71	46.62	1172.63	1.56
25	6058	88.46	174.14	4979.90	-1262.18	56.33	1263.43	1.66
26	6148	87.49	176.07	4983.08	-1351.79	64.01	1353.29	2.40

LEAM Drilling Systems, Inc. 2027A Airport Rd., Conroe, TX 77301

Survey Report

MINIMUM CURVATURE CALCULATION

Operator	Devon Energy
Well Name	Lone Tree Draw 13 State C
Location	Eddy Co, NM
Start Date	8/6/2013
End Date	8/12/2013
Direction	177.55°

LEAM Drilling Systems Inc.

SUR NUM	MD ft	INC °	AZM °	TVD ft	N-S ft	E-W ft	SECT ft	DLS °/100'
27	6243	88.90	176.78	4986.07	-1446.55	69.93	1448.22	1.66
28	6338	89.78	178.89	4987.17	-1541.47	73.51	1543.21	2.41
29	6433	91.10	179.41	4986.44	-1636.46	74.92	1638.17	1.49
30	6527	91.89	179.59	4983.98	-1730.42	75.74	1732.08	0.86
31	6622	89.87	177.48	4982.52	-1825.37	78.17	1827.04	3.07
32	6717	90.13	176.43	4982.52	-1920.23	83.22	1922.04	1.14
33	6811	88.37	176.43	4983.75	-2014.04	89.07	2016.01	1.87
34	6906	88.64	176.25	4986.23	-2108.81	95.13	2110.95	0.34
35	7000	88.55	177.30	4988.54	-2202.64	100.42	2204.91	1.12
36	7095	88.81	177.13	4990.73	-2297.50	105.03	2299.89	0.33
37	7189	89.16	177.83	4992.39	-2391.39	109.17	2393.87	0.83
38	7283	89.69	178.54	4993.34	-2485.34	112.14	2487.86	0.94
39	7379	90.31	179.41	4993.34	-2581.32	113.86	2583.83	1.11
40	7473	90.84	179.77	4992.39	-2675.31	114.53	2677.76	0.68
41	7568	91.19	179.41	4990.71	-2770.30	115.21	2772.69	0.53
42	7663	90.66	178.01	4989.18	-2865.26	117.35	2867.65	1.58
43	7758	89.87	176.78	4988.74	-2960.16	121.67	2962.65	1.54
44	7852	90.57	177.30	4988.37	-3054.03	126.52	3056.65	0.93
45	7947	89.52	176.43	4988.30	-3148.88	131.72	3151.64	1.44
46	8042	89.87	176.95	4988.81	-3243.72	137.20	3246.62	0.66
47	8137	90.57	176.95	4988.44	-3338.59	142.26	3341.62	0.74
48	8231	89.69	177.66	4988.23	-3432.48	146.68	3435.61	1.20
49	8326	90.13	177.66	4988.38	-3527.40	150.56	3530.61	0.46
50	8421	89.34	177.66	4988.82	-3622.32	154.44	3625.61	0.83
51	8516	89.78	178.36	4989.55	-3717.26	157.73	3720.61	0.87
52	8610	89.25	178.36	4990.34	-3811.22	160.42	3814.59	0.56
53	8705	89.60	179.06	4991.30	-3906.19	162.56	3909.57	0.82

LEAM Drilling Systems, Inc. 2027A Airport Rd., Conroe, TX 77301

Survey Report

MINIMUM CURVATURE CALCULATION

Operator	Devon Energy
Well Name	Lone Tree Draw 13 State C
Location	Eddy Co, NM
Start Date	8/6/2013
End Date	8/12/2013
Direction	177.55°

LEAM Drilling Systems Inc.

SUR NUM	MD ft	INC °	AZM °	TVD ft	N-S ft	E-W ft	SECT ft	DLS °/100'
54	8799	89.69	178.89	4991.88	-4000.17	164.24	4003.54	0.20
55	8892	90.13	179.24	4992.02	-4093.16	165.76	4096.50	0.60
56	8987	89.08	178.71	4992.68	-4188.14	167.46	4191.47	1.24
57	9081	89.16	178.01	4994.12	-4282.09	170.15	4285.45	0.75
58	9176	89.25	177.83	4995.44	-4377.02	173.60	4380.44	0.21
59	9270	89.40	178.01	4996.55	-4470.95	177.01	4474.43	0.25
60	9364	89.69	178.36	4997.29	-4564.90	179.99	4568.42	0.48
61	9459	89.25	177.48	4998.17	-4659.83	183.44	4663.41	1.04
62	9529	89.60	177.48	4998.88	-4729.76	186.51	4733.41	0.50
PTB	9585	89.60	177.48	4999.27	-4785.70	188.98	4789.41	0.00
64								

Company: Devon | Plan Name: LATERAL | Calculation Method | Calculation Method | Minimum Curvature

Field: Northwest Fenton Delaware | Magnetic Decl.: 7.50 | Proposed Azimuth | Proposed Azimuth 177.54

Cty/Blk/Par: 13-21S-27E | Grid Corr.: 0.10 | Depth Reference | Depth Reference

Well Name: Lone Tree Draw 13 ST Com 5H | Total Survey Corr.: 7.40 | Tie Into:

Rig: Cactus 126 | Target Info: M. Brushy

No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Dist (ft)	Closure Ang (°)	DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')	Remarks
0	Gyro	0	0.00	0.00	0	0.00	0.00	0.00	N	0.00	E	0	0	0	0	0	Gyro
1	Gyro	232.75	0.47	308.65	233	232.75	-0.63	0.60	N	0.75	W	0.95	308.65	0.20	0.20	132.6	
2	Gyro	324.4	0.49	257.44	92	324.39	-0.81	0.75	N	1.42	W	1.61	297.68	0.45	0.0	-55.9	
3	Gyro	416.05	0.38	227.46	92	416.04	-0.54	0.46	N	2.03	W	2.08	282.65	0.27	-0.1	-32.7	
4	Gyro	507.7	0.33	214.09	92	507.69	-0.13	0.03	N	2.40	W	2.40	270.74	0.11	-0.1	-14.6	
5	Gyro	599.35	0.39	218.98	92	599.34	0.31	0.43	S	2.74	W	2.78	261.09	0.07	0.1	5.3	
6	Gyro	691	0.54	209.31	92	690.99	0.91	1.05	S	3.15	W	3.32	251.59	0.18	0.2	-10.6	
7	Gyro	782.65	0.55	205.41	92	782.63	1.67	1.82	S	3.55	W	3.99	242.83	0.04	0.0	-4.3	
8	Gyro	874.3	0.21	202.35	92	874.28	2.21	2.38	S	3.80	W	4.49	238.02	0.37	-0.4	-3.3	
9	Gyro	965.95	0.41	201.09	92	965.93	2.66	2.84	S	3.99	W	4.89	234.56	0.22	0.2	-1.4	
10	Gyro	1057.6	0.19	231.43	92	1057.58	3.05	3.24	S	4.22	W	5.32	232.52	0.29	-0.2	33.1	
11	Gyro	1149.3	0.53	280.12	92	1149.22	3.05	3.26	S	4.76	W	5.77	235.61	0.47	0.4	53.1	
12	Gyro	1240.9	0.33	315.93	92	1240.87	2.76	2.99	S	5.36	W	6.14	240.82	0.36	-0.2	39.1	
13	Gyro	1332.6	0.19	316.47	92	1332.52	2.45	2.69	S	5.65	W	6.26	244.50	0.15	-0.2	0.6	
14	Gyro	1424.2	0.19	322.90	92	1424.17	2.21	2.46	S	5.84	W	6.34	247.15	0.02	0.0	7.0	
15	Gyro	1515.9	0.50	306.67	92	1515.82	1.83	2.10	S	6.26	W	6.60	251.43	0.35	0.3	-17.7	
16	Gyro	1607.5	0.55	286.23	92	1607.46	1.44	1.74	S	7.00	W	7.21	256.03	0.21	0.1	-22.3	
17	Gyro	1699.2	0.18	228.40	92	1699.11	1.39	1.71	S	7.53	W	7.72	257.18	0.52	-0.4	-63.1	
18	Gyro	1790.8	0.32	173.11	92	1790.76	1.73	2.06	S	7.61	W	7.88	254.83	0.29	0.2	-60.3	
19	Gyro	1882.5	0.28	159.71	92	1882.41	2.20	2.53	S	7.50	W	7.91	251.37	0.09	0.0	-14.6	
20	Gyro	1974.1	0.70	154.00	92	1974.06	2.93	3.24	S	7.18	W	7.87	245.70	0.46	0.5	-6.2	
21	Gyro	2065.8	0.54	167.29	92	2065.70	3.87	4.17	S	6.84	W	8.00	238.64	0.23	-0.2	14.5	
22	Gyro	2157.4	0.57	174.00	92	2157.35	4.75	5.04	S	6.69	W	8.38	233.02	0.08	0.0	7.3	
23	Gyro	2249.1	0.04	182.87	92	2249.00	5.23	5.53	S	6.65	W	8.64	230.26	0.58	-0.6	9.7	
24	Gyro	2340.7	0.16	175.43	92	2340.65	5.39	5.68	S	6.64	W	8.74	229.42	0.13	0.1	-8.1	
25	Gyro	2432.4	0.12	174.54	92	2432.30	5.62	5.91	S	6.62	W	8.87	228.25	0.04	0.0	-1.0	
26	Gyro	2524	0.49	163.16	92	2523.94	6.09	6.38	S	6.50	W	9.10	225.52	0.41	0.4	-12.4	
27	Gyro	2615.7	0.29	157.24	92	2615.59	6.69	6.97	S	6.29	W	9.39	222.09	0.22	-0.2	-6.5	
28	Gyro	2707.3	0.40	162.78	92	2707.24	7.22	7.49	S	6.11	W	9.66	219.21	0.13	0.1	6.0	
29	Gyro	2799	0.35	182.12	92	2798.89	7.81	8.07	S	6.02	W	10.07	216.73	0.15	-0.1	21.1	

Company:	Devon	Plan Name:	LATERAL	Calculation Method	Minimum Curvature	Calculation Method				
Field:	Northwest Fenton Delaware	Magnetic Decl.:	7.50	Proposed Azimuth	177.54	Proposed Azimuth				
Cty/Blk/Par:	13-21S-27E	Grid Corr.:	0.10	Depth Reference		Depth Reference				
Well Name:	Lone Tree Draw 13 ST Com 5H	Total Survey Corr.:	7.40	Tie Into:						
Rig:	Cactus 126	Target Info:	M. Brushy							

No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Dist (ft)	Closure Ang (°)	DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')	Remarks
30	Gyro	2890.6	0.14	242.61	92	2890.54	8.13	8.40	S	6.13	W	10.40	216.13	0.33	-0.2	66.0	
31	Gyro	2982.3	0.01	280.69	92	2982.19	8.18	8.45	S	6.24	W	10.51	216.44	0.14	-0.1	41.5	
32	Gyro	3073.9	0.05	300.67	92	3073.84	8.15	8.43	S	6.28	W	10.52	216.69	0.04	0.0	21.8	
33	Gyro	3165.6	0.53	330.24	92	3165.49	7.76	8.04	S	6.53	W	10.36	219.06	0.53	0.5	32.3	
34	Gyro	3257.2	0.60	29.73	92	3257.13	6.97	7.26	S	6.50	W	9.74	221.85	0.62	0.1	-327.9	
35	Gyro	3348.9	0.54	70.91	92	3348.78	6.44	6.70	S	5.85	W	8.90	221.14	0.44	-0.1	44.9	
36	Gyro	3440.5	0.27	107.79	92	3440.43	6.39	6.63	S	5.24	W	8.45	218.34	0.40	-0.3	40.2	
37	Gyro	3532.2	0.38	129.75	92	3532.07	6.67	6.89	S	4.80	W	8.39	214.89	0.18	0.1	24.0	
38	Gyro	3623.8	0.51	140.33	92	3623.72	7.20	7.39	S	4.31	W	8.56	210.22	0.17	0.1	11.5	
39	Gyro	3715.5	0.42	138.97	92	3715.37	7.79	7.96	S	3.83	W	8.83	205.67	0.10	-0.1	-1.5	
40	Gyro	3807.1	0.48	106.88	92	3807.02	8.18	8.33	S	3.24	W	8.93	201.25	0.28	0.1	-35.0	
41	Gyro	3898.8	0.58	88.43	92	3898.66	8.31	8.42	S	2.41	W	8.76	195.95	0.21	0.1	-20.1	
42	Gyro	3990.4	0.35	125.58	92	3990.31	8.49	8.57	S	1.72	W	8.74	191.32	0.40	-0.3	40.5	
43	Gyro	4082.1	0.41	135.21	92	4081.96	8.91	8.97	S	1.26	W	9.06	187.98	0.10	0.1	10.5	
44	Gyro	4173.7	0.21	148.01	92	4173.61	9.30	9.35	S	0.94	W	9.39	185.73	0.23	-0.2	14.0	
45	Gyro	4265.4	0.35	154.11	92	4265.25	9.70	9.74	S	0.73	W	9.77	184.26	0.16	0.2	6.7	
46	Gyro	4357	0.21	161.85	92	4356.90	10.12	10.15	S	0.55	W	10.17	183.11	0.16	-0.2	8.4	
47	tie-in	4387	0.27	166.09	30	4386.90	10.24	10.27	S	0.52	W	10.29	182.88	0.21	0.2	14.1	tie-in
48	gyro	4541	1.93	159.02	154	4540.87	13.06	13.05	S	0.50	E	13.06	177.81	1.08	1.1	-4.6	gyro
49	kop	4590	6.95	165.53	49	4589.71	16.74	16.69	S	1.54	E	16.76	174.74	10.28	10.2	13.3	kop
50	mwd	4636	11.70	170.63	46	4635.09	24.10	23.99	S	2.99	E	24.18	172.89	10.47	10.3	11.1	mwd
51	mwd	4683	17.15	170.80	47	4680.59	35.72	35.54	S	4.88	E	35.87	172.19	11.60	11.6	0.4	
52	mwd	4731	23.13	169.92	48	4725.63	52.11	51.82	S	7.66	E	52.39	171.59	12.47	12.5	-1.8	
53	mwd	4778	29.55	171.68	47	4767.73	72.81	72.40	S	10.96	E	73.23	171.40	13.76	13.7	3.7	
54	mwd	4826	35.17	173.09	48	4808.26	98.38	97.86	S	14.33	E	98.90	171.67	11.81	11.7	2.9	
55	mwd	4873	41.33	174.67	47	4845.15	127.41	126.78	S	17.41	E	127.97	172.18	13.27	13.1	3.4	
56	mwd	4921	46.78	175.02	48	4879.64	160.74	160.01	S	20.40	E	161.30	172.73	11.37	11.4	0.7	
57	mwd	4967	48.45	178.71	46	4910.65	194.70	193.92	S	22.24	E	195.19	173.46	6.95	3.6	8.0	
58	mwd	5015	55.40	180.29	48	4940.24	232.44	231.68	S	22.55	E	232.78	174.44	14.71	14.5	3.3	
59	mwd	5062	64.89	181.17	47	4963.61	273.09	272.39	S	22.01	E	273.28	175.38	20.26	20.2	1.9	

Company: Devon
Field: Northwest Fenton Delaware
Cty/Blk/Par: 13-21S-27E
Well Name: Lone Tree Draw 13 ST Com 5H
Rig: Cactus 126

Plan Name: LATERAL
Magnetic Decl.: 7.50
Grid Corr.: 0.10
Total Survey Corr.: 7.40
Target Info: M. Brushy

Calculation Method: Minimum Curvature
Proposed Azimuth: 177.54
Depth Reference:
Tie Into:

No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates N/S (ft)		E/W (ft)		Closure Dist (ft)	Ang (°)	DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')	Remarks
60	mwd	5110	73.95	182.23	48	4980.46	317.86	317.26	S	20.67	E	317.93	176.27	18.99	18.9	2.2	
61	mwd	5141	80.99	182.93	31	4987.18	347.98	347.47	S	19.31	E	348.01	176.82	22.82	22.7	2.3	
62	mwd	5188	89.78	181.88	47	4990.96	394.61	394.23	S	17.35	E	394.61	177.48	18.83	18.7	-2.2	
63	mwd	5240	91.19	181.17	52	4990.52	446.49	446.21	S	15.96	E	446.50	177.95	3.04	2.7	-1.4	
64	mwd	5331	92.33	180.82	91	4987.73	537.28	537.15	S	14.38	E	537.35	178.47	1.31	1.3	-0.4	
65	mwd	5422	93.12	180.47	91	4983.40	628.04	628.04	S	13.36	E	628.19	178.78	0.95	0.9	-0.4	
66	mwd	5513	91.28	178.54	91	4979.91	718.91	718.96	S	14.15	E	719.10	178.87	2.93	-2.0	-2.1	
67	mwd	5603	89.96	176.60	90	4978.93	808.90	808.87	S	17.96	E	809.07	178.73	2.61	-1.5	-2.2	
68	mwd	5694	90.84	176.43	91	4978.30	899.88	899.70	S	23.49	E	900.01	178.50	0.98	1.0	-0.2	
69	mwd	5785	89.43	175.37	91	4978.08	990.84	990.46	S	30.00	E	990.92	178.27	1.94	-1.5	-1.2	
70	mwd	5876	90.04	175.02	91	4978.50	1081.76	1081.14	S	37.62	E	1081.80	178.01	0.77	0.7	-0.4	
71	mwd	5967	89.87	173.61	91	4978.57	1172.61	1171.69	S	46.64	E	1172.62	177.72	1.56	-0.2	-1.5	
72	mwd	6058	88.46	174.14	91	4979.90	1263.42	1262.16	S	56.34	E	1263.42	177.44	1.66	-1.5	0.6	
73	mwd	6148	87.49	176.07	90	4983.08	1353.27	1351.77	S	64.02	E	1353.29	177.29	2.40	-1.1	2.1	
74	mwd	6243	88.90	176.78	95	4986.07	1448.21	1446.54	S	69.94	E	1448.23	177.23	1.66	1.5	0.7	
75	mwd	6338	89.78	178.89	95	4987.17	1543.19	1541.46	S	73.53	E	1543.21	177.27	2.41	0.9	2.2	
76	mwd	6433	91.10	179.41	95	4986.44	1638.15	1636.44	S	74.94	E	1638.16	177.38	1.49	1.4	0.5	
77	mwd	6527	91.89	179.59	94	4983.99	1732.06	1730.40	S	75.76	E	1732.06	177.49	0.86	0.8	0.2	
78	mwd	6622	89.87	177.48	95	4982.53	1827.03	1825.35	S	78.19	E	1827.03	177.55	3.07	-2.1	-2.2	
79	mwd	6717	90.13	176.43	95	4982.53	1922.02	1920.22	S	83.23	E	1922.02	177.52	1.14	0.3	-1.1	
80	mwd	6811	88.37	176.43	94	4983.76	2015.99	2014.02	S	89.08	E	2015.99	177.47	1.87	-1.9	0.0	
81	mwd	6906	88.64	176.25	95	4986.24	2110.94	2108.80	S	95.15	E	2110.94	177.42	0.34	0.3	-0.2	
82	mwd	7000	88.55	177.30	94	4988.54	2204.90	2202.62	S	100.43	E	2204.91	177.39	1.12	-0.1	1.1	
83	mwd	7095	88.81	177.13	95	4990.73	2299.87	2297.48	S	105.05	E	2299.88	177.38	0.33	0.3	-0.2	
84	mwd	7189	89.16	177.83	94	4992.39	2393.86	2391.37	S	109.18	E	2393.86	177.39	0.83	0.4	0.7	
85	mwd	7283	89.69	178.54	94	4993.34	2487.84	2485.32	S	112.16	E	2487.85	177.42	0.94	0.6	0.8	
86	mwd	7379	90.31	179.41	96	4993.34	2583.81	2581.30	S	113.87	E	2583.81	177.47	1.11	0.6	0.9	
87	mwd	7473	90.84	179.77	94	4992.39	2677.75	2675.30	S	114.55	E	2677.75	177.55	0.68	0.6	0.4	
88	mwd	7568	91.19	179.41	95	4990.71	2772.67	2770.28	S	115.23	E	2772.67	177.62	0.53	0.4	-0.4	
89	mwd	7663	90.66	178.01	95	4989.18	2867.64	2865.24	S	117.36	E	2867.64	177.65	1.58	-0.6	-1.5	

Company:	Devon	Plan Name:	LATERAL	Calculation Method	Calculation Method	Minimum Curvature	
Field:	Northwest Fenton Delaware	Magnetic Decl.:	7.50	Proposed Azimuth	Proposed Azimuth	177.54	
Cty/Blk/Par:	13-21S-27E	Grid Corr.:	0.10	Depth Reference	Depth Reference		
Well Name:	Lone Tree Draw 13 ST Com 5H	Total Survey Corr.:	7.40	Tie Into:			
Rig:	Cactus 126	Target Info:	M. Brushy				

No.	Tool Type	Survey Depth (ft)	Incl (°)	Azimuth (°)	Course Lgth (ft)	TVD (ft)	VS (ft)	Coordinates N/S (ft)		Coordinates E/W (ft)		Closure Dist (ft)	Closure Ang (°)	DLS (°/100')	Bld Rate (°/100')	Wlk Rate (°/100')	Remarks
90	mwd	7758	89.78	176.78	95	4988.81	2962.63	2960.14	S	121.68	E	2962.64	177.65	1.59	-0.9	-1.3	
91	mwd	7852	90.57	177.30	94	4988.53	3056.63	3054.01	S	126.54	E	3056.63	177.63	1.01	0.8	0.6	
92	mwd	7947	89.52	176.43	95	4988.45	3151.62	3148.87	S	131.73	E	3151.62	177.60	1.44	-1.1	-0.9	
93	mwd	8042	89.87	176.95	95	4988.96	3246.61	3243.71	S	137.22	E	3246.61	177.58	0.66	0.4	0.5	
94	mwd	8137	90.57	176.95	95	4988.59	3341.60	3338.57	S	142.27	E	3341.60	177.56	0.74	0.7	0.0	
95	mwd	8231	89.69	177.66	94	4988.38	3435.60	3432.46	S	146.69	E	3435.60	177.55	1.20	-0.9	0.8	
96	mwd	8326	90.13	177.66	95	4988.53	3530.60	3527.39	S	150.57	E	3530.60	177.56	0.46	0.5	0.0	
97	mwd	8421	89.34	177.66	95	4988.97	3625.60	3622.30	S	154.45	E	3625.60	177.56	0.83	-0.8	0.0	
98	mwd	8516	89.78	178.36	95	4989.70	3720.59	3717.24	S	157.75	E	3720.59	177.57	0.87	0.5	0.7	
99	mwd	8610	89.25	178.36	94	4990.49	3814.58	3811.20	S	160.44	E	3814.58	177.59	0.56	-0.6	0.0	
100	mwd	8705	89.60	179.06	95	4991.45	3909.55	3906.17	S	162.58	E	3909.55	177.62	0.82	0.4	0.7	
101	mwd	8799	89.69	178.89	94	4992.03	4003.52	4000.15	S	164.26	E	4003.53	177.65	0.20	0.1	-0.2	
102	mwd	8892	90.13	179.24	93	4992.17	4096.48	4093.14	S	165.78	E	4096.50	177.68	0.60	0.5	0.4	
103	mwd	8987	89.08	178.71	95	4992.83	4191.45	4188.12	S	167.47	E	4191.47	177.71	1.24	-1.1	-0.6	
104	mwd	9081	89.16	178.01	94	4994.27	4285.43	4282.07	S	170.16	E	4285.45	177.72	0.75	0.1	-0.7	
105	mwd	9176	89.25	177.83	95	4995.59	4380.42	4377.00	S	173.61	E	4380.44	177.73	0.21	0.1	-0.2	
106	mwd	9270	89.43	178.01	94	4996.67	4474.41	4470.93	S	177.02	E	4474.44	177.73	0.27	0.2	0.2	
107	mwd	9364	89.69	178.36	94	4997.40	4568.40	4564.88	S	180.00	E	4568.43	177.74	0.46	0.3	0.4	
108	mwd	9459	89.25	177.48	95	4998.27	4663.39	4659.81	S	183.45	E	4663.42	177.75	1.04	-0.5	-0.9	
109	mwd	9529	89.60	177.48	70	4998.98	4733.39	4729.74	S	186.53	E	4733.42	177.74	0.50	0.5	0.0	
110	mwd	9589	89.60	177.48	60	4999.40	4793.39	4789.68	S	189.16	E	4793.42	177.74	0.00	0.0	0.0	