

# Archer

OPERATOR		FIELD NAME		Well name/No.		Rig Name & No.		Archer Job No.		Calculation Method		Minimum Curvature			
SandRidge Energy, Inc		Mississippi Lime		Thomas 3319 1-28H		Lariat 3		04249-431-22		Proposed Azimuth		179.19°			
MWD OPERATOR		DIR SUPERVISOR		COUNTY		STATE		Start Date		Depth Reference:		RKB			
Craig Campbell		Eric Nyce		Comanche		Kansas		17-May-13		Tie Into:		MWD			
DipA: 65.09		Mag Field: 0.51682		Mag Dec: 5.88		Total Cor.: 0				Job Service:		Gamma-Dir.			
Mag Spacing Req.		Mag Spacing Actual		Mag Spacing Req.		Mag Spacing Actual									
Below 9		Below 20		Above 15		Above 50									
Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (°/100')	Build Rate (°/100')	Walk Rate (°/100')		
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth					
Tie-In	0.00'	0.00°	0.00°	0.00'	0.00'	0.00'	0.00'	0.00'	0.00'	0.00'	0.00°	0.0°	0.0°		
1	965.00'	1.00°	89.40°	965.00'	964.95'	0.03'	0.09'	N	8.42'	8.42'	449.40°	0.10°	0.1°	9.3°	
2	1423.00'	1.20°	69.10°	458.00'	1422.87'	-1.60'	1.84'	N	16.90'	E	17.00'	83.78°	0.09°	0.0°	-4.4°
3	1898.00'	0.80°	74.20°	475.00'	1897.79'	-4.17'	4.52'	N	24.73'	E	25.14'	79.65°	0.09°	-0.1°	1.1°
4	2372.00'	0.90°	161.20°	474.00'	2371.76'	-1.48'	1.90'	N	29.12'	E	29.18'	86.28°	0.25°	0.0°	18.4°
5	2846.00'	0.60°	112.50°	474.00'	2845.72'	3.04'	2.58'	S	32.61'	E	32.71'	94.52°	0.14°	-0.1°	-10.3°
6	3322.00'	1.20°	69.70°	476.00'	3321.67'	2.36'	1.80'	S	39.59'	E	39.63'	92.61°	0.18°	0.1°	-9.0°
7	3797.00'	0.90°	240.40°	475.00'	3796.64'	2.50'	1.92'	S	41.01'	E	41.05'	92.68°	0.44°	-0.1°	35.9°
8	3891.00'	0.90°	237.30°	94.00'	3890.63'	3.25'	2.68'	S	39.75'	E	39.84'	93.86°	0.05°	0.0°	-3.3°
9	3987.00'	1.30°	235.70°	96.00'	3986.61'	4.24'	3.70'	S	38.21'	E	38.39'	95.54°	0.42°	0.4°	-1.7°
10	4082.00'	2.40°	238.30°	95.00'	4081.56'	5.86'	5.36'	S	35.63'	E	36.03'	98.55°	1.16°	1.2°	2.7°
11	4177.00'	2.40°	236.40°	95.00'	4176.47'	7.96'	7.50'	S	32.28'	E	33.14'	103.09°	0.08°	0.0°	-2.0°
12	4271.00'	2.40°	231.60°	94.00'	4270.39'	10.23'	9.82'	S	29.10'	E	30.71'	108.64°	0.21°	0.0°	-5.1°
13	4366.00'	1.70°	231.90°	95.00'	4365.33'	12.29'	11.92'	S	26.43'	E	28.99'	114.27°	0.74°	-0.7°	0.3°
14	4397.00'	1.80°	240.10°	31.00'	4396.32'	12.81'	12.45'	S	25.65'	E	28.51'	115.89°	0.87°	0.3°	26.5°
15	4428.00'	3.10°	229.90°	31.00'	4427.29'	13.58'	13.23'	S	24.58'	E	27.92'	118.29°	4.41°	4.2°	-32.9°
16	4460.00'	5.80°	218.60°	32.00'	4459.19'	15.37'	15.05'	S	22.91'	E	27.41'	123.30°	8.83°	8.4°	-35.3°
17	4491.00'	8.40°	215.50°	31.00'	4489.95'	18.41'	18.12'	S	20.62'	E	27.45'	131.30°	8.47°	8.4°	-10.0°
18	4523.00'	9.90°	205.70°	32.00'	4521.54'	22.75'	22.50'	S	18.07'	E	28.86'	141.23°	6.74°	4.7°	-30.6°
19	4554.00'	10.50°	200.10°	31.00'	4552.05'	27.78'	27.55'	S	15.94'	E	31.84'	149.95°	3.74°	1.9°	-18.1°
20	4586.00'	11.20°	192.70°	32.00'	4583.48'	33.52'	33.33'	S	14.26'	E	36.25'	156.84°	4.87°	2.2°	-23.1°
21	4617.00'	11.90°	187.90°	31.00'	4613.85'	39.61'	39.43'	S	13.16'	E	41.57'	161.55°	3.83°	2.3°	-15.5°
22	4649.00'	11.90°	187.70°	32.00'	4645.17'	46.13'	45.97'	S	12.26'	E	47.57'	165.06°	0.13°	0.0°	-0.6°
23	4680.00'	13.60°	187.90°	31.00'	4675.40'	52.90'	52.74'	S	11.33'	E	53.95'	167.87°	5.49°	5.5°	0.6°
24	4711.00'	15.90°	185.70°	31.00'	4705.38'	60.72'	60.58'	S	10.41'	E	61.47'	170.25°	7.63°	7.4°	-7.1°
25	4743.00'	16.80°	181.60°	32.00'	4736.08'	69.70'	69.56'	S	9.85'	E	70.26'	171.94°	4.57°	2.8°	-12.8°
26	4775.00'	18.70°	179.50°	32.00'	4766.56'	79.45'	79.32'	S	9.76'	E	79.92'	172.98°	6.26°	5.9°	-6.6°
27	4806.00'	20.60°	178.30°	31.00'	4795.75'	89.87'	89.74'	S	9.97'	E	90.29'	173.66°	6.27°	6.1°	-3.9°
28	4838.00'	22.90°	178.70°	32.00'	4825.47'	101.73'	101.59'	S	10.27'	E	102.11'	174.23°	7.20°	7.2°	1.2°
29	4869.00'	26.10°	179.90°	31.00'	4853.68'	114.58'	114.45'	S	10.42'	E	114.92'	174.80°	10.45°	10.3°	3.9°
30	4901.00'	29.10°	180.30°	32.00'	4882.03'	129.40'	129.27'	S	10.39'	E	129.69'	175.40°	9.39°	9.4°	1.3°
31	4933.00'	31.70°	179.60°	32.00'	4909.63'	145.59'	145.46'	S	10.41'	E	145.83'	175.91°	8.20°	8.1°	-2.2°
32	4964.00'	34.10°	178.90°	31.00'	4935.66'	162.43'	162.30'	S	10.64'	E	162.64'	176.25°	7.84°	7.7°	-2.3°
33	4996.00'	36.30°	178.90°	32.00'	4961.81'	180.87'	180.74'	S	10.99'	E	181.07'	176.52°	6.88°	6.9°	0.0°
34	5028.00'	38.90°	179.10°	32.00'	4987.16'	200.40'	200.26'	S	11.33'	E	200.58'	176.76°	8.13°	8.1°	0.6°
35	5060.00'	41.50°	179.00°	32.00'	5011.60'	221.05'	220.91'	S	11.67'	E	221.22'	176.98°	8.13°	8.1°	-0.3°
36	5091.00'	43.70°	178.50°	31.00'	5034.41'	242.03'	241.88'	S	12.13'	E	242.19'	177.13°	7.18°	7.1°	-1.6°
37	5123.00'	44.90°	178.70°	32.00'	5057.32'	264.38'	264.23'	S	12.68'	E	264.53'	177.25°	3.78°	3.7°	0.6°
38	5155.00'	47.00°	178.80°	32.00'	5079.56'	287.38'	287.22'	S	13.18'	E	287.52'	177.37°	6.57°	6.6°	0.3°
39	5186.00'	49.40°	179.50°	31.00'	5100.22'	310.48'	310.32'	S	13.52'	E	310.62'	177.51°	7.92°	7.7°	2.3°
40	5218.00'	50.30°	179.40°	32.00'	5120.86'	334.94'	334.78'	S	13.75'	E	335.06'	177.65°	2.82°	2.8°	-0.3°
41	5250.00'	50.40°	179.10°	32.00'	5141.28'	359.58'	359.42'	S	14.08'	E	359.69'	177.76°	0.79°	0.3°	-0.9°
42	5281.00'	50.30°	179.30°	31.00'	5161.06'	383.45'	383.28'	S	14.41'	E	383.56'	177.85°	0.59°	-0.3°	0.6°
43	5313.00'	50.40°	179.00°	32.00'	5181.48'	408.09'	407.92'	S	14.78'	E	408.19'	177.93°	0.79°	0.3°	-0.9°
44	5344.00'	49.90°	179.00°	31.00'	5201.34'	431.89'	431.72'	S	15.19'	E	431.98'	177.98°	1.61°	-1.6°	0.0°
45	5376.00'	50.70°	178.80°	32.00'	5221.78'	456.51'	456.33'	S	15.66'	E	456.60'	178.03°	2.55°	2.5°	-0.6°
46	5408.00'	52.60°	179.20°	32.00'	5241.64'	481.60'	481.42'	S	16.10'	E	481.69'	178.08°	6.02°	5.9°	1.2°
47	5439.00'	55.60°	179.40°	31.00'	5259.81'	506.71'	506.53'	S	16.41'	E	506.79'	178.14°	9.69°	9.7°	0.6°
48	5470.00'	59.10°	179.40°	31.00'	5276.53'	532.81'	532.63'	S	16.68'	E	532.89'	178.21°	11.29°	11.3°	0.0°
49	5502.00'	62.70°	178.90°	32.00'	5292.09'	560.76'	560.58'	S	17.10'	E	560.84'	178.25°	11.33°	11.3°	-1.6°
50	5533.00'	66.40°	178.30°	31.00'	5305.41'	588.75'	588.56'	S	17.78'	E	588.83'	178.27°	12.06°	11.9°	-1.9°

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51	5565.00'	69.50°	177.90°	32.00'	5317.42'	618.40'	618.20' S	18.77'	E	618.48'	178.26°	9.76°	9.7°	-1.3°
52	5596.00'	72.50°	177.00°	31.00'	5327.52'	647.69'	647.47' S	20.07'	E	647.79'	178.22°	10.06°	9.7°	-2.9°
53	5628.00'	75.20°	176.50°	32.00'	5336.42'	678.40'	678.16' S	21.82'	E	678.51'	178.16°	8.57°	8.4°	-1.6°
54	5659.00'	78.10°	176.90°	31.00'	5343.57'	708.53'	708.27' S	23.55'	E	708.66'	178.10°	9.44°	9.4°	1.3°
55	5690.00'	80.60°	177.30°	31.00'	5349.30'	738.97'	738.69' S	25.09'	E	739.12'	178.05°	8.16°	8.1°	1.3°
56	5722.00'	82.20°	177.00°	32.00'	5354.09'	770.59'	770.29' S	26.67'	E	770.75'	178.02°	5.09°	5.0°	-0.9°
57	5751.00'	85.20°	176.70°	29.00'	5357.27'	799.39'	799.07' S	28.25'	E	799.57'	177.98°	10.40°	10.3°	-1.0°
58	5837.00'	88.70°	177.00°	86.00'	5361.84'	885.18'	884.81' S	32.97'	E	885.42'	177.87°	4.08°	4.1°	0.3°
59	5867.00'	88.50°	177.20°	30.00'	5362.58'	915.15'	914.76' S	34.49'	E	915.41'	177.84°	0.94°	-0.7°	0.7°
60	5898.00'	89.90°	177.50°	31.00'	5363.01'	946.13'	945.72' S	35.92'	E	946.40'	177.82°	4.62°	4.5°	1.0°



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61	5928.00'	90.20°	177.60°	30.00'	5362.98'	976.12'	975.69'	S	37.20'	E	976.40'	177.82°	1.05°	1.0°	0.3°
62	5959.00'	90.80°	178.90°	31.00'	5362.71'	1007.12'	1006.68'	S	38.15'	E	1007.40'	177.83°	4.62°	1.9°	4.2°
63	5989.00'	91.50°	179.50°	30.00'	5362.11'	1037.11'	1036.67'	S	38.57'	E	1037.38'	177.87°	3.07°	2.3°	2.0°
64	6020.00'	91.60°	179.40°	31.00'	5361.27'	1068.10'	1067.65'	S	38.86'	E	1068.36'	177.92°	0.46°	0.3°	-0.3°
65	6051.00'	91.20°	180.30°	31.00'	5360.51'	1099.09'	1098.65'	S	38.95'	E	1099.34'	177.97°	3.18°	-1.3°	2.9°
66	6081.00'	91.30°	180.30°	30.00'	5359.86'	1129.07'	1128.64'	S	38.79'	E	1129.30'	178.03°	0.33°	0.3°	0.0°
67	6111.00'	90.40°	181.00°	30.00'	5359.42'	1159.06'	1158.63'	S	38.45'	E	1159.27'	178.10°	3.80°	-3.0°	2.3°
68	6142.00'	90.20°	181.00°	31.00'	5359.25'	1190.04'	1189.63'	S	37.91'	E	1190.23'	178.17°	0.65°	-0.6°	0.0°
69	6173.00'	89.80°	181.00°	31.00'	5359.25'	1221.03'	1220.62'	S	37.37'	E	1221.19'	178.25°	1.29°	-1.3°	0.0°
70	6203.00'	90.30°	181.30°	30.00'	5359.23'	1251.01'	1250.62'	S	36.76'	E	1251.16'	178.32°	1.94°	1.7°	1.0°
71	6233.00'	90.40°	181.00°	30.00'	5359.04'	1280.99'	1280.61'	S	36.16'	E	1281.12'	178.38°	1.05°	0.3°	-1.0°
72	6264.00'	89.30°	180.90°	31.00'	5359.12'	1311.98'	1311.60'	S	35.65'	E	1312.09'	178.44°	3.56°	-3.5°	-0.3°
73	6294.00'	89.40°	179.90°	30.00'	5359.46'	1341.97'	1341.60'	S	35.44'	E	1342.07'	178.49°	3.35°	0.3°	-3.3°
74	6324.00'	89.20°	178.90°	30.00'	5359.83'	1371.97'	1371.60'	S	35.75'	E	1372.06'	178.51°	3.40°	-0.7°	-3.3°
75	6354.00'	89.10°	178.90°	30.00'	5360.28'	1401.96'	1401.59'	S	36.33'	E	1402.06'	178.52°	0.33°	-0.3°	0.0°
76	6385.00'	89.30°	179.90°	31.00'	5360.71'	1432.96'	1432.58'	S	36.65'	E	1433.05'	178.53°	3.29°	0.6°	3.2°
77	6415.00'	89.70°	180.30°	30.00'	5360.97'	1462.95'	1462.58'	S	36.60'	E	1463.04'	178.57°	1.89°	1.3°	1.3°
78	6446.00'	89.90°	180.00°	31.00'	5361.08'	1493.95'	1493.58'	S	36.52'	E	1494.03'	178.60°	1.16°	0.6°	-1.0°
79	6476.00'	90.00°	179.90°	30.00'	5361.11'	1523.95'	1523.58'	S	36.55'	E	1524.02'	178.63°	0.47°	0.3°	-0.3°
80	6537.00'	90.30°	179.70°	61.00'	5360.95'	1584.94'	1584.58'	S	36.76'	E	1585.01'	178.67°	0.59°	0.5°	-0.3°
81	6568.00'	90.20°	179.60°	31.00'	5360.81'	1615.94'	1615.58'	S	36.95'	E	1616.00'	178.69°	0.46°	-0.3°	-0.3°
82	6598.00'	90.00°	179.50°	30.00'	5360.76'	1645.94'	1645.58'	S	37.18'	E	1646.00'	178.71°	0.75°	-0.7°	-0.3°
83	6659.00'	89.80°	180.00°	61.00'	5360.86'	1706.94'	1706.58'	S	37.45'	E	1706.99'	178.74°	0.88°	-0.3°	0.8°
84	6690.00'	90.20°	179.60°	31.00'	5360.86'	1737.93'	1737.58'	S	37.56'	E	1737.98'	178.76°	1.82°	1.3°	-1.3°
85	6720.00'	91.20°	179.50°	30.00'	5360.50'	1767.93'	1767.57'	S	37.79'	E	1767.98'	178.78°	3.35°	3.3°	-0.3°
86	6751.00'	92.50°	179.50°	31.00'	5359.50'	1798.91'	1798.56'	S	38.06'	E	1798.96'	178.79°	4.19°	4.2°	0.0°
87	6782.00'	92.70°	180.00°	31.00'	5358.09'	1829.88'	1829.52'	S	38.20'	E	1829.92'	178.80°	1.74°	0.6°	1.6°
88	6812.00'	91.60°	181.40°	30.00'	5356.97'	1859.85'	1859.50'	S	37.83'	E	1859.88'	178.83°	5.93°	-3.7°	4.7°
89	6843.00'	90.20°	182.10°	31.00'	5356.48'	1890.81'	1890.48'	S	36.89'	E	1890.84'	178.88°	5.05°	-4.5°	2.3°
90	6873.00'	88.60°	182.10°	30.00'	5356.79'	1920.77'	1920.46'	S	35.79'	E	1920.79'	178.93°	5.33°	-5.3°	0.0°
91	6904.00'	85.40°	182.20°	31.00'	5358.42'	1951.68'	1951.39'	S	34.63'	E	1951.70'	178.98°	10.33°	-10.3°	0.3°
92	6935.00'	84.70°	181.70°	31.00'	5361.09'	1982.53'	1982.25'	S	33.57'	E	1982.54'	179.03°	2.77°	-2.3°	-1.6°
93	6965.00'	85.00°	181.50°	30.00'	5363.78'	2012.38'	2012.12'	S	32.74'	E	2012.39'	179.07°	1.20°	1.0°	-0.7°
94	6995.00'	87.50°	181.20°	30.00'	5365.74'	2042.30'	2042.05'	S	32.03'	E	2042.30'	179.10°	8.39°	8.3°	-1.0°
95	7026.00'	87.90°	181.10°	31.00'	5366.99'	2073.25'	2073.02'	S	31.41'	E	2073.25'	179.13°	1.33°	1.3°	-0.3°
96	7056.00'	86.40°	180.50°	30.00'	5368.48'	2103.20'	2102.97'	S	30.99'	E	2103.20'	179.16°	5.38°	-5.0°	-2.0°
97	7087.00'	85.90°	180.10°	31.00'	5370.56'	2134.13'	2133.90'	S	30.83'	E	2134.13'	179.17°	2.06°	-1.6°	-1.3°
98	7117.00'	86.70°	179.60°	30.00'	5372.50'	2164.06'	2163.84'	S	30.91'	E	2164.06'	179.18°	3.14°	2.7°	-1.7°
99	7148.00'	88.70°	178.90°	31.00'	5373.74'	2195.04'	2194.81'	S	31.32'	E	2195.04'	179.18°	6.83°	6.5°	-2.3°
100	7179.00'	90.10°	178.00°	31.00'	5374.07'	2226.03'	2225.80'	S	32.16'	E	2226.03'	179.17°	5.37°	4.5°	-2.9°
101	7209.00'	91.00°	177.70°	30.00'	5373.78'	2256.02'	2255.78'	S	33.28'	E	2256.02'	179.15°	3.16°	3.0°	-1.0°
102	7240.00'	90.30°	178.10°	31.00'	5373.43'	2287.01'	2286.75'	S	34.42'	E	2287.01'	179.14°	2.60°	-2.3°	1.3°
103	7272.00'	88.50°	178.80°	32.00'	5373.76'	2319.00'	2318.74'	S	35.28'	E	2319.01'	179.13°	6.04°	-5.6°	2.2°
104	7304.00'	87.00°	179.40°	32.00'	5375.02'	2350.98'	2350.71'	S	35.78'	E	2350.98'	179.13°	5.05°	-4.7°	1.9°
105	7335.00'	87.60°	179.60°	31.00'	5376.48'	2381.94'	2381.67'	S	36.05'	E	2381.94'	179.13°	2.04°	1.9°	0.6°
106	7367.00'	88.80°	179.40°	32.00'	5377.48'	2413.93'	2413.65'	S	36.33'	E	2413.93'	179.14°	3.80°	3.8°	-0.6°
107	7398.00'	89.50°	178.90°	31.00'	5377.94'	2444.92'	2444.65'	S	36.79'	E	2444.92'	179.14°	2.77°	2.3°	-1.6°
108	7430.00'	88.40°	178.80°	32.00'	5378.53'	2476.92'	2476.63'	S	37.44'	E	2476.92'	179.13°	3.45°	-3.4°	-0.3°
109	7462.00'	87.30°	178.90°	32.00'	5379.73'	2508.89'	2508.61'	S	38.08'	E	2508.89'	179.13°	3.45°	-3.4°	0.3°
110	7493.00'	86.30°	179.40°	31.00'	5381.46'	2539.84'	2539.55'	S	38.54'	E	2539.85'	179.13°	3.61°	-3.2°	1.6°
111	7520.00'	86.20°	179.00°	27.00'	5383.23'	2566.79'	2566.49'	S	38.91'	E	2566.79'	179.13°	1.52°	-0.4°	-1.5°
112	7615.00'	87.20°	178.20°	95.00'	5388.70'	2661.62'	2661.30'	S	41.23'	E	2661.62'	179.11°	1.35°	1.1°	-0.8°
113	7710.00'	88.60°	178.60°	95.00'	5392.18'	2756.55'	2756.20'	S	43.88'	E	2756.55'	179.09°	1.53°	1.5°	0.4°
114	7805.00'	90.40°	178.70°	95.00'	5393.01'	2851.53'	2851.17'	S	46.12'	E	2851.54'	179.07°	1.90°	1.9°	0.1°
115	7901.00'	90.90°	178.60°	96.00'	5391.92'	2947.52'	2947.13'	S	48.38'	E	2947.53'	179.06°	0.53°	0.5°	-0.1°
116	7977.00'	89.60°	178.80°	76.00'	5391.58'	3023.52'	3023.11'	S	50.10'	E	3023.53'	179.05°	1.73°	-1.7°	0.3°
117	8072.00'	90.60°	177.90°	95.00'	5391.42'	3118.51'	3118.07'	S	52.84'	E	3118.52'	179.03°	1.42°	1.1°	-0.9°
118	8167.00'	89.60°	177.50°	95.00'	5391.25'	3213.47'	3212.99'	S	56.65'	E	3213.49'	178.99°	1.13°	-1.1°	-0.4°
119	8261.00'	90.40°	176.90°	94.00'	5391.25'	3307.41'	3306.88'	S	61.24'	E	3307.45'	178.94°	1.06°	0.9°	-0.6°
120	8356.00'	89.00°	176.50°	95.00'	5391.75'	3402.32'	3401.72'	S	66.71'	E	3402.37'	178.88°	1.53°	-1.5°	-0.4°
121	8451.00'	89.60°	178.10°	95.00'	5392.91'	3497.26'	3496.60'	S	71.19'	E	3497.33'	178.83°	1.80°	0.6°	1.7°
122	8561.00'	89.70°	179.30°	110.00'	5393.58'	3607.25'	3606.57'	S	73.68'	E	3607.32'	178.83°	1.09°	0.1°	1.1°
123	8659.00'	91.00°	180.10°	98.00'	5392.98'	3705.24'	3704.56'	S	74.20'	E	3705.31'	178.85°	1.56°	1.3°	0.8°

# Archer

124	8754.00'	91.10°	178.40°	95.00'	5391.24'	3800.22'	3799.54' S	75.44'	E	3800.28'	178.86°	1.79°	0.1°	-1.8°
125	8849.00'	91.70°	180.00°	95.00'	5388.92'	3895.19'	3894.49' S	76.77'	E	3895.25'	178.87°	1.80°	0.6°	1.7°
126	8944.00'	90.60°	179.80°	95.00'	5387.02'	3990.16'	3989.47' S	76.93'	E	3990.22'	178.90°	1.18°	-1.2°	-0.2°
127	9039.00'	90.60°	181.00°	95.00'	5386.02'	4085.13'	4084.46' S	76.27'	E	4085.18'	178.93°	1.26°	0.0°	1.3°
128	9134.00'	89.60°	178.30°	95.00'	5385.86'	4180.12'	4179.45' S	76.85'	E	4180.16'	178.95°	3.03°	-1.1°	-2.8°
129	9230.00'	91.50°	177.90°	96.00'	5384.93'	4276.09'	4275.39' S	80.03'	E	4276.14'	178.93°	2.02°	2.0°	-0.4°
130	9324.00'	89.60°	179.60°	94.00'	5384.03'	4370.08'	4369.36' S	82.08'	E	4370.13'	178.92°	2.71°	-2.0°	1.8°



# Archer

131	9419.00'	89.00°	178.90°	95.00'	5385.19'	4465.07'	4464.34' S	83.32' E	4465.12'	178.93°	0.97°	-0.6°	-0.7°
132	9514.00'	87.80°	181.70°	95.00'	5387.85'	4560.01'	4559.29' S	82.83' E	4560.04'	178.96°	3.21°	-1.3°	2.9°
133	9609.00'	89.00°	180.30°	95.00'	5390.50'	4654.92'	4654.23' S	81.17' E	4654.94'	179.00°	1.94°	1.3°	-1.5°
134	9704.00'	88.30°	180.30°	95.00'	5392.74'	4749.87'	4749.21' S	80.67' E	4749.89'	179.03°	0.74°	-0.7°	0.0°
135	9798.00'	90.10°	181.30°	94.00'	5394.05'	4843.82'	4843.18' S	79.36' E	4843.83'	179.06°	2.19°	1.9°	1.1°
136	9893.00'	92.40°	183.70°	95.00'	5391.98'	4938.63'	4938.06' S	75.22' E	4938.63'	179.13°	3.50°	2.4°	2.5°
137	9988.00'	91.80°	179.60°	95.00'	5388.49'	5033.45'	5032.93' S	72.49' E	5033.45'	179.17°	4.36°	-0.6°	-4.3°
138	10048.00'	93.10°	180.00°	60.00'	5385.93'	5093.40'	5092.88' S	72.70' E	5093.40'	179.18°	2.27°	2.2°	0.7°
139	10098.00'	93.10°	180.00°	50.00'	5383.22'	5143.32'	5142.80' S	72.70' E	5143.32'	179.19°	0.00°	0.0°	0.0°
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