

GREAT WHITE

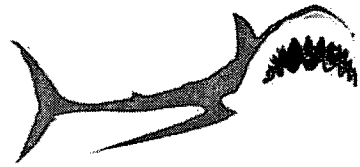
DIRECTIONAL SERVICES, L.L.C.

OPERATOR		FIELD NAME		Well name/No.		Rig Name & No.		QDM Job No.		Calculation Method		Minimum Curvature			
Concho		Glorietta		Puckett 12 FED 7-H		JW 2		03821-433-22		Proposed Azimuth		358.27°			
MWD OPERATOR		DIR SUPERVISOR		COUNTY		STATE		Start Date		Depth Reference:		RKB			
Raul Lopez		Dave Waldrum		Eddy		NM		04-Aug-12		Tie Into:		MWD			
DipA: 60.69		Mag Field: 0.48870		Mag Dec: 0		Total Cor.: 7.33				Job Service:		Gamma-Dir.			
Mag Spacing Req.		Mag Spacing Actual		Mag Spacing Req.		Mag Spacing Actual									
Below 11		Below 13		Above 15		Above 48									
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															
Gyro 1	100.00'	0.00º	0.00º												
2	200.00'	0.72º	164.64º	100.00'	100.00'	-0.64'	0.64'	S	0.18'	W	0.66'	164.64º	0.76º	0.8º	164.6º
3	300.00'	0.86º	170.65º	100.00'	199.99'	-1.91'	1.90'	S	0.45'	E	1.95'	166.57º	0.09º	0.0º	6.0º
4	300.00'	0.86º	181.33º	100.00'	299.98'	-3.28'	3.27'	S	0.54'	E	3.31'	170.65º	0.20º	0.1º	10.7º
5	400.00'	0.78º	188.13º	100.00'	399.97'	-4.70'	4.69'	S	0.42'	E	4.71'	174.83º	0.13º	-0.1º	6.8º
6	500.00'	0.83º	189.83º	100.00'	499.96'	-6.08'	6.08'	S	0.20'	E	6.08'	178.07º	0.06º	0.0º	1.7º
7	600.00'	0.75º	194.24º	100.00'	599.95'	-7.42'	7.43'	S	0.08'	W	7.43'	180.62º	0.10º	-0.1º	4.4º
8	700.00'	0.76º	229.43º	100.00'	699.94'	-8.47'	8.49'	S	0.74'	W	8.53'	185.01º	0.46º	0.0º	35.2º
9	800.00'	0.27º	256.08º	100.00'	799.94'	-8.93'	8.98'	S	1.48'	W	9.10'	189.34º	0.53º	-0.5º	26.7º
10	900.00'	0.18º	179.83º	100.00'	899.94'	-9.14'	9.20'	S	1.71'	W	9.35'	190.51º	0.29º	-0.1º	-76.3º
11	1000.00'	0.43º	197.43º	100.00'	999.94'	-9.65'	9.71'	S	1.82'	W	9.88'	190.60º	0.26º	0.3º	17.6º
12	1100.00'	0.54º	210.41º	100.00'	1099.93'	-10.41'	10.48'	S	2.17'	W	10.70'	191.70º	0.15º	0.1º	13.0º
13	1200.00'	0.27º	265.56º	100.00'	1199.93'	-10.82'	10.90'	S	2.64'	W	11.22'	193.62º	0.44º	-0.3º	55.2º
14	1300.00'	0.61º	102.24º	100.00'	1299.93'	-10.96'	11.03'	S	2.36'	W	11.28'	192.06º	0.87º	0.3º	-163.3º
15	1500.00'	0.48º	114.13º	200.00'	1499.92'	-11.58'	11.60'	S	0.55'	W	11.61'	182.72º	0.09º	-0.1º	5.9º
16	1600.00'	0.48º	114.13º	100.00'	1599.91'	-11.94'	11.94'	S	0.21'	E	11.94'	178.98º	0.00º	0.0º	0.0º
17	1700.00'	0.71º	97.10º	100.00'	1699.91'	-12.22'	12.19'	S	1.21'	E	12.25'	174.33º	0.29º	0.2º	-17.0º
18	1800.00'	0.74º	64.71º	100.00'	1799.90'	-12.06'	11.99'	S	2.41'	E	12.23'	168.64º	0.41º	0.0º	-32.4º
19	1900.00'	1.04º	59.49º	100.00'	1899.89'	-11.36'	11.25'	S	3.77'	E	11.87'	161.46º	0.31º	0.3º	-5.2º
20	2000.00'	1.00º	68.40º	100.00'	1999.87'	-10.63'	10.47'	S	5.37'	E	11.77'	152.86º	0.16º	0.0º	8.9º
21	2100.00'	0.62º	73.95º	100.00'	2099.86'	-10.20'	10.00'	S	6.70'	E	12.04'	146.19º	0.39º	-0.4º	5.6º
22	2200.00'	0.33º	86.99º	100.00'	2199.86'	-10.06'	9.84'	S	7.51'	E	12.37'	142.65º	0.31º	-0.3º	13.0º
23	2300.00'	0.64º	99.91º	100.00'	2299.86'	-10.16'	9.92'	S	8.34'	E	12.96'	139.92º	0.33º	0.3º	12.9º
24	2400.00'	0.46º	103.15º	100.00'	2399.85'	-10.38'	10.11'	S	9.29'	E	13.72'	137.42º	0.18º	-0.2º	3.2º
25	2500.00'	0.30º	139.65º	100.00'	2499.85'	-10.69'	10.40'	S	9.85'	E	14.32'	136.56º	0.28º	-0.2º	36.5º

20-015-39476



25	2600.00'	0.25°	203.27°	100.00'	2599.85'	-11.09'	10.80' S	9.93' E	14.67'	137.40°	0.29°	-0.1°	63.6°
26	2700.00'	0.48°	224.35°	100.00'	2699.85'	-11.58'	11.30' S	9.55' E	14.79'	139.79°	0.26°	0.2°	21.1°
27	2800.00'	0.62°	237.91°	100.00'	2799.84'	-12.14'	11.88' S	8.80' E	14.79'	143.48°	0.19°	0.1°	13.6°
28	2900.00'	0.89°	253.81°	100.00'	2899.83'	-12.61'	12.39' S	7.59' E	14.53'	148.49°	0.34°	0.3°	15.9°
29	3000.00'	1.10°	257.05°	100.00'	2999.82'	-12.99'	12.82' S	5.91' E	14.12'	155.24°	0.22°	0.2°	3.2°
30	3100.00'	1.19°	257.45°	100.00'	3099.80'	-13.37'	13.26' S	3.96' E	13.84'	163.35°	0.09°	0.1°	0.4°
31	3200.00'	1.15°	260.23°	100.00'	3199.78'	-13.71'	13.66' S	1.96' E	13.80'	171.82°	0.07°	0.0°	2.8°
32	3300.00'	1.37°	257.98°	100.00'	3299.75'	-14.06'	14.07' S	0.20' W	14.08'	180.80°	0.23°	0.2°	-2.3°
33	3400.00'	1.33°	261.79°	100.00'	3399.73'	-14.41'	14.49' S	2.51' W	14.71'	189.84°	0.10°	0.0°	3.8°
34	3500.00'	1.46°	260.09°	100.00'	3499.70'	-14.72'	14.87' S	4.92' W	15.67'	198.30°	0.14°	0.1°	-1.7°
35	3600.00'	1.38°	265.98°	100.00'	3599.66'	-14.95'	15.18' S	7.37' W	16.87'	205.91°	0.17°	-0.1°	5.9°
36	3700.00'	1.41°	271.29°	100.00'	3699.64'	-14.93'	15.23' S	9.81' W	18.12'	212.77°	0.13°	0.0°	5.3°
37	3800.00'	1.85°	282.51°	100.00'	3799.59'	-14.47'	14.86' S	12.61' W	19.49'	220.33°	0.54°	0.4°	11.2°
38	3900.00'	1.56°	290.27°	100.00'	3899.55'	-13.56'	14.04' S	15.46' W	20.88'	227.77°	0.37°	-0.3°	7.8°
39	4000.00'	1.56°	295.65°	100.00'	3999.51'	-12.43'	12.97' S	17.97' W	22.16'	234.17°	0.15°	0.0°	5.4°
40	4100.00'	1.60°	296.69°	100.00'	4099.48'	-11.14'	11.76' S	20.44' W	23.58'	240.09°	0.05°	0.0°	1.0°
41	4200.00'	1.55°	295.03°	100.00'	4199.44'	-9.86'	10.56' S	22.92' W	25.23'	245.26°	0.07°	-0.1°	-1.7°
42	4300.00'	1.41°	295.87°	100.00'	4299.40'	-8.68'	9.45' S	25.25' W	26.96'	249.48°	0.14°	-0.1°	0.8°
43	4400.00'	1.27°	311.22°	100.00'	4399.38'	-7.36'	8.18' S	27.19' W	28.39'	253.25°	0.38°	-0.1°	15.4°
44	4500.00'	1.38°	312.67°	100.00'	4499.35'	-5.76'	6.64' S	28.91' W	29.66'	257.07°	0.11°	0.1°	1.4°
45	4600.00'	1.42°	311.30°	100.00'	4599.32'	-4.07'	5.00' S	30.72' W	31.13'	260.75°	0.05°	0.0°	-1.4°
46	4700.00'	1.32°	307.69°	100.00'	4699.29'	-2.50'	3.48' S	32.57' W	32.75'	263.90°	0.13°	-0.1°	-3.6°
47	4800.00'	1.15°	319.41°	100.00'	4799.27'	-0.98'	2.01' S	34.13' W	34.19'	266.62°	0.30°	-0.2°	11.7°
48	4900.00'	1.11°	317.70°	100.00'	4899.25'	0.53'	0.54' S	35.43' W	35.44'	269.13°	0.05°	0.0°	-1.7°
49	5000.00'	0.93°	322.53°	100.00'	4999.23'	1.93'	0.82' N	36.58' W	36.59'	271.29°	0.20°	-0.2°	4.8°
50	5100.00'	0.81°	315.75°	100.00'	5099.22'	3.11'	1.97' N	37.57' W	37.62'	273.01°	0.16°	-0.1°	-6.8°
51	5200.00'	0.75°	313.77°	100.00'	5199.21'	4.10'	2.93' N	38.53' W	38.64'	274.35°	0.07°	-0.1°	-2.0°
52	5300.00'	0.56°	323.93°	100.00'	5299.21'	4.97'	3.78' N	39.29' W	39.48'	275.50°	0.22°	-0.2°	10.2°
53	5400.00'	0.70°	356.13°	100.00'	5399.20'	5.98'	4.79' N	39.62' W	39.91'	276.89°	0.37°	0.1°	32.2°
54	5500.00'	0.46°	3.20°	100.00'	5499.19'	6.99'	5.80' N	39.64' W	40.06'	278.32°	0.25°	-0.2°	-352.9°
MWD 56	5521.00'	0.70°	26.10°	21.00'	5520.19'	7.19'	6.00' N	39.58' W	40.03'	278.61°	1.57°	1.1°	109.0°
56	5552.00'	0.70°	3.60°	31.00'	5551.19'	7.54'	6.35' N	39.48' W	39.99'	279.14°	0.88°	0.0°	-72.6°
57	5583.00'	0.70°	15.70°	31.00'	5582.19'	7.91'	6.73' N	39.42' W	39.99'	279.68°	0.48°	0.0°	39.0°
58	5615.00'	0.70°	12.60°	32.00'	5614.19'	8.29'	7.10' N	39.33' W	39.96'	280.24°	0.12°	0.0°	-9.7°
59	5646.00'	0.50°	351.80°	31.00'	5645.18'	8.61'	7.42' N	39.30' W	40.00'	280.70°	0.94°	-0.6°	1094.2°
60	5677.00'	0.70°	357.50°	31.00'	5676.18'	8.93'	7.75' N	39.33' W	40.09'	281.14°	0.67°	0.6°	18.4°



GREAT WHITE

DIRECTIONAL SERVICES, L.L.C.

61	5708.00'	0.70°	0.70°	31.00'	5707.18'	9.31'	8.13'	N	39.34'	W	40.17'	281.67°	0.13°	0.0°	-1151.0°
62	5740.00'	0.60°	19.30°	32.00'	5739.18'	9.66'	8.48'	N	39.28'	W	40.18'	282.18°	0.73°	-0.3°	58.1°
63	5771.00'	0.50°	14.70°	31.00'	5770.18'	9.94'	8.76'	N	39.19'	W	40.16'	282.60°	0.35°	-0.3°	-14.8°
64	5802.00'	0.50°	349.20°	31.00'	5801.18'	10.21'	9.03'	N	39.18'	W	40.21'	282.97°	0.71°	0.0°	1079.0°
65	5833.00'	0.40°	343.70°	31.00'	5832.18'	10.44'	9.26'	N	39.24'	W	40.32'	283.28°	0.35°	-0.3°	-17.7°
66	5864.00'	0.50°	359.90°	31.00'	5863.17'	10.68'	9.50'	N	39.27'	W	40.40'	283.60°	0.52°	0.3°	52.3°
67	5895.00'	0.30°	359.50°	31.00'	5894.17'	10.90'	9.72'	N	39.27'	W	40.46'	283.90°	0.65°	-0.6°	-1.3°
68	5928.00'	0.30°	354.90°	33.00'	5927.17'	11.07'	9.89'	N	39.28'	W	40.50'	284.13°	0.07°	0.0°	-13.9°
69	5960.00'	0.30°	1.80°	32.00'	5959.17'	11.24'	10.06'	N	39.28'	W	40.55'	284.36°	0.11°	0.0°	-1103.4°
70	5991.00'	2.30°	357.70°	31.00'	5990.16'	11.94'	10.76'	N	39.31'	W	40.75'	285.31°	6.45°	6.5°	1148.1°
71	6022.00'	7.00°	358.50°	31.00'	6021.05'	14.46'	13.27'	N	39.38'	W	41.56'	288.63°	15.16°	15.2°	2.6°
72	6053.00'	11.90°	0.60°	31.00'	6051.62'	19.54'	18.36'	N	39.40'	W	43.46'	294.99°	15.84°	15.8°	-1154.5°
73	6085.00'	16.60°	0.60°	32.00'	6082.63'	27.41'	26.23'	N	39.31'	W	47.26'	303.72°	14.69°	14.7°	0.0°
74	6116.00'	20.90°	359.70°	31.00'	6111.98'	37.37'	36.20'	N	39.30'	W	53.43'	312.65°	13.90°	13.9°	1158.4°
75	6147.00'	25.10°	358.50°	31.00'	6140.51'	49.47'	48.30'	N	39.50'	W	62.40'	320.73°	13.63°	13.5°	-3.9°
76	6178.00'	29.40°	357.90°	31.00'	6168.06'	63.66'	62.49'	N	39.95'	W	74.17'	327.41°	13.90°	13.9°	-1.9°
77	6209.00'	33.10°	357.60°	31.00'	6194.56'	79.74'	78.55'	N	40.58'	W	88.42'	332.68°	11.95°	11.9°	-1.0°
78	6240.00'	36.40°	357.80°	31.00'	6220.02'	97.41'	96.21'	N	41.29'	W	104.69'	336.77°	10.65°	10.6°	0.6°
79	6272.00'	40.00°	358.00°	32.00'	6245.17'	117.20'	115.98'	N	42.01'	W	123.35'	340.09°	11.26°	11.3°	0.6°
80	6303.00'	42.20°	358.90°	31.00'	6268.53'	137.57'	136.35'	N	42.56'	W	142.84'	342.66°	7.35°	7.1°	2.9°
81	6335.00'	44.40°	359.50°	32.00'	6291.81'	159.51'	158.29'	N	42.87'	W	163.99'	344.85°	6.99°	6.9°	1.9°
82	6366.00'	46.40°	0.40°	31.00'	6313.58'	181.58'	180.36'	N	42.88'	W	185.39'	346.63°	6.77°	6.5°	-1158.4°
83	6397.00'	48.90°	359.70°	31.00'	6334.46'	204.47'	203.27'	N	42.86'	W	207.74'	348.09°	8.24°	8.1°	1159.0°
84	6428.00'	51.60°	359.20°	31.00'	6354.28'	228.30'	227.10'	N	43.10'	W	231.15'	349.26°	8.80°	8.7°	-1.6°
85	6459.00'	54.60°	358.90°	31.00'	6372.89'	253.08'	251.89'	N	43.51'	W	255.62'	350.20°	9.71°	9.7°	-1.0°
86	6491.00'	58.20°	358.60°	32.00'	6390.60'	279.73'	278.53'	N	44.09'	W	282.00'	351.00°	11.28°	11.3°	-0.9°
87	6523.00'	62.10°	358.50°	32.00'	6406.52'	307.48'	306.27'	N	44.79'	W	309.53'	351.68°	12.19°	12.2°	-0.3°
88	6554.00'	65.30°	358.50°	31.00'	6420.26'	335.27'	334.05'	N	45.52'	W	337.13'	352.24°	10.32°	10.3°	0.0°
89	6585.00'	68.30°	358.30°	31.00'	6432.47'	363.76'	362.53'	N	46.32'	W	365.47'	352.72°	9.70°	9.7°	-0.6°
90	6616.00'	70.80°	358.40°	31.00'	6443.30'	392.80'	391.56'	N	47.15'	W	394.39'	353.13°	8.07°	8.1°	0.3°
91	6648.00'	73.20°	358.80°	32.00'	6453.19'	423.23'	421.98'	N	47.90'	W	424.69'	353.52°	7.59°	7.5°	1.3°
92	6679.00'	75.30°	359.40°	31.00'	6461.60'	453.06'	451.81'	N	48.36'	W	454.39'	353.89°	7.03°	6.8°	1.9°
93	6711.00'	78.30°	359.70°	32.00'	6468.91'	484.21'	482.96'	N	48.61'	W	485.40'	354.25°	9.42°	9.4°	0.9°
94	6742.00'	80.50°	359.50°	31.00'	6474.61'	514.67'	513.43'	N	48.82'	W	515.74'	354.57°	7.13°	7.1°	-0.6°
95	6773.00'	82.20°	359.10°	31.00'	6479.27'	545.31'	544.07'	N	49.19'	W	546.29'	354.83°	5.63°	5.5°	-1.3°
96	6804.00'	83.90°	358.50°	31.00'	6483.02'	576.08'	574.84'	N	49.84'	W	576.99'	355.04°	5.81°	5.5°	-1.9°



97	6835.00'	86.30°	358.30°	31.00'	6485.67'	606.96'	605.71' N	50.70' W	607.83'	355.22°	7.77°	7.7°	-0.6°
98	6876.00'	89.80°	358.40°	41.00'	6487.07'	647.93'	646.66' N	51.88' W	648.74'	355.41°	8.54°	8.5°	0.2°
99	6898.00'	90.00°	358.50°	22.00'	6487.10'	669.93'	668.65' N	52.48' W	670.71'	355.51°	1.02°	0.9°	0.5°
100	6993.00'	90.50°	358.80°	95.00'	6486.69'	764.93'	763.63' N	54.71' W	765.58'	355.90°	0.61°	0.5°	0.3°
101	7087.00'	90.50°	358.90°	94.00'	6485.87'	858.92'	857.60' N	56.60' W	859.47'	356.22°	0.11°	0.0°	0.1°
102	7180.00'	90.30°	358.60°	93.00'	6485.22'	951.92'	950.58' N	58.63' W	952.39'	356.47°	0.39°	-0.2°	-0.3°
103	7274.00'	89.60°	358.50°	94.00'	6485.30'	1045.91'	1044.55' N	61.01' W	1046.33'	356.66°	0.75°	-0.7°	-0.1°
104	7368.00'	90.40°	358.10°	94.00'	6485.30'	1139.91'	1138.51' N	63.80' W	1140.29'	356.79°	0.95°	0.9°	-0.4°
105	7462.00'	92.80°	358.50°	94.00'	6482.68'	1233.87'	1232.42' N	66.58' W	1234.22'	356.91°	2.59°	2.6°	0.4°
106	7556.00'	93.20°	358.60°	94.00'	6477.76'	1327.74'	1326.26' N	68.96' W	1328.05'	357.02°	0.44°	0.4°	0.1°
107	7650.00'	91.30°	358.30°	94.00'	6474.07'	1421.66'	1420.15' N	71.50' W	1421.95'	357.12°	2.05°	-2.0°	-0.3°
108	7744.00'	91.70°	358.50°	94.00'	6471.61'	1515.63'	1514.08' N	74.12' W	1515.90'	357.20°	0.48°	0.4°	0.2°
109	7838.00'	92.10°	359.00°	94.00'	6468.49'	1609.57'	1608.01' N	76.17' W	1609.81'	357.29°	0.68°	0.4°	0.5°
110	7931.00'	90.30°	359.50°	93.00'	6466.54'	1702.54'	1700.97' N	77.39' W	1702.73'	357.39°	2.01°	-1.9°	0.5°
111	8025.00'	91.10°	359.90°	94.00'	6465.39'	1796.50'	1794.97' N	77.88' W	1796.65'	357.52°	0.95°	0.9°	0.4°
112	8119.00'	91.60°	0.30°	94.00'	6463.18'	1890.42'	1888.94' N	77.72' W	1890.54'	357.64°	0.68°	0.5°	-382.6°
113	8212.00'	90.80°	0.30°	93.00'	6461.23'	1983.34'	1981.92' N	77.23' W	1983.42'	357.77°	0.86°	-0.9°	0.0°
114	8307.00'	89.90°	359.90°	95.00'	6460.65'	2078.29'	2076.91' N	77.07' W	2078.34'	357.87°	1.04°	-0.9°	378.5°
115	8400.00'	89.70°	0.30°	93.00'	6460.98'	2171.24'	2169.91' N	76.90' W	2171.27'	357.97°	0.48°	-0.2°	-386.7°
116	8493.00'	88.60°	358.70°	93.00'	6462.36'	2264.21'	2262.89' N	77.72' W	2264.23'	358.03°	2.09°	-1.2°	385.4°
117	8587.00'	89.00°	358.30°	94.00'	6464.32'	2358.19'	2356.84' N	80.18' W	2358.20'	358.05°	0.60°	0.4°	-0.4°
118	8680.00'	90.90°	357.80°	93.00'	6464.41'	2451.18'	2449.78' N	83.34' W	2451.20'	358.05°	2.11°	2.0°	-0.5°
119	8774.00'	92.40°	357.80°	94.00'	6461.70'	2545.14'	2543.67' N	86.95' W	2545.16'	358.04°	1.60°	1.6°	0.0°
120	8869.00'	90.10°	357.40°	95.00'	6459.63'	2640.10'	2638.56' N	90.92' W	2640.13'	358.03°	2.46°	-2.4°	-0.4°
121	8962.00'	90.20°	357.50°	93.00'	6459.38'	2733.09'	2731.47' N	95.06' W	2733.12'	358.01°	0.15°	0.1°	0.1°
122	9056.00'	89.80°	357.50°	94.00'	6459.38'	2827.08'	2825.38' N	99.16' W	2827.12'	357.99°	0.43°	-0.4°	0.0°
123	9150.00'	90.50°	357.50°	94.00'	6459.14'	2921.07'	2919.29' N	103.26' W	2921.11'	357.97°	0.74°	0.7°	0.0°
124	9244.00'	90.90°	357.30°	94.00'	6457.99'	3015.06'	3013.18' N	107.53' W	3015.10'	357.96°	0.48°	0.4°	-0.2°
125	9338.00'	92.50°	359.00°	94.00'	6455.20'	3109.01'	3107.09' N	110.56' W	3109.05'	357.96°	2.48°	1.7°	1.8°
126	9431.00'	90.90°	357.20°	93.00'	6452.44'	3201.96'	3199.99' N	113.64' W	3202.00'	357.97°	2.59°	-1.7°	-1.9°
127	9525.00'	92.60°	358.50°	94.00'	6449.57'	3295.91'	3293.87' N	117.17' W	3295.95'	357.96°	2.28°	1.8°	1.4°
128	9618.00'	91.80°	359.90°	93.00'	6446.00'	3388.82'	3386.79' N	118.46' W	3388.86'	358.00°	1.73°	-0.9°	1.5°
129	9712.00'	91.60°	359.40°	94.00'	6443.21'	3482.75'	3480.75' N	119.04' W	3482.78'	358.04°	0.57°	-0.2°	-0.5°
130	9805.00'	90.80°	358.90°	93.00'	6441.26'	3575.72'	3573.72' N	120.42' W	3575.74'	358.07°	1.01°	-0.9°	-0.5°
131	9899.00'	91.20°	359.00°	94.00'	6439.62'	3669.70'	3667.69' N	122.14' W	3669.72'	358.09°	0.44°	0.4°	0.1°
132	9992.00'	91.50°	0.00°	93.00'	6437.43'	3762.65'	3760.65' N	122.95' W	3762.66'	358.13°	1.12°	0.3°	-386.0°



133	10086.00'	91.30°	0.20°	94.00'	6435.14'	3856.58'	3854.63' N	122.79' W	3856.58'	358.18°	0.30°	-0.2°	0.2°
134	10180.00'	92.50°	359.80°	94.00'	6432.02'	3950.48'	3948.57' N	122.79' W	3950.48'	358.22°	1.35°	1.3°	382.6°
135	10273.00'	92.40°	358.80°	93.00'	6428.04'	4043.38'	4041.48' N	123.92' W	4043.38'	358.24°	1.08°	-0.1°	-1.1°
136	10366.00'	92.40°	359.60°	93.00'	6424.15'	4136.28'	4134.39' N	125.22' W	4136.28'	358.27°	0.86°	0.0°	0.9°
137	10460.00'	92.40°	358.90°	94.00'	6420.21'	4230.19'	4228.30' N	126.45' W	4230.19'	358.29°	0.74°	0.0°	-0.7°
138	10554.00'	92.60°	359.50°	94.00'	6416.11'	4324.08'	4322.20' N	127.76' W	4324.09'	358.31°	0.67°	0.2°	0.6°
139	10648.00'	91.60°	359.90°	94.00'	6412.67'	4417.99'	4416.13' N	128.25' W	4417.99'	358.34°	1.15°	-1.1°	0.4°
140	10741.00'	90.80°	359.20°	93.00'	6410.72'	4510.95'	4509.11' N	128.98' W	4510.95'	358.36°	1.14°	-0.9°	-0.8°
141	10835.00'	89.60°	359.20°	94.00'	6410.39'	4604.93'	4603.10' N	130.29' W	4604.94'	358.38°	1.28°	-1.3°	0.0°
142	10929.00'	89.50°	358.10°	94.00'	6411.13'	4698.93'	4697.07' N	132.51' W	4698.93'	358.38°	1.18°	-0.1°	-1.2°
143	11022.00'	89.70°	358.50°	93.00'	6411.78'	4791.92'	4790.02' N	135.27' W	4791.93'	358.38°	0.48°	0.2°	0.4°
144	11085.00'	89.70°	358.20°	63.00'	6412.11'	4854.92'	4853.00' N	137.08' W	4854.93'	358.38°	0.48°	0.0°	-0.5°
PTB145	11157.00'	89.70°	358.20°	72.00'	6412.49'	4926.92'	4924.96' N	139.34' W	4926.93'	358.38°	0.00°	0.0°	0.0°
146													
147													
148													
149													
150													