

## TBM & REFERENCE PILLARS

Point	Station	Offset	Easting	Northing	Elevation	Description
100	0+000	84.225	605625.356	2841630.288	1044.574	GPS1AKB
101	0+000	151.109	605614.021	2841561.719	1047.914	GPS1KB
103	0+275.486	35.254	605943.294	2841611.142	1062.803	BMR1
102	0+345.551	-6.868	605988.956	2841683.543	1063.908	TBMR1
104	0+542.904	5.593	606172.102	2841653.096	1078.344	BMR2
105	0+622.494	-6.872	606242.960	2841614.768	1082.518	BMR3
106	0+883.400	4.448	606425.159	2841428.733	1099.671	BMR4
107	0+945.378	-16.138	606484.463	2841404.604	1102.451	KMS174
108	1+009.764	-13.414	606537.188	2841372.220	1104.543	BMR5
109	1+325.755	-13.695	606760.403	2841150.697	1119.206	BMR6
58	1+540.613	10.417	606927.913	2841015.865	1135.334	BMR6A
59	1+771.291	-6.534	607132.441	2840907.847	1150.592	BM6B
110	2+031.961	28.216	607367.491	2840774.719	1168.831	BMR7
61	2+259.747	11.111	607543.618	2840936.161	1149.431	TB1
62	2+480.340	2.713	607688.073	2841103.087	1129.119	TB2
75	2+697.859	7.569	607935.489	2841935.934	1045.154	TB15
63	2+732.554	-7.132	607901.187	2841209.647	1116.451	TB3
64	3+053.161	1.686	608189.134	2841101.542	1118.922	TB4
65	3+267.691	5.558	608395.636	2841138.565	1110.423	TB5
66	3+489.429	4.119	608590.817	2841045.088	1113.909	TB6
67	3+720.650	2.916	608812.442	2840984.420	1098.791	TB7
68	3+995.176	2.042	609063.209	2841046.161	1072.321	TB8
69	4+236.643	-1.203	609134.903	2841263.897	1085.144	TB9
70	4+522.172	-0.901	608939.104	2841467.946	1082.665	TB10
71	4+756.551	-9.029	608764.085	2841625.416	1065.748	TB11
72	5+055.687	13.325	608607.764	2841882.502	1057.263	TB12
73	5+245.381	2.310	608427.313	2841936.291	1055.014	TB13
74	5+534.038	-2.814	608149.485	2841864.135	1049.221	TB14
76	5+993.299	-5.436	607726.226	2841996.088	1050.441	TB16
77	6+242.523	-4.894	607480.964	2842025.332	1070.545	TB17
78	6+502.362	3.035	607226.788	2842069.299	1032.654	TB18
79	6+741.883	-4.882	607085.585	2842254.599	1030.441	TB19
80	7+005.100	2.957	607098.873	2842507.980	952.026	TB19
81	7+258.640	-3.714	607123.432	2842758.864	968.315	TB19
82	7+511.229	2.714	607343.498	2842877.612	983.814	TB19
83	7+776.616	-4.145	607603.298	2842904.746	995.183	TB19
84	7+991.119	4.055	607812.814	2842948.427	1011.969	TB19
85	8+236.695	5.727	608050.363	2843013.813	1086.683	TB19
86	8+509.690	5.498	608253.165	2843197.502	1094.816	TB19
87	8+743.911	-2.203	608397.906	2843378.914	1136.191	TB19
88	8+962.499	10.807	608395.262	2843581.385	1126.208	TB19
89	9+261.628	-6.514	608140.137	2843587.766	1162.801	TB19
90	9+497.994	-7.369	607944.444	2843461.091	1156.773	TB19
212	9+804.123	7.557	607842.090	2843627.026	1206.314	TBM12
213	10+092.956	47.639	608106.861	2843778.239	1198.302	BM18
214	10+499.371	105.701	608316.509	2843900.351	1181.169	BM19
216	10+871.613	51.052	608640.682	2843879.051	1198.108	BM21
218	11+027.836	9.300	608760.793	2843760.739	1223.706	BM23
219	11+081.697	-26.640	608812.282	2843786.318	1239.447	BM24
221	11+787.080	34.809	608582.682	2844241.654	1333.091	TBM13

222	11+836.829	-1.740	608537.949	2844202.504	1329.274	TBM14
224	12+229.352	-81.046	608147.308	2844332.530	1334.747	BM26
225	12+286.144	47.967	608225.622	2844445.741	1338.896	TBM15
226	12+830.596	45.256	608625.177	2844703.082	1316.473	BM27
227	12+882.132	51.592	608681.844	2844724.285	1333.166	BM28
229	13+126.668	33.732	608774.292	2844980.711	1304.358	TBM16
228	13+196.137	24.954	608798.283	2845011.016	1305.694	BM29
230	13+284.505	-192.216	608856.876	2845248.544	1342.946	TBM17
115	13+369.632	26.946	608957.371	2845037.044	1350.901	GPS4
8	13+412.351	-139.157	608976.556	2845207.339	1308.290	TBM59
9	13+797.370	-9.625	609330.626	2845229.808	1243.986	TBM58A
10	13+844.854	-0.016	609378.522	2845222.528	1252.207	TBM58A
11	13+894.851	-0.016	609428.459	2845224.969	1246.552	TBM58A
12	14+055.700	47.017	609591.413	2845185.845	1243.768	TBM57A
13	14+556.416	13.155	610089.879	2845244.111	1189.923	TBM56A
14	15+304.773	5.362	610611.298	2845709.056	1137.040	TBM55A
15	15+585.048	-4.309	610705.091	2845973.505	1116.292	TBM4A
16	15+972.013	-10.099	610738.365	2846342.414	1196.106	TBM53A
17	16+642.865	22.063	610732.607	2846994.367	1171.119	TTBM52A
18	16+658.293	6.350	610718.678	2847011.818	1170.767	TBM53AB
19	16+694.858	0.012	610714.372	2847048.900	1164.943	TBM53AB
20	16+890.055	22.073	610700.801	2847247.846	1204.313	TBM52A
21	17+366.391	-12.282	610561.531	2847693.009	1119.967	TBM51A
22	17+618.467	-1.650	610514.658	2847924.825	1143.234	TBM50A
23	17+669.871	-0.006	610485.407	2847967.127	1138.477	TBM50A
24	17+721.031	-8.342	610448.278	2848003.297	1139.007	TBM49A
25	18+144.472	-5.025	610401.766	2848411.652	1091.906	TBM48A
26	18+374.479	3.184	610351.457	2848627.172	1116.733	TBM47A
27	18+699.871	5.306	610116.018	2848830.409	1102.355	TBM46A
28	19+133.049	32.899	610354.918	2849157.312	1066.475	TBM45A
29	19+403.826	-19.952	610501.293	2849391.166	1071.481	TBM44A
31	19+934.996	-16.195	610930.669	2849610.821	987.692	TBM43A
30	20+239.727	4.425	611157.748	2849813.070	998.799	TBM42A
32	20+360.757	-3.498	611253.666	2849887.622	1016.569	TBM41A
34	20+704.374	21.411	611549.824	2849797.021	1091.963	TBM40A
33	20+704.386	21.392	611549.846	2849797.026	1091.958	TBM42A
35	21+267.943	-0.958	612017.142	2849681.419	1088.044	TBM39A
36	21+267.972	-0.961	612017.151	2849681.392	1088.444	TBM39A
37	21+516.922	-5.030	612086.993	2849443.986	1068.658	TBM38A
38	21+759.388	13.422	612172.178	2849217.441	1016.338	TBM37A
39	21+971.807	5.065	612181.508	2849014.826	1020.118	TBM37A
40	22+199.268	11.481	612286.600	2848824.179	968.267	TBM36A
41	22+481.327	23.784	612550.816	2848885.560	930.984	TBM35A
42	22+654.963	-9.200	612692.881	2848815.167	977.105	TBM34A
43	23+046.463	-2.498	612734.223	2848423.968	986.849	TBM33A
44	23+276.351	31.340	612725.767	2848191.757	998.243	TBM32A
45	23+468.372	2.105	612780.886	2848004.465	964.837	TBM31A
56	24+037.131	-15.988	612973.201	2847613.199	899.895	TBM18A
57	24+523.115	1.491	612897.620	2847137.828	939.688	TBM17A
55	24+638.277	59.403	612872.802	2847008.597	934.931	TBM16A
54	24+649.321	18.497	612915.114	2847010.827	938.796	TBM15A
53	24+766.663	-14.243	612982.734	2846909.493	967.288	TBM14A
52	25+225.963	-6.678	612925.167	2846480.401	982.066	TBM13A

51	25+494.745	-0.027	612873.360	2846242.826	988.368	TBM12A
50	25+593.652	10.973	612895.749	2846146.253	1006.446	TBM11A
49	26+017.943	-15.301	612885.199	2845732.361	1033.822	TBM10A
48	26+257.719	-5.190	612912.434	2845495.935	1037.435	TBM9A
47	26+517.451	8.955	612946.271	2845237.144	1045.030	TBM8A
46	26+750.219	-19.752	613101.903	2845064.646	1108.541	TBM7A
7	27+330.256	-44.140	613057.798	2844553.690	1124.436	TBM6A
6	27+644.784	-32.838	612964.748	2844243.650	1117.082	TBM5A
5	28+011.661	46.036	613053.169	2843957.687	1111.068	TBM4A
4	28+462.947	11.456	613218.013	2843546.788	1171.509	TBM3A
3	28+621.330	5.849	613313.134	2843416.970	1213.963	TBM2A
2	28+877.172	-12.447	613464.833	2843213.753	1206.840	TBM1A
161	29+040.103	55.355	613499.779	2843036.196	1209.660	BM80
162	29+099.326	51.223	613543.689	2843000.254	1205.183	BM81
163	29+207.430	28.715	613603.877	2842935.360	1199.766	BM82
164	29+307.817	16.577	613635.827	2842840.480	1206.625	BM83
165	29+472.856	16.969	613668.152	2842679.010	1216.943	BM84
166	29+582.174	-8.728	613698.392	2842572.365	1221.728	BM85
167	29+652.188	29.781	613648.708	2842510.648	1218.042	BM86
168	29+746.254	2.146	613655.429	2842412.837	1214.948	BM87
169	29+907.821	-3.754	613626.385	2842253.793	1215.897	BM88
170	29+991.432	40.545	613567.380	2842170.447	1215.316	BM89
171	30+021.174	40.824	613578.369	2842126.214	1216.778	BM90
172	30+259.200	36.181	613748.793	2841971.434	1228.894	BM91
173	30+291.123	2.149	613787.794	2841951.524	1229.081	BM92
174	30+584.787	-52.162	613791.098	2841631.577	1236.017	BM93
175	30+649.681	3.347	613695.915	2841632.232	1237.418	BM94
176	30+968.408	-1.286	613417.561	2841654.345	1259.411	BM95
177	31+032.158	28.122	613375.925	2841596.259	1263.178	BM96
1	31+268.695	1.880	613265.539	2841405.126	1284.729	TBMV1
178	31+369.464	-15.450	613239.818	2841306.151	1300.553	BM97
179	31+479.205	-35.822	613213.486	2841197.686	1307.783	BM98
180	31+726.640	-21.513	613056.089	2841027.859	1355.789	BM99
246	31+828.564	-38.098	613065.314	2840925.007	1347.520	TBM25
247	31+838.772	5.890	613020.707	2840917.983	1352.499	BM100
248	32+430.717	-23.685	612924.559	2840353.189	1316.424	TBM26
249	32+573.650	-13.440	612892.378	2840226.682	1324.161	BM101
250	32+842.945	46.541	613020.822	2839978.454	1319.658	TBM27
251	33+056.899	16.450	613175.137	2839890.081	1303.888	TBM28
252	33+065.480	-81.390	613271.659	2839870.693	1292.361	TBM29
253	33+617.356	22.994	612906.912	2839450.089	1280.887	BM102
254	33+703.822	-8.001	612975.347	2839384.166	1284.624	TBM30
255	33+750.090	-26.721	613015.201	2839354.119	1287.132	BM103
256	33+937.467	5.258	613053.299	2839168.877	1287.928	TBM31
60	34+173.421	-16.415	613235.539	2839025.956	1291.158	TBM32
257	34+173.461	-16.430	613235.579	2839025.924	1291.144	TBM32
258	34+992.675	80.020	612508.162	2838789.253	1251.729	TBM33
259	35+373.479	29.945	612530.213	2838359.782	1269.525	BM104
260	35+597.431	-9.461	612745.113	2838283.184	1273.814	BM105
261	35+631.144	-15.364	612776.040	2838258.802	1277.458	BM106
262	35+769.373	9.499	612836.327	2838134.147	1288.062	BM107
263	35+829.830	-6.894	612896.150	2838113.635	1291.961	BM108
264	35+970.661	18.678	612867.255	2837982.980	1275.785	BM109

265	36+031.247	-11.906	612875.657	2837915.635	1271.614	TBM34
91	36+239.130	-4.981	612796.769	2837722.120	1252.459	TBM34A
92	36+445.685	-4.399	612613.196	2837636.765	1240.874	TBM34B
266	36+628.735	1.562	612549.260	2837491.839	1228.933	BM110
268	36+847.138	20.047	612588.792	2837271.565	1206.127	TBM35
293	36+896.012	4195.334	612063.664	2833109.401	1588.231	TBM52
269	37+007.692	-25.522	612753.805	2837300.428	1227.842	BM112
93	37+274.302	5.871	613001.218	2837236.649	1258.437	TBM35A
270	37+468.751	-2.041	613172.369	2837328.107	1282.309	TBM36
271	37+736.023	-4.111	613354.078	2837517.637	1315.853	TBM37
272	37+928.082	-14.525	613536.917	2837464.957	1336.557	TBM38
94	38+229.796	-9.322	613439.337	2837183.989	1355.995	TBM39
95	38+498.061	10.677	613285.500	2836963.307	1363.037	TBM40
96	38+758.126	-9.298	613170.240	2836729.324	1394.843	TBM41
281	39+053.011	-46.053	613051.687	2836456.830	1419.859	TBM45
282	39+136.387	6.813	612962.057	2836414.247	1411.430	TBM46
283	39+387.686	-0.526	612797.850	2836224.493	1396.187	TBM47
284	39+840.577	-3.805	612531.972	2835867.687	1438.503	TBM48
97	40+141.363	-15.403	612545.309	2835579.318	1446.979	TBM48A
285	40+416.254	27.605	612501.946	2835354.984	1459.630	TBM49
98	40+609.972	6.328	612336.640	2835256.849	1462.165	TBM49A
99	40+794.277	-8.220	612343.635	2835075.971	1470.708	TBM50B
111	41+011.178	3.679	612392.313	2834864.428	1478.652	TBM51C
112	41+243.127	-6.445	612320.457	2834663.874	1502.415	TBM52D
113	41+527.206	3.813	612101.536	2834500.813	1507.116	TBM53E
114	41+761.322	4.927	612137.638	2834274.603	1509.994	TBM54F
116	42+005.821	2.214	612256.661	2834061.876	1510.336	TBM55G
117	42+263.443	-7.729	612289.505	2833807.725	1532.144	TBM56H
118	42+520.065	4.503	612238.859	2833558.689	1542.844	TBM56I
119	42+761.857	-5.388	612138.270	2833338.745	1555.732	TBM57J
291	42+978.731	31.369	612021.077	2833151.507	1587.577	TBM50
292	42+987.472	-1.514	612049.197	2833132.351	1587.932	TBM51