

Quadro de Coordenadas de Marcos e Pontos de Apoio

Sistema SIRGAS 2000 - UTM zona 22 S - Altimétria Ortométrica - hgeoHNOR_IMBITUBA

Ponto	<i>Descrição</i>	<i>Norte</i>	<i>Este</i>	<i>Cota</i>
MC238	Marco	6.961.190,379	417.671,558	659,460

Relatório de Alinhamento Horizontal e Vertical por Estaca



Sistema SIRGAS 2000 - UTM zona 22 S - Altimétria Ortométrica - hgeoHNOR_IMBITUBA

Estaca	Eixo	Norte	Este	Cota	Descrição	
224	0,000	Estrada Zonalta - Trecho01	6.961.190,153	416.896,139	592,662	Start Point
225	0,000	Estrada Zonalta - Trecho01	6.961.186,825	416.915,860	593,975	
225	0,310	Estrada Zonalta - Trecho01	6.961.186,774	416.916,163	593,995	Tangent Point (TS)
225	7,100	Estrada Zonalta - Trecho01	6.961.185,647	416.922,866	594,442	
225	10,000	Estrada Zonalta - Trecho01	6.961.185,172	416.925,722	594,631	
226	0,000	Estrada Zonalta - Trecho01	6.961.183,582	416.935,595	595,270	
226	6,010	Estrada Zonalta - Trecho01	6.961.182,685	416.941,533	595,648	
226	10,000	Estrada Zonalta - Trecho01	6.961.182,121	416.945,488	595,897	
226	10,310	Estrada Zonalta - Trecho01	6.961.182,079	416.945,792	595,916	Tangent Point (SC)
226	13,060	Estrada Zonalta - Trecho01	6.961.181,710	416.948,523	596,088	
226	16,970	Estrada Zonalta - Trecho01	6.961.181,212	416.952,401	596,324	Tangent Point (CS)
227	0,000	Estrada Zonalta - Trecho01	6.961.180,847	416.955,406	596,496	
227	10,000	Estrada Zonalta - Trecho01	6.961.179,747	416.965,345	596,995	
228	0,000	Estrada Zonalta - Trecho01	6.961.178,760	416.975,296	597,403	
228	6,970	Estrada Zonalta - Trecho01	6.961.178,103	416.982,238	597,659	Tangent Point (ST)
229	0,000	Estrada Zonalta - Trecho01	6.961.176,883	416.995,208	598,079	
229	3,580	Estrada Zonalta - Trecho01	6.961.176,547	416.998,772	598,180	
229	7,080	Estrada Zonalta - Trecho01	6.961.176,219	417.002,258	598,277	Tangent Point (TS)
229	10,000	Estrada Zonalta - Trecho01	6.961.175,946	417.005,164	598,358	
229	14,270	Estrada Zonalta - Trecho01	6.961.175,550	417.009,418	598,476	
230	0,000	Estrada Zonalta - Trecho01	6.961.175,036	417.015,122	598,652	
230	10,000	Estrada Zonalta - Trecho01	6.961.174,220	417.025,089	599,046	
230	17,080	Estrada Zonalta - Trecho01	6.961.173,741	417.032,154	599,392	Tangent Point (SC)
231	0,000	Estrada Zonalta - Trecho01	6.961.173,574	417.035,068	599,550	
231	2,410	Estrada Zonalta - Trecho01	6.961.173,450	417.037,477	599,688	Tangent Point (CS)
231	10,000	Estrada Zonalta - Trecho01	6.961.173,140	417.045,058	600,164	
232	0,000	Estrada Zonalta - Trecho01	6.961.172,871	417.055,055	600,923	
232	10,000	Estrada Zonalta - Trecho01	6.961.172,695	417.065,053	601,845	
232	12,410	Estrada Zonalta - Trecho01	6.961.172,658	417.067,465	602,092	Tangent Point (ST)
232	16,240	Estrada Zonalta - Trecho01	6.961.172,599	417.071,297	602,504	
233	0,000	Estrada Zonalta - Trecho01	6.961.172,542	417.075,052	602,919	
233	3,610	Estrada Zonalta - Trecho01	6.961.172,486	417.078,661	603,318	Tangent Point (TS)
233	10,000	Estrada Zonalta - Trecho01	6.961.172,381	417.085,051	604,025	
233	15,050	Estrada Zonalta - Trecho01	6.961.172,270	417.090,098	604,584	
234	0,000	Estrada Zonalta - Trecho01	6.961.172,113	417.095,047	605,123	
234	3,610	Estrada Zonalta - Trecho01	6.961.171,958	417.098,654	605,506	Tangent Point (SC)
234	7,390	Estrada Zonalta - Trecho01	6.961.171,751	417.102,427	605,898	Tangent Point (CS)
234	10,000	Estrada Zonalta - Trecho01	6.961.171,580	417.105,032	606,164	
235	0,000	Estrada Zonalta - Trecho01	6.961.170,752	417.114,998	607,138	
235	10,000	Estrada Zonalta - Trecho01	6.961.169,731	417.124,945	608,046	
235	15,050	Estrada Zonalta - Trecho01	6.961.169,178	417.129,964	608,480	
235	17,390	Estrada Zonalta - Trecho01	6.961.168,918	417.132,290	608,677	Tangent Point (ST)
236	0,000	Estrada Zonalta - Trecho01	6.961.168,628	417.134,884	608,896	
237	0,000	Estrada Zonalta - Trecho01	6.961.166,408	417.154,761	610,580	
237	5,110	Estrada Zonalta - Trecho01	6.961.165,841	417.159,842	611,010	
238	0,000	Estrada Zonalta - Trecho01	6.961.164,188	417.174,637	612,200	
239	0,000	Estrada Zonalta - Trecho01	6.961.161,968	417.194,514	613,596	
239	5,110	Estrada Zonalta - Trecho01	6.961.161,400	417.199,595	613,916	
240	0,000	Estrada Zonalta - Trecho01	6.961.159,748	417.214,390	614,826	
241	0,000	Estrada Zonalta - Trecho01	6.961.157,527	417.234,266	616,048	
241	3,360	Estrada Zonalta - Trecho01	6.961.157,155	417.237,601	616,253	Tangent Point (TS)
241	10,000	Estrada Zonalta - Trecho01	6.961.156,424	417.244,205	616,659	
242	0,000	Estrada Zonalta - Trecho01	6.961.155,409	417.254,153	617,270	
242	10,000	Estrada Zonalta - Trecho01	6.961.154,615	417.264,122	617,881	
242	13,360	Estrada Zonalta - Trecho01	6.961.154,422	417.267,472	618,086	Tangent Point (SC)

Relatório de Alinhamento Horizontal e Vertical por Estaca



Sistema SIRGAS 2000 - UTM zona 22 S - Altimétria Ortométrica - hgeoHNOR_IMBITUBA

Estaca		Eixo	Norte	Este	Cota	Descrição
243	0,000	Estrada Zonalta - Trecho01	6.961.154,170	417.274,111	618,492	
243	10,000	Estrada Zonalta - Trecho01	6.961.154,123	417.284,110	619,103	
244	0,000	Estrada Zonalta - Trecho01	6.961.154,477	417.294,103	619,714	
244	10,000	Estrada Zonalta - Trecho01	6.961.155,229	417.304,074	620,325	
244	12,830	Estrada Zonalta - Trecho01	6.961.155,514	417.306,888	620,498	Tangent Point (CS)
245	0,000	Estrada Zonalta - Trecho01	6.961.156,369	417.314,009	620,936	
245	5,260	Estrada Zonalta - Trecho01	6.961.157,087	417.319,222	621,258	
245	10,000	Estrada Zonalta - Trecho01	6.961.157,775	417.323,909	621,552	
245	14,830	Estrada Zonalta - Trecho01	6.961.158,496	417.328,683	621,862	Tangent Point (ST)
245	18,660	Estrada Zonalta - Trecho01	6.961.159,071	417.332,470	622,115	Tangent Point (TS)
246	0,000	Estrada Zonalta - Trecho01	6.961.159,273	417.333,796	622,205	
246	10,000	Estrada Zonalta - Trecho01	6.961.160,730	417.343,690	622,900	
247	0,000	Estrada Zonalta - Trecho01	6.961.161,983	417.353,610	623,638	
247	0,660	Estrada Zonalta - Trecho01	6.961.162,054	417.354,265	623,689	Tangent Point (SC)
247	9,710	Estrada Zonalta - Trecho01	6.961.162,854	417.363,277	624,396	Tangent Point (CS)
247	10,000	Estrada Zonalta - Trecho01	6.961.162,874	417.363,570	624,419	
248	0,000	Estrada Zonalta - Trecho01	6.961.163,391	417.373,556	625,243	
248	10,000	Estrada Zonalta - Trecho01	6.961.163,645	417.383,553	626,129	
248	19,710	Estrada Zonalta - Trecho01	6.961.163,767	417.393,258	627,064	Tangent Point (ST)
249	0,000	Estrada Zonalta - Trecho01	6.961.163,770	417.393,552	627,093	
249	5,350	Estrada Zonalta - Trecho01	6.961.163,826	417.398,900	627,641	Tangent Point (TS)
249	10,000	Estrada Zonalta - Trecho01	6.961.163,879	417.403,551	628,136	
249	19,760	Estrada Zonalta - Trecho01	6.961.164,110	417.413,310	629,231	
250	0,000	Estrada Zonalta - Trecho01	6.961.164,119	417.413,548	629,258	
250	10,000	Estrada Zonalta - Trecho01	6.961.164,750	417.423,527	630,418	
250	10,350	Estrada Zonalta - Trecho01	6.961.164,782	417.423,874	630,458	Tangent Point (SC)
251	0,000	Estrada Zonalta - Trecho01	6.961.165,994	417.433,447	631,577	
251	10,000	Estrada Zonalta - Trecho01	6.961.167,897	417.443,263	632,737	
251	18,150	Estrada Zonalta - Trecho01	6.961.169,930	417.451,158	633,682	Tangent Point (CS)
252	0,000	Estrada Zonalta - Trecho01	6.961.170,449	417.452,930	633,896	
252	10,000	Estrada Zonalta - Trecho01	6.961.173,570	417.462,429	635,055	
253	0,000	Estrada Zonalta - Trecho01	6.961.177,023	417.471,814	636,215	
253	3,150	Estrada Zonalta - Trecho01	6.961.178,140	417.474,763	636,581	Tangent Point (ST)
253	4,140	Estrada Zonalta - Trecho01	6.961.178,490	417.475,688	636,695	Tangent Point (TS)
253	10,000	Estrada Zonalta - Trecho01	6.961.180,560	417.481,167	637,374	
254	0,000	Estrada Zonalta - Trecho01	6.961.183,975	417.490,566	638,534	
254	10,000	Estrada Zonalta - Trecho01	6.961.187,056	417.500,079	639,693	
254	14,140	Estrada Zonalta - Trecho01	6.961.188,184	417.504,065	640,173	Tangent Point (SC)
255	0,000	Estrada Zonalta - Trecho01	6.961.189,593	417.509,750	640,853	
255	10,000	Estrada Zonalta - Trecho01	6.961.191,482	417.519,568	642,012	
256	0,000	Estrada Zonalta - Trecho01	6.961.192,713	417.529,490	643,171	
256	10,000	Estrada Zonalta - Trecho01	6.961.193,281	417.539,472	644,331	
256	16,540	Estrada Zonalta - Trecho01	6.961.193,292	417.546,013	645,089	Tangent Point (CS)
257	0,000	Estrada Zonalta - Trecho01	6.961.193,183	417.549,470	645,490	
257	10,000	Estrada Zonalta - Trecho01	6.961.192,507	417.559,446	646,650	
258	0,000	Estrada Zonalta - Trecho01	6.961.191,465	417.569,391	647,809	
258	6,540	Estrada Zonalta - Trecho01	6.961.190,691	417.575,887	648,568	Tangent Point (ST)
259	0,000	Estrada Zonalta - Trecho01	6.961.189,078	417.589,248	650,128	
259	8,170	Estrada Zonalta - Trecho01	6.961.188,098	417.597,363	651,076	
259	11,360	Estrada Zonalta - Trecho01	6.961.187,715	417.600,530	651,442	Tangent Point (TS)
260	0,000	Estrada Zonalta - Trecho01	6.961.186,694	417.609,105	652,404	
260	10,000	Estrada Zonalta - Trecho01	6.961.185,624	417.619,048	653,461	
261	0,000	Estrada Zonalta - Trecho01	6.961.184,802	417.629,014	654,457	
261	1,360	Estrada Zonalta - Trecho01	6.961.184,716	417.630,375	654,588	Tangent Point (SC)
261	10,000	Estrada Zonalta - Trecho01	6.961.184,346	417.639,002	655,392	
262	0,000	Estrada Zonalta - Trecho01	6.961.184,289	417.649,002	656,267	
262	0,470	Estrada Zonalta - Trecho01	6.961.184,297	417.649,474	656,307	Tangent Point (CS)

Relatório de Alinhamento Horizontal e Vertical por Estaca



Sistema SIRGAS 2000 - UTM zona 22 S - Altimétria Ortométrica - hgeoHNOR_IMBITUBA

Estaca		Eixo	Norte	Este	Cota	Descrição
262	10,000	Estrada Zonalta - Trecho01	6.961.184,614	417.658,996	657,088	
263	0,000	Estrada Zonalta - Trecho01	6.961.185,211	417.668,978	657,854	
263	10,000	Estrada Zonalta - Trecho01	6.961.185,948	417.678,951	658,565	
263	10,470	Estrada Zonalta - Trecho01	6.961.185,984	417.679,422	658,597	Tangent Point (ST)
264	0,000	Estrada Zonalta - Trecho01	6.961.186,710	417.688,922	659,221	
264	0,470	Estrada Zonalta - Trecho01	6.961.186,745	417.689,387	659,250	
264	12,300	Estrada Zonalta - Trecho01	6.961.187,647	417.701,185	659,991	Tangent Point (TS)
265	0,000	Estrada Zonalta - Trecho01	6.961.188,223	417.708,864	660,474	
265	10,000	Estrada Zonalta - Trecho01	6.961.188,872	417.718,843	661,100	
266	0,000	Estrada Zonalta - Trecho01	6.961.189,286	417.728,834	661,726	
266	2,300	Estrada Zonalta - Trecho01	6.961.189,334	417.731,133	661,870	Tangent Point (SC)
266	10,000	Estrada Zonalta - Trecho01	6.961.189,340	417.738,833	662,353	
267	0,000	Estrada Zonalta - Trecho01	6.961.188,995	417.748,827	662,979	
267	6,220	Estrada Zonalta - Trecho01	6.961.188,579	417.755,032	663,369	
267	10,000	Estrada Zonalta - Trecho01	6.961.188,250	417.758,798	663,599	
268	0,000	Estrada Zonalta - Trecho01	6.961.187,108	417.768,732	664,144	
268	10,000	Estrada Zonalta - Trecho01	6.961.185,569	417.778,612	664,597	
268	16,390	Estrada Zonalta - Trecho01	6.961.184,379	417.784,887	664,838	Tangent Point (CS)
269	0,000	Estrada Zonalta - Trecho01	6.961.183,637	417.788,423	664,957	
269	10,000	Estrada Zonalta - Trecho01	6.961.181,366	417.798,162	665,225	
270	0,000	Estrada Zonalta - Trecho01	6.961.178,884	417.807,849	665,412	
270	6,390	Estrada Zonalta - Trecho01	6.961.177,247	417.814,022	665,500	Tangent Point (ST)
271	0,000	Estrada Zonalta - Trecho01	6.961.173,746	417.827,177	665,607	
271	6,450	Estrada Zonalta - Trecho01	6.961.172,087	417.833,411	665,620	
272	0,000	Estrada Zonalta - Trecho01	6.961.168,603	417.846,505	665,565	
272	8,290	Estrada Zonalta - Trecho01	6.961.166,470	417.854,520	665,478	
273	0,000	Estrada Zonalta - Trecho01	6.961.163,460	417.865,832	665,327	
273	15,810	Estrada Zonalta - Trecho01	6.961.159,395	417.881,106	665,122	
274	0,000	Estrada Zonalta - Trecho01	6.961.158,317	417.885,160	665,070	
275	0,000	Estrada Zonalta - Trecho01	6.961.153,173	417.904,487	664,896	
275	19,900	Estrada Zonalta - Trecho01	6.961.148,055	417.923,720	664,842	
276	0,000	Estrada Zonalta - Trecho01	6.961.148,030	417.923,814	664,842	
277	0,000	Estrada Zonalta - Trecho01	6.961.142,887	417.943,142	664,894	
277	10,980	Estrada Zonalta - Trecho01	6.961.140,064	417.953,751	664,966	
277	14,370	Estrada Zonalta - Trecho01	6.961.139,191	417.957,030	664,994	Tangent Point (TS)
278	0,000	Estrada Zonalta - Trecho01	6.961.137,748	417.962,470	665,039	
278	10,000	Estrada Zonalta - Trecho01	6.961.135,254	417.972,154	665,118	
279	0,000	Estrada Zonalta - Trecho01	6.961.132,963	417.981,888	665,198	
279	4,370	Estrada Zonalta - Trecho01	6.961.132,059	417.986,164	665,233	Tangent Point (SC)
279	10,000	Estrada Zonalta - Trecho01	6.961.131,002	417.991,693	665,278	
280	0,000	Estrada Zonalta - Trecho01	6.961.129,433	418.001,569	665,358	
280	7,180	Estrada Zonalta - Trecho01	6.961.128,551	418.008,694	665,415	
280	8,850	Estrada Zonalta - Trecho01	6.961.128,376	418.010,350	665,429	Tangent Point (CS)
280	10,000	Estrada Zonalta - Trecho01	6.961.128,260	418.011,499	665,439	
281	0,000	Estrada Zonalta - Trecho01	6.961.127,455	418.021,466	665,534	
281	10,000	Estrada Zonalta - Trecho01	6.961.126,900	418.031,450	665,649	
281	18,850	Estrada Zonalta - Trecho01	6.961.126,511	418.040,287	665,767	Tangent Point (ST)
282	0,000	Estrada Zonalta - Trecho01	6.961.126,463	418.041,441	665,784	
283	0,000	Estrada Zonalta - Trecho01	6.961.125,619	418.061,423	666,113	
284	0,000	Estrada Zonalta - Trecho01	6.961.124,776	418.081,405	666,574	
284	13,960	Estrada Zonalta - Trecho01	6.961.124,187	418.095,350	667,000	
284	15,240	Estrada Zonalta - Trecho01	6.961.124,133	418.096,628	667,043	Tangent Point (TS)
285	0,000	Estrada Zonalta - Trecho01	6.961.123,934	418.101,387	667,203	
285	10,000	Estrada Zonalta - Trecho01	6.961.123,550	418.111,380	667,539	
285	10,070	Estrada Zonalta - Trecho01	6.961.123,548	418.111,454	667,541	
286	0,000	Estrada Zonalta - Trecho01	6.961.123,276	418.121,376	667,834	
286	5,240	Estrada Zonalta - Trecho01	6.961.123,201	418.126,612	667,956	Tangent Point (SC)

Relatório de Alinhamento Horizontal e Vertical por Estaca



Sistema SIRGAS 2000 - UTM zona 22 S - Altimétria Ortométrica - hgeoHNOR_IMBITUBA

Estaca		Eixo	Norte	Este	Cota	Descrição
286	10,000	Estrada Zonalta - Trecho01	6.961.123,184	418.131,376	668,047	
286	19,310	Estrada Zonalta - Trecho01	6.961.123,297	418.140,688	668,170	Tangent Point (CS)
287	0,000	Estrada Zonalta - Trecho01	6.961.123,313	418.141,375	668,177	
287	10,000	Estrada Zonalta - Trecho01	6.961.123,648	418.151,369	668,225	
287	12,910	Estrada Zonalta - Trecho01	6.961.123,776	418.154,272	668,227	
288	0,000	Estrada Zonalta - Trecho01	6.961.124,127	418.161,357	668,215	
288	9,310	Estrada Zonalta - Trecho01	6.961.124,636	418.170,656	668,164	Tangent Point (ST)
289	0,000	Estrada Zonalta - Trecho01	6.961.125,232	418.181,327	668,056	
289	18,440	Estrada Zonalta - Trecho01	6.961.126,259	418.199,738	667,745	
290	0,000	Estrada Zonalta - Trecho01	6.961.126,346	418.201,296	667,712	
290	15,610	Estrada Zonalta - Trecho01	6.961.127,216	418.216,885	667,381	
291	0,000	Estrada Zonalta - Trecho01	6.961.127,461	418.221,265	667,289	
292	0,000	Estrada Zonalta - Trecho01	6.961.128,575	418.241,234	666,897	
293	0,000	Estrada Zonalta - Trecho01	6.961.129,690	418.261,202	666,550	
293	11,190	Estrada Zonalta - Trecho01	6.961.130,314	418.272,374	666,375	Tangent Point (TS)
294	0,000	Estrada Zonalta - Trecho01	6.961.130,792	418.281,172	666,249	
294	10,000	Estrada Zonalta - Trecho01	6.961.131,239	418.291,162	666,123	
295	0,000	Estrada Zonalta - Trecho01	6.961.131,477	418.301,159	666,014	
295	1,190	Estrada Zonalta - Trecho01	6.961.131,486	418.302,347	666,003	Tangent Point (SC)
295	10,000	Estrada Zonalta - Trecho01	6.961.131,408	418.311,158	665,923	
295	15,060	Estrada Zonalta - Trecho01	6.961.131,246	418.316,213	665,883	
296	0,000	Estrada Zonalta - Trecho01	6.961.131,005	418.321,150	665,847	
296	10,000	Estrada Zonalta - Trecho01	6.961.130,270	418.331,122	665,773	
297	0,000	Estrada Zonalta - Trecho01	6.961.129,202	418.341,064	665,699	
297	10,000	Estrada Zonalta - Trecho01	6.961.127,804	418.350,966	665,625	
297	14,110	Estrada Zonalta - Trecho01	6.961.127,134	418.355,022	665,594	
297	16,060	Estrada Zonalta - Trecho01	6.961.126,797	418.356,941	665,579	Tangent Point (CS)
298	0,000	Estrada Zonalta - Trecho01	6.961.126,078	418.360,815	665,547	
298	10,000	Estrada Zonalta - Trecho01	6.961.124,071	418.370,612	665,452	
299	0,000	Estrada Zonalta - Trecho01	6.961.121,890	418.380,371	665,338	
299	6,060	Estrada Zonalta - Trecho01	6.961.120,529	418.386,276	665,259	Tangent Point (ST)
300	0,000	Estrada Zonalta - Trecho01	6.961.117,390	418.399,858	665,051	
301	0,000	Estrada Zonalta - Trecho01	6.961.112,886	418.419,344	664,687	
302	0,000	Estrada Zonalta - Trecho01	6.961.108,382	418.438,830	664,091	
302	9,670	Estrada Zonalta - Trecho01	6.961.106,206	418.448,248	663,658	
303	0,000	Estrada Zonalta - Trecho01	6.961.103,879	418.458,317	663,144	
303	7,470	Estrada Zonalta - Trecho01	6.961.102,196	418.465,596	662,773	
304	0,000	Estrada Zonalta - Trecho01	6.961.099,375	418.477,803	662,302	
304	13,180	Estrada Zonalta - Trecho01	6.961.096,407	418.490,641	662,134	
305	0,000	Estrada Zonalta - Trecho01	6.961.094,871	418.497,289	662,179	
306	0,000	Estrada Zonalta - Trecho01	6.961.090,367	418.516,776	662,641	
306	9,760	Estrada Zonalta - Trecho01	6.961.088,170	418.526,282	662,929	Tangent Point (TS)
306	10,000	Estrada Zonalta - Trecho01	6.961.088,115	418.526,519	662,936	
307	0,000	Estrada Zonalta - Trecho01	6.961.085,882	418.536,266	663,269	
307	10,000	Estrada Zonalta - Trecho01	6.961.083,761	418.546,039	663,639	
307	19,760	Estrada Zonalta - Trecho01	6.961.081,903	418.555,616	664,035	Tangent Point (SC)
308	0,000	Estrada Zonalta - Trecho01	6.961.081,860	418.555,856	664,046	
308	9,470	Estrada Zonalta - Trecho01	6.961.080,346	418.565,208	664,466	Tangent Point (CS)
308	10,000	Estrada Zonalta - Trecho01	6.961.080,270	418.565,728	664,490	
309	0,000	Estrada Zonalta - Trecho01	6.961.078,989	418.575,645	664,973	
309	8,520	Estrada Zonalta - Trecho01	6.961.078,071	418.584,119	665,413	
309	10,000	Estrada Zonalta - Trecho01	6.961.077,922	418.585,588	665,492	
309	19,470	Estrada Zonalta - Trecho01	6.961.077,010	418.595,018	665,996	Tangent Point (ST)
310	0,000	Estrada Zonalta - Trecho01	6.961.076,961	418.595,542	666,024	
310	3,470	Estrada Zonalta - Trecho01	6.961.076,632	418.598,995	666,209	
311	0,000	Estrada Zonalta - Trecho01	6.961.075,068	418.615,452	667,014	
311	16,090	Estrada Zonalta - Trecho01	6.961.073,546	418.631,471	667,652	Tangent Point (TS)

Relatório de Alinhamento Horizontal e Vertical por Estaca



Sistema SIRGAS 2000 - UTM zona 22 S - Altimétria Ortométrica - hgeoHNOR_IMBITUBA

Estaca		Eixo	Norte	Este	Cota	Descrição
312	0,000	Estrada Zonalta - Trecho01	6.961.073,175	418.635,362	667,785	
312	10,000	Estrada Zonalta - Trecho01	6.961.072,180	418.645,313	668,088	
313	0,000	Estrada Zonalta - Trecho01	6.961.071,032	418.655,246	668,335	
313	6,090	Estrada Zonalta - Trecho01	6.961.070,211	418.661,281	668,453	Tangent Point (SC)
313	10,000	Estrada Zonalta - Trecho01	6.961.069,622	418.665,146	668,514	
314	0,000	Estrada Zonalta - Trecho01	6.961.067,886	418.674,994	668,614	
314	7,510	Estrada Zonalta - Trecho01	6.961.066,367	418.682,351	668,636	
314	10,000	Estrada Zonalta - Trecho01	6.961.065,823	418.684,778	668,634	
315	0,000	Estrada Zonalta - Trecho01	6.961.063,436	418.694,489	668,574	
315	7,020	Estrada Zonalta - Trecho01	6.961.061,568	418.701,252	668,485	Tangent Point (CS)
315	7,190	Estrada Zonalta - Trecho01	6.961.061,519	418.701,421	668,482	
315	10,000	Estrada Zonalta - Trecho01	6.961.060,726	418.704,114	668,438	
316	0,000	Estrada Zonalta - Trecho01	6.961.057,735	418.713,656	668,281	
316	10,000	Estrada Zonalta - Trecho01	6.961.054,564	418.723,140	668,124	
316	17,020	Estrada Zonalta - Trecho01	6.961.052,288	418.729,777	668,014	Tangent Point (ST)
317	0,000	Estrada Zonalta - Trecho01	6.961.051,318	418.732,598	667,967	
318	0,000	Estrada Zonalta - Trecho01	6.961.044,815	418.751,512	667,654	
319	0,000	Estrada Zonalta - Trecho01	6.961.038,312	418.770,425	667,340	
320	0,000	Estrada Zonalta - Trecho01	6.961.031,809	418.789,338	667,026	
321	0,000	Estrada Zonalta - Trecho01	6.961.025,306	418.808,251	666,712	
322	0,000	Estrada Zonalta - Trecho01	6.961.018,803	418.827,165	666,399	
322	10,240	Estrada Zonalta - Trecho01	6.961.015,474	418.836,846	666,238	
323	0,000	Estrada Zonalta - Trecho01	6.961.012,300	418.846,078	666,053	
324	0,000	Estrada Zonalta - Trecho01	6.961.005,797	418.864,991	665,473	
325	0,000	Estrada Zonalta - Trecho01	6.960.999,294	418.883,904	664,625	
325	1,900	Estrada Zonalta - Trecho01	6.960.998,675	418.885,705	664,530	Tangent Point (TS)
325	10,000	Estrada Zonalta - Trecho01	6.960.996,052	418.893,364	664,098	
326	0,000	Estrada Zonalta - Trecho01	6.960.992,895	418.902,853	663,462	
326	10,000	Estrada Zonalta - Trecho01	6.960.989,930	418.912,403	662,702	
326	11,900	Estrada Zonalta - Trecho01	6.960.989,396	418.914,231	662,543	Tangent Point (SC)
327	0,000	Estrada Zonalta - Trecho01	6.960.987,254	418.922,038	661,818	
327	8,290	Estrada Zonalta - Trecho01	6.960.985,281	418.930,087	660,992	Tangent Point (CS)
327	9,440	Estrada Zonalta - Trecho01	6.960.985,024	418.931,211	660,870	
327	10,000	Estrada Zonalta - Trecho01	6.960.984,901	418.931,756	660,811	
328	0,000	Estrada Zonalta - Trecho01	6.960.982,830	418.941,539	659,748	
328	8,290	Estrada Zonalta - Trecho01	6.960.981,223	418.949,670	658,867	Tangent Point (ST)
329	0,000	Estrada Zonalta - Trecho01	6.960.978,974	418.961,164	657,622	
329	1,820	Estrada Zonalta - Trecho01	6.960.978,624	418.962,954	657,428	Tangent Point (TS)
329	10,000	Estrada Zonalta - Trecho01	6.960.977,032	418.970,974	656,559	
330	0,000	Estrada Zonalta - Trecho01	6.960.974,889	418.980,741	655,496	
330	1,820	Estrada Zonalta - Trecho01	6.960.974,458	418.982,512	655,302	Tangent Point (SC)
330	4,630	Estrada Zonalta - Trecho01	6.960.973,762	418.985,232	655,003	Tangent Point (CS)
330	10,000	Estrada Zonalta - Trecho01	6.960.972,333	418.990,408	654,433	
331	0,000	Estrada Zonalta - Trecho01	6.960.969,429	418.999,977	653,370	
331	4,630	Estrada Zonalta - Trecho01	6.960.968,033	419.004,391	652,877	Tangent Point (ST)
331	19,320	Estrada Zonalta - Trecho01	6.960.963,590	419.018,393	651,316	
332	0,000	Estrada Zonalta - Trecho01	6.960.963,384	419.019,041	651,244	
333	0,000	Estrada Zonalta - Trecho01	6.960.957,335	419.038,104	649,288	
333	9,590	Estrada Zonalta - Trecho01	6.960.954,434	419.047,246	648,463	Tangent Point (TS)
333	10,000	Estrada Zonalta - Trecho01	6.960.954,311	419.047,636	648,430	
334	0,000	Estrada Zonalta - Trecho01	6.960.951,256	419.057,158	647,651	
334	10,000	Estrada Zonalta - Trecho01	6.960.948,037	419.066,626	646,952	
334	19,590	Estrada Zonalta - Trecho01	6.960.944,652	419.075,598	646,357	Tangent Point (SC)
335	0,000	Estrada Zonalta - Trecho01	6.960.944,498	419.075,978	646,333	
335	10,000	Estrada Zonalta - Trecho01	6.960.940,519	419.085,151	645,793	
336	0,000	Estrada Zonalta - Trecho01	6.960.936,086	419.094,113	645,333	
336	0,030	Estrada Zonalta - Trecho01	6.960.936,071	419.094,142	645,332	Tangent Point (CS)

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Sistema SIRGAS 2000 - UTM zona 22 S - Altimétria Ortométrica - hgeoHNOR_IMBITUBA

Estaca		Eixo	Norte	Este	Cota	Descrição
336	10,000	Estrada Zonalta - Trecho01	6.960.931,235	419.102,857	644,953	
337	0,000	Estrada Zonalta - Trecho01	6.960.926,094	419.111,434	644,653	
337	10,000	Estrada Zonalta - Trecho01	6.960.920,811	419.119,924	644,432	
337	10,030	Estrada Zonalta - Trecho01	6.960.920,793	419.119,952	644,431	Tangent Point (ST)
338	0,000	Estrada Zonalta - Trecho01	6.960.915,503	419.128,400	644,291	
338	12,710	Estrada Zonalta - Trecho01	6.960.908,756	419.139,174	644,226	
339	0,000	Estrada Zonalta - Trecho01	6.960.904,888	419.145,350	644,247	
339	2,560	Estrada Zonalta - Trecho01	6.960.903,532	419.147,517	644,265	Tangent Point (TS)
339	10,000	Estrada Zonalta - Trecho01	6.960.899,589	419.153,831	644,345	
340	0,000	Estrada Zonalta - Trecho01	6.960.894,374	419.162,363	644,523	
340	10,000	Estrada Zonalta - Trecho01	6.960.889,359	419.171,014	644,781	
340	12,560	Estrada Zonalta - Trecho01	6.960.888,124	419.173,252	644,859	Tangent Point (SC)
341	0,000	Estrada Zonalta - Trecho01	6.960.884,656	419.179,839	645,118	
341	10,000	Estrada Zonalta - Trecho01	6.960.880,310	419.188,844	645,535	
342	0,000	Estrada Zonalta - Trecho01	6.960.876,327	419.198,016	646,031	
342	10,000	Estrada Zonalta - Trecho01	6.960.872,714	419.207,339	646,608	
343	0,000	Estrada Zonalta - Trecho01	6.960.869,476	419.216,800	647,264	
343	1,890	Estrada Zonalta - Trecho01	6.960.868,908	419.218,598	647,396	Tangent Point (CS)
343	10,000	Estrada Zonalta - Trecho01	6.960.866,608	419.226,380	648,000	
344	0,000	Estrada Zonalta - Trecho01	6.960.864,021	419.236,039	648,815	
344	10,000	Estrada Zonalta - Trecho01	6.960.861,587	419.245,738	649,710	
344	11,890	Estrada Zonalta - Trecho01	6.960.861,135	419.247,569	649,888	Tangent Point (ST)
344	15,750	Estrada Zonalta - Trecho01	6.960.860,209	419.251,317	650,261	Tangent Point (TS)
345	0,000	Estrada Zonalta - Trecho01	6.960.859,192	419.255,447	650,685	
345	6,090	Estrada Zonalta - Trecho01	6.960.857,768	419.261,370	651,318	
345	10,000	Estrada Zonalta - Trecho01	6.960.856,895	419.265,180	651,734	
346	0,000	Estrada Zonalta - Trecho01	6.960.854,909	419.274,979	652,798	
346	5,750	Estrada Zonalta - Trecho01	6.960.853,993	419.280,652	653,409	Tangent Point (SC)
346	10,000	Estrada Zonalta - Trecho01	6.960.853,450	419.284,871	653,861	
347	0,000	Estrada Zonalta - Trecho01	6.960.852,646	419.294,837	654,924	
347	4,490	Estrada Zonalta - Trecho01	6.960.852,502	419.299,327	655,402	Tangent Point (CS)
347	10,000	Estrada Zonalta - Trecho01	6.960.852,502	419.304,834	655,988	
348	0,000	Estrada Zonalta - Trecho01	6.960.852,899	419.314,825	657,051	
348	10,000	Estrada Zonalta - Trecho01	6.960.853,617	419.324,799	658,115	
348	10,840	Estrada Zonalta - Trecho01	6.960.853,685	419.325,637	658,204	
348	14,490	Estrada Zonalta - Trecho01	6.960.853,985	419.329,277	658,587	Tangent Point (ST)
349	0,000	Estrada Zonalta - Trecho01	6.960.854,441	419.334,765	659,144	
349	0,360	Estrada Zonalta - Trecho01	6.960.854,470	419.335,121	659,179	Tangent Point (TS)
349	10,000	Estrada Zonalta - Trecho01	6.960.855,223	419.344,734	660,092	
350	0,000	Estrada Zonalta - Trecho01	6.960.855,714	419.354,722	660,959	
350	10,000	Estrada Zonalta - Trecho01	6.960.855,609	419.364,719	661,745	
350	10,360	Estrada Zonalta - Trecho01	6.960.855,591	419.365,075	661,771	Tangent Point (SC)
351	0,000	Estrada Zonalta - Trecho01	6.960.854,653	419.374,669	662,449	
351	10,000	Estrada Zonalta - Trecho01	6.960.852,798	419.384,492	663,072	
352	0,000	Estrada Zonalta - Trecho01	6.960.850,059	419.394,106	663,613	
352	10,000	Estrada Zonalta - Trecho01	6.960.846,458	419.403,432	664,074	
353	0,000	Estrada Zonalta - Trecho01	6.960.842,026	419.412,392	664,478	
353	7,580	Estrada Zonalta - Trecho01	6.960.838,134	419.418,894	664,749	Tangent Point (CS)
353	10,000	Estrada Zonalta - Trecho01	6.960.836,799	419.420,913	664,829	
354	0,000	Estrada Zonalta - Trecho01	6.960.830,896	419.428,982	665,129	
354	10,000	Estrada Zonalta - Trecho01	6.960.824,570	419.436,727	665,377	
354	17,580	Estrada Zonalta - Trecho01	6.960.819,646	419.442,488	665,530	Tangent Point (ST)
355	0,000	Estrada Zonalta - Trecho01	6.960.818,068	419.444,324	665,573	
356	0,000	Estrada Zonalta - Trecho01	6.960.805,029	419.459,490	665,810	
356	7,090	Estrada Zonalta - Trecho01	6.960.800,411	419.464,863	665,844	Tangent Point (TS)
356	10,000	Estrada Zonalta - Trecho01	6.960.798,511	419.467,073	665,851	
356	12,910	Estrada Zonalta - Trecho01	6.960.796,616	419.469,281	665,853	

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Sistema SIRGAS 2000 - UTM zona 22 S - Altimétria Ortométrica - hgeoHNOR_IMBITUBA

Estaca		Eixo	Norte	Este	Cota	Descrição
357	0,000	Estrada Zonalta - Trecho01	6.960.792,018	419.474,679	665,840	
357	1,870	Estrada Zonalta - Trecho01	6.960.790,816	419.476,105	665,832	
357	7,090	Estrada Zonalta - Trecho01	6.960.787,474	419.480,115	665,808	Tangent Point (SC)
357	10,000	Estrada Zonalta - Trecho01	6.960.785,625	419.482,368	665,794	
358	0,000	Estrada Zonalta - Trecho01	6.960.779,382	419.490,180	665,748	
358	10,000	Estrada Zonalta - Trecho01	6.960.773,296	419.498,114	665,702	
359	0,000	Estrada Zonalta - Trecho01	6.960.767,370	419.506,169	665,655	
359	1,740	Estrada Zonalta - Trecho01	6.960.766,355	419.507,582	665,647	Tangent Point (CS)
359	10,000	Estrada Zonalta - Trecho01	6.960.761,599	419.514,336	665,609	
360	0,000	Estrada Zonalta - Trecho01	6.960.755,924	419.522,569	665,563	
360	1,740	Estrada Zonalta - Trecho01	6.960.754,940	419.524,004	665,555	Tangent Point (ST)
361	0,000	Estrada Zonalta - Trecho01	6.960.744,617	419.539,067	665,470	
361	2,410	Estrada Zonalta - Trecho01	6.960.743,255	419.541,055	665,459	Tangent Point (TS)
361	10,000	Estrada Zonalta - Trecho01	6.960.738,983	419.547,328	665,424	
362	0,000	Estrada Zonalta - Trecho01	6.960.733,540	419.555,717	665,377	
362	10,000	Estrada Zonalta - Trecho01	6.960.728,553	419.564,382	665,331	
362	12,410	Estrada Zonalta - Trecho01	6.960.727,451	419.566,525	665,320	Tangent Point (SC)
363	0,000	Estrada Zonalta - Trecho01	6.960.724,288	419.573,423	665,285	
363	10,000	Estrada Zonalta - Trecho01	6.960.720,860	419.582,814	665,238	
364	0,000	Estrada Zonalta - Trecho01	6.960.718,299	419.592,477	665,192	
364	10,000	Estrada Zonalta - Trecho01	6.960.716,626	419.602,332	665,146	
365	0,000	Estrada Zonalta - Trecho01	6.960.715,855	419.612,299	665,099	
365	10,000	Estrada Zonalta - Trecho01	6.960.715,991	419.622,294	665,053	
366	0,000	Estrada Zonalta - Trecho01	6.960.717,035	419.632,236	665,007	
366	10,000	Estrada Zonalta - Trecho01	6.960.718,976	419.642,043	664,960	
366	15,690	Estrada Zonalta - Trecho01	6.960.720,477	419.647,534	664,934	
367	0,000	Estrada Zonalta - Trecho01	6.960.721,800	419.651,632	664,913	
367	10,000	Estrada Zonalta - Trecho01	6.960.725,483	419.660,925	664,858	
367	17,120	Estrada Zonalta - Trecho01	6.960.728,612	419.667,320	664,812	Tangent Point (CS)
368	0,000	Estrada Zonalta - Trecho01	6.960.729,993	419.669,847	664,792	
368	10,000	Estrada Zonalta - Trecho01	6.960.735,206	419.678,379	664,717	
369	0,000	Estrada Zonalta - Trecho01	6.960.740,855	419.686,630	664,632	
369	7,120	Estrada Zonalta - Trecho01	6.960.744,999	419.692,419	664,565	Tangent Point (ST)
370	0,000	Estrada Zonalta - Trecho01	6.960.752,523	419.702,873	664,432	
371	0,000	Estrada Zonalta - Trecho01	6.960.764,206	419.719,106	664,193	
372	0,000	Estrada Zonalta - Trecho01	6.960.775,889	419.735,339	663,898	
372	4,900	Estrada Zonalta - Trecho01	6.960.778,751	419.739,315	663,812	Tangent Point (TS)
372	10,000	Estrada Zonalta - Trecho01	6.960.781,728	419.743,457	663,716	
373	0,000	Estrada Zonalta - Trecho01	6.960.787,494	419.751,627	663,513	
373	10,000	Estrada Zonalta - Trecho01	6.960.793,053	419.759,939	663,286	
373	14,900	Estrada Zonalta - Trecho01	6.960.795,657	419.764,089	663,167	Tangent Point (SC)
374	0,000	Estrada Zonalta - Trecho01	6.960.798,263	419.768,474	663,037	
374	1,970	Estrada Zonalta - Trecho01	6.960.799,239	419.770,185	662,985	
374	10,000	Estrada Zonalta - Trecho01	6.960.803,042	419.777,257	662,772	
375	0,000	Estrada Zonalta - Trecho01	6.960.807,376	419.786,267	662,507	
375	10,000	Estrada Zonalta - Trecho01	6.960.811,254	419.795,484	662,242	
376	0,000	Estrada Zonalta - Trecho01	6.960.814,667	419.804,882	661,977	
376	7,580	Estrada Zonalta - Trecho01	6.960.816,938	419.812,109	661,777	
376	10,000	Estrada Zonalta - Trecho01	6.960.817,606	419.814,439	661,712	
377	0,000	Estrada Zonalta - Trecho01	6.960.820,064	419.824,131	661,445	
377	10,000	Estrada Zonalta - Trecho01	6.960.822,034	419.833,934	661,175	
378	0,000	Estrada Zonalta - Trecho01	6.960.823,512	419.843,824	660,902	
378	2,470	Estrada Zonalta - Trecho01	6.960.823,800	419.846,272	660,835	Tangent Point (CS)
378	10,000	Estrada Zonalta - Trecho01	6.960.824,506	419.853,773	660,627	
379	0,000	Estrada Zonalta - Trecho01	6.960.825,126	419.863,754	660,348	
379	10,000	Estrada Zonalta - Trecho01	6.960.825,540	419.873,745	660,068	
379	12,470	Estrada Zonalta - Trecho01	6.960.825,629	419.876,208	659,998	Tangent Point (ST)

Relatório de Alinhamento Horizontal e Vertical por Estaca



Sistema SIRGAS 2000 - UTM zona 22 S - Altimétria Ortométrica - hgeoHNOR_IMBITUBA

Estaca		Eixo	Norte	Este	Cota	Descrição
380	0,000	Estrada Zonalta - Trecho01	6.960.825,900	419.883,738	659,784	
380	16,080	Estrada Zonalta - Trecho01	6.960.826,479	419.899,804	659,323	
381	0,000	Estrada Zonalta - Trecho01	6.960.826,620	419.903,725	659,209	
382	0,000	Estrada Zonalta - Trecho01	6.960.827,340	419.923,713	658,631	
383	0,000	Estrada Zonalta - Trecho01	6.960.828,060	419.943,700	658,053	
383	18,240	Estrada Zonalta - Trecho01	6.960.828,717	419.961,933	657,526	
383	18,720	Estrada Zonalta - Trecho01	6.960.828,734	419.962,406	657,512	Tangent Point (TS)
384	0,000	Estrada Zonalta - Trecho01	6.960.828,780	419.963,687	657,475	
384	10,000	Estrada Zonalta - Trecho01	6.960.829,172	419.973,679	657,169	
385	0,000	Estrada Zonalta - Trecho01	6.960.829,714	419.983,664	656,839	
385	8,720	Estrada Zonalta - Trecho01	6.960.830,413	419.992,355	656,531	Tangent Point (SC)
385	10,000	Estrada Zonalta - Trecho01	6.960.830,539	419.993,629	656,484	
386	0,000	Estrada Zonalta - Trecho01	6.960.831,748	420.003,555	656,105	
386	10,000	Estrada Zonalta - Trecho01	6.960.833,352	420.013,425	655,701	
386	12,660	Estrada Zonalta - Trecho01	6.960.833,845	420.016,041	655,589	Tangent Point (CS)
387	0,000	Estrada Zonalta - Trecho01	6.960.835,341	420.023,225	655,272	
387	10,000	Estrada Zonalta - Trecho01	6.960.837,625	420.032,960	654,819	
388	0,000	Estrada Zonalta - Trecho01	6.960.840,073	420.042,656	654,327	
388	2,660	Estrada Zonalta - Trecho01	6.960.840,736	420.045,234	654,180	Tangent Point (ST)
389	0,000	Estrada Zonalta - Trecho01	6.960.845,055	420.062,026	653,027	
389	10,160	Estrada Zonalta - Trecho01	6.960.847,587	420.071,868	652,196	
390	0,000	Estrada Zonalta - Trecho01	6.960.850,038	420.081,395	651,336	
390	18,220	Estrada Zonalta - Trecho01	6.960.854,578	420.099,045	649,743	
391	0,000	Estrada Zonalta - Trecho01	6.960.855,020	420.100,764	649,590	
392	0,000	Estrada Zonalta - Trecho01	6.960.860,003	420.120,134	648,162	
392	1,610	Estrada Zonalta - Trecho01	6.960.860,403	420.121,688	648,070	Tangent Point (TS)
392	10,000	Estrada Zonalta - Trecho01	6.960.862,507	420.129,815	647,651	
393	0,000	Estrada Zonalta - Trecho01	6.960.865,119	420.139,468	647,243	
393	10,000	Estrada Zonalta - Trecho01	6.960.867,967	420.149,053	646,885	
393	11,610	Estrada Zonalta - Trecho01	6.960.868,455	420.150,583	646,833	Tangent Point (SC)
394	0,000	Estrada Zonalta - Trecho01	6.960.871,164	420.158,528	646,576	
394	10,000	Estrada Zonalta - Trecho01	6.960.874,736	420.167,867	646,316	
395	0,000	Estrada Zonalta - Trecho01	6.960.878,679	420.177,056	646,104	
395	6,650	Estrada Zonalta - Trecho01	6.960.881,505	420.183,078	645,990	
395	10,000	Estrada Zonalta - Trecho01	6.960.882,987	420.186,080	645,939	
395	16,790	Estrada Zonalta - Trecho01	6.960.886,114	420.192,103	645,833	Tangent Point (CS)
396	0,000	Estrada Zonalta - Trecho01	6.960.887,651	420.194,925	645,784	
396	10,000	Estrada Zonalta - Trecho01	6.960.892,623	420.203,601	645,629	
397	0,000	Estrada Zonalta - Trecho01	6.960.897,787	420.212,165	645,474	
397	6,790	Estrada Zonalta - Trecho01	6.960.901,343	420.217,945	645,369	Tangent Point (ST)
397	12,330	Estrada Zonalta - Trecho01	6.960.904,253	420.222,666	645,283	
398	0,000	Estrada Zonalta - Trecho01	6.960.908,277	420.229,192	645,178	
399	0,000	Estrada Zonalta - Trecho01	6.960.918,774	420.246,217	645,031	
399	5,860	Estrada Zonalta - Trecho01	6.960.921,850	420.251,206	645,023	
400	0,000	Estrada Zonalta - Trecho01	6.960.929,270	420.263,241	645,070	
401	0,000	Estrada Zonalta - Trecho01	6.960.939,767	420.280,265	645,293	
402	0,000	Estrada Zonalta - Trecho01	6.960.950,263	420.297,289	645,700	
403	0,000	Estrada Zonalta - Trecho01	6.960.960,759	420.314,314	646,300	
404	0,000	Estrada Zonalta - Trecho01	6.960.971,256	420.331,338	647,250	
404	18,790	Estrada Zonalta - Trecho01	6.960.981,115	420.347,329	648,520	Tangent Point (TS)
405	0,000	Estrada Zonalta - Trecho01	6.960.981,752	420.348,362	648,615	
405	10,000	Estrada Zonalta - Trecho01	6.960.986,974	420.356,891	649,453	
406	0,000	Estrada Zonalta - Trecho01	6.960.992,067	420.365,496	650,395	
406	3,520	Estrada Zonalta - Trecho01	6.960.993,805	420.368,551	650,751	
406	8,790	Estrada Zonalta - Trecho01	6.960.996,344	420.373,171	651,294	Tangent Point (SC)
406	10,000	Estrada Zonalta - Trecho01	6.960.996,915	420.374,242	651,419	
407	0,000	Estrada Zonalta - Trecho01	6.961.001,423	420.383,168	652,450	

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Sistema SIRGAS 2000 - UTM zona 22 S - Altimétria Ortométrica - hgeoHNOR_IMBITUBA

Estaca		Eixo	Norte	Este	Cota	Descrição
407	10,000	Estrada Zonalta - Trecho01	6.961.005,570	420.392,266	653,480	
408	0,000	Estrada Zonalta - Trecho01	6.961.009,350	420.401,524	654,510	
408	10,000	Estrada Zonalta - Trecho01	6.961.012,756	420.410,925	655,541	
409	0,000	Estrada Zonalta - Trecho01	6.961.015,784	420.420,455	656,571	
409	6,140	Estrada Zonalta - Trecho01	6.961.017,453	420.426,361	657,203	
409	10,000	Estrada Zonalta - Trecho01	6.961.018,429	420.430,098	657,599	
410	0,000	Estrada Zonalta - Trecho01	6.961.020,685	420.439,839	658,599	
410	10,000	Estrada Zonalta - Trecho01	6.961.022,551	420.449,663	659,566	
410	11,080	Estrada Zonalta - Trecho01	6.961.022,728	420.450,726	659,669	Tangent Point (CS)
411	0,000	Estrada Zonalta - Trecho01	6.961.024,038	420.459,552	660,500	
411	6,140	Estrada Zonalta - Trecho01	6.961.024,804	420.465,641	661,056	
411	10,000	Estrada Zonalta - Trecho01	6.961.025,246	420.469,478	661,402	
412	0,000	Estrada Zonalta - Trecho01	6.961.026,307	420.479,422	662,298	
412	1,080	Estrada Zonalta - Trecho01	6.961.026,419	420.480,494	662,395	Tangent Point (ST)
413	0,000	Estrada Zonalta - Trecho01	6.961.028,371	420.499,315	664,090	
414	0,000	Estrada Zonalta - Trecho01	6.961.030,434	420.519,208	665,882	
415	0,000	Estrada Zonalta - Trecho01	6.961.032,497	420.539,102	667,674	
415	15,990	Estrada Zonalta - Trecho01	6.961.034,146	420.555,001	669,106	
416	0,000	Estrada Zonalta - Trecho01	6.961.034,560	420.558,995	669,463	
416	18,730	Estrada Zonalta - Trecho01	6.961.036,492	420.577,622	671,052	Tangent Point (TS)
417	0,000	Estrada Zonalta - Trecho01	6.961.036,623	420.578,888	671,155	
417	10,000	Estrada Zonalta - Trecho01	6.961.037,623	420.588,838	671,947	
418	0,000	Estrada Zonalta - Trecho01	6.961.038,473	420.598,802	672,703	
418	8,730	Estrada Zonalta - Trecho01	6.961.038,989	420.607,513	673,317	Tangent Point (SC)
418	10,000	Estrada Zonalta - Trecho01	6.961.039,040	420.608,785	673,402	
419	0,000	Estrada Zonalta - Trecho01	6.961.039,223	420.618,783	674,038	
419	2,790	Estrada Zonalta - Trecho01	6.961.039,202	420.621,577	674,204	Tangent Point (CS)
419	8,200	Estrada Zonalta - Trecho01	6.961.039,078	420.626,982	674,511	
419	10,000	Estrada Zonalta - Trecho01	6.961.039,014	420.628,780	674,610	
420	0,000	Estrada Zonalta - Trecho01	6.961.038,501	420.638,766	675,161	
420	10,000	Estrada Zonalta - Trecho01	6.961.037,819	420.648,743	675,712	
420	12,790	Estrada Zonalta - Trecho01	6.961.037,615	420.651,531	675,866	Tangent Point (ST)
421	0,000	Estrada Zonalta - Trecho01	6.961.037,090	420.658,717	676,263	
422	0,000	Estrada Zonalta - Trecho01	6.961.035,633	420.678,663	677,365	
422	3,210	Estrada Zonalta - Trecho01	6.961.035,399	420.681,861	677,542	Tangent Point (TS)
422	10,000	Estrada Zonalta - Trecho01	6.961.034,897	420.688,636	677,916	
422	14,300	Estrada Zonalta - Trecho01	6.961.034,561	420.692,920	678,153	
423	0,000	Estrada Zonalta - Trecho01	6.961.034,071	420.698,602	678,494	
423	10,000	Estrada Zonalta - Trecho01	6.961.033,021	420.708,546	679,218	
423	13,210	Estrada Zonalta - Trecho01	6.961.032,616	420.711,727	679,484	Tangent Point (SC)
424	0,000	Estrada Zonalta - Trecho01	6.961.031,624	420.718,448	680,103	
424	10,000	Estrada Zonalta - Trecho01	6.961.029,833	420.728,285	681,151	
424	14,300	Estrada Zonalta - Trecho01	6.961.028,943	420.732,489	681,650	
425	0,000	Estrada Zonalta - Trecho01	6.961.027,650	420.738,043	682,333	
425	8,860	Estrada Zonalta - Trecho01	6.961.025,390	420.746,612	683,395	Tangent Point (CS)
425	10,000	Estrada Zonalta - Trecho01	6.961.025,078	420.747,706	683,531	
426	0,000	Estrada Zonalta - Trecho01	6.961.022,151	420.757,268	684,729	
426	8,740	Estrada Zonalta - Trecho01	6.961.019,392	420.765,564	685,776	
426	10,000	Estrada Zonalta - Trecho01	6.961.018,985	420.766,753	685,925	
426	18,860	Estrada Zonalta - Trecho01	6.961.016,081	420.775,126	686,933	Tangent Point (ST)
426	19,400	Estrada Zonalta - Trecho01	6.961.015,905	420.775,631	686,991	Tangent Point (TS)
427	0,000	Estrada Zonalta - Trecho01	6.961.015,706	420.776,201	687,056	
427	10,000	Estrada Zonalta - Trecho01	6.961.012,439	420.785,652	688,081	
428	0,000	Estrada Zonalta - Trecho01	6.961.009,305	420.795,148	689,000	
428	9,400	Estrada Zonalta - Trecho01	6.961.006,596	420.804,145	689,767	Tangent Point (SC)
428	10,000	Estrada Zonalta - Trecho01	6.961.006,433	420.804,726	689,813	
429	0,000	Estrada Zonalta - Trecho01	6.961.003,929	420.814,407	690,539	

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Sistema SIRGAS 2000 - UTM zona 22 S - Altimétria Ortométrica - hgeoHNOR_IMBITUBA

Estaca		Eixo	Norte	Este	Cota	Descrição
429	10,000	Estrada Zonalta - Trecho01	6.961.001,813	420.824,180	691,183	
430	0,000	Estrada Zonalta - Trecho01	6.961.000,091	420.834,029	691,745	
430	9,450	Estrada Zonalta - Trecho01	6.960.998,826	420.843,396	692,201	
430	10,000	Estrada Zonalta - Trecho01	6.960.998,763	420.843,940	692,225	
430	18,630	Estrada Zonalta - Trecho01	6.960.997,937	420.852,531	692,607	Tangent Point (CS)
431	0,000	Estrada Zonalta - Trecho01	6.960.997,833	420.853,896	692,668	
431	10,000	Estrada Zonalta - Trecho01	6.960.997,269	420.863,880	693,111	
432	0,000	Estrada Zonalta - Trecho01	6.960.996,954	420.873,875	693,554	
432	8,630	Estrada Zonalta - Trecho01	6.960.996,779	420.882,503	693,936	Tangent Point (ST)
433	0,000	Estrada Zonalta - Trecho01	6.960.996,567	420.893,871	694,440	
434	0,000	Estrada Zonalta - Trecho01	6.960.996,195	420.913,868	695,326	
435	0,000	Estrada Zonalta - Trecho01	6.960.995,822	420.933,864	696,213	
435	8,230	Estrada Zonalta - Trecho01	6.960.995,669	420.942,096	696,577	
436	0,000	Estrada Zonalta - Trecho01	6.960.995,450	420.953,861	697,054	
436	11,140	Estrada Zonalta - Trecho01	6.960.995,243	420.964,997	697,422	Tangent Point (TS)
437	0,000	Estrada Zonalta - Trecho01	6.960.995,094	420.973,857	697,658	
437	10,000	Estrada Zonalta - Trecho01	6.960.995,050	420.983,857	697,862	
438	0,000	Estrada Zonalta - Trecho01	6.960.995,274	420.993,854	698,002	
438	1,140	Estrada Zonalta - Trecho01	6.960.995,322	420.994,991	698,014	Tangent Point (SC)
438	10,000	Estrada Zonalta - Trecho01	6.960.995,890	421.003,834	698,077	
438	16,560	Estrada Zonalta - Trecho01	6.960.996,525	421.010,368	698,091	
439	0,000	Estrada Zonalta - Trecho01	6.960.996,930	421.013,779	698,088	
439	10,000	Estrada Zonalta - Trecho01	6.960.998,392	421.023,671	698,037	
440	0,000	Estrada Zonalta - Trecho01	6.961.000,273	421.033,492	697,928	
440	10,000	Estrada Zonalta - Trecho01	6.961.002,571	421.043,224	697,759	
440	18,640	Estrada Zonalta - Trecho01	6.961.004,888	421.051,546	697,565	Tangent Point (CS)
441	0,000	Estrada Zonalta - Trecho01	6.961.005,281	421.052,849	697,531	
441	10,000	Estrada Zonalta - Trecho01	6.961.008,364	421.062,361	697,243	
442	0,000	Estrada Zonalta - Trecho01	6.961.011,699	421.071,788	696,896	
442	8,100	Estrada Zonalta - Trecho01	6.961.014,491	421.079,395	696,571	
442	8,640	Estrada Zonalta - Trecho01	6.961.014,677	421.079,899	696,548	Tangent Point (ST)
442	10,980	Estrada Zonalta - Trecho01	6.961.015,487	421.082,092	696,449	Tangent Point (TS)
443	0,000	Estrada Zonalta - Trecho01	6.961.018,535	421.090,583	696,065	
443	10,000	Estrada Zonalta - Trecho01	6.961.021,350	421.100,175	695,640	
443	15,980	Estrada Zonalta - Trecho01	6.961.022,486	421.106,042	695,386	Tangent Point (SC)
444	0,000	Estrada Zonalta - Trecho01	6.961.022,935	421.110,038	695,215	
444	9,200	Estrada Zonalta - Trecho01	6.961.022,950	421.119,227	694,824	Tangent Point (CS)
444	10,000	Estrada Zonalta - Trecho01	6.961.022,885	421.120,027	694,790	
445	0,000	Estrada Zonalta - Trecho01	6.961.021,316	421.129,896	694,365	
445	10,000	Estrada Zonalta - Trecho01	6.961.018,820	421.139,578	693,940	
445	14,200	Estrada Zonalta - Trecho01	6.961.017,655	421.143,610	693,762	Tangent Point (ST)
445	14,440	Estrada Zonalta - Trecho01	6.961.017,587	421.143,843	693,751	End Point