


	PROYECTO: INGENIERIA BASICA Y DE DETALLE MEJORAS OPERATIVAS DE TERMINAL SANTA CRUZ	CÓDIGO DE DOCUMENTO: SC-E01-CI-00-IF-01
	TITULO: ANEXOS INFORME DE RELEVAMIENTO TOPOGRAFICO	HOJA: 1 de 9

ÍNDICE DE REVISIONES

Fecha	Revisión	Observaciones
15-12-17	A	Para Aprobación
04-01-18	B	Para Aprobación



Sergio Gonzales Ing. Proyectos	Manuel Rodríguez Coord. de Ingeniería	Xavier Sejas Gerente de Ingeniería
ELABORADO POR	REVISADO POR	APROBADO POR
<small>ESTE DOCUMENTO ES PROPIEDAD DE YPFB TRANSPORTE S.A. Y NO DEBERA SER REPRODUCIDO O UTILIZADO PARA UNA FINALIDAD DIFERENTE DE AQUELLA PARA LA QUE HA SIDO SUMINISTRADO.</small>		

	PROYECTO: INGENIERIA BASICA Y DE DETALLE MEJORAS OPERATIVAS DE TERMINAL SANTA CRUZ	CÓDIGO DE DOCUMENTO: SC-E01-CI-00-IF-01
	TITULO: ANEXOS INFORME DE RELEVAMIENTO TOPOGRAFICO	HOJA: 2 de 9

INDICE



Contenido

1.	PUNTOS DE REFINACIÓN _____	3
2.	PUNTOS TERMINAL SANTA CRUZ _____	5
3.	PUNTOS AUXILIARES _____	7
4.	PLANILLA POLIGONAL CERRADO _____	9



	PROYECTO: INGENIERIA BASICA Y DE DETALLE MEJORAS OPERATIVAS DE TERMINAL SANTA CRUZ	CÓDIGO DE DOCUMENTO: SC-E01-CI-00-IF-01
	TITULO: ANEXOS INFORME DE RELEVAMIENTO TOPOGRAFICO	HOJA: 3 de 9

1. PUNTOS DE REFINACIÓN

1	ATER-72	8023327.82	479090.828	422.2004
2	AU-1	8023344.68	479003.987	423.6063
3	AU-2	8023316.23	479085.379	422.3363
4	BM-1	8023418.06	478900.408	422.607
5	BM-4	8023639.78	478952.571	422.384
6	BM-4A	8023639.91	478952.589	422.3638
7	CAM-30	8023301.59	479115.301	422.226
8	CAM-31	8023309.94	479112.466	422.1251
9	CAM-32	8023313.18	479109.494	422.1742
10	CAM-33	8023314.83	479105.345	422.2185
11	CAM-34	8023319.96	479092.424	422.1405
12	CAM-35	8023327.88	479074.665	422.1745
13	CAM-36	8023334.28	479058.545	422.2464
14	EM-49	8023294.29	479090.858	422.4071
15	EM-51	8023293.18	479093.607	422.4182
16	EM-65	8023289.94	479101.561	422.3769
17	LUMIN-73	8023336.45	479087.435	421.5678
18	LUMIN-74	8023337.08	479087.202	421.5328
19	POS-67	8023302.06	479108.883	422.2081
20	TN-42	8023304.77	479082.242	422.4533
21	TN-43	8023309.73	479086.71	422.2961
22	TN-44	8023314.12	479093.326	422.0228
23	TN-45	8023312.37	479097.382	421.8514
24	TN-46	8023309.78	479096.246	422.185
25	TN-47	8023304.35	479095.565	422.3712
26	TN-48	8023299.98	479093.179	422.3021
27	TN-50	8023296.65	479094.816	422.2766
28	TN-52	8023304.5	479096.096	422.4559
29	TN-53	8023309.45	479098.175	422.2208
30	TN-55	8023314.31	479101.65	421.4984
31	TN-56	8023313.88	479102.728	421.7442
32	TN-57	8023314.12	479102.086	421.3426
33	TN-58	8023311.97	479102.95	421.9753
34	TN-59	8023312.14	479103.395	422.0114
35	TN-63	8023303.91	479105.514	422.3294
36	TN-64	8023297.36	479102.543	422.2786

	PROYECTO: INGENIERIA BASICA Y DE DETALLE MEJORAS OPERATIVAS DE TERMINAL SANTA CRUZ	CÓDIGO DE DOCUMENTO: SC-E01-CI-00-IF-01
	TITULO: ANEXOS INFORME DE RELEVAMIENTO TOPOGRAFICO	HOJA: 4 de 9



37	TN-66	8023296.64	479097.866	422.2543
38	TN-67	8023322.34	479106.101	422.2312
39	TN-68	8023322.78	479105.012	422.1448
40	TN-69	8023322.58	479105.563	422.0349
41	V-1	8023316.53	479073.724	422.4099
42	V-2	8023313.11	479072.262	422.3192
43	V-3	8023244.36	478962.515	423.5221
44	V-4	8023242.24	478967.751	423.3682
45	V-5	8023242.83	478966.333	424.8867
46	V-6	8023229.35	478973.106	423.273
47	V-7	8023230.07	478974.682	423.48
48	V-8	8023246.36	478985.413	423.5916
49	V-9	8023242.44	478994.973	423.6026
50	V-10	8023239.31	478995.575	423.5782
51	V-11	8023241.73	478996.59	423.5823
52	V-12	8023282.18	478995.429	423.1429
53	V-13	8023284.55	478994.336	423.0879
54	V-14	8023333.54	479017.038	423.4673
55	V-15	8023332.67	479014.665	423.4875
56	V-18	8023313.25	479081.049	422.4562
57	V-19	8023232.46	478963.778	423.2959
58	V-20	8023312.67	479082.664	422.4151
59	V-21	8023309.22	479081.242	422.371
60	V-22	8023310.27	479082.402	422.3647
61	V-37	8023331.34	479057.622	422.3607
62	V-38	8023327.5	479059.399	422.2356
63	V-39	8023328.04	479063.92	422.1432
64	V-40	8023310.67	479050.958	422.379
65	V-60	8023306.64	479101.564	422.3599
66	V-70	8023327.75	479096.027	421.9948
67	V-71	8023331.53	479093.282	421.8267
68	V-75	8023344.99	479075.955	421.6371
69	V-76	8023343.35	479074.154	421.6429
70	VCAS-26	8023291.01	479110.243	422.1427
71	VCAS-27	8023289.48	479107.717	422.108
72	VCM-23	8023308.31	479083.171	422.4933

	PROYECTO: INGENIERIA BASICA Y DE DETALLE MEJORAS OPERATIVAS DE TERMINAL SANTA CRUZ	CÓDIGO DE DOCUMENTO: SC-E01-CI-00-IF-01
	TITULO: ANEXOS INFORME DE RELEVAMIENTO TOPOGRAFICO	HOJA: 5 de 9



73	VCM-24	8023304.69	479083.005	422.4265
74	VCM-25	8023305.37	479084.622	422.5229
75	VEM-16	8023145.61	478951.787	422.9038
76	VEM-17	8023320.3	479027.371	422.4749
77	VEM-28	8023286.4	479110.244	422.294
78	VEM-41	8023299	479079.41	422.3486

2. PUNTOS TERMINAL SANTA CRUZ

1	AUX-1	8022827	479038	428
2	AUX-1A	8022826.77	479037.883	431.2842
3	BRD-33	8022824.29	479039.004	432.1363
4	BRD-34	8022822.85	479042.172	432.1375
5	M4	8022865	479058	433
6	PS-10	8022801.04	478969.009	430.9469
7	PS-11	8022796.55	478964.268	430.9253
8	TKV-39	8022896.87	479029.86	432.5468
9	TKV-40	8022897.27	479031.512	432.6155
10	TKV-41	8022901.28	479037.966	432.1269
11	TKV-42	8022961.58	479064.347	432.7283
12	TKV-43	8022962.26	479065.46	432.204
13	TUB-35	8022819.81	479040.604	432.1816
14	TUB-36	8022821.22	479037.376	432.0672
15	TUB-37	8022817.92	479038.12	431.4213
16	TUB-38	8022825.6	479041.661	431.7741
17	TUB-50	8022969.64	479172.892	431.8827
18	TUB-51	8022974.08	479172.438	431.8554
19	V-1	8022826.66	479037.942	431.1021
20	V-2	8022816.4	479040.554	431.0795
21	V-3	8022812.27	479031.446	430.9189
22	V-4	8022816.76	479021.151	430.9233
23	V-5	8022797.03	479010.957	431.0528
24	V-8	8022781.35	479017.714	431.0806
25	V-9	8022798.11	478981.01	431.0479
26	V-12	8022787.32	478966.649	430.9574
27	V-13	8022790.16	478965.562	430.9539
28	V-14	8022800.23	478961.646	430.9765
29	V-15	8022799.45	478959.633	430.9769
30	V-16	8022800.93	478956.267	430.9695



	PROYECTO: INGENIERIA BASICA Y DE DETALLE MEJORAS OPERATIVAS DE TERMINAL SANTA CRUZ	CÓDIGO DE DOCUMENTO: SC-E01-CI-00-IF-01
	TITULO: ANEXOS INFORME DE RELEVAMIENTO TOPOGRAFICO	HOJA: 6 de 9

31	V-17	8022802.45	478955.705	431.2606
32	V-18	8022799.35	478947.85	431.2441
33	V-19	8022803.31	478953.226	431.1145
34	V-20	8022804.64	478952.688	431.0626
35	V-25	8022821.94	478986.075	430.9435
36	V-26	8022823.85	478985.341	430.9527
37	V-27	8022843.64	478966.201	431.3555
38	V-28	8022844.75	478980.459	430.6211
39	V-29	8022846.24	478981.421	430.9538
40	V-30	8022847.6	478978.254	430.9514
41	V-31	8022844.67	478985.107	430.9546
42	V-32	8022840.49	478987.124	430.9579
43	V-44	8022994.59	479134.128	431.4442
44	V-45	8022990.95	479142.471	431.4344
45	V-46	8022999.89	479136.388	431.4417
46	V-47	8022992.37	479134.66	431.501
47	V-48	8022993.93	479134.026	431.5247
48	V-49	8022974.03	479162.438	431.0102
49	V-52	8022977.44	479164.892	431.0076
50	V-53	8022971.42	479129.708	431.4555
51	V-54	8022971.74	479133.498	431.4727
52	V-55	8022923.48	479099.338	431.2596
53	V-56	8022919.71	479100.213	431.2574
54	V-57	8022918.47	479097.113	431.4035
55	V-58	8022912.89	479097.082	431.4052
56	V-59	8022912.2	479096.757	431.3266
57	V-60	8022911.4	479096.422	431.3212
58	VCM-21	8022801.02	478964.972	430.9662
59	VCM-22	8022801.78	478963.037	430.9454
60	VCM-23	8022794.63	478967.209	430.9572
61	VCM-24	8022792.87	478966.484	430.9325
62	VT-6	8022795.27	479011.581	431.0653
63	VT-7	8022783.77	479017.264	431.0855



	PROYECTO: INGENIERIA BASICA Y DE DETALLE MEJORAS OPERATIVAS DE TERMINAL SANTA CRUZ	CÓDIGO DE DOCUMENTO: SC-E01-CI-00-IF-01
	TITULO: ANEXOS INFORME DE RELEVAMIENTO TOPOGRAFICO	HOJA: 7 de 9

3. PUNTOS AUXILIARES

1	478952.571	8023639.78	422.384	BM4
2	478900.408	8023418.06	422.6068	BM1
3	478890.57	8023400.97	422.664	B5
4	479004.018	8023344.81	422.909	B6
5	479025.847	8023344.18	423.2045	PT1
6	479026.587	8023345.69	423.2065	PT2
7	479030.24	8023344.68	423.1939	PT3
8	479035.434	8023342.14	423.1989	PT4
9	479034.785	8023340.75	423.1841	PT5
10	479033.473	8023345.77	422.7513	PT6
11	479038.173	8023347.64	423.1699	PT7
12	479037.459	8023346.29	423.164	PT8
13	479032.325	8023348.75	423.1667	PT9
14	479029.335	8023351.18	423.2004	PT10
15	479030.064	8023352.71	423.1802	PT11
16	479041.628	8023345.58	422.7212	LUM31
17	479078.592	8023333.54	421.5441	LUM11
18	479115.275	8023318.73	421.6322	LUM1
19	479102.197	8023308.48	421.6653	CAM1
20	479103.922	8023309.27	421.6505	CAM2
21	479111.336	8023308.02	421.2494	VAL1
22	479112.453	8023307.35	421.2934	VAL2
23	479114.274	8023306.92	421.4054	VAL3
24	479126.26	8023330.11	421.0741	PT12
25	479133.681	8023326.96	421.2966	PT13
26	479132.12	8023327.68	421.5207	PT14
27	479134.842	8023334.29	421.5542	PT15
28	479130.713	8023336.03	421.5023	PT16
29	479129.283	8023336.68	421.0736	PT17
30	479008.408	8023350.75	422.868	B7
31	478979.725	8023241.01	422.933	ATR1
32	478982.179	8023239.27	422.987	CAM30
33	478960.534	8023197.04	423.1326	PT20
34	478959.551	8023194.42	423.2298	PT21
35	478962.062	8023196.48	422.9422	PT22
36	478961.083	8023193.8	422.9181	PT23

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	TITULO: ANEXOS INFORME DE RELEVAMIENTO TOPOGRAFICO	HOJA: 8 de 9

37	478981.831	8023213.27	422.2684	EM1
38	478986.257	8023211.64	422.2128	EM2
39	478942.798	8023133.81	422.779	B8
40	478935.195	8023154.84	422.9008	B9
41	478946.071	8023137.59	422.8103	PT24
42	479037.455	8023102.39	422.002	B10
43	479036.274	8023100.9	422.03333	B11
44	479047.66	8023105.97	421.5545	EM40
45	479023.573	8023050.05	421.5378	EM50
46	479030.364	8023047.2	421.5182	EM51
47	478946.708	8022874.62	421.175	B13
48	478947.294	8022869.55	421.008	B12
49	478950.04	8022876.64	420.9851	B12A
50	478920.484	8022799.8	420.3452	EM41
51	478918.216	8022794.11	420.3481	EM42
52	478915.182	8022788.6	420.1877	EM43
53	479035.129	8022818.59	422.9109	AUX1
54	479057.498	8022865.28	423.186	M4

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	TITULO: ANEXOS INFORME DE RELEVAMIENTO TOPOGRAFICO	HOJA: 9 de 9

4. PLANILLA POLIGONAL CERRADO

ESTACION	L HORIZONTAL	CIERRE ANGULAR	L CORREGIDO	ACIMUT	DISTANCIA	PROYECCIONES		CORRECCIONES		PROYECCIONES CORREGIDAS		COORDENADAS	
						ΔN	ΔE	CpN	CpE	ΔN	ΔE	NORTE	ESTE
BM4	01°18'54"	(-)00°00'00.13"	01°18'53.87"	194°33'15"	246.728	-238.811	-62.002	0.00012	0.00012	-238.811	-62.001	8023639.777	478952.571
B5	101°46'56"	(-)00°00'00.13"	101°46'55.87"	116°20'10.87"	126.588	-56.159	113.449	0.00006	0.00006	-56.159	113.449	8023400.966	478890.570
B6	256°50'11"	(-)00°00'00.13"	256°50'10.87"	193°10'21.74"	106.602	-103.797	-24.293	0.00005	0.00005	-103.797	-24.293	8023344.807	479004.018
ATR1	185°50'03"	(-)00°00'00.13"	185°50'02.87"	199°00'24.61"	113.385	-107.203	-36.927	0.00005	0.00005	-107.203	-36.927	8023241.010	478979.725
B8	90°23'07"	(-)00°00'00.13"	90°23'06.87"	109°23'31.48"	99.097	-32.903	93.475	0.00005	0.00005	-32.903	93.475	8023133.807	478942.798
B11	272°12'07"	(-)00°00'00.13"	272°12'06.87"	201°35'38.35"	243.369	-226.288	-89.566	0.00011	0.00011	-226.288	-89.566	8023100.904	479036.273
B13	100°45'50"	(-)00°00'00.13"	100°45'49.87"	122°21'28.22"	104.675	-56.023	88.421	0.00005	0.00005	-56.023	88.421	8022874.616	478946.707
AUX1	83°14'39"	(-)00°00'00.13"	83°14'38.87"	25°36'07.09"	51.765	46.683	22.369	0.00002	0.00002	46.683	22.369	8022818.593	479035.128
BM4R	70°26'14"	(-)00°00'00.13"	70°26'13.87"	276°02'20.96"	108.058	11.369	-107.458	0.00005	0.00005	11.369	-107.458	8022865.276	479057.497
B12A	285°07'43"	(-)00°00'00.13"	285°07'42.87"	21°10'03.83"	242.082	225.748	87.416	0.00011	0.00011	225.748	87.416	8022876.644	478950.039
B10	89°53'42"	(-)00°00'00.13"	89°53'41.87"	291°03'45.70"	97.927	35.194	-91.384	0.00005	0.00005	35.194	-91.384	8023102.393	479037.454
PT24	268°29'18"	(-)00°00'00.13"	268°29'17.87"	19°33'03.57"	107.901	101.680	36.109	0.00005	0.00005	101.680	36.109	8023137.586	478946.070
CAM30	173°41'18"	(-)00°00'00.13"	173°41'17.87"	13°14'21.44"	114.526	111.482	26.229	0.00005	0.00005	111.482	26.229	8023239.266	478982.179
B7	108°41'40"	(-)00°00'00.13"	108°41'39.87"	301°56'01.31"	127.259	67.312	-108.000	0.00006	0.00006	67.312	-108.000	8023350.749	479008.407
BM1	251°18'20"	(-)00°00'00.13"	251°18'19.87"	13°14'21.18"	227.770	221.716	52.163	0.00011	0.00011	221.717	52.163	8023418.061	478900.408
Σ	2340°00'02"	(-)00°00'02"	2340°00'00"		2117.732	-0.001	-0.001	0.001	0.001	0.000	0.000		