LEVANTAMIENTO TOPOGRÁFICO Y REGULARIZACIÓN CARTOGRÁFICA DE CONCESIONES DE ACUICULTURA EN LA XV REGIÓN DE ARICA Y PARINACOTA Y EN LA I REGIÓN DE TARAPACÁ

INFORME FINAL

Preparado para:

Subsecretaría de Pesca
Gobierno de Chile

Elaborado por:

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Viña del Mar, Chile.

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CONTENIDOS

1 OBJETIVOS DEL ESTUDIO

De acuerdo con lo indicado en los términos de referencia del proyecto, los objetivos del mismo son:

1.1 Objetivo General

Ejecutar un levantamiento aerofotogramétrico, elaborar cartografía y regularizar la ubicación geográfica de las concesiones de acuicultura ubicadas en la XVª región de Arica y Parinacota y en la Iª región de Tarapacá.

1.2 Objetivos Específicos

- Elaborar planos cartográficos escala 1:20.000 restituídos fotogramétricamente, actualizando la cartografía existente para efectos de tramitación de concesiones de acuicultura.
- Identificar y medir en terreno la ubicación geográfica de las instalaciones correspondientes a las concesiones de acuicultura (balsas jaulas, línea de moluscos, etc.) ubicadas en el área de estudio.
- Representar las Áreas Apropiadas para el ejercicio de la Acuicultura en la nueva cartografía referida al dátum WGS-84.
- Proponer un ordenamiento de las concesiones de acuicultura, representándolas en los nuevos planos cartográficos, determinando sus coordenadas geográficas y UTM en el dátum WGS-84.
- Elaborar planos de ubicación geográfica y de concesión escala 1:5.000 para cada concesión de acuicultura considerada en el proyecto, según sus nuevas coordenadas geográficas determinadas a partir del ordenamiento.

2 LOCALIZACIÓN GEOGRÁFICA DEL ESTUDIO

El estudio fue desarrollado en un área geográfica que administrativamente corresponde a las comunas de Arica, Camarones, Provincia de Arica, XVª región de Arica y Parinacota y en las comunas de Huara e Iquique, Provincias del Tamarugal e Iquique, Iª región de Tarapacá.

El área de estudio se divide en los siguientes sectores:

1: Cabo Condell a Punta Norte.

2: Punta Pichalo a Punta Piedras.

3: Punta Chomache a Río Loa.

3 TAREAS REALIZADAS

En conformidad con la proposición metodológica al quinto mes de iniciado el proyecto se cumplió con la mayoría de las actividades contempladas en los Términos Técnicos de Referencia. El día 1 del proyecto es el día 3 de Mayo de 2012, día siguiente a la fecha de término de la tramitación de la resolución exenta nº 1169 del Ministerio de Economía, Fomento y Turismo (Subsecretaría de Pesca y Acuicultura).

3.1 Desarrollo de las Tareas

3.1.1 Reunión de Coordinación

Las actividades del presente proyecto comenzaron con una reunión en el Departamento de Acuicultura de la Subsecretaría de Pesca con el objeto de coordinar las distintas etapas del proyecto.

3.1.2 Recopilación de Antecedentes

La Subsecretaría de Pesca recopiló directamente en sus archivos los antecedentes disponibles sobre las concesiones otorgadas y solicitudes en trámite contempladas en el proyecto. Los planos y resoluciones se ordenaron para ser entregados a GEOMAR en un archivador.

Por su parte esta consultora se encargó de recabar información técnica referente a cartas y vértices SHOA, para planificar y apoyar las mediciones en terreno.

3.1.3 Digitalización de las Cartas SHOA

Se digitalizaron las cartas S.H.O.A. Nº 1000, 1141, 1142, 1241, 1242 y 1244 ubicando la posición relativa en que se otorgaron las concesiones de acuicultura. Se trabajó con las cartas en formato digital, primeramente se escanearon las cartas para luego ser digitalizadas utilizando el software AUTOCAD.

3.1.4 Medición de Red de Control Geodésico.

Las mediciones se realizaron con GPS de doble frecuencia usando el método Diferencial Estático post proceso.

El desarrollo de esta actividad se encuentra detallado en el Anexo de este informe técnico.

3.1.5 Medición de Puntos de Apoyo Fotogramétrico

Esta tarea se realizó mediante el empleo de GPS marca Trimble modelo 5700, de precisión geodésica operados en modalidad diferencial post- proceso. Con estos instrumentos se determinaron las coordenadas y cotas de puntos de control en los extremos y centro de las fajas de vuelo, lo que permitió su aerotriangulación en bloque.

3.1.6 Aerotriangulación y Restitución Fotogramétrica

Una vez generados los puntos de apoyo de cada modelo se procedió a restituir en el Aviógrafo AG-1 una franja de 500 metros cubriendo el borde costero. Se contempló representar en los planos la información topográfica indicada en los términos de referencia, tales como cursos de agua, ríos, quebradas y aquellos que a juicio del consultor puedan ser importantes para los fines del proyecto. El plano en papel se dibujó a escala 1:20.000 con curvas de nivel cada 20 metros.

3.1.7 Revisión SHOA de planos fotogramétricos

Se cumplió con la elaboración y entrega de los planos fotogramétricos de los 3 sectores indicados en el proyecto, los mencionados planos aún se encuentran en revisión por parte del SHOA.

Además se hizo entrega de un informe del apoyo fotogramétrico, incluyendo las mediciones con GPS, cálculo de coordenadas y monografías de los vértices del apoyo geodésico principal.

3.1.8 Posicionamiento en terreno de las Instalaciones

La concesión ubicada en Caleta Sarmenia no fue tomada, ya que se encuentra fuera de los límites del proyecto; para el caso de la concesión ubicada en Caleta Chipana podemos señalar que se visitó el área el día 12 de Mayo pero no había instalación alguna, sin embargo, se instalaron los 2 vértices correspondientes (CH-1 y CH-2).

3.1.9 Monumentación en terreno de Vértices base

Se llevó a cabo la monumentación de vértices en el área de estudio. Con la intención de asegurar la permanencia en el tiempo de los vértices monumentados se elaboró la siguiente metodología de trabajo: se procedió a la instalación de cotas de acero y cotas de bronce empotrada a una roca en algunos casos; perno empotrado en cemento, monolo de cemento, fierro empotrado en monolito de cemento y clavo Hilti empotrado en muro de

cemento fueron otras maneras de monumentar los vértices en el área de trabajo del presente proyecto.

El detalle de cada uno de los vértices monumentados y su metodología para su permanencia en el tiempo se encuentra en las monografías del presente informe.

3.1.10 Análisis caso a caso y propuesta de ordenamiento

En el análisis caso a caso se consideró sólo la concesión ubicada en caleta Chipana, puesto que la otra concesión se encuentra fuera de los límites del proyecto. Según la documentación existente se realizó una proposición de ordenamiento para la localización de la concesión en cuestión, utilizando como referencia de distancia los puntos notables Punta Falsa Chipana (3.8 Km), Punta Chipana (1.9 Km) y la costa (900 Mts) que se encuentra en los planos fotogramétricos. Se dibujó un rectángulo de 35x15 mts que simula el sector de 525 m² de porción de agua, teniendo en cuenta que la documentación adjunta al proyecto no presentaba mayor información al respecto de esta concesión.

La concesión se encuentra en el plano GM 1454.

3.1.11 Revisión de propuesta de ordenamiento y definición de la posición final de cada concesión

La propuesta de ordenamiento de la concesión que se encuentra en el proyecto fue revisada por el Departamento de Acuicultura de la Subsecretaría de Pesca, validando la posición de la concesión que se encuentra en la bahía de Chipana.

3.1.12 Determinación de coordenadas

Una vez ya validada la posición final de la concesión de Sociedad Sarmenia Cultivos Marinos Ltda. por parte de la Subsecretaría de Pesca se calculó las coordenadas geográficas y UTM referidas al dátum WGS-84.

3.1.13 Elaboración de planos de ubicación geográfica y de concesión

Se elaboró un plano de concesión escala 1:5.000 y uno de ubicación geográfica escala 1:20.000 para la concesión de acuicultura regularizada en el proyecto. Fueron aprobados y revisados por la Subsecretaría de Pesca y la Autoridad Marítima.

3.1.14 Reposicionamiento de las A.A.A

Fue realizado el reposicionamiento de las A.A.A por parte del Departamento de Acuicultura de la Subsecretaría de Pesca desde la cartografía antigua a la nueva cartografía. Se nos entregó un archivo en formato Autocad con la A.A.A para la confección de los nuevos planos con la representación de la A.A.A, que fueron entregados en original poliéster y bond. Además de la confección de los planos con la A.A.A se calcularon y obtuvieron las coordenadas de éstas, detalladas en el Excel adjunto.

4 AVANCE

Se confeccionó una carta Gantt de lo efectuado para indicar el avance alcanzado en cada actividad al cumplirse cinco meses del proyecto. De acuerdo con los porcentajes señalados al comienzo de las barras, el avance respecto de la programación original muestra los siguientes resultados:

Reunión de coordinación	100%
Recopilación de antecedentes	100%
Digitalización de las cartas SHOA	100%
Medición de red de control geodésico	100%
Medición de puntos de apoyo fotogramétrico	100%
Aerotriangulación y restitución fotogramétrica	100%
Revisión del SHOA de los planos fotogramétricos	100%
Posicionamiento en terreno de las instalaciones	100%
Monumentación en terreno de vértices base	100%
Análisis caso a caso y propuesta de ordenamiento	100%
Revisión de propuesta de ordenamiento	100%
Determinación de coordenadas	100%
Elaboración de planos de ubicación geográfica y de concesión	100%
Reposicionamiento de las A.A.A	100%

5 HH OCUPADAS

ASIGNACION DE HORAS POR ACTIVIDAD										
Id	Nombre de tarea	Horas	Duración	Meses						
				1	2	3	4	5	6	7
1	***Antecedentes y Materiales***									
	Alexis Aldayuz	8 horas	7 díasTrab.	8						
2	***Reunion de Coordinacion***									
	Alexis Aldayuz	4 horas	1 díaTrab.	4						
	Hector Hidalgo	4 horas	1 díaTrab.	4						
3	***Compra de Vertices SHOA e IGM***									
	Renato Lopez	8 horas	1 díaTrab.	8						
4	***Cotizacion y compra de Imágenes satelitales***									
	Alexis Aldayuz	8 horas	2 sem.Trab.	8						
5	***Compra Cartas SHOA***									
	Alexis Aldayuz	8 horas	1 semTrab.	8						
6	***Planificacion de Terreno***									
	Alexis Aldayuz	24 horas	1 semTrab.	24						
	Jonatan Oteiza	24 horas	1 semTrab.	24						
7	***Planificacion Red Geodesica***									
	Alexis Aldayuz	8 horas	1 semTrab.	8						
	Pablo Altamirano	8 horas	1 semTrab.	8						
8	***Determinacion de Puntos Fotogrametricos***									
	Alexis Aldayuz	8 horas	1 semTrab.	8						
	Pablo Altamirano	8 horas	1 semTrab.	8						
	Jonatan Oteiza	8 horas	1 semTrab.	8						
9	***Digitalizacion de Cartas SHOA***									
	Lorena Aravena	24 horas	5 díasTrab.	24						
	Hector Hidalgo	24 horas	5 díasTrab.	24						
10	***Red Geodesica***									
	Jonatan Oteiza	240 horas	30 díasTrab.	100	60					
	Manuel Placencia	240 horas	30 díasTrab.	100	60					
	Pablo Altamirano	40 horas	30 díasTrab.	40						
11	***Puntos de Control Fotogrametrico***									
	Jonatan Oteiza	200 horas	30 díasTrab.	40	100					
	Manuel Placencia	200 horas	30 díasTrab.	40	100					
	Pablo Altamirano	40 horas	30 díasTrab.	40						
12	***Circunavegacion de Instalaciones de cultivo***									
	Jonatan Oteiza	30 horas	15 díasTrab.	15	15					
	Manuel Placencia	30 horas	15 díasTrab.	35	15					
13	***Procesamiento de Geodesia***									
	Pablo Altamirano	340 horas	30 díasTrab.	100	100					
	Renato Lopez	60 horas	30 díasTrab.	30	30					
	Alexis Aldayuz	40 horas	30 díasTrab.	20	20					
14	***Procesamiento de Circunavegacion de Instalaciones***									
	Pablo Altamirano	14 horas	30 díasTrab.	7	7					
15	***Edición de Planos en AUTOCAD***									
	Lorena Aravena	390 horas	90 díasTrab.		100	100	100			
	Hector Hidalgo	90 horas	90 díasTrab.		30	30	30			
16	***Analisis caso a caso***									
	Lorena Aravena	80 horas	10 díasTrab.					80		
	Hector Hidalgo	80 horas	10 díasTrab.					80		
17	***Proposicion de ordenamiento***									
	Lorena Aravena	40 horas	5 díasTrab.					40		
	Hector Hidalgo	40 horas	5 díasTrab.					40		
18	***Definicion de las AAA***									
	Lorena Aravena	16 horas	2 díasTrab.					16		
	Hector Hidalgo	16 horas	2 díasTrab.					16		
19	***Restitucion Planos Fotogrametricos***									
	Borislab Brankovic	600 horas	90 díasTrab.		120	120	120			
20	***Elaboracion y Ploteo***									
	Lorena Aravena	111 horas			37	37	37			
	Hector Hidalgo	24 horas			8	8	8			
21	***Informes***	104 horas	13 díasTrab.							
	Alexis Aldayuz				16		16		16	16
	Hector Hidalgo	24 horas			12		12		12	12
	Renato Lopez	20 horas			5		5		5	5
22	***Correccion SHOA***									
	Borislav Brancovic	40 horas	14 dias							40
	Alexis Aldayuz	20 horas	14 dias							20
	Hector Hidalgo	10 horas	14 dias							10
	Renato Lopez	12 horas	14 dias							12
	Lorena Aravena	75 horas	14 dias							75
	Totales			**743**	**835**	**295**	**328**	**272**	**33**	**190**

Alexis Aldayuz Salomón

Jefe de Proyecto

ANEXO
APOYO GEODÉSICO

1. Coordenadas de Vértices IGM y SHOA utilizados.

VERTICES IGM

Nombre	Este	Norte	Cota Elipsoidal	Cota NMM
PSAG	372.096,346	7.832.070,744	304,2728	
PTCH	383.923,567	7.661.282,981	36,1126	

Datúm: WGS – 84
MC : 69°

VERTICES SHOA

Nombre	Este	Norte	Cota Elipsoidal	Cota NMM
ARI11	360.321.971	7.956.672.248	35.902	
GTOC	375.602,904	7.556.295,917	41.490	
CF11	380.107,284	7.765.415,876	34,323	3.061

Datúm: WGS – 84
MC : 69°

1.1 Coordenadas de vértices generados.

CUADRO RESUMEN DE COORDENADAS I Y XV REGION					
Vertice	*Coordenadas UTM*		*Coordenadas Geograficas*		*Cota*
	Este	*Norte*	*Latitud*	*Longitud*	*NMM*
AR11	360,321.971	7,956,672.248	18° 28' 32.52736" S	70° 19' 22.53181" W	4.081
VITO	376,150.051	7,921,363.646	18° 47' 44.67327" S	70° 10' 30.82961" W	287.085
VIT1	358,989.550	7,926,473.823	18° 44' 54.50660" S	70° 20' 15.62583" W	36.273
VIT2	359,025.086	7,925,374.163	18° 45' 30.28460" S	70° 20' 14.69431" W	6.523
CAMA	392,651.274	7,909,500.340	18° 54' 13.91041" S	70° 01' 9.53288" W	1267.793
CAM2	366,394.001	7,875,869.315	19° 12' 22.31619" S	70° 16' 15.27059" W	6.893
SSP8	366,401.819	7,894,753.379	19° 02' 8.07222" S	70° 16' 10.30944" W	1015.193
PSAG	372,096.346	7,832,070.744	19° 36' 8.27024" S	70° 13' 10.63707" W	272.737
SSP5	382,273.371	7,815,279.983	19° 45' 16.69303" S	70° 07' 25.14194" W	975.685
SSP6	385,262.557	7,796,581.277	19° 55' 25.53635" S	70° 05' 46.61843" W	666.624
CF11	380,107.284	7,765,415.876	20° 12' 18.08218" S	70° 08' 51.28415" W	3.061
SSP7	383,982.947	7,784,119.869	20° 02' 10.58353" S	70° 06' 33.46254" W	631.749
PTCH	383,923.567	7,661,282.981	21° 08' 45.68047" S	70° 07' 4.51978" W	5.429
SSP3	390,527.494	7,630,507.947	21° 25' 28.00559" S	70° 03' 22.72433" W	13.503
SSP4	387,492.315	7,649,750.128	21° 15' 1.55322" S	70° 05' 3.53999" W	40.691
SSP9	382,299.025	7,607,097.527	21° 38' 7.43923" S	70° 08' 14.43770" W	22.321
SSP2	382,072.379	7,588,227.964	21° 48' 21.00594" S	70° 08' 27.15787" W	4.682
SSP1	375,561.551	7,555,815.405	22° 05' 53.36877" S	70° 12' 22.76303" W	61.393
GTOC	375,602.904	7,556,295.917	22° 05' 37.75471" S	70° 12' 21.18733" W	10.032
SQM2	375,044.806	7,556,186.800	22° 05' 41.15883" S	70° 12' 40.69068" W	5.145
CH-1	389,019.618	7,641,933.566	21° 19' 16.09826" S	70° 04' 12.39485" W	4.883
CH-2	389,287.082	7,642,622.498	21° 18' 53.75221" S	70° 04' 2.94976" W	3.321

Datum: WGS-84
MC : 69º

1.2 Coordenadas de puntos esteroscópicos generados.

CUADRO RESUMEN DE COORDENADAS I Y XV REGION					
Vertice	*Coordenadas UTM*		*Coordenadas Geograficas*		*Cota*
	Este	*Norte*	*Latitud*	*Longitud*	*NMM*
P2VG	366,473.302	7,877,729.135	19° 11' 21.84077" S	70° 16' 12.09125" W	5.392
P1ME	366,437.124	7,875,831.388	19° 12' 23.56007" S	70° 16' 13.80361" W	5.843
P8MO	359,002.516	7,926,485.692	18° 44' 54.12371" S	70° 20' 15.18009" W	36.326
P9VE	361,232.607	7,925,072.690	18° 45' 40.62578" S	70° 18' 59.39210" W	23.365
P10C	368,326.946	7,886,910.645	19° 06' 23.62703" S	70° 15' 6.37898" W	931.624
P11N	363,730.754	7,900,650.352	18° 58' 55.62542" S	70° 17' 40.18329" W	881.838
P12C	363,767.635	7,905,424.668	18° 56' 20.33785" S	70° 17' 37.72433" W	1005.734
P13H	366,138.302	7,891,702.334	19° 03' 47.25288" S	70° 16' 20.07896" W	1022.963
P1MO	374,134.695	7,832,956.793	19° 35' 39.92007" S	70° 12' 0.46307" W	347.214
P20A	373,160.036	7,832,965.223	19° 35' 39.42228" S	70° 12' 33.91172" W	4.732
P2HO	374,358.622	7,828,751.635	19° 37' 56.74954" S	70° 11' 53.79113" W	20.313
P4CU	381,867.724	7,817,212.657	19° 44' 13.74194" S	70° 07' 38.63669" W	1008.112
P3CA	378,705.043	7,825,696.819	19° 39' 37.08901" S	70° 09' 25.29563" W	680.304
P5RU	382,970.839	7,800,550.902	19° 53' 15.92860" S	70° 07' 4.52835" W	738.331
P6MU	384,265.760	7,784,389.648	20° 02' 1.86969" S	70° 06' 23.66765" W	625.103
P7PR	380,610.009	7,768,625.112	20° 10' 33.81507" S	70° 08' 33.20264" W	37.557
P032	390,828.097	7,642,874.402	21° 18' 45.89697" S	70° 03' 9.40820" W	37.490
P034	390,235.354	7,631,595.376	21° 24' 52.57712" S	70° 03' 32.61605" W	20.834
P033	388,254.467	7,651,246.327	21° 14' 13.06386" S	70° 04' 36.74656" W	37.550
P035	390,674.833	7,629,378.777	21° 26' 4.75975" S	70° 03' 17.87078" W	6.949
P036	390,116.400	7,626,787.955	21° 27' 28.89340" S	70° 03' 37.87688" W	16.151
P031	383,249.830	7,664,760.571	21° 06' 52.42919" S	70° 07' 27.02292" W	3.179

Datum: WGS-84
MC : 69º

1.3 Desarrollo del cálculo del apoyo geodésico con GPS.

Site Positions
Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S) **Date:** 06/05/12
Height System: Ortho. Ht. (EGM96) **Project file:** Proceso.spr
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**P1MO**		East.	374134.695	0.002		**Adjusted**
			Nrth.	7832956.793	0.002		
			Elev.	347.214	0.002		
2	**P20A**		East.	373160.036	0.002		**Adjusted**
			Nrth.	7832965.223	0.002		
			Elev.	4.732	0.002		
3	**P2HO**		East.	374358.622	0.006		**Adjusted**
			Nrth.	7828751.635	0.006		
			Elev.	20.313	0.006		
4	**PSAG**		East.	372096.346	0.000	Fixed	**Adjusted**
			Nrth.	7832070.744	0.000	Fixed	
			Elev.	272.737	0.000	Fixed	

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**P1MO**		0 24.152	0.99979581	0.99994046
2	**P20A**		0 24.339	0.99979886	0.99999432
3	**P2HO**		0 24.159	0.99979512	0.99999185
4	**PSAG**		0 24.554	0.99980221	0.99995222

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
PDOP	Meas. Type							
1	**P1MO-P20A 6/01 16:35**	1033.378	0.004	X	-1024.777	0.002		9
1.6	L1/L2 GPS							
				Y	-31.247	0.002		
				Z	129.323	0.002		
2	**PSAG-P1MO 6/01 16:03**	2224.425	0.008	X	2047.175	0.004		10
1.2	L1/L2 GPS							
				Y	350.969	0.004		
				Z	796.215	0.004		
3	**PSAG-P20A 6/01 16:35**	1415.675	0.005	X	1022.397	0.003		9
1.8	L1/L2 GPS							
				Y	319.718	0.003		
				Z	925.539	0.003		
4	**PSAG-P2HO 6/01 18:43**	4025.588	0.014	X	1647.325	0.008		10
1.2	L1/L2 GPS							
				Y	2035.474	0.008		
				Z	-3057.536	0.008		

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	**PSAG**		East.	372096.346	0.000	Hor/Ver	**Fixed**
			Nrth.	7832070.744	0.000		**Fixed**
			Elev.	272.737	0.000		**Fixed**

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**PSAG**		0 24.554	0.99980221	0.99995222

Control Tie Analysis

Proceso

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/05/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**PSAG**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

Ground System

System Name:

Origin:	Latitude	=	0° 00′ 00.00000″ S
	Longitude	=	0° 00′ 00.00000″ W
	Ground Northing	=	0.000m
	Ground Easting	=	0.000m
Orientation:	Angle	= -	0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:	E Translation	=	0.000m
	N Translation	=	0.000m
	Z Rotation	=	0.000000"
	Scale Diff. (ppm)	=	0.000000
	Centroid Easting	=	0.000m
	Centroid Northing	=	0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:	X Translation	=	0.000m
	Y Translation	=	0.000m
	Z Translation	=	0.000m
	X Rotation	=	0.000000"
	Y Rotation	=	0.000000"
	Z Rotation	=	0.000000"
	Scale Diff. (ppm)	=	0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:

Longitude of Central Meridian	= 069°00'00.00000"W
Scale factor at Central Meridian	= 0.999600 m
Longitude of the grid origin	= 069°00'00.00000"W
Latitude of grid origin	= 00°00'00.00000"N
False easting (m)	= 500000.000 m
False northing (m)	= 10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**P1MO**	1.625	0.073	0.000	11:41:50	13:08:24	B0050012.153
2	**P20A**	1.632	0.000	0.000	12:35:27	13:38:32	B0063012.153
3	**P2HO**	1.770	0.073	0.000	14:43:09	15:45:43	B0050A12.153
4	**PSAG**	1.870	0.073	0.000	12:03:57	15:48:24	B8874012.153

Project Files
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B0050012.153**	01/06/2012 11:41:50	01/06/2012	1.0	5195	3378562	L1/L2 GPS
2	**B0063012.153**	01/06/2012 12:35:27	01/06/2012	1.0	3786	2322852	L1/L2 GPS
3	**B0050A12.153**	01/06/2012 14:43:09	01/06/2012	1.0	3755	2575865	L1/L2 GPS
4	**B8874012.153**	01/06/2012 12:03:57	01/06/2012	1.0	13468	9354472	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 4
Number of Vectors: 4

Survey Company Name:

Adjusted Vectors
Proceso

Vector Stage: Adjusted **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**P1MO-P20A**	**6/01 16:35**	1033.378	0.001	X	-1024.777	-0.000	
					Y	-31.248	-0.001	
					Z	129.323	-0.000	
2	**PSAG-P1MO**	**6/01 16:03**	2224.424	0.002	X	2047.174	-0.001	
					Y	350.967	-0.002	
					Z	796.216	0.000	
3	**PSAG-P20A**	**6/01 16:35**	1415.676	0.001	X	1022.397	0.000	
					Y	319.719	0.001	
					Z	925.539	-0.000	
4	**PSAG-P2HO**	**6/01 18:43**	4025.588	0.000	X	1647.325	0.000	
					Y	2035.474	0.000	
					Z	-3057.536	0.000	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	0.7
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	4
Site Total:	4
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 06/05/12
Project file: Proceso.spr

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**P1MO**	Lat	0.002	0.014	1:516688	1:516688	1033.378	
	P20A	Lng	0.002	0.014				
		Elv	0.002	0.014				
2	**PSAG**	Lat	0.002	0.024	1:1112212	1:1112212	2224.424	
	P1MO	Lng	0.002	0.024				
		Elv	0.002	0.024				
3	**PSAG**	Lat	0.002	0.017	1:707837	1:707837	1415.676	
	P20A	Lng	0.002	0.017				
		Elv	0.002	0.017				
4	**PSAG**	Lat	0.006	0.041	1:670931	1:670931	4025.588	
	P2HO	Lng	0.006	0.041				
		Elv	0.006	0.041				

Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**P4CU**		East.	381867.724	0.018		**Adjusted**
			Nrth.	7817212.657	0.015		
			Elev.	1008.112	0.028		
2	**SSP5**		East.	382273.371	0.000	Fixed	**Adjusted**
			Nrth.	7815279.983	0.000	Fixed	
			Elev.	975.685	0.000	Fixed	
3	**P3CA**		East.	378705.043	0.050		**Adjusted**
			Nrth.	7825696.819	0.044		
			Elev.	680.304	0.075		

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**P4CU**		0 22.846	0.99977249	0.99983647
2	**SSP5**		0 22.790	0.99977131	0.99984156
3	**P3CA**		0 23.359	0.99978185	0.99988803

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
PDOP	Meas. Type							
1	**SSP5-P4CU 6/02 16:00**	1975.819	0.008	X	-136.820	0.004		9
1.3	L1/L2 GPS			Y	-777.419	0.005		
				Z	1811.287	0.005		
2	**SSP5-P3CA 6/02 15:34**	11019.007	0.039	X	-2189.515	0.023		10
1.2	L1/L2 GPS			Y	-4239.628	0.023		
				Z	9932.276	0.023		
3	**P3CA-P4CU 6/02 16:00**	9063.630	0.033	X	2052.707	0.019		8
1.5	L1/L2 GPS			Y	3462.144	0.019		
				Z	-8120.920	0.019		
4	**SSP5-P3CA 6/02 16:00**	11019.020	0.039	X	-2189.520	0.022		8
2.0	L1/L2 GPS			Y	-4239.631	0.022		
				Z	9932.288	0.023		

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	SSP5		East.	382273.371	0.000	Hor/Ver	Fixed
			Nrth.	7815279.983	0.000		Fixed
			Elev.	975.685	0.000		Fixed

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	SSP5		0 22.790	0.99977131	0.99984156

Control Tie Analysis

Proceso

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/05/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**SSP5**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**P3CA**	1.793	0.073	0.000	10:45:50	11:59:59	B0050012.154
2	**P3CA**	1.793	0.073	0.000	12:00:00	13:06:18	B0050A12.154
3	**P4CU**	1.554	0.000	0.000	12:00:00	12:45:49	B0063E12.154
4	**SSP5**	1.107	0.073	0.000	11:34:20	11:59:59	B8874012.154
5	**SSP5**	1.107	0.073	0.000	12:00:00	12:35:57	B8874A12.154

Project Files
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B0050012.154**	02/06/2012 10:45:50	02/06/2012	1.0	4450	3092499	L1/L2 GPS
2	**B0050A12.154**	02/06/2012 12:00:00	02/06/2012	1.0	3979	2551537	L1/L2 GPS
3	**B0063E12.154**	02/06/2012 12:00:00	02/06/2012	1.0	2750	1740290	L1/L2 GPS
4	**B8874012.154**	02/06/2012 11:34:20	02/06/2012	1.0	1540	1034937	L1/L2 GPS
5	**B8874A12.154**	02/06/2012 12:00:00	02/06/2012	1.0	2158	1348846	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 3
Number of Vectors: 4

Survey Company Name:

Repeat Vector Analysis

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 06/05/12
Project file: Proceso.spr

	Repeat Vector		Vector Difference	Vector Length	Horizontal Relatv Acc	Vertical Relatv Acc	Repeat QA
1	**SSP5-P3CA**	**6/02 15:34**	X: 0.005	11019.007	1:1894191	1:3060410	
		6/02 16:00	Y: 0.002				
			Z: -0.012				

Adjusted Vectors

Proceso

Vector Stage: Adjusted **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**SSP5-P4CU**	**6/02 16:00**	1975.821	0.003	X	-136.820	0.000	
					Y	-777.420	-0.001	
					Z	1811.289	0.002	
2	**SSP5-P3CA**	**6/02 15:34**	11018.980	0.038	X	-2189.530	-0.016	
					Y	-4239.603	0.025	
					Z	9932.252	-0.023	
3	**P3CA-P4CU**	**6/02 16:00**	9063.685	0.059	X	2052.711	0.004	
					Y	3462.183	0.039	
					Z	-8120.963	-0.044	
4	**SSP5-P3CA**	**6/02 16:00**	11018.980	0.046	X	-2189.530	-0.010	
					Y	-4239.603	0.027	
					Z	9932.252	-0.035	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	4.8
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	1
Vector Total:	4
Site Total:	3
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm **Date:** 06/05/12
Desired Vertical Accuracy: 0.010m + 10ppm **Project file:** Proceso.spr
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**SSP5**	Lat	0.015	0.022	1:109767	1:70564	1975.821	
	P4CU	Lng	0.018	0.022				
		Elv	0.028	0.022				**Fail**
2	**SSP5**	Lat	0.044	0.111	1:220380	1:146920	11018.980	
	P3CA	Lng	0.050	0.111				
		Elv	0.075	0.111				
3	**P3CA**	Lat	0.045	0.091	1:177718	1:119258	9063.685	
	P4CU	Lng	0.051	0.091				
		Elv	0.076	0.091				

Site Positions
Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**SSP6**		East.	385262.557	0.000	Fixed	**Adjusted**
			Nrth.	7796581.277	0.000	Fixed	
			Elev.	666.624	0.000	Fixed	
2	**P5RU**		East.	382970.839	0.009		**Adjusted**
			Nrth.	7800550.902	0.009		
			Elev.	738.331	0.010		

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**SSP6**		0 22.417	0.99976271	0.99989012
2	**P5RU**		0 22.820	0.99976928	0.99987889

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs	PDOP
1	**SSP6-P5RU 6/03 15:21**	4585.815	0.016	X	-1646.462	0.009		10	2.0
	L1/L2 GPS			Y	-2110.493	0.009			
				Z	3723.531	0.009			

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	SSP6		East.	385262.557	0.000	Hor/Ver	Fixed
			Nrth.	7796581.277	0.000		Fixed
			Elev.	666.624	0.000		Fixed

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	SSP6		0 22.417	0.99976271	0.99989012

Control Tie Analysis

Proceso

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/05/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**SSP6**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**SSP6**	1.194	0.073	0.000	11:05:26	12:44:49	B8874A12.155
2	**P5RU**	1.745	0.073	0.000	11:21:25	12:24:35	B0050A12.155

Project Files
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B8874A12.155**	03/06/2012 11:05:26	03/06/2012	1.0	5964	3890946	L1/L2 GPS
2	**B0050A12.155**	03/06/2012 11:21:25	03/06/2012	1.0	3791	2440865	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 2
Number of Vectors: 1

Survey Company Name:

Adjusted Vectors
Proceso

Vector Stage: Adjusted **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**SSP6-P5RU 6/03 15:21**	4585.815	0.000	X	-1646.462	0.000	
				Y	-2110.493	0.000	
				Z	3723.531	0.000	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	1.0
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	1
Site Total:	2
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm **Date:** 06/05/12
Desired Vertical Accuracy: 0.010m + 10ppm **Project file:** Proceso.spr
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**SSP6**	Lat	0.009	0.047	1:509535	1:458581	4585.815	
	P5RU	Lng	0.009	0.047				
		Elv	0.010	0.047				

Site Positions

Proceso1

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso1.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**P6MU**		East.	384265.760	0.002		**Adjusted**
			Nrth.	7784389.648	0.002		
			Elev.	625.103	0.002		
2	**SSP7**		East.	383982.947	0.000	Fixed	**Adjusted**
			Nrth.	7784119.869	0.000	Fixed	
			Elev.	631.749	0.000	Fixed	

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**P6MU**		0 22.748	0.99976555	0.99989669
2	**SSP7**		0 22.806	0.99976636	0.99989566

Processed Vectors
Proceso1

Vector Stage: Processed **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso1.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

PDOP	Vector Identifier / Meas. Type	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
1.5	**SSP7-P6MU 6/03 13:27** L1/L2 GPS	391.038	0.001	X	296.832	0.001		9
				Y	16.368	0.001		
				Z	254.035	0.001		

Control Site Positions

Proceso1

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso1.spr

	Site ID	Control Site Descriptor	Position		95% Error	Control Type	Fix Status
1	SSP7		East.	383982.947	0.000	Hor/Ver	Fixed
			Nrth.	7784119.869	0.000		Fixed
			Elev.	631.749	0.000		Fixed

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	SSP7		0 22.806	0.99976636	0.99989566

Control Tie Analysis
Proceso1

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/05/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso1.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**SSP7**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso1

Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso1.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso1

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Linear Units of Measure: Meters **Project file:** Proceso1.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**P6MU**	1.772	0.073	0.000	9:20:28	10:37:17	B0050012.155
2	**SSP7**	1.212	0.073	0.000	9:27:26	10:32:29	B8874012.155

Project Files
Proceso1

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Project file: Proceso1.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B0050012.155**	03/06/2012 9:20:28	03/06/2012	1.0	4610	2840258	L1/L2 GPS
2	**B8874012.155**	03/06/2012 9:27:26	03/06/2012	1.0	3904	2434378	L1/L2 GPS

Project Summary
Proceso1

Project file: Proceso1.spr **Date:** 06/05/12

Client Name:

Project Name: Proceso1

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 2
Number of Vectors: 1

Survey Company Name:

Adjusted Vectors
Proceso1

Vector Stage:	Adjusted	**Date:**	06/05/12
Horizontal Coordinate System:	Univ. Transverse Merc. (S)	**Project file:**	Proceso1.spr
Height System:	Ortho. Ht. (EGM96)		
Linear Units of Measure:	Meters		

	Vector Identifier	Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**SSP7-P6MU 6/03 13:27**	391.038	0.000	X	296.832	0.000	
				Y	16.368	0.000	
				Z	254.035	0.000	

Adjustment Summary
Proceso1

Project file: Proceso1.spr **Date:** 06/05/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	1.0
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	1
Site Total:	2
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso1

Desired Horizontal Accuracy: 0.010m + 10ppm **Date:** 06/05/12
Desired Vertical Accuracy: 0.010m + 10ppm **Project file:** Proceso1.spr
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**SSP7**	Lat	0.002	0.011	1:195518	1:195518	391.038	
	P6MU	Lng	0.002	0.011				
		Elv	0.002	0.011				

Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**P7PR**		East.	380610.009	0.031		**Adjusted**
			Nrth.	7768625.112	0.025		
			Elev.	37.557	0.038		
2	**SSP7**		East.	383982.947	0.000	Fixed	**Adjusted**
			Nrth.	7784119.869	0.000	Fixed	
			Elev.	631.749	0.000	Fixed	

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**P7PR**		0 23.647	0.99977617	0.99998914
2	**SSP7**		0 22.806	0.99976636	0.99989566

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

PDOP	Vector Identifier Meas. Type	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
1.4	1 **SSP7-P7PR 6/04 13:47** L1/L2 GPS	15873.311	0.055	X	-5269.820	0.032		10
				Y	4345.944	0.032		
				Z	-14328.425	0.032		

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	SSP7		East.	383982.947	0.000	Hor/Ver	Fixed
			Nrth.	7784119.869	0.000		Fixed
			Elev.	631.749	0.000		Fixed

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	SSP7		0 22.806	0.99976636	0.99989566

Control Tie Analysis

Proceso

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/05/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**SSP7**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

Ground System

System Name:

Origin:	Latitude	=	0° 00′ 00.00000″ S
	Longitude	=	0° 00′ 00.00000″ W
	Ground Northing	=	0.000m
	Ground Easting	=	0.000m
Orientation:	Angle	= -	0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:	E Translation	=	0.000m
	N Translation	=	0.000m
	Z Rotation	=	0.000000"
	Scale Diff. (ppm)	=	0.000000
	Centroid Easting	=	0.000m
	Centroid Northing	=	0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:	X Translation	=	0.000m
	Y Translation	=	0.000m
	Z Translation	=	0.000m
	X Rotation	=	0.000000"
	Y Rotation	=	0.000000"
	Z Rotation	=	0.000000"
	Scale Diff. (ppm)	=	0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:

Longitude of Central Meridian =	069°00'00.00000"W
Scale factor at Central Meridian =	0.999600 m
Longitude of the grid origin =	069°00'00.00000"W
Latitude of grid origin =	00°00'00.00000"N
False easting (m) =	500000.000 m
False northing (m) =	10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**P7PR**	2.044	0.073	0.000	8:44:43	11:57:55	B0050012.156
2	**SSP7**	1.156	0.073	0.000	9:47:50	10:48:44	B8874012.156

Project Files
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B0050012.156**	04/06/2012 8:44:43	04/06/2012	1.0	11598	6793272	L1/L2 GPS
2	**B8874012.156**	04/06/2012 9:47:50	04/06/2012	1.0	3655	2470033	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 2
Number of Vectors: 1

Survey Company Name:

Adjusted Vectors
Proceso

Vector Stage: Adjusted **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**SSP7-P7PR 6/04 13:47**	15873.311	0.000	X	-5269.820	0.000	
				Y	4345.944	0.000	
				Z	-14328.425	0.000	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	1.0
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	1
Site Total:	2
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 06/05/12
Project file: Proceso.spr

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**SSP7**	Lat	0.025	0.159	1:512042	1:417718	15873.311	
	P7PR	Lng	0.031	0.159				
		Elv	0.038	0.159				

Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/14/12
Project file: Proceso.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**SSP4**		East.	387492.314	0.000	Fixed	**Adjusted**
			Nrth.	7649750.118	0.000	Fixed	
			Elev.	40.194	0.000	Fixed	
2	**P032**		East.	390828.097	0.013		**Adjusted**
			Nrth.	7642874.402	0.010		
			Elev.	37.490	0.015		
3	**P034**		East.	390235.354	0.026		**Adjusted**
			Nrth.	7631595.376	0.022		
			Elev.	20.834	0.028		
4	**P033**		East.	388254.467	0.004		**Adjusted**
			Nrth.	7651246.327	0.004		
			Elev.	37.550	0.004		

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**SSP4**		0 23.583	0.99975642	0.99998887
2	**P032**		0 22.957	0.99974728	0.99998926
3	**P034**		0 23.203	0.99974888	0.99999188
4	**P033**		0 23.407	0.99975431	0.99998927

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 06/14/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
PDOP	Meas. Type							
1	**SSP4-P032 6/05 12:40**	7644.166	0.027	X	2238.436	0.015		9
1.5	L1/L2 GPS							
				Y	3478.080	0.015		
				Z	-6428.502	0.015		
2	**SSP4-P032 6/05 14:00**	7644.155	0.028	X	2238.425	0.016		9
1.5	L1/L2 GPS							
				Y	3478.072	0.017		
				Z	-6428.497	0.017		
3	**SSP4-P034 6/05 13:00**	18365.548	0.063	X	203.253	0.036		9
1.5	L1/L2 GPS							
				Y	7126.530	0.037		
				Z	-16925.265	0.037		
4	**P032-P034 6/05 13:00**	11297.536	0.039	X	-2035.189	0.022		9
1.4	L1/L2 GPS							
				Y	3648.436	0.022		
				Z	-10496.725	0.022		
5	**SSP4-P033 6/05 14:33**	1679.573	0.006	X	909.622	0.003		8
1.6	L1/L2 GPS							
				Y	-242.572	0.003		
				Z	1390.939	0.003		

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/14/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	**SSP4**		East.	387492.314	0.000	Hor/Ver	**Fixed**
			Nrth.	7649750.118	0.000		**Fixed**
			Elev.	40.194	0.000		**Fixed**

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**SSP4**		0 23.583	0.99975642	0.99998887

Control Tie Analysis

Proceso

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/14/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**SSP4**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 06/14/12
Project file: Proceso.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/14/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**SSP4**	0.987	0.073	0.000	8:20:20	9:59:59	B8874012.157
2	**SSP4**	0.987	0.073	0.000	10:00:00	11:36:03	B8874A12.157
3	**P032**	0.986	0.073	0.000	8:40:56	9:59:59	B0050012.157
4	**P032**	0.986	0.073	0.000	10:00:00	10:16:22	B0050A12.157
5	**P034**	1.108	0.000	0.000	9:00:14	9:59:59	B0063A12.157
6	**P033**	1.735	0.073	0.000	10:33:33	11:47:09	B0050B12.157

Project Files
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/14/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B8874012.157**	05/06/2012 8:20:20	05/06/2012	1.0	5980	3205365	L1/L2 GPS
2	**B8874A12.157**	05/06/2012 10:00:00	05/06/2012	1.0	5764	3595990	L1/L2 GPS
3	**B0050012.157**	05/06/2012 8:40:56	05/06/2012	1.0	4744	2550982	L1/L2 GPS
4	**B0050A12.157**	05/06/2012 10:00:00	05/06/2012	1.0	983	649853	L1/L2 GPS
5	**B0063A12.157**	05/06/2012 9:00:14	05/06/2012	1.0	3586	2080059	L1/L2 GPS
6	**B0050B12.157**	05/06/2012 10:33:33	05/06/2012	1.0	4417	2498779	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 06/14/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 4
Number of Vectors: 5

Survey Company Name:

Repeat Vector Analysis

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 06/14/12
Project file: Proceso.spr

	Repeat Vector		Vector Difference	Vector Length	Horizontal Relatv Acc	Vertical Relatv Acc	Repeat QA
1	**SSP4-P032**	**6/05 12:40**	X: 0.011	7644.166	1:589610	1:7605641	
		6/05 14:00	Y: 0.007				
			Z: -0.006				

Adjusted Vectors

Proceso

Vector Stage: Adjusted **Date:** 06/14/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**SSP4-P032**	**6/05 12:40**	7644.161	0.007	X	2238.431	-0.004	
					Y	3478.075	-0.005	
					Z	-6428.500	0.002	
2	**SSP4-P032**	**6/05 14:00**	7644.161	0.008	X	2238.431	0.007	
					Y	3478.075	0.003	
					Z	-6428.500	-0.003	
3	**SSP4-P034**	**6/05 13:00**	18365.523	0.027	X	203.244	-0.009	
					Y	7126.524	-0.007	
					Z	-16925.241	0.024	
4	**P032-P034**	**6/05 13:00**	11297.554	0.020	X	-2035.188	0.001	
					Y	3648.448	0.012	
					Z	-10496.741	-0.016	
5	**SSP4-P033**	**6/05 14:33**	1679.573	0.000	X	909.622	0.000	
					Y	-242.572	0.000	
					Z	1390.939	0.000	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 06/14/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	1.3
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	5
Site Total:	4
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 06/14/12
Project file: Proceso.spr

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**SSP4**	Lat	0.010	0.077	1:588012	1:509611	7644.161	
	P032	Lng	0.013	0.077				
		Elv	0.015	0.077				
2	**SSP4**	Lat	0.022	0.184	1:706367	1:655912	18365.523	
	P034	Lng	0.026	0.184				
		Elv	0.028	0.184				
3	**P032**	Lat	0.021	0.113	1:470730	1:434520	11297.554	
	P034	Lng	0.024	0.113				
		Elv	0.026	0.113				
4	**SSP4**	Lat	0.004	0.020	1:419893	1:419893	1679.573	
	P033	Lng	0.004	0.020				
		Elv	0.004	0.020				

Site Positions

Proceso1

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/14/12
Project file: Proceso1.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**PTCH**		East.	383923.567	0.000	Fixed	**Adjusted**
			Nrth.	7661282.981	0.000	Fixed	
			Elev.	5.429	0.000	Fixed	
2	**P031**		East.	383249.830	0.007		**Adjusted**
			Nrth.	7664760.571	0.007		
			Elev.	3.179	0.007		

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**PTCH**		0 24.200	0.99976650	0.99999435
2	**P031**		0 24.301	0.99976844	0.99999471

Processed Vectors
Proceso1

Vector Stage: Processed **Date:** 06/14/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso1.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

PDOP	Vector Identifier Meas. Type	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
1	**PTCH-P031 6/05 16:20**	3543.097	0.012	X	-184.412	0.007		10
1.5	L1/L2 GPS			Y	-1399.624	0.007		
				Z	3249.704	0.007		

Control Site Positions

Proceso1

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/14/12
Project file: Proceso1.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	PTCH		East.	383923.567	0.000	Hor/Ver	Fixed
			Nrth.	7661282.981	0.000		Fixed
			Elev.	5.429	0.000		Fixed

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	PTCH		0 24.200	0.99976650	0.99999435

Control Tie Analysis
Proceso1

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/14/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso1.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**PTCH**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso1

Linear Units of Measure: Meters
Date: 06/14/12
Project file: Proceso1.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso1

Time System: Local Time (UTC-4.0) **Date:** 06/14/12
Linear Units of Measure: Meters **Project file:** Proceso1.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**PTCH**	1.699	0.073	0.000	12:07:42	13:30:31	B8874B12.157
2	**P031**	1.862	0.073	0.000	12:20:10	13:21:03	B0050C12.157

Project Files
Proceso1

Time System: Local Time (UTC-4.0) **Date:** 06/14/12
Project file: Proceso1.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B8874B12.157**	05/06/2012 12:07:42	05/06/2012	1.0	4970	3361952	L1/L2 GPS
2	**B0050C12.157**	05/06/2012 12:20:10	05/06/2012	1.0	3654	2331762	L1/L2 GPS

Project Summary
Proceso1

Project file: Proceso1.spr **Date:** 06/14/12

Client Name:

Project Name: Proceso1

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 2
Number of Vectors: 1

Survey Company Name:

Adjusted Vectors
Proceso1

Vector Stage: Adjusted **Date:** 06/14/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso1.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	Radial Resid.	Vector Components		Resid.	Tau Test
1	**PTCH-P031 6/05 16:20**	3543.097	0.000	X	-184.412	0.000	
				Y	-1399.624	0.000	
				Z	3249.704	0.000	

Adjustment Summary
Proceso1

Project file: Proceso1.spr **Date:** 06/14/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	1.0
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	1
Site Total:	2
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso1

Desired Horizontal Accuracy: 0.010m + 10ppm **Date:** 06/14/12
Desired Vertical Accuracy: 0.010m + 10ppm **Project file:** Proceso1.spr
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**PTCH**	Lat	0.007	0.037	1:506156	1:506156	3543.097	
	P031	Lng	0.007	0.037				
		Elv	0.007	0.037				

Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/14/12
Project file: Proceso.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**SSP3**		East.	390527.496	0.000	Fixed	**Adjusted**
			Nrth.	7630507.925	0.000	Fixed	
			Elev.	13.165	0.000	Fixed	
2	**P035**		East.	390674.833	0.002		**Adjusted**
			Nrth.	7629378.777	0.002		
			Elev.	6.949	0.002		
3	**P036**		East.	390116.400	0.002		**Adjusted**
			Nrth.	7626787.955	0.002		
			Elev.	16.151	0.002		

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**SSP3**		0 23.153	0.99974809	0.99999308
2	**P035**		0 23.134	0.99974769	0.99999405
3	**P036**		0 23.280	0.99974920	0.99999261

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 06/14/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
PDOP	Meas. Type							
1	**SSP3-P035 6/06 15:24**	1139.031	0.004	X	-11.460	0.002		10
1.4	L1/L2 GPS							
				Y	441.328	0.002		
				Z	-1049.996	0.002		
2	**SSP3-P036 6/06 15:33**	3743.585	0.013	X	-872.754	0.008		8
1.4	L1/L2 GPS							
				Y	1126.201	0.008		
				Z	-3461.850	0.008		
3	**P035-P036 6/06 15:33**	2651.022	0.009	X	-861.297	0.005		8
1.5	L1/L2 GPS							
				Y	684.874	0.005		
				Z	-2411.853	0.005		

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/14/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	SSP3		East.	390527.496	0.000	Hor/Ver	Fixed
			Nrth.	7630507.925	0.000		Fixed
			Elev.	13.165	0.000		Fixed

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	SSP3		0 23.153	0.99974809	0.99999308

Control Tie Analysis

Proceso

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/14/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**SSP3**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 06/14/12
Project file: Proceso.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/14/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**SSP3**	1.887	0.073	0.000	11:14:26	12:45:52	B8874012.158
2	**P035**	1.550	0.073	0.000	11:24:25	12:40:56	B0050012.158
3	**P036**	1.009	0.000	0.000	11:33:20	12:33:54	B0063012.158

Project Files
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/14/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B8874012.158**	06/06/2012 11:14:26	06/06/2012	1.0	5487	3467475	L1/L2 GPS
2	**B0050012.158**	06/06/2012 11:24:25	06/06/2012	1.0	4592	2816018	L1/L2 GPS
3	**B0063012.158**	06/06/2012 11:33:20	06/06/2012	1.0	3635	2076587	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 06/14/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 3
Number of Vectors: 3

Survey Company Name:

Adjusted Vectors
Proceso

Vector Stage: Adjusted **Date:** 06/14/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**SSP3-P035**	**6/06 15:24**	1139.031	0.000	X	-11.460	0.000	
					Y	441.328	-0.000	
					Z	-1049.996	-0.000	
2	**SSP3-P036**	**6/06 15:33**	3743.585	0.002	X	-872.756	-0.002	
					Y	1126.202	0.001	
					Z	-3461.849	0.001	
3	**P035-P036**	**6/06 15:33**	2651.022	0.001	X	-861.296	0.001	
					Y	684.874	-0.000	
					Z	-2411.853	-0.001	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 06/14/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	0.4
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	3
Site Total:	3
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm **Date:** 06/14/12
Desired Vertical Accuracy: 0.010m + 10ppm **Project file:** Proceso.spr
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**SSP3**	Lat	0.002	0.015	1:569515	1:569515	1139.031	
	P035	Lng	0.002	0.015				
		Elv	0.002	0.015				
2	**SSP3**	Lat	0.002	0.039	1:1871792	1:1871792	3743.585	
	P036	Lng	0.002	0.039				
		Elv	0.002	0.039				
3	**P035**	Lat	0.002	0.028	1:1325511	1:1325511	2651.022	
	P036	Lng	0.002	0.028				
		Elv	0.002	0.028				

Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 05/21/12
Project file: Proceso.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**PSAG**		East.	372096.346	0.000	Fixed	**Adjusted**
			Nrth.	7832070.744	0.000	Fixed	
			Elev.	272.737	0.143		
2	**SSP5**		East.	382273.371	0.077		**Adjusted**
			Nrth.	7815279.983	0.073		
			Elev.	975.685	0.133		
3	**SSP6**		East.	385262.557	0.066		**Adjusted**
			Nrth.	7796581.277	0.060		
			Elev.	666.624	0.090		
4	**CF11**		East.	380107.284	0.000	Fixed	**Adjusted**
			Nrth.	7765415.876	0.000	Fixed	
			Elev.	3.061	0.000	Fixed	
5	**SSP7**		East.	383982.947	0.057		**Adjusted**
			Nrth.	7784119.869	0.053		
			Elev.	631.749	0.061		

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**PSAG**		0 24.554	0.99980221	0.99995222
2	**SSP5**		0 22.790	0.99977131	0.99984156
3	**SSP6**		0 22.417	0.99976271	0.99989012
4	**CF11**		0 23.784	0.99977766	0.99999458
5	**SSP7**		0 22.806	0.99976636	0.99989566

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 05/21/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
PDOP	Meas. Type							
1	**PSAG-SSP5 5/10 18:00**	19653.063	0.067	X	7766.035	0.039		12
1.1	L1/L2 GPS			Y	8132.925	0.039		
				Z	-16117.913	0.039		
2	**PSAG-SSP6 5/10 19:09**	37866.165	0.130	X	8201.320	0.075		12
1.1	L1/L2 GPS			Y	15357.348	0.075		
				Z	-33626.428	0.076		
3	**SSP5-SSP6 5/10 19:09**	18945.607	0.066	X	435.259	0.038		10
1.4	L1/L2 GPS			Y	7224.550	0.038		
				Z	-17508.640	0.038		
4	**CF11-SSP6 5/15 18:00**	31605.048	0.109	X	8891.124	0.063		11
1.3	L1/L2 GPS			Y	-8809.089	0.063		
				Z	29021.146	0.063		
5	**CF11-SSP7 5/15 16:29**	19117.039	0.066	X	6150.484	0.038		9
1.3	L1/L2 GPS			Y	-5239.009	0.038		
				Z	17325.863	0.038		
6	**SSP6-SSP7 5/15 16:56**	12531.271	0.044	X	-2740.588	0.025		8
1.5	L1/L2 GPS			Y	3569.933	0.025		
				Z	-11695.192	0.025		
7	**CF11-SSP7 5/15 18:00**	19117.039	0.068	X	6150.492	0.039		10
1.4	L1/L2 GPS			Y	-5239.083	0.040		
				Z	17325.837	0.039		

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 05/21/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	**PSAG**		East.	372096.346	0.000	Hor/Ver	**Fixed**
			Nrth.	7832070.744	0.000		**Fixed**
			Elev.	296.600	0.000		
2	**CF11**		East.	380107.284	0.000	Hor/Ver	**Fixed**
			Nrth.	7765415.876	0.000		**Fixed**
			Elev.	3.061	0.000		**Fixed**

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**PSAG**		0 24.554	0.99980221	0.99995222
2	**CF11**		0 23.784	0.99977766	0.99999458

Control Tie Analysis

Proceso

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	05/21/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**PSAG**		Hor/Ver	East	Fixed	1:1502462682	
				Nrth	Fixed		
				Elev	23.863	1:2814	**Fail**
2	**CF11**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 05/21/12
Project file: Proceso.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-4.0) **Date:** 05/21/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**PSAG**	1.718	0.073	0.000	14:00:00	19:16:19	B8874A12.131
2	**SSP5**	1.301	0.073	0.000	14:00:00	18:23:21	B0050A12.131
3	**SSP6**	1.105	0.000	0.000	15:09:20	16:59:24	B0063012.131
4	**CF11**	1.835	0.073	0.000	11:05:20	13:59:59	B8874012.136
5	**CF11**	1.835	0.073	0.000	14:00:00	16:08:36	B8874A12.136
6	**SSP6**	1.180	0.000	0.000	12:56:38	13:59:59	B0063012.136
7	**SSP6**	1.180	0.000	0.000	14:00:00	14:30:48	B0063A12.136
8	**SSP7**	1.335	0.073	0.000	12:29:20	13:59:59	B0050012.136
9	**SSP7**	1.335	0.073	0.000	14:00:00	14:55:11	B0050A12.136

Project Files
Proceso

Time System: Local Time (UTC-4.0) **Date:** 05/21/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B8874A12.131**	05/10/12 14:00:00	05/10/12	1.0	18980	13214054	L1/L2 GPS
2	**B0050A12.131**	05/10/12 14:00:00	05/10/12	1.0	15802	11099932	L1/L2 GPS
3	**B0063012.131**	05/10/12 15:09:20	05/10/12	1.0	6605	4746297	L1/L2 GPS
4	**B8874012.136**	05/15/12 11:05:20	05/15/12	1.0	10480	6962571	L1/L2 GPS
5	**B8874A12.136**	05/15/12 14:00:00	05/15/12	1.0	7717	5385289	L1/L2 GPS
6	**B0063012.136**	05/15/12 12:56:38	05/15/12	1.0	3820	2375961	L1/L2 GPS
7	**B0063A12.136**	05/15/12 14:00:00	05/15/12	1.0	1849	1248349	L1/L2 GPS
8	**B0050012.136**	05/15/12 12:29:20	05/15/12	1.0	5440	3525585	L1/L2 GPS
9	**B0050A12.136**	05/15/12 14:00:00	05/15/12	1.0	3312	2254200	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 05/21/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 5
Number of Vectors: 9

Survey Company Name:

Repeat Vector Analysis

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 05/21/12
Project file: Proceso.spr

	Repeat Vector		Vector Difference	Vector Length	Horizontal Relatv Acc	Vertical Relatv Acc	Repeat QA
1	**CF11-SSP6**	**5/15 16:56** **5/15 18:00**	X: -0.014 Y: -0.114 Z: -0.121	31604.965	1:610464	1:229519	
2	**CF11-SSP7**	**5/15 16:29** **5/15 18:00**	X: -0.008 Y: 0.074 Z: 0.026	19117.039	1:1093103	1:249101	
3	**SSP6-SSP7**	**5/15 16:56** **5/15 18:00**	X: -0.015 Y: -0.005 Z: 0.042	12531.271	1:314969	1:867252	

Adjusted Vectors

Proceso

Vector Stage: Adjusted **Date:** 05/21/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**PSAG-SSP5**	**5/10 18:00**	19653.021	0.048	X	7766.035	0.000	
					Y	8132.892	-0.034	
					Z	-16117.878	0.035	
2	**PSAG-SSP6**	**5/10 19:09**	37866.271	0.122	X	8201.301	-0.019	
					Y	15357.433	0.086	
					Z	-33626.513	-0.085	
3	**SSP5-SSP6**	**5/10 19:09**	18945.600	0.011	X	435.266	0.007	
					Y	7224.542	-0.008	
					Z	-17508.635	0.005	
4	**CF11-SSP6**	**5/15 18:00**	31604.953	0.112	X	8891.093	-0.031	
					Y	-8809.005	0.083	
					Z	29021.077	-0.069	
5	**CF11-SSP7**	**5/15 16:29**	19117.076	0.059	X	6150.499	0.016	
					Y	-5239.063	-0.054	
					Z	17325.881	0.019	
6	**SSP6-SSP7**	**5/15 16:56**	12531.279	0.012	X	-2740.594	-0.006	
					Y	3569.942	0.010	
					Z	-11695.196	-0.004	
7	**CF11-SSP7**	**5/15 18:00**	19117.076	0.049	X	6150.499	0.008	
					Y	-5239.063	0.020	
					Z	17325.881	0.044	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 05/21/12

Adjustment Type:	Fully Constrained
Variance of Unit Weight:	2.4
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	7
Site Total:	5
Horizontally Constrained Sites:	2
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 05/21/12
Project file: Proceso.spr

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**PSAG**	Lat	0.073	0.197	1:255234	1:265581	19653.021	
	SSP5	Lng	0.077	0.197				
		Elv	0.074	0.197				
2	**PSAG**	Lat	0.060	0.379	1:573729	1:341136	37866.271	
	SSP6	Lng	0.066	0.379				
		Elv	0.111	0.379				
3	**SSP5**	Lat	0.056	0.190	1:259528	1:193322	18945.600	
	SSP6	Lng	0.073	0.190				
		Elv	0.098	0.190				
4	**CF11**	Lat	0.060	0.316	1:478864	1:351167	31604.953	
	SSP6	Lng	0.066	0.316				
		Elv	0.090	0.316				
5	**CF11**	Lat	0.053	0.191	1:335386	1:313394	19117.076	
	SSP7	Lng	0.057	0.191				
		Elv	0.061	0.191				
6	**SSP6**	Lat	0.041	0.126	1:272418	1:167083	12531.279	
	SSP7	Lng	0.046	0.126				
		Elv	0.075	0.126				

Site Positions

Proceso1

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 08/10/12
Project file: Proceso1.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**PTCH**		East.	383923.567	0.000	Fixed	**Adjusted**
			Nrth.	7661282.981	0.000	Fixed	
			Elev.	5.923	0.215		
2	**SSP3**		East.	390527.494	0.089		**Adjusted**
			Nrth.	7630507.947	0.093		
			Elev.	13.503	0.194		
3	**SSP4**		East.	387492.315	0.062		**Adjusted**
			Nrth.	7649750.128	0.063		
			Elev.	40.691	0.211		
4	**SSP2**		East.	382072.379	0.101		**Adjusted**
			Nrth.	7588227.964	0.082		
			Elev.	4.682	0.143		
5	**SSP9**		East.	382299.025	0.116		**Adjusted**
			Nrth.	7607097.527	0.120		
			Elev.	22.321	0.168		
6	**SSP1**		East.	375561.551	0.006		**Adjusted**
			Nrth.	7555815.405	0.006		
			Elev.	61.393	0.005		
7	**GTOC**		East.	375602.904	0.000	Fixed	**Adjusted**
			Nrth.	7556295.917	0.000	Fixed	
			Elev.	10.032	0.000	Fixed	

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**PTCH**		0 24.200	0.99976650	0.99999428
2	**SSP3**		0 23.153	0.99974809	0.99999302
3	**SSP4**		0 23.583	0.99975642	0.99998879
4	**SSP2**		0 25.431	0.99977184	0.99999438
5	**SSP9**		0 25.163	0.99977118	0.99999169
6	**SSP1**		0 27.232	0.99979133	0.99998544
7	**GTOC**		0 27.217	0.99979120	0.99999351

Processed Vectors
Proceso1

Vector Stage: Processed **Date:** 08/10/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso1.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
PDOP	Meas. Type							
1	**PTCH-SSP3 5/11 17:02**	31483.487	0.108	X	2202.212	0.062		10
1.3	L1/L2 GPS			Y	12692.251	0.062		
				Z	-28727.461	0.062		
2	**PTCH-SSP4 5/11 16:23**	12075.463	0.041	X	1869.381	0.024		10
1.4	L1/L2 GPS			Y	5087.587	0.024		
				Z	-10790.675	0.024		
3	**SSP4-SSP3 5/11 17:02**	19485.169	0.067	X	332.851	0.039		10
1.2	L1/L2 GPS			Y	7604.593	0.038		
				Z	-17936.867	0.039		
4	**SSP2-SSP3 5/13 17:02**	43127.785	0.148	X	13530.940	0.085		6
3.8	L1/L2 GPS			Y	-11654.128	0.085		
				Z	39256.856	0.087		
5	**SSP3-SSP9 5/13 16:31**	24820.674	0.085	X	-10808.887	0.049		9
1.8	L1/L2 GPS			Y	5194.791	0.049		
				Z	-21731.267	0.049		
6	**SSP2-SSP9 5/13 17:02**	18875.452	0.065	X	2721.977	0.038		8
1.7	L1/L2 GPS			Y	-6459.485	0.038		
				Z	17525.655	0.038		
7	**SSP1-SSP2 5/14 14:21**	33067.534	0.113	X	10445.898	0.065		8
1.4	L1/L2 GPS			Y	-9040.619	0.065		
				Z	30043.505	0.065		
8	**GTOC-SSP1 5/14 16:13**	485.122	0.002	X	-87.560	0.001		9
1.8	L1/L2 GPS			Y	109.909	0.001		
				Z	-464.324	0.001		
9	**GTOC-SSP2 5/14 16:13**	32588.231	0.112	X	10358.453	0.064		7
1.5	L1/L2 GPS			Y	-8930.907	0.065		
				Z	29579.286	0.065		

Control Site Positions

Proceso1

Horizontal Coordinate System: Univ. Transverse Merc. (S) **Date:** 08/10/12
Height System: Ortho. Ht. (EGM96) **Project file:** Proceso1.spr
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	**PTCH**		East.	383923.567	0.000	Hor/Ver	**Fixed**
			Nrth.	7661282.981	0.000		**Fixed**
			Elev.	30.536	0.000		
2	**GTOC**		East.	375602.904	0.000	Hor/Ver	**Fixed**
			Nrth.	7556295.917	0.000		**Fixed**
			Elev.	10.032	0.000		**Fixed**

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**PTCH**		0 24.200	0.99976650	0.99999428
2	**GTOC**		0 27.217	0.99979120	0.99999351

Control Tie Analysis
Proceso1

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	08/10/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso1.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**PTCH**		Hor/Ver	East	Fixed	1:2233320934	
				Nrth	Fixed		
				Elev	24.613	1:4280	**Fail**
2	**GTOC**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso1

Linear Units of Measure: Meters
Date: 08/10/12
Project file: Proceso1.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Loop Closure Analysis

Proceso1

Desired Horizontal Accuracy:	0.010m + 10ppm	**Date:**	08/10/12
Desired Vertical Accuracy:	0.010m + 10ppm	**Project file:**	Proceso1.spr
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

Loop Vectors	Loop Length	Misclosure	Horizontal Relatv Acc	Vertical Relatv Acc	Loop QA

Observation Information
Proceso1

Time System: Local Time (UTC-4.0) **Date:** 08/10/12
Linear Units of Measure: Meters **Project file:** Proceso1.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**PTCH**	1.608	0.073	0.000	11:44:27	15:37:06	B8874012.132
2	**SSP3**	1.456	0.000	0.000	13:02:47	15:00:00	B0063012.132
3	**SSP4**	1.172	0.073	0.000	12:23:55	15:20:48	B0050012.132
4	**SSP2**	1.352	0.000	0.000	13:02:50	15:22:56	B0063012.134
5	**SSP3**	1.850	0.073	0.000	12:01:20	14:43:39	B8874012.134
6	**SSP9**	1.733	0.073	0.000	12:31:38	15:05:20	B0050012.134
7	**SSP2**	1.743	0.073	0.000	9:34:39	12:48:49	B8874012.135
8	**SSP1**	1.853	0.073	0.000	10:21:20	14:58:27	B0050012.135
9	**GTOC**	1.292	0.000	0.000	12:13:07	15:34:31	B0063012.135

Project Files
Proceso1

Time System: Local Time (UTC-4.0) **Date:** 08/10/12
Project file: Proceso1.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B8874012.132**	11/05/2012 11:44:27	11/05/2012	1.0	13960	9111358	L1/L2 GPS
2	**B0063012.132**	11/05/2012 13:02:47	11/05/2012	1.0	7034	4555712	L1/L2 GPS
3	**B0050012.132**	11/05/2012 12:23:55	11/05/2012	1.0	10614	6597504	L1/L2 GPS
4	**B0063012.134**	13/05/2012 13:02:50	13/05/2012	1.0	8407	5084376	L1/L2 GPS
5	**B8874012.134**	13/05/2012 12:01:20	13/05/2012	1.0	9740	6454994	L1/L2 GPS
6	**B0050012.134**	13/05/2012 12:31:38	13/05/2012	1.0	9223	5696556	L1/L2 GPS
7	**B8874012.135**	14/05/2012 9:34:39	14/05/2012	1.0	11651	6311573	L1/L2 GPS
8	**B0050012.135**	14/05/2012 10:21:20	14/05/2012	1.0	16628	10153543	L1/L2 GPS
9	**B0063012.135**	14/05/2012 12:13:07	14/05/2012	1.0	12102	7973778	L1/L2 GPS

Project Summary
Proceso1

Project file: Proceso1.spr **Date:** 08/10/12

Client Name:

Project Name: Proceso1

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 7
Number of Vectors: 9

Survey Company Name:

Repeat Vector Analysis
Proceso1

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 08/10/12
Project file: Proceso1.spr

Repeat Vector	Vector Difference	Vector Length	Horizontal Relatv Acc	Vertical Relatv Acc	Repeat QA

Adjusted Vectors
Proceso1

Vector Stage: Adjusted **Date:** 08/10/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso1.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**PTCH-SSP3**	**5/11 17:02**	31483.517	0.066	X	2202.225	0.013	
					Y	12692.209	-0.042	
					Z	-28727.510	-0.050	
2	**PTCH-SSP4**	**5/11 16:23**	12075.457	0.015	X	1869.378	-0.002	
					Y	5087.598	0.010	
					Z	-10790.664	0.011	
3	**SSP4-SSP3**	**5/11 17:02**	19485.157	0.028	X	332.847	-0.005	
					Y	7604.612	0.018	
					Z	-17936.846	0.021	
4	**SSP2-SSP3**	**5/13 17:02**	43127.785	0.063	X	13530.900	-0.039	
					Y	-11654.177	-0.049	
					Z	39256.856	-0.000	
5	**SSP3-SSP9**	**5/13 16:31**	24820.633	0.081	X	-10808.913	-0.026	
					Y	5194.728	-0.062	
					Z	-21731.223	0.044	
6	**SSP2-SSP9**	**5/13 17:02**	18875.421	0.044	X	2721.987	0.010	
					Y	-6459.448	0.037	
					Z	17525.633	-0.022	
7	**SSP1-SSP2**	**5/14 14:21**	33067.679	0.178	X	10445.953	0.055	
					Y	-9040.757	-0.137	
					Z	30043.605	0.100	
8	**GTOC-SSP1**	**5/14 16:13**	485.122	0.000	X	-87.560	0.000	
					Y	109.908	-0.000	
					Z	-464.324	0.000	
9	**GTOC-SSP2**	**5/14 16:13**	32588.191	0.084	X	10358.393	-0.060	
					Y	-8930.848	0.059	
					Z	29579.281	-0.005	

Adjustment Summary
Proceso1

Project file: Proceso1.spr **Date:** 08/10/12

Adjustment Type:	Fully Constrained
Variance of Unit Weight:	2.8
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	9
Site Total:	7
Horizontally Constrained Sites:	2
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso1

Desired Horizontal Accuracy: 0.010m + 10ppm **Date:** 08/10/12
Desired Vertical Accuracy: 0.010m + 10ppm **Project file:** Proceso1.spr
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**PTCH**	Lat	0.093	0.315	1:338532	1:342211	31483.517	
	SSP3	Lng	0.089	0.315				
		Elv	0.092	0.315				
2	**PTCH**	Lat	0.063	0.121	1:191674	1:194765	12075.457	
	SSP4	Lng	0.062	0.121				
		Elv	0.062	0.121				
3	**SSP4**	Lat	0.092	0.195	1:211795	1:234761	19485.157	
	SSP3	Lng	0.086	0.195				
		Elv	0.083	0.195				
4	**SSP2**	Lat	0.091	0.431	1:440079	1:326725	43127.785	
	SSP3	Lng	0.098	0.431				
		Elv	0.132	0.431				
5	**SSP3**	Lat	0.110	0.248	1:225642	1:215831	24820.633	
	SSP9	Lng	0.102	0.248				
		Elv	0.115	0.248				
6	**SSP2**	Lat	0.101	0.189	1:186885	1:214493	18875.421	
	SSP9	Lng	0.089	0.189				
		Elv	0.088	0.189				
7	**SSP1**	Lat	0.082	0.331	1:327401	1:231241	33067.679	
	SSP2	Lng	0.101	0.331				
		Elv	0.143	0.331				
8	**GTOC**	Lat	0.006	0.011	1:80853	1:97024	485.122	
	SSP1	Lng	0.006	0.011				
		Elv	0.005	0.011				
9	**GTOC**	Lat	0.082	0.326	1:322655	1:227889	32588.191	
	SSP2	Lng	0.101	0.326				
		Elv	0.143	0.326				

Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 05/22/12
Project file: Proceso.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**SSP4**		East.	387492.314	0.000	Fixed	**Adjusted**
			Nrth.	7649750.118	0.000	Fixed	
			Elev.	40.194	0.000	Fixed	
2	**CH-1**		East.	389019.618	0.009		**Adjusted**
			Nrth.	7641933.566	0.009		
			Elev.	4.883	0.009		
3	**CH-2**		East.	389287.082	0.009		**Adjusted**
			Nrth.	7642622.498	0.009		
			Elev.	3.321	0.009		

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**SSP4**		0 23.583	0.99975642	0.99998887
2	**CH-1**		0 23.348	0.99975220	0.99999440
3	**CH-2**		0 23.284	0.99975146	0.99999465

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 05/22/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
PDOP	Meas. Type							
1	**SSP4-CH-1 5/12 16:38**	7966.472	0.027	X	406.443	0.016		10
1.4	L1/L2 GPS							
				Y	3205.162	0.016		
				Z	-7281.923	0.016		
2	**SSP4-CH-2 5/12 17:16**	7352.072	0.026	X	747.028	0.015		9
1.4	L1/L2 GPS							
				Y	3064.397	0.015		
				Z	-6641.113	0.015		
3	**CH-1-CH-2 5/12 17:16**	739.218	0.003	X	340.580	0.002		9
1.3	L1/L2 GPS							
				Y	-140.749	0.002		
				Z	640.811	0.002		

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 05/22/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	**SSP4**		East.	387492.314	0.000	Hor/Ver	**Fixed**
			Nrth.	7649750.118	0.000		**Fixed**
			Elev.	40.194	0.000		**Fixed**

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**SSP4**		0 23.583	0.99975642	0.99998887

Control Tie Analysis
Proceso

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	05/22/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**SSP4**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 05/22/12
Project file: Proceso.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-4.0) **Date:** 05/22/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**SSP4**	1.200	0.073	0.000	12:08:50	14:36:27	B8874012.133
2	**CH-1**	1.684	0.073	0.000	12:38:20	14:24:38	B0050012.133
3	**CH-2**	1.285	0.000	0.000	13:16:20	14:15:59	B0063012.133

Project Files
Proceso

Time System: Local Time (UTC-4.0) **Date:** 05/22/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B8874012.133**	12/05/2012 12:08:50	12/05/2012	1.0	8858	5378586	L1/L2 GPS
2	**B0050012.133**	12/05/2012 12:38:20	12/05/2012	1.0	6379	4021602	L1/L2 GPS
3	**B0063012.133**	12/05/2012 13:16:20	12/05/2012	1.0	3581	2234691	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 05/22/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 3
Number of Vectors: 3

Survey Company Name:

Adjusted Vectors
Proceso

Vector Stage: Adjusted **Date:** 05/22/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**SSP4-CH-1**	**5/12 16:38**	7966.468	0.009	X	406.446	0.003	
					Y	3205.154	-0.008	
					Z	-7281.923	-0.000	
2	**SSP4-CH-2**	**5/12 17:16**	7352.074	0.008	X	747.026	-0.002	
					Y	3064.405	0.007	
					Z	-6641.112	0.001	
3	**CH-1-CH-2**	**5/12 17:16**	739.218	0.000	X	340.580	0.000	
					Y	-140.749	-0.000	
					Z	640.811	0.000	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 05/22/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	0.8
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	3
Site Total:	3
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm **Date:** 05/22/12
Desired Vertical Accuracy: 0.010m + 10ppm **Project file:** Proceso.spr
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**SSP4**	Lat	0.009	0.080	1:885163	1:885163	7966.468	
	CH-1	Lng	0.009	0.080				
		Elv	0.009	0.080				
2	**SSP4**	Lat	0.009	0.074	1:816896	1:816896	7352.074	
	CH-2	Lng	0.009	0.074				
		Elv	0.009	0.074				
3	**CH-1**	Lat	0.002	0.012	1:369609	1:369609	739.218	
	CH-2	Lng	0.002	0.012				
		Elv	0.002	0.012				

Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 05/22/12
Project file: Proceso.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**GTOC**		East.	375602.904	0.000	Fixed	**Adjusted**
			Nrth.	7556295.917	0.000	Fixed	
			Elev.	10.032	0.003		
2	**SQM2**		East.	375044.806	0.003		**Adjusted**
			Nrth.	7556186.800	0.003		
			Elev.	5.145	0.000	Fixed	
3	**SSP1**		East.	375561.551	0.003		**Adjusted**
			Nrth.	7555815.405	0.003		
			Elev.	61.318	0.003		

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**GTOC**		0 27.217	0.99979120	0.99999351
2	**SQM2**		0 27.341	0.99979292	0.99999429
3	**SSP1**		0 27.232	0.99979133	0.99998545

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 05/22/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
PDOP	Meas. Type							
1	**GTOC-SQM2 5/14 17:53**	568.808	0.002	X	-540.936	0.001		10
1.3	L1/L2 GPS							
				Y	-147.909	0.001		
				Z	-95.149	0.001		
2	**GTOC-SSP1 5/14 16:13**	485.114	0.002	X	-87.584	0.001		9
1.8	L1/L2 GPS							
				Y	109.976	0.001		
				Z	-464.295	0.001		
3	**SQM2-SSP1 5/14 17:53**	638.985	0.002	X	453.355	0.001		9
1.8	L1/L2 GPS							
				Y	257.879	0.001		
				Z	-369.147	0.001		

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 05/22/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	**GTOC**		East.	375602.904	0.000	Hor/Ver	**Fixed**
			Nrth.	7556295.917	0.000		**Fixed**
			Elev.	38.244	0.000		
2	**SQM2**		East.	375046.281	0.000	Hor/Ver	
			Nrth.	7556182.268	0.000		
			Elev.	5.145	0.000		**Fixed**

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**GTOC**		0 27.217	0.99979120	0.99999351
2	**SQM2**		0 27.341	0.99979292	0.99999429

Control Tie Analysis

Proceso

Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 05/22/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**GTOC**		Hor/Ver	East	Fixed	1:11763393	
				Nrth	Fixed		
				Elev	28.212	1:20	**Fail**
2	**SQM2**		Hor/Ver	East	1.474	1:120	**Fail**
				Nrth	-4.532		
				Elev	Fixed	1:1614670	

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 05/22/12
Project file: Proceso.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-4.0) **Date:** 05/22/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**GTOC**	1.292	0.073	0.000	12:13:07	15:34:31	B0063012.135
2	**SQM2**	1.763	0.073	0.000	13:53:58	15:24:45	B8874A12.135
3	**SSP1**	1.853	0.073	0.000	10:21:20	14:58:27	B0050012.135

Project Files
Proceso

Time System: Local Time (UTC-4.0) **Date:** 05/22/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B0063012.135**	14/05/2012 12:13:07	14/05/2012	1.0	12102	7973778	L1/L2 GPS
2	**B8874A12.135**	14/05/2012 13:53:58	14/05/2012	1.0	5448	3557988	L1/L2 GPS
3	**B0050012.135**	14/05/2012 10:21:20	14/05/2012	1.0	16628	10153543	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 05/22/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 3
Number of Vectors: 3

Survey Company Name:

Adjusted Vectors
Proceso

Vector Stage: Adjusted **Date:** 05/22/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**GTOC-SQM2**	**5/14 17:53**	568.808	0.002	X	-540.937	-0.001	
					Y	-147.907	0.002	
					Z	-95.149	0.000	
2	**GTOC-SSP1**	**5/14 16:13**	485.114	0.002	X	-87.583	0.001	
					Y	109.974	-0.002	
					Z	-464.296	-0.000	
3	**SQM2-SSP1**	**5/14 17:53**	638.985	0.002	X	453.354	-0.001	
					Y	257.881	0.002	
					Z	-369.147	0.000	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 05/22/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	2.1
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	3
Site Total:	3
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm **Date:** 05/22/12
Desired Vertical Accuracy: 0.010m + 10ppm **Project file:** Proceso.spr
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**GTOC**	Lat	0.003	0.012	1:189602	1:189602	568.808	
	SQM2	Lng	0.003	0.012				
		Elv	0.003	0.012				
2	**GTOC**	Lat	0.003	0.011	1:161704	1:161704	485.114	
	SSP1	Lng	0.003	0.011				
		Elv	0.003	0.011				
3	**SQM2**	Lat	0.003	0.012	1:212995	1:212995	638.985	
	SSP1	Lng	0.003	0.012				
		Elv	0.003	0.012				

Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**CAM2**		East.	366394.001	0.000	Fixed	**Adjusted**
			Nrth.	7875869.315	0.000	Fixed	
			Elev.	6.893	0.000	Fixed	
2	**P2VG**		East.	366473.302	0.003		**Adjusted**
			Nrth.	7877729.135	0.003		
			Elev.	5.392	0.003		
3	**P1ME**		East.	366437.124	0.002		**Adjusted**
			Nrth.	7875831.388	0.002		
			Elev.	5.843	0.002		

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**CAM2**		0 25.089	0.99982065	0.99999404
2	**P2VG**		0 25.051	0.99982039	0.99999427
3	**P1ME**		0 25.081	0.99982051	0.99999420

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
PDOP	Meas. Type							
1	**CAM2-P2VG 5/28 14:55**	1861.854	0.007	X	293.376	0.004		9
1.4	L1/L2 GPS							
				Y	-542.911	0.004		
				Z	1756.610	0.004		
2	**CAM2-P2VG 5/28 16:00**	1861.856	0.009	X	293.380	0.005		7
2.0	L1/L2 GPS							
				Y	-542.920	0.006		
				Z	1756.608	0.005		
3	**P2VG-P1ME 5/28 15:00**	1898.443	0.007	X	-257.622	0.004		8
1.7	L1/L2 GPS							
				Y	570.153	0.004		
				Z	-1792.384	0.004		
4	**CAM2-P1ME 5/28 15:00**	57.449	0.000	X	35.757	0.000		9
1.6	L1/L2 GPS							
				Y	27.237	0.000		
				Z	-35.775	0.000		

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	**CAM2**		East.	366394.001	0.000	Hor/Ver	**Fixed**
			Nrth.	7875869.315	0.000		**Fixed**
			Elev.	6.893	0.000		**Fixed**

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**CAM2**		0 25.089	0.99982065	0.99999404

Control Tie Analysis

Proceso

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/05/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**CAM2**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**CAM2**	1.650	0.073	0.000	10:55:14	11:59:59	B8874012.149
2	**CAM2**	1.650	0.073	0.000	12:00:00	12:05:16	B8874A12.149
3	**P2VG**	1.622	0.073	0.000	10:11:15	11:59:59	B0050012.149
4	**P2VG**	1.622	0.073	0.000	12:00:00	12:29:18	B0050A12.149
5	**P1ME**	1.553	0.000	0.000	11:00:21	11:59:59	B0063A12.149
6	**P1ME**	1.553	0.000	0.000	12:00:00	12:04:51	B0063B12.149

Project Files
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B8874012.149**	28/05/2012 10:55:14	28/05/2012	1.0	3886	2400304	L1/L2 GPS
2	**B8874A12.149**	28/05/2012 12:00:00	28/05/2012	1.0	317	188705	L1/L2 GPS
3	**B0050012.149**	28/05/2012 10:11:15	28/05/2012	1.0	6525	4424787	L1/L2 GPS
4	**B0050A12.149**	28/05/2012 12:00:00	28/05/2012	1.0	1759	1092565	L1/L2 GPS
5	**B0063A12.149**	28/05/2012 11:00:21	28/05/2012	1.0	3579	2005251	L1/L2 GPS
6	**B0063B12.149**	28/05/2012 12:00:00	28/05/2012	1.0	292	173830	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 3
Number of Vectors: 4

Survey Company Name:

Repeat Vector Analysis

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 06/05/12
Project file: Proceso.spr

	Repeat Vector		Vector Difference	Vector Length	Horizontal Relatv Acc	Vertical Relatv Acc	Repeat QA
1	**CAM2-P2VG**	**5/28 14:55**	X: -0.003	1861.854	1:7015131	1:193481	
		5/28 16:00	Y: 0.009				
			Z: 0.002				

Adjusted Vectors
Proceso

Vector Stage: Adjusted **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**CAM2-P2VG**	**5/28 14:55**	1861.856	0.004	X	293.378	0.002	
					Y	-542.915	-0.004	
					Z	1756.610	-0.000	
2	**CAM2-P2VG**	**5/28 16:00**	1861.856	0.006	X	293.378	-0.001	
					Y	-542.915	0.005	
					Z	1756.610	0.002	
3	**P2VG-P1ME**	**5/28 15:00**	1898.443	0.002	X	-257.621	0.001	
					Y	570.153	-0.001	
					Z	-1792.385	-0.001	
4	**CAM2-P1ME**	**5/28 15:00**	57.448	0.000	X	35.757	-0.000	
					Y	27.238	0.000	
					Z	-35.775	0.000	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	1.3
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	4
Site Total:	3
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 06/05/12
Project file: Proceso.spr

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**CAM2**	Lat	0.003	0.021	1:620618	1:620618	1861.856	
	P2VG	Lng	0.003	0.021				
		Elv	0.003	0.021				
2	**P2VG**	Lat	0.003	0.021	1:632814	1:474610	1898.443	
	P1ME	Lng	0.003	0.021				
		Elv	0.004	0.021				
3	**CAM2**	Lat	0.002	0.010	1:28724	1:28724	57.448	
	P1ME	Lng	0.002	0.010				
		Elv	0.002	0.010				

Site Positions
Proceso1

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso1.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**P8MO**		East.	359002.516	0.002		**Adjusted**
			Nrth.	7926485.692	0.002		
			Elev.	36.326	0.002		
2	**P9VE**		East.	361232.607	0.002		**Adjusted**
			Nrth.	7925072.690	0.002		
			Elev.	23.365	0.002		
3	**VIT1**		East.	358989.550	0.000	Fixed	**Adjusted**
			Nrth.	7926473.823	0.000	Fixed	
			Elev.	36.273	0.000	Fixed	

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**P8MO**		0 25.799	0.99984576	0.99998952
2	**P9VE**		0 25.409	0.99983805	0.99999151
3	**VIT1**		0 25.801	0.99984581	0.99998953

Processed Vectors
Proceso1

Vector Stage: Processed **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso1.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
PDOP	Meas. Type							
1	**P8MO-P9VE 5/28 18:15**	2640.526	0.009	X	1931.509	0.005		10
1.5	L1/L2 GPS							
				Y	1191.478	0.005		
				Z	-1349.827	0.005		
2	**VIT1-P8MO 5/28 17:49**	17.581	0.000	X	13.586	0.000		10
1.2	L1/L2 GPS							
				Y	0.780	0.000		
				Z	11.130	0.000		
3	**VIT1-P9VE 5/28 18:15**	2645.181	0.009	X	1945.095	0.005		10
1.5	L1/L2 GPS							
				Y	1192.258	0.005		
				Z	-1338.697	0.005		

Control Site Positions

Proceso1

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso1.spr

	Site ID	Control Site Descriptor	Position		95% Error	Control Type	Fix Status
1	VIT1		East.	358989.550	0.000	Hor/Ver	Fixed
			Nrth.	7926473.823	0.000		Fixed
			Elev.	36.273	0.000		Fixed

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	VIT1		0 25.801	0.99984581	0.99998953

Control Tie Analysis
Proceso1

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/05/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso1.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**VIT1**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso1

Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso1.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso1

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Linear Units of Measure: Meters **Project file:** Proceso1.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**P8MO**	1.350	0.073	0.000	13:49:21	15:19:58	B0050B12.149
2	**P9VE**	1.522	0.000	0.000	14:15:15	15:28:33	B0063C12.149
3	**VIT1**	1.354	0.073	0.000	13:48:03	15:20:01	B8874B12.149

Project Files
Proceso1

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Project file: Proceso1.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B0050B12.149**	28/05/2012 13:49:21	28/05/2012	1.0	5438	3767132	L1/L2 GPS
2	**B0063C12.149**	28/05/2012 14:15:15	28/05/2012	1.0	4399	2813383	L1/L2 GPS
3	**B8874B12.149**	28/05/2012 13:48:03	28/05/2012	1.0	5519	3862055	L1/L2 GPS

Project Summary
Proceso1

Project file: Proceso1.spr **Date:** 06/05/12

Client Name:

Project Name: Proceso1

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 3
Number of Vectors: 3

Survey Company Name:

Adjusted Vectors
Proceso1

Vector Stage: Adjusted **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso1.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**P8MO-P9VE**	**5/28 18:15**	2640.526	0.001	X	1931.509	-0.000	
					Y	1191.478	-0.001	
					Z	-1349.828	-0.000	
2	**VIT1-P8MO**	**5/28 17:49**	17.581	0.000	X	13.586	-0.000	
					Y	0.780	-0.000	
					Z	11.130	-0.000	
3	**VIT1-P9VE**	**5/28 18:15**	2645.181	0.001	X	1945.095	0.000	
					Y	1192.258	0.001	
					Z	-1338.697	0.000	

Adjustment Summary
Proceso1

Project file: Proceso1.spr **Date:** 06/05/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	0.2
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	3
Site Total:	3
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso1

Desired Horizontal Accuracy: 0.010m + 10ppm **Date:** 06/05/12
Desired Vertical Accuracy: 0.010m + 10ppm **Project file:** Proceso1.spr
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**P8MO**	Lat	0.002	0.028	1:1320263	1:1320263	2640.526	
	P9VE	Lng	0.002	0.028				
		Elv	0.002	0.028				
2	**VIT1**	Lat	0.002	0.010	1:8790	1:8790	17.581	
	P8MO	Lng	0.002	0.010				
		Elv	0.002	0.010				
3	**VIT1**	Lat	0.002	0.028	1:1322590	1:1322590	2645.181	
	P9VE	Lng	0.002	0.028				
		Elv	0.002	0.028				

Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**P10C**		East.	368326.946	0.003		**Adjusted**
			Nrth.	7886910.645	0.003		
			Elev.	931.624	0.004		
2	**SSP8**		East.	366401.819	0.000	Fixed	**Adjusted**
			Nrth.	7894753.379	0.000	Fixed	
			Elev.	1015.193	0.000	Fixed	
3	**P11N**		East.	363730.754	0.005		**Adjusted**
			Nrth.	7900650.352	0.005		
			Elev.	881.838	0.005		
4	**P12C**		East.	363767.635	0.007		**Adjusted**
			Nrth.	7905424.668	0.006		
			Elev.	1005.734	0.010		
5	**P13H**		East.	366138.302	0.002		**Adjusted**
			Nrth.	7891702.334	0.002		
			Elev.	1022.963	0.002		

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**P10C**		0 24.588	0.99981432	0.99984863
2	**SSP8**		0 24.848	0.99982063	0.99983553
3	**P11N**		0 25.268	0.99982955	0.99985655
4	**P12C**		0 25.199	0.99982942	0.99983707
5	**P13H**		0 24.935	0.99982150	0.99983432

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs
PDOP	Meas. Type							
1	**SSP8-P10C 5/29 14:07**	8078.737	0.028	X	865.602	0.016		10
1.4	L1/L2 GPS			Y	3122.458	0.016		
				Z	-7400.472	0.016		
2	**SSP8-P11N 5/29 16:57**	6477.219	0.023	X	-1867.014	0.013		10
1.4	L1/L2 GPS			Y	-2582.565	0.013		
				Z	5639.059	0.013		
3	**SSP8-P12C 5/29 19:01**	10995.334	0.039	X	-1236.562	0.022		12
1.0	L1/L2 GPS			Y	-4129.412	0.023		
				Z	10115.149	0.023		
4	**SSP8-P13H 5/29 13:38**	3063.469	0.011	X	-602.525	0.006		10
1.2	L1/L2 GPS			Y	833.764	0.006		
				Z	-2885.593	0.006		
5	**P13H-P10C 5/29 14:07**	5270.452	0.018	X	1468.124	0.011		10
1.4	L1/L2 GPS			Y	2288.701	0.011		
				Z	-4514.878	0.011		

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	SSP8		East.	366401.819	0.000	Hor/Ver	Fixed
			Nrth.	7894753.379	0.000		Fixed
			Elev.	1015.193	0.000		Fixed

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	SSP8		0 24.848	0.99982063	0.99983553

Control Tie Analysis

Proceso

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/05/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**SSP8**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 06/05/12
Project file: Proceso.spr

Ground System

System Name:

Origin:	Latitude	=	0° 00′ 00.00000″ S
	Longitude	=	0° 00′ 00.00000″ W
	Ground Northing	=	0.000m
	Ground Easting	=	0.000m
Orientation:	Angle	= -	0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:	E Translation	=	0.000m
	N Translation	=	0.000m
	Z Rotation	=	0.000000"
	Scale Diff. (ppm)	=	0.000000
	Centroid Easting	=	0.000m
	Centroid Northing	=	0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:	X Translation	=	0.000m
	Y Translation	=	0.000m
	Z Translation	=	0.000m
	X Rotation	=	0.000000"
	Y Rotation	=	0.000000"
	Z Rotation	=	0.000000"
	Scale Diff. (ppm)	=	0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:

Longitude of Central Meridian	= 069°00'00.00000"W
Scale factor at Central Meridian	= 0.999600 m
Longitude of the grid origin	= 069°00'00.00000"W
Latitude of grid origin	= 00°00'00.00000"N
False easting (m)	= 500000.000 m
False northing (m)	= 10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**P10C**	1.458	0.000	0.000	10:07:27	11:11:16	B0063C12.150
2	**SSP8**	1.099	0.073	0.000	9:17:12	16:42:22	B8874012.150
3	**P11N**	1.042	0.073	0.000	12:57:33	14:01:52	B0050A12.150
4	**P12C**	1.864	0.073	0.000	15:01:24	16:01:25	B0050B12.150
5	**P13H**	1.744	0.073	0.000	9:38:21	11:27:01	B0050012.150

Project Files
Proceso

Time System: Local Time (UTC-4.0) **Date:** 06/05/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B0063C12.150**	29/05/2012 10:07:27	29/05/2012	1.0	3830	2562146	L1/L2 GPS
2	**B8874012.150**	29/05/2012 9:17:12	29/05/2012	1.0	26711	18067967	L1/L2 GPS
3	**B0050A12.150**	29/05/2012 12:57:33	29/05/2012	1.0	3860	2589236	L1/L2 GPS
4	**B0050B12.150**	29/05/2012 15:01:24	29/05/2012	1.0	3602	2665208	L1/L2 GPS
5	**B0050012.150**	29/05/2012 9:38:21	29/05/2012	1.0	6521	4230215	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 5
Number of Vectors: 5

Survey Company Name:

Adjusted Vectors

Proceso

Vector Stage: Adjusted **Date:** 06/05/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**SSP8-P10C**	**5/29 14:07**	8078.738	0.004	X	865.601	-0.002	
					Y	3122.462	0.004	
					Z	-7400.471	0.000	
2	**SSP8-P11N**	**5/29 16:57**	6477.219	0.000	X	-1867.014	0.000	
					Y	-2582.565	0.000	
					Z	5639.059	0.000	
3	**SSP8-P12C**	**5/29 19:01**	10995.334	0.000	X	-1236.562	0.000	
					Y	-4129.412	0.000	
					Z	10115.149	0.000	
4	**SSP8-P13H**	**5/29 13:38**	3063.469	0.001	X	-602.524	0.000	
					Y	833.763	-0.001	
					Z	-2885.593	0.000	
5	**P13H-P10C**	**5/29 14:07**	5270.452	0.002	X	1468.125	0.001	
					Y	2288.699	-0.002	
					Z	-4514.878	-0.000	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 06/05/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	0.4
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	5
Site Total:	5
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

Date: 06/05/12
Project file: Proceso.spr

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**SSP8**	Lat	0.003	0.081	1:2692912	1:2019684	8078.738	
	P10C	Lng	0.003	0.081				
		Elv	0.004	0.081				
2	**SSP8**	Lat	0.005	0.066	1:1295443	1:1295443	6477.219	
	P11N	Lng	0.005	0.066				
		Elv	0.005	0.066				
3	**SSP8**	Lat	0.006	0.110	1:1570762	1:1099533	10995.334	
	P12C	Lng	0.007	0.110				
		Elv	0.010	0.110				
4	**SSP8**	Lat	0.002	0.032	1:1531734	1:1531734	3063.469	
	P13H	Lng	0.002	0.032				
		Elv	0.002	0.032				
5	**P13H**	Lat	0.003	0.054	1:1756817	1:1756817	5270.452	
	P10C	Lng	0.003	0.054				
		Elv	0.003	0.054				

Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/26/12
Project file: Proceso.spr

	Site ID	Site Descriptor		Position	95% Error	Fix Status	Position Status
1	**AR11**		East.	360321.971	0.000	Fixed	**Adjusted**
			Nrth.	7956672.248	0.000	Fixed	
			Elev.	4.081	0.000	Fixed	
2	**VITO**		East.	376150.038	0.051		**Adjusted**
			Nrth.	7921363.636	0.043		
			Elev.	287.064	0.061		
3	**VIT1**		East.	358989.528	0.053		**Adjusted**
			Nrth.	7926473.815	0.047		
			Elev.	36.253	0.061		
4	**VIT2**		East.	359025.064	0.056		**Adjusted**
			Nrth.	7925374.166	0.044		
			Elev.	6.540	0.066		
5	**CAMA**		East.	392651.401	0.091		**Adjusted**
			Nrth.	7909500.382	0.082		
			Elev.	1267.881	0.121		
6	**CAM2**		East.	366394.008	0.078		**Adjusted**
			Nrth.	7875869.255	0.071		
			Elev.	6.920	0.081		
7	**SSP8**		East.	366401.740	0.080		**Adjusted**
			Nrth.	7894753.362	0.074		
			Elev.	1015.173	0.077		

	Site ID	Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**AR11**		0 25.158	0.99984119	0.99999447
2	**VITO**		0 22.722	0.99978962	0.99994971
3	**VIT1**		0 25.801	0.99984581	0.99998953
4	**VIT2**		0 25.809	0.99984568	0.99999420
5	**CAMA**		0 19.816	0.99974245	0.99979519
6	**CAM2**		0 25.089	0.99982065	0.99999403
7	**SSP8**		0 24.848	0.99982063	0.99983554

Processed Vectors
Proceso

Vector Stage: Processed **Date:** 06/26/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Vector Identifier	Vector Length	95% Error		Vector Components	95% Error	Process QA	SVs	PDOP
	Meas. Type								
1	**AR11-VITO 8/29 15:43**	38703.234	0.134	X	10933.870	0.077		12	1.4
	L1/L2 GPS			Y	15666.966	0.077			
				Z	-33659.130	0.077			
2	**AR11-VIT1 8/29 16:29**	30232.766	0.105	X	-4699.153	0.060		10	1.6
	L1/L2 GPS			Y	8522.046	0.061			
				Z	-28623.641	0.061			
3	**VIT1-VITO 8/29 16:29**	17910.819	0.062	X	15633.024	0.036		9	1.9
	L1/L2 GPS			Y	7144.919	0.036			
				Z	-5035.486	0.036			
4	**AR11-VIT2 8/29 17:43**	31329.994	0.111	X	-4801.944	0.063		8	2.5
	L1/L2 GPS			Y	8890.813	0.066			
				Z	-29655.746	0.063			
5	**VITO-VIT2 8/29 17:43**	17594.312	0.060	X	-15735.812	0.035		7	2.4
	L1/L2 GPS			Y	-6776.204	0.035			
				Z	4003.385	0.035			
6	**AR11-CAMA 8/29 19:23**	57219.081	0.196	X	25385.986	0.113		11	1.6
	L1/L2 GPS			Y	24022.760	0.113			
				Z	-45304.326	0.113			
7	**AR11-CAM2 8/29 20:09**	81044.388	0.279	X	-3641.809	0.161		9	1.6
	L1/L2 GPS			Y	26429.722	0.161			
				Z	-76527.119	0.160			
8	**CAM2-CAMA 8/29 20:09**	42699.975	0.147	X	29028.018	0.084		8	1.7
	L1/L2 GPS			Y	-2406.984	0.085			
				Z	31222.883	0.084			
9	**SSP8-CAM2 5/08 18:42**	18916.000	0.064	X	-2546.733	0.037		8	1.9
	L1/L2 GPS			Y	6671.875	0.037			
				Z	-17516.144	0.037			
10	**VIT1-CAM2 5/08 18:42**	51152.172	0.174	X	1057.348	0.100		8	1.9
	L1/L2 GPS			Y	17907.640	0.101			
				Z	-47903.477	0.100			
11	**VIT1-SSP8 5/08 16:40**	32597.952	0.111	X	3604.193	0.064		10	1.3
	L1/L2 GPS								

Y	11235.772	0.064
Z	-30387.393	0.064

Control Site Positions

Proceso

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.
Linear Units of Measure: Meters
Date: 06/26/12
Project file: Proceso.spr

	Site ID	Control Site Descriptor		Position	95% Error	Control Type	Fix Status
1	**AR11**		East.	360321.971	0.000	Hor/Ver	**Fixed**
			Nrth.	7956672.248	0.000		**Fixed**
			Elev.	4.081	0.000		**Fixed**

	Site ID	Control Site Descriptor	Convergence	Scale Factor	Elevation Factor
1	**AR11**		0 25.158	0.99984119	0.99999447

Control Tie Analysis

Proceso

Coordinate System:	Univ. Transverse Merc. (S)	**Date:**	06/26/12
Height System:	Ortho. Ht. (EGM96)	**Project file:**	Proceso.spr
Desired Horizontal Accuracy:	0.010m + 10ppm		
Desired Vertical Accuracy:	0.010m + 10ppm		
Confidence Level:	95% Err.		
Linear Units of Measure:	Meters		

	Site ID	Control Site Descriptor	Control Type	Misclosure		Relative Accuracy	Control QA
1	**AR11**		Hor/Ver	East	Fixed		
				Nrth	Fixed		
				Elev	Fixed		

Coordinate System Definition Summary
Proceso

Linear Units of Measure: Meters
Date: 06/26/12
Project file: Proceso.spr

Ground System

System Name:

Origin:
Latitude = 0° 00′ 00.00000″ S
Longitude = 0° 00′ 00.00000″ W
Ground Northing = 0.000m
Ground Easting = 0.000m

Orientation: Angle = - 0° 00′ 00.00000″

Local Grid System

Name:

Transformation Parameters:
E Translation = 0.000m
N Translation = 0.000m
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000
Centroid Easting = 0.000m
Centroid Northing = 0.000m

Note: Parameters define transformation from BASE GRID SYSTEM to LOCAL GRID SYSTEM

Geodetic Datum

Name: World Geodetic Sys. 1984

Reference Ellipsoid: WGS84
a = 6378137.000m
1/f = 298.257223563

Transformation Parameters:
X Translation = 0.000m
Y Translation = 0.000m
Z Translation = 0.000m
X Rotation = 0.000000"
Y Rotation = 0.000000"
Z Rotation = 0.000000"
Scale Diff. (ppm) = 0.000000

Note: Parameters define transformation from LOCAL SYSTEM to WGS84

Grid System

Name: Univ. Transverse Merc. (S)

Projection Type: TM83

Zone Name: ZN_19

Zone Parameters:
Longitude of Central Meridian = 069°00'00.00000"W
Scale factor at Central Meridian = 0.999600 m
Longitude of the grid origin = 069°00'00.00000"W
Latitude of grid origin = 00°00'00.00000"N
False easting (m) = 500000.000 m
False northing (m) = 10000000.000 m

Observation Information
Proceso

Time System: Local Time (UTC-3.0) **Date:** 06/26/12
Linear Units of Measure: Meters **Project file:** Proceso.spr

	Site ID	Antenna Slant	Antenna Radius	Antenna Offset	Start Time	End Time	File Name
1	**AR11**	1.580	0.100	0.000	11:23:10	20:13:00	B____A11.241
2	**VITO**	1.830	0.073	0.000	12:43:20	16:05:21	B8874011.241
3	**VIT1**	1.338	0.073	0.000	13:29:20	14:32:37	B0063011.241
4	**VIT2**	1.651	0.073	0.000	14:43:15	15:43:43	B0063A11.241
5	**CAMA**	1.893	0.073	0.000	16:23:03	19:02:39	B8874A11.241
6	**CAM2**	1.448	0.073	0.000	17:09:15	18:12:17	B0063B11.241
7	**CAM2**	1.310	0.073	0.000	15:42:26	18:40:12	B0063012.129
8	**SSP8**	1.456	0.073	0.000	13:40:56	20:23:56	B0050012.129
9	**VIT1**	1.607	0.073	0.000	13:00:00	21:59:21	B8874A12.129

Project Files
Proceso

Time System: Local Time (UTC-3.0) **Date:** 06/26/12
Project file: Proceso.spr

	File Name	Start Date & Time	End Date & Time	Recording Intrvl (sec)	Epochs	File Size (bytes)	Type
1	**B____A11.241**	29/08/2011 11:23:10	29/08/2011	10.0	3180	3179798	L1/L2 GPS
2	**B8874011.241**	29/08/2011 12:43:20	29/08/2011	1.0	12122	7709946	L1/L2 GPS
3	**B0063011.241**	29/08/2011 13:29:20	29/08/2011	1.0	3798	2285327	L1/L2 GPS
4	**B0063A11.241**	29/08/2011 14:43:15	29/08/2011	1.0	3629	1788623	L1/L2 GPS
5	**B8874A11.241**	29/08/2011 16:23:03	29/08/2011	1.0	9577	5868619	L1/L2 GPS
6	**B0063B11.241**	29/08/2011 17:09:15	29/08/2011	1.0	3783	2031261	L1/L2 GPS
7	**B0063012.129**	08/05/2012 15:42:26	08/05/2012	1.0	10667	6854429	L1/L2 GPS
8	**B0050012.129**	08/05/2012 13:40:56	08/05/2012	1.0	24181	16670197	L1/L2 GPS
9	**B8874A12.129**	08/05/2012 13:00:00	08/05/2012	1.0	32362	21082888	L1/L2 GPS

Project Summary
Proceso

Project file: Proceso.spr **Date:** 06/26/12

Client Name:

Project Name: Proceso

Project Comments:

Desired Horizontal Accuracy: 0.010m + 10ppm
Desired Vertical Accuracy: 0.010m + 10ppm
Confidence Level: 95% Err.

Horizontal Coordinate System: Univ. Transverse Merc. (S)
Height System: Ortho. Ht. (EGM96)
Linear Units: Meters

Number of Sites: 7
Number of Vectors: 11

Survey Company Name:

Adjusted Vectors
Proceso

Vector Stage: Adjusted **Date:** 06/26/12
Horizontal Coordinate System: Univ. Transverse Merc. (S) **Project file:** Proceso.spr
Height System: Ortho. Ht. (EGM96)
Linear Units of Measure: Meters

	Vector Identifier		Vector Length	Radial Resid.		Vector Components	Resid.	Tau Test
1	**AR11-VITO**	**8/29 15:43**	38703.236	0.027	X	10933.850	-0.020	
					Y	15666.984	0.018	
					Z	-33659.129	0.000	
2	**AR11-VIT1**	**8/29 16:29**	30232.776	0.032	X	-4699.182	-0.028	
					Y	8522.061	0.015	
					Z	-28623.643	-0.002	
3	**VIT1-VITO**	**8/29 16:29**	17910.827	0.009	X	15633.031	0.007	
					Y	7144.924	0.005	
					Z	-5035.487	-0.001	
4	**AR11-VIT2**	**8/29 17:43**	31329.993	0.029	X	-4801.959	-0.015	
					Y	8890.789	-0.024	
					Z	-29655.750	-0.003	
5	**VITO-VIT2**	**8/29 17:43**	17594.304	0.011	X	-15735.809	0.003	
					Y	-6776.195	0.009	
					Z	4003.380	-0.005	
6	**AR11-CAMA**	**8/29 19:23**	57219.121	0.160	X	25386.138	0.152	
					Y	24022.713	-0.047	
					Z	-45304.316	0.010	
7	**AR11-CAM2**	**8/29 20:09**	81044.441	0.072	X	-3641.798	0.011	
					Y	26429.695	-0.027	
					Z	-76527.185	-0.066	
8	**CAM2-CAMA**	**8/29 20:09**	42699.908	0.083	X	29027.937	-0.082	
					Y	-2406.982	0.002	
					Z	31222.868	-0.014	
9	**SSP8-CAM2**	**5/08 18:42**	18916.001	0.022	X	-2546.754	-0.021	
					Y	6671.879	0.004	
					Z	-17516.140	0.003	
10	**VIT1-CAM2**	**5/08 18:42**	51152.231	0.074	X	1057.384	0.036	
					Y	17907.634	-0.006	
					Z	-47903.542	-0.065	
11	**VIT1-SSP8**	**5/08 16:40**	32597.948	0.058	X	3604.138	-0.055	
					Y	11235.755	-0.016	
					Z	-30387.402	-0.008	

Adjustment Summary
Proceso

Project file: Proceso.spr **Date:** 06/26/12

Adjustment Type:	Minimally Constrained
Variance of Unit Weight:	1.3
Adjustment scale factor:	1.00
Vectors Failing Tau Test:	0
Site Pairs Failing Relative Accuracy QA Test:	0
Vector Total:	11
Site Total:	7
Horizontally Constrained Sites:	1
Vertically Constrained Sites:	1
Horizontal Coordinate System:	Univ. Transverse Merc. (S)
Height System:	Ortho. Ht. (EGM96)
Desired Horizontal Accuracy:	0.010m + 10ppm
Desired Vertical Accuracy:	0.010m + 10ppm
Confidence Level:	95% Err.

Network Relative Accuracy

Proceso

Desired Horizontal Accuracy: 0.010m + 10ppm **Date:** 06/26/12
Desired Vertical Accuracy: 0.010m + 10ppm **Project file:** Proceso.spr
Confidence Level: 95% Err.
Linear Units of Measure: Meters

	Site Pair		Relative Error	Allow. Error	Horizontal Relative Acc	Vertical Relative Acc	Distance	Site Pair QA
1	**AR11**	Lat	0.043	0.387	1:758886	1:634479	38703.236	
	VITO	Lng	0.051	0.387				
		Elv	0.061	0.387				
2	**AR11**	Lat	0.047	0.302	1:570429	1:495619	30232.776	
	VIT1	Lng	0.053	0.302				
		Elv	0.061	0.302				
3	**VIT1**	Lat	0.040	0.179	1:407064	1:459251	17910.827	
	VITO	Lng	0.044	0.179				
		Elv	0.039	0.179				
4	**AR11**	Lat	0.044	0.313	1:559464	1:481999	31329.993	
	VIT2	Lng	0.056	0.313				
		Elv	0.065	0.313				
5	**VITO**	Lat	0.038	0.176	1:418912	1:409170	17594.304	
	VIT2	Lng	0.042	0.176				
		Elv	0.043	0.176				
6	**AR11**	Lat	0.082	0.572	1:628781	1:472884	57219.121	
	CAMA	Lng	0.091	0.572				
		Elv	0.121	0.572				
7	**AR11**	Lat	0.071	0.811	1:1039030	1:1000548	81044.441	
	CAM2	Lng	0.078	0.811				
		Elv	0.081	0.811				
8	**CAM2**	Lat	0.077	0.427	1:485226	1:384684	42699.908	
	CAMA	Lng	0.088	0.427				
		Elv	0.111	0.427				
9	**SSP8**	Lat	0.045	0.189	1:411217	1:411217	18916.001	
	CAM2	Lng	0.046	0.189				
		Elv	0.046	0.189				
10	**VIT1**	Lat	0.065	0.512	1:730745	1:825035	51152.231	
	CAM2	Lng	0.070	0.512				
		Elv	0.062	0.512				
11	**VIT1**	Lat	0.066	0.326	1:465685	1:615055	32597.948	
	SSP8	Lng	0.070	0.326				
		Elv	0.053	0.326				

1.4 Monografía Vértice SHOA AR11

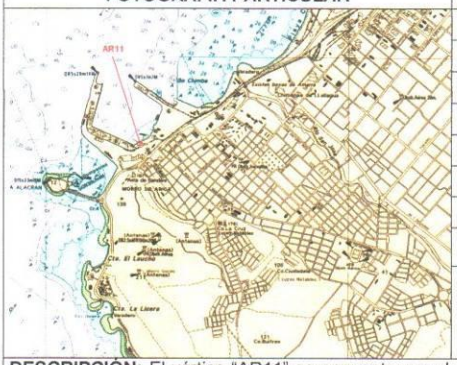
SERVICIO HIDROGRÁFICO Y OCEANOGRÁFICO DE LA ARMADA DE CHILE

CERTIFICADO Y MONOGRAFÍA DE VÉRTICE (S. a T. 067/12)

VÉRTICE: AR11	LUGAR: ARICA

FOTOGRAFÍAS GENERALES

FOTOGRAFÍA PARTICULAR



COORDENADAS SIRGAS (WGS-84)		
NORTE	:	7.956.672,248
ESTE	:	360.321,971
M. CENTRAL	:	69°
ZONA	:	19
LATITUD	:	18° 28' 32,52738" S
LONGITUD	:	70° 19' 22,53180" W
ALTURA		ELIPSOIDAL 35,902 m.
TIPO ESTACIÓN	:	Primaria
ACTUALIZADO AL 01 DE JUNIO DE 2007		

DESCRIPCIÓN: El vértice "AR11" se encuentra en el muelle Prat del Puerto de Arica, está en el cuadrado más al Norte antes de bajar la escala. Está monumentado por una cota de bronce empotrada en cemento y corresponde a la cota de fija marea N°11.

- Para realizar mediciones en este vértice, solicitar al correo serviciosaterceros@shoa.cl con 3 días hábiles de anticipación, la coordinación para el ingreso a esta repartición, indicando el nombre y C.I. de las personas que ingresarán.

SOLICITADO POR : GEOMAR INGENIERÍA LTDA.
FECHA : 26 DE MARZO DE 2012

HÉCTOR FIERRO SORDO
TENIENTE PRIMERO
JEFE DEPTO. SERVICIOS A TERCEROS

DEPTO. ORIGEN: TER.

Servicio Hidrográfico y Oceanográfico de la Armada de Chile
Errázuriz 254 - Playa Ancha - Casilla 324 – Valparaíso - Chile
Fono: 56-32-2266513 / Fax: 56-32-2266527
E-mail: serviciosaterceros@shoa.cl / www.shoa.mil.cl

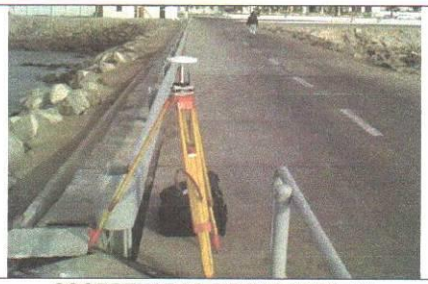
1.5 Monografía vértice SHOA CF11

SERVICIO HIDROGRÁFICO Y OCEANOGRÁFICO DE LA ARMADA DE CHILE

CERTIFICADO Y MONOGRAFÍA DE VÉRTICE (S. a T. 070/12)

VÉRTICE: CF11	LUGAR: IQUIQUE

FOTOGRAFÍAS GENERALES



FOTOGRAFÍA PARTICULAR	COORDENADAS SIRGAS (WGS-84)		
	NORTE	:	7.765.415,876
	ESTE	:	380.107,284
	M. CENTRAL	:	69º
	ZONA	:	19
	LATITUD	:	20º 12' 18,08219" S
	LONGITUD	:	70º 08' 51,28416" W
	ALTURA	N.M.M. 3,061 m. N.R.S. 3,729 m.	
		ELIPSOIDAL 34,323 m.	
	TIPO ESTACIÓN	:	Primaria
	ACTUALIZADO AL 01 DE JUNIO DE 2007		

DESCRIPCIÓN: El vértice "CF11" se encuentra ubicado en el muelle de la Cuarta Zona Naval y corresponde a la cota de marea número 11. Está monumentado por una cota de bronce empotrada en cemento en la esquina derecha en donde se angosta el muelle.

- Para realizar mediciones en este vértice, solicitar al correo serviciosaterceros@shoa.cl con 5 días hábiles de anticipación, la coordinación para el ingreso a esta repartición, indicando el nombre y C.I. de las personas que ingresarán.

SOLICITADO POR : GEOMAR INGENIERÍA LTDA.
FECHA : 26 DE MARZO DE 2012

HÉCTOR FIERRO SORDO
TENIENTE PRIMERO
JEFE DEPTO. SERVICIOS A TERCEROS

DEPTO. ORIGEN: TER.

Servicio Hidrográfico y Oceanográfico de la Armada de Chile
Errázuriz 254 - Playa Ancha - Casilla 324 – Valparaíso - Chile
Fono: 56-32-2266513 / Fax: 56-32-2266527
E-mail: serviciosaterceros@shoa.cl / www.shoa.mil.cl

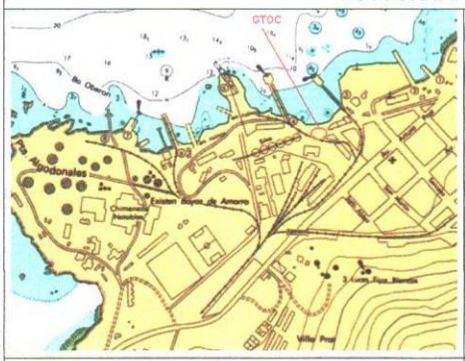
1.6 Monografía vértice SHOA GTOC

SERVICIO HIDROGRÁFICO Y OCEANOGRÁFICO DE LA ARMADA DE CHILE

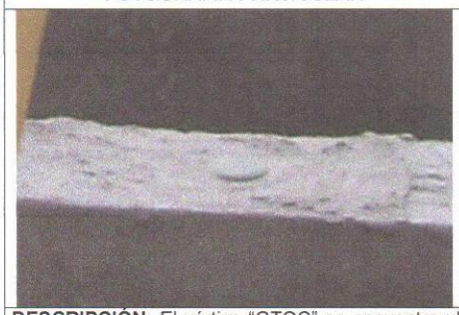
CERTIFICADO Y MONOGRAFÍA DE VÉRTICE (S. a T. 066/12)

VÉRTICE: GTOC	LUGAR: CAPITANÍA PUERTO DE TOCOPILLA

FOTOGRAFÍAS GENERALES



FOTOGRAFÍA PARTICULAR



COORDENADAS SIRGAS (WGS-84)		
NORTE	:	7.556.295,917
ESTE	:	375.602,904
M. CENTRAL	:	69º
ZONA	:	19
LATITUD	:	22º 05' 37,75472" S
LONGITUD	:	70º 12' 21,18733" W
ALTURA	ELIPSOIDAL 41,490 m.	
TIPO ESTACIÓN	:	Primaria
ACTUALIZADO AL 31 DE DICIEMBRE DE 2008		

DESCRIPCIÓN: El vértice "GTOC" se encuentra ubicado sobre el coronamiento de la pared que limita el entrepuente de Cabos y el patio de la Capitanía de Puerto de Tocopilla. Su acceso es a través de una escala de fierro empotrada en la pared que está en la salida del entrepuente. Está materializado por una cota de bronce empotrada en cemento como lo muestra la fotografía.

- Para realizar mediciones en este vértice, solicitar al correo serviciosaterceros@shoa.cl con 3 días hábiles de anticipación, la coordinación para el ingreso a esta repartición, indicando el nombre y C.I. de las personas que ingresarán.

PROPIETARIO : GEOMAR INGENIERIA LTDA.
FECHA : 26 DE MARZO DE 2012

HÉCTOR FIERRO SORDO
TENIENTE PRIMERO
JEFE DEPTO. SERVICIOS A TERCEROS

DEPTO. ORIGEN: TER

Servicio Hidrográfico y Oceanográfico de la Armada de Chile
Errázuriz 254 - Playa Ancha - Casilla 324 - Valparaíso - Chile
Fono: 56-32-2266666 / Fax: 56-32-2266542
E-mail: shoa@shoa.cl / www.shoa.mil.cl

1.7 Monografía vértice IGM PSAG

INSTITUTO GEOGRAFICO MILITAR
MONOGRAFIA DE VERTICE GEODESICO

PSAG	LATITUD	SIRGAS (WGS-84)	LONGITUD	PISAGUA
DESIGNACION	19° 36' 08"		70° 13' 11"	**NOMBRE ESTACION**

Ciudad :	PISAGUA	
Establecida por : Año :	CAP	1992
Operador : Fecha de Medición:	J.BADILLA	AGOSTO 2001
Otra designación :	PSAG	
Ultima revisión Y Estado :	AGOSTO 2001	BUENO

DESCRIPCION

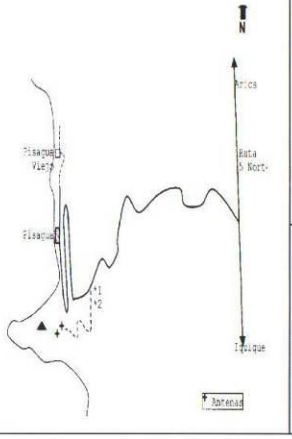
LOCALIZACION :
Pisagua

DESCRIPCION :
Señal de acero de 1 cm de diámetro, empotrado en roca.

PROPIETARIO Y PERMISO:
Terreno Fiscal.

ITINERARIO :
Al llegar al km 35 existe una curva cerrada y un letrero verde que indica precaución camino angosto, y otro letrero blanco de velocidad máxima 50 km/hr, antes de tomar la curva continuar por el camino de tierra en dirección a la caseta y las antenas avanzando 3,5 km. El camino es riesgoso, por lo angosto y las pronunciadas pendientes, por lo que se recomienda tomar precauciones. La señal se encuentra a 20 m de la caseta.

CROQUIS



FOTO

FOTO

1.8 Monografía vértice IGM PTCH

INSTITUTO GEOGRAFICO MILITAR
MONOGRAFIA DE VERTICE GEODESICO

PTCH	LATITUD	SIRGAS (WGS-84)	LONGITUD	PUNTA CHOMACHE
DESIGNACION	21° 08' 46"		70° 07' 05"	**NOMBRE ESTACION**

Ciudad :	IQUIQUE	
Establecida por : Año	CAP	1992
Operador : Fecha de Medición:	G.AGUILERA	AGOSTO 2001
Otra designación :	PTCH	
Ultima revisión Y Estado :	AGOSTO 2001	BUENO

DESCRIPCION

LOCALIZACION :
Caleta San Marcos.

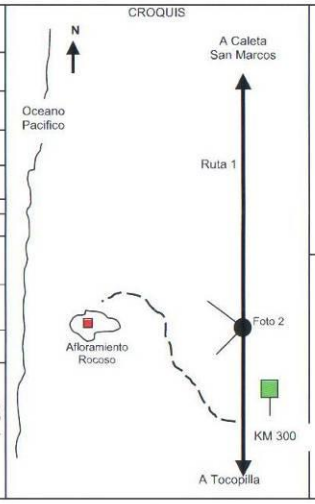
DESCRIPCION :
Señal de acero de 1 cm de diámetro, empotrado en roca.

PROPIETARIO Y PERMISO:
Terreno Fiscal.

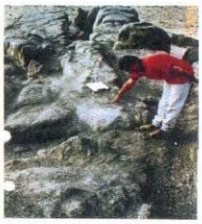
ITINERARIO :

Desde Iquique avanzar por la ruta 1 100 km al sur hasta la Caleta San Marcos, desde aquí avanzar 5 km, donde se divisará hacia la playa, un afloramiento rocoso con dos agujas (foto inferior). Desde la carretera al punto hay 180 m. La huella que va al afloramiento se inicia en el km 300.

CROQUIS



FOTO



FOTO

1.9 Monografía Vértices Generados

MONOGRAFIA DE VERTICE

VERTICE: VIT1	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

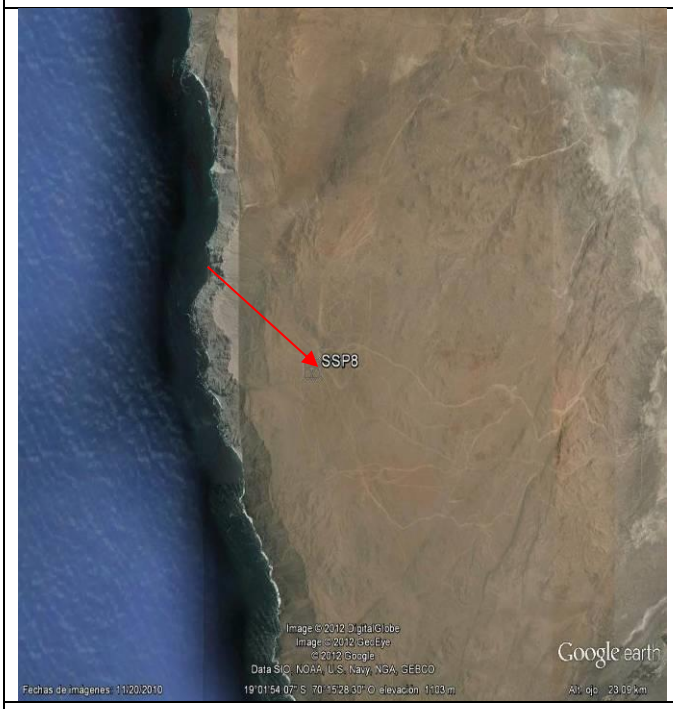
NORTE	7.926.473,823
ESTE	358.989,550
Mº CENTRAL	69º
ZONA	19
LATITUD	18º 44’ 54.50660”S
LONGITUD	70º 20’ 15.62583”W
ALTURA NMM	36.273 “Modelo Geoidal EGM-96”

DESCRIPCION: Clavo Hilti empotrado en esquina Sur del muro de cemento ubicado por el borde del mirador en caleta Vitor.

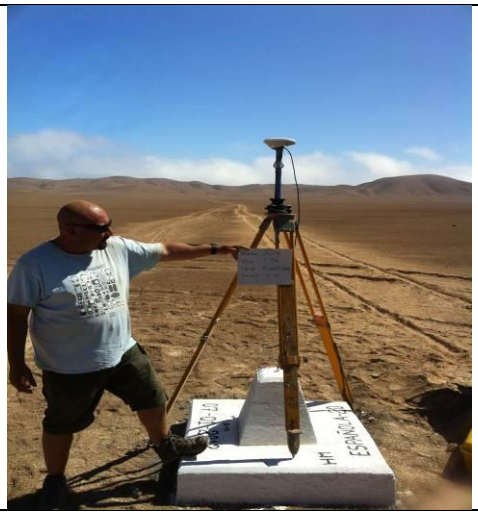
MONOGRAFIA DE VERTICE

VERTICE: SSP8	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR



COORDENADAS

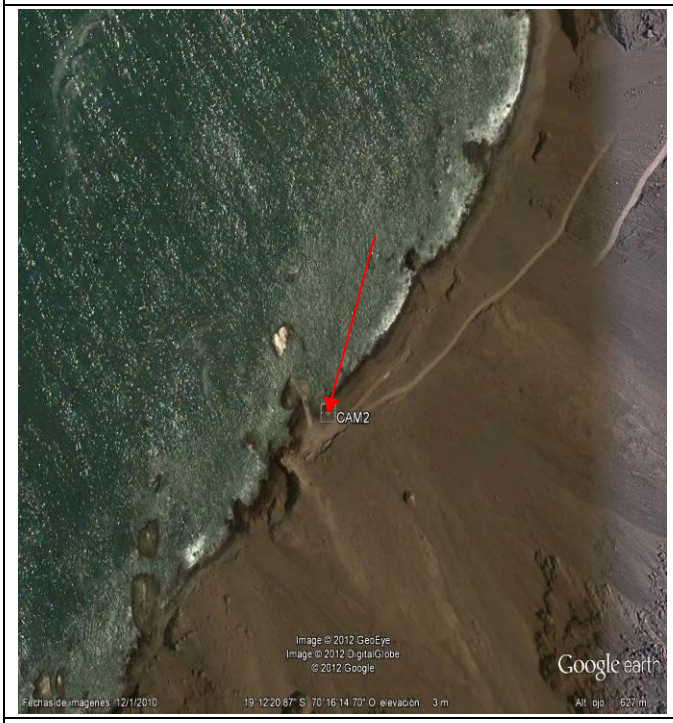
NORTE	7.894.753,379
ESTE	366.401,819
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 02’ 8.07222”S
LONGITUD	70º 16’ 10.30944”W
ALTURA NMM	1015.193 “Modelo Geoidal EGM-96”

DESCRIPCION: Fierro empotrado en monolito de cemento, con inscripción ESPAÑOLA A-20.

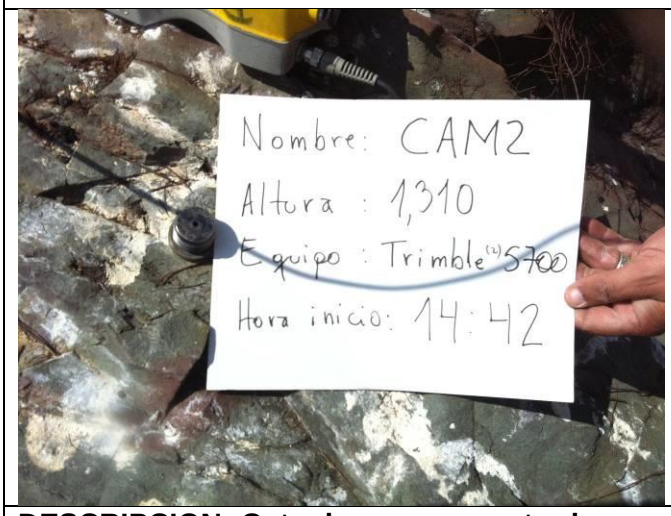
MONOGRAFIA DE VERTICE

VERTICE: CAM2	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR



COORDENADAS

NORTE	7.875.869,315
ESTE	366.394,001
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 12’ 22.31619”S
LONGITUD	70º 16’ 15.27059”W
ALTURA NMM	6.893 “Modelo Geoidal EGM-96”

DESCRIPCION: Cota de acero empotrada en roca, cercana a animita de San Pedro, al costado de muelle en Caleta Camarones.

MONOGRAFIA DE VERTICE

VERTICE: SSP5	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.815.279,983
ESTE	382.273,371
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 45’ 16.69303”S
LONGITUD	70º 07’ 25.14194”W
ALTURA NMM	975.685 “Modelo Geoidal EGM-96”

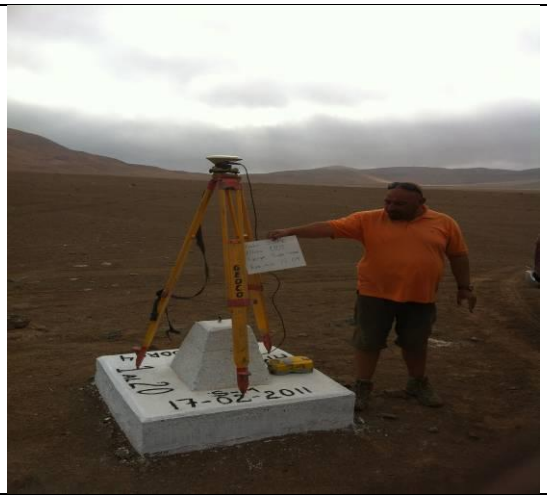
DESCRIPCION: Fierro empotrado en monolito de cemento ubicado al costado del camino.

MONOGRAFIA DE VERTICE

VERTICE: SSP6	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR



COORDENADAS

NORTE	7.796.581,277
ESTE	385.262,557
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 55’ 25.53635”S
LONGITUD	70º 05’ 46.61843”W
ALTURA NMM	666.624 “Modelo Geoidal EGM-96”

DESCRIPCION: Fierro empotrado en monolito de cemento con inscripción SALVADOR-4, ubicado al costado del camino de la ruta A-414.

MONOGRAFIA DE VERTICE

VERTICE: SSP7	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.784.119,869
ESTE	383.982,947
Mº CENTRAL	69º
ZONA	19
LATITUD	20º 02’ 10.58353”S
LONGITUD	70º 06’ 33.46254”W
ALTURA NMM	631.749 “Modelo Geoidal EGM-96”

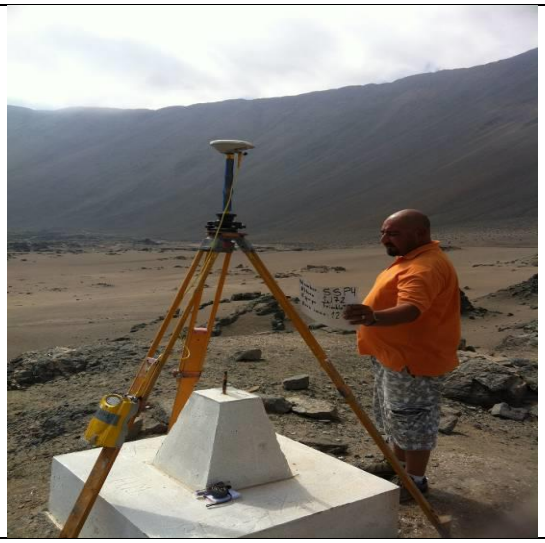
DESCRIPCION: Fierro empotrado en monolito de cemento, de color blanco con inscripción SSP7.

MONOGRAFIA DE VERTICE

VERTICE: SSP4	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR



COORDENADAS

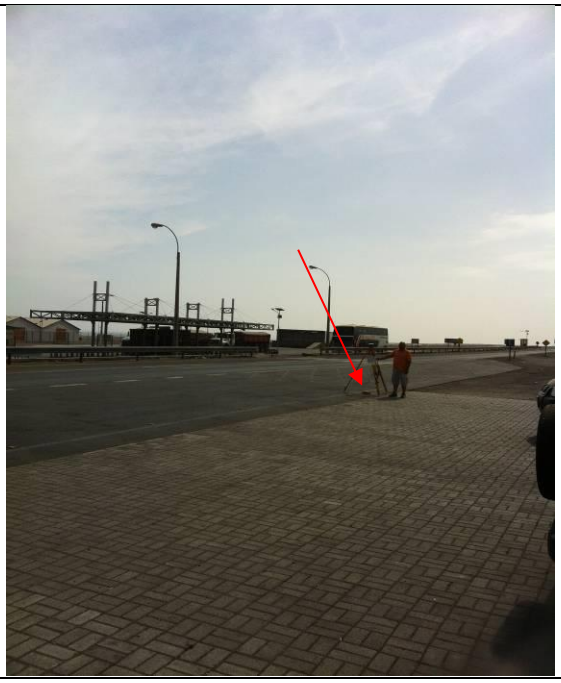
NORTE	7.649.750,128
ESTE	387.492,315
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 15’ 1.55322”S
LONGITUD	70º 05’ 3.53999”W
ALTURA NMM	40.691 “Modelo Geoidal EGM-96”

DESCRIPCION: Fierro empotrado en monolito de cemento con inscripción PABLO ½, se encuentra ubicado a un costado del camino sobre montículo de roca.

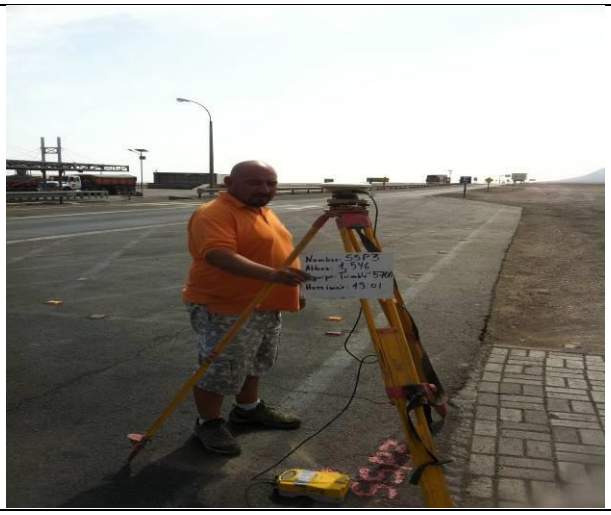
MONOGRAFIA DE VERTICE

VERTICE: SSP3	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR



COORDENADAS

NORTE	7.630.507,947
ESTE	390.527,494
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 25’ 28.00559”S
LONGITUD	70º 03’ 22.72433”W
ALTURA NMM	13.503 “Modelo Geoidal EGM-96”

DESCRIPCION: Perno empotrado en asfalto, ubicado a un costado de local de abarrotes y a 500 metros aproximadamente de Aduana del Loa.

MONOGRAFIA DE VERTICE

VERTICE: SSP9	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

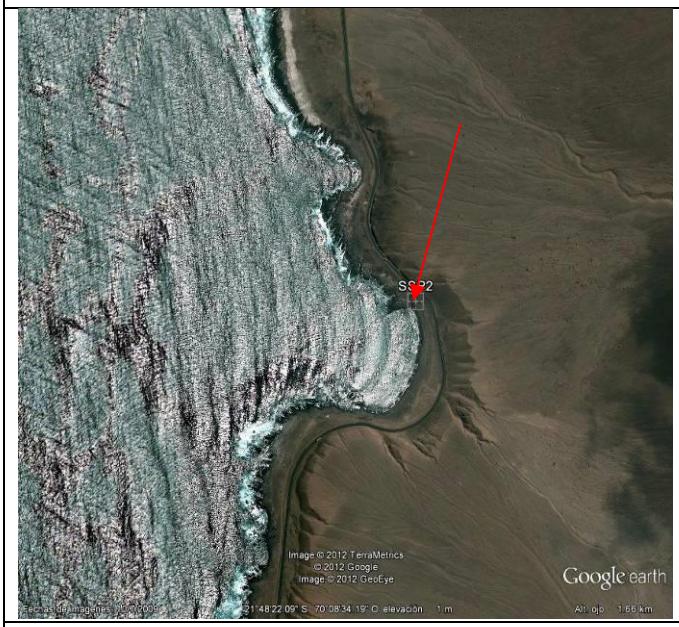
NORTE	7.607.097,527
ESTE	382.299,025
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 38’ 7.43923”S
LONGITUD	70º 08’ 14.43770”W
ALTURA NMM	22.321 “Modelo Geoidal EGM-96”

DESCRIPCION: Fierro empotrado en monolito de cemento, a un costado de carretera en la entrada Norte a Caleta Punta Arenas.

MONOGRAFIA DE VERTICE

VERTICE: SSP2	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.588.227,964
ESTE	382.072,379
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 48’ 21.00594”S
LONGITUD	70º 08’ 27.15787”W
ALTURA NMM	4.682 “Modelo Geoidal EGM-96”

DESCRIPCION: Perno empotrado en roca, está ubicado al costado de carretera en la entrada Norte a Caleta Huamán.

MONOGRAFIA DE VERTICE

VERTICE: SSP1	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

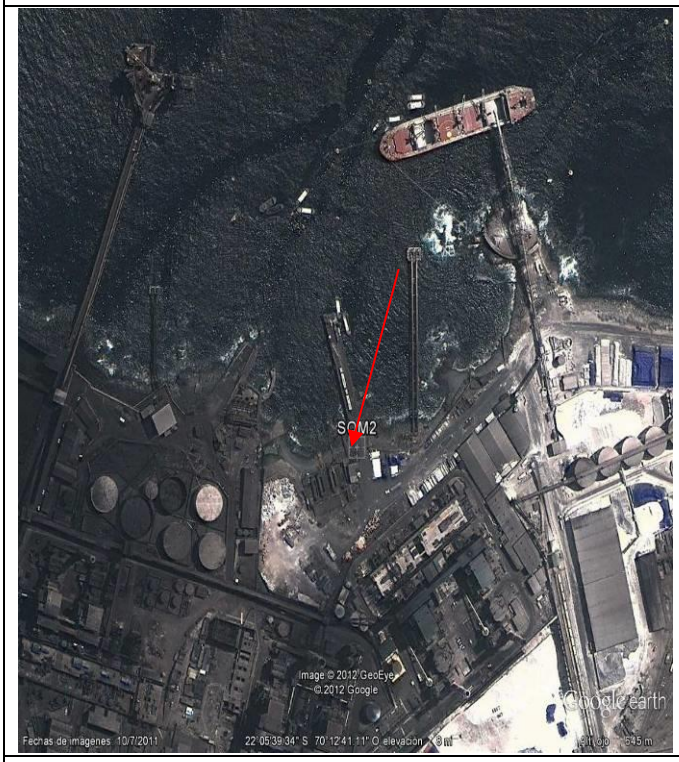
NORTE	7.555.815,405
ESTE	375.561,551
Mº CENTRAL	69º
ZONA	19
LATITUD	22º 05’ 53.36877”S
LONGITUD	70º 12’ 22.76303”W
ALTURA NMM	61.393 “Modelo Geoidal EGM-96”

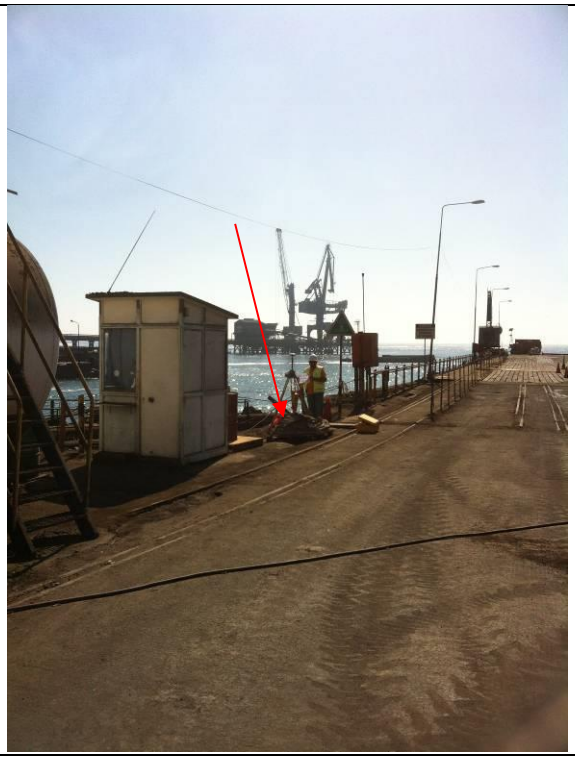
DESCRIPCION: Perno empotrado en cemento dentro de un tubo de PVC, a un costado de una reja, en la zona alta de Tocopilla, sector de estanques de agua.

MONOGRAFIA DE VERTICE

VERTICE: SQM2	LUGAR: TOCOPILLA

FOTOGRAFIAS GENERALES





FOTOGRAFIA PARTICULAR

COORDENADAS

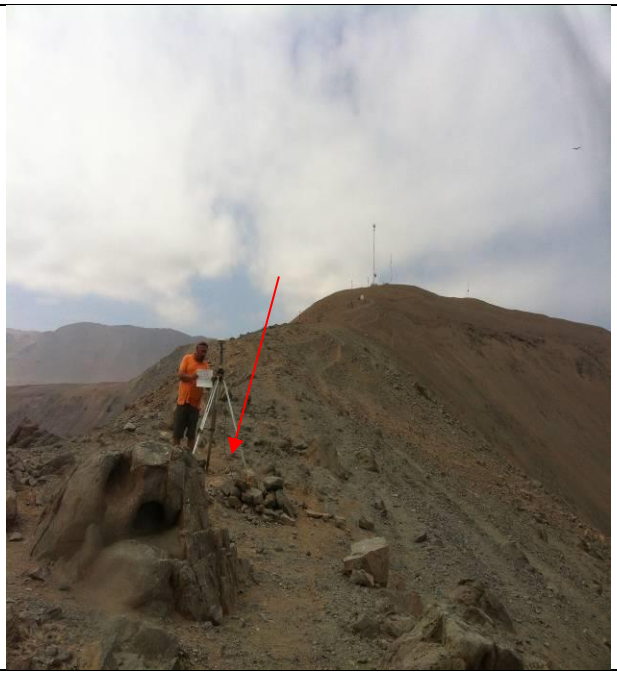
NORTE	7.556.186,800
ESTE	375.044,806
Mº CENTRAL	69º
ZONA	19
LATITUD	22º 05’ 41.15883”S
LONGITUD	70º 12’ 40.69068”W
ALTURA NMM	5.145 “Modelo Geoidal EGM-96”
ALTURA NRS	5.949 “Modelo Geoidal EGM-96”

DESCRIPCION: Perno empotrado en cemento en muelle 5, al costado izquierdo cercano a estanque de Soquimich, Tocopilla.

MONOGRAFIA DE VERTICE

VERTICE: PSAG	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR

COORDENADAS

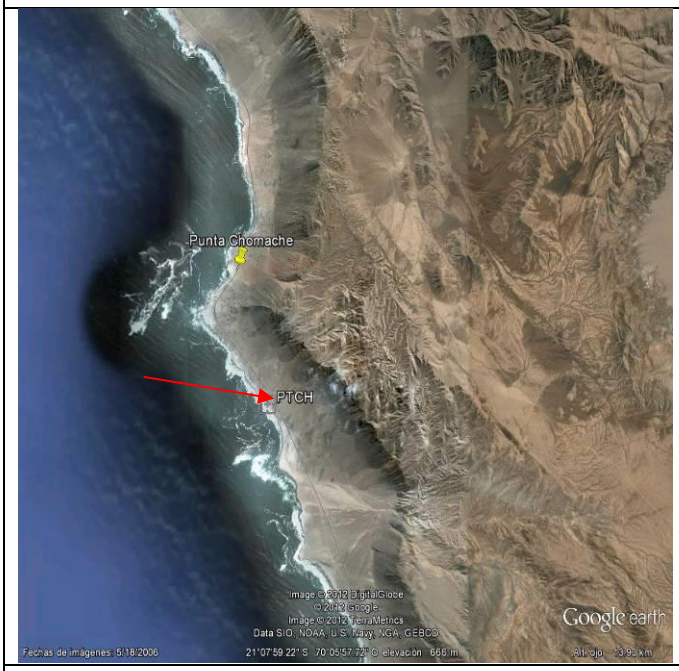
NORTE	7.832.070,744
ESTE	372.096,346
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 36’ 8.27024”S
LONGITUD	70º 13’ 10.63707”W
ALTURA NMM	272.737 “Modelo Geoidal EGM-96”

DESCRIPCION: Cota de acero empotrada en roca, cercana a caseta de comunicaciones en la parte alta de Pisagua.

MONOGRAFIA DE VERTICE

VERTICE: PTCH	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.661.282,981
ESTE	383.923,567
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 08’ 45.68047”S
LONGITUD	70º 07’ 4.51978”W
ALTURA NMM	5.429 “Modelo Geoidal EGM-96”

DESCRIPCION: Cota de acero empotrada en roca, ubicada al costado del camino en el kilometro 300, al Sur de Caleta San Carlos.

MONOGRAFIA DE VERTICE

VERTICE: VIT2	LUGAR: ARICA

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

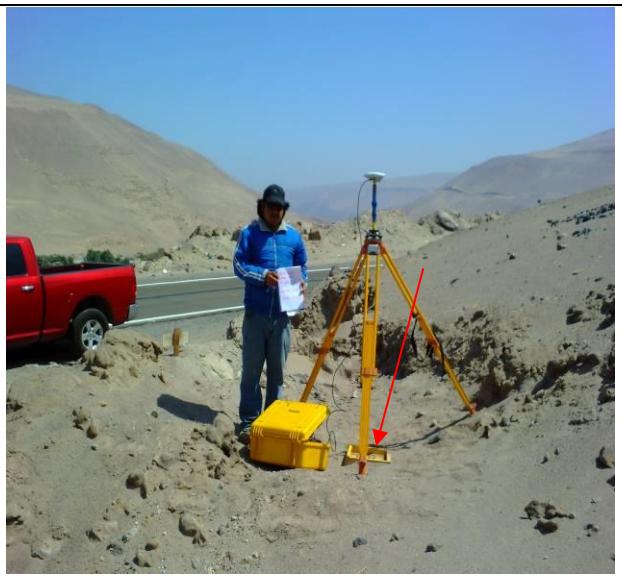
NORTE	7.925.374,163
ESTE	359.025,086
Mº CENTRAL	69
ZONA	19
LATITUD	18º 45’ 30.28460”S
LONGITUD	70º 20’ 14.69431”W
ALTURA NRS	6.523 “Modelo Geoidal EGM-96”

DESCRIPCION: Perno empotrado en cemento, se encuentra ubicado en el sector sur de la playa en el muro de unas ruinas existentes.

MONOGRAFIA DE VERTICE

VERTICE: VITO	LUGAR: ARICA

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.921.363,646
ESTE	376.150,051
Mº CENTRAL	69
ZONA	19
LATITUD	18º 47’ 44.67327”S
LONGITUD	70º 10’ 30.82961”W
ALTURA NRS	287.085 “Modelo Geoidal EGM-96”

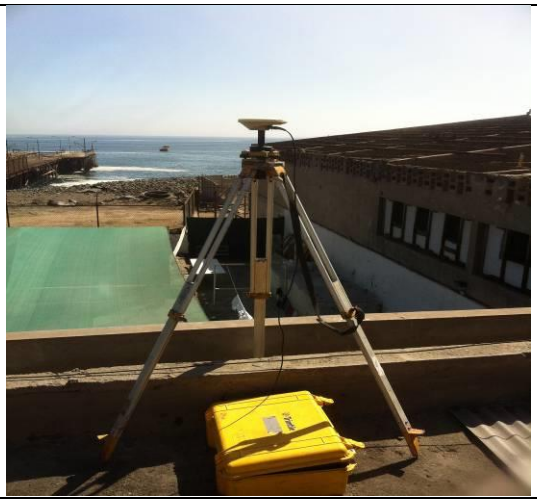
DESCRIPCION: Monolo de cemento de 30x30, se encuentra ubicado a unos 100 metros de la entrada a camino que conduce a Caleta Vitor, lado este de la carretera.

MONOGRAFIA DE VERTICE

VERTICE: GTOC	LUGAR: TOCOPILLA

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR



COORDENADAS

NORTE	7.556.295,917
ESTE	375.602,904
Mº CENTRAL	69º
ZONA	19
LATITUD	22º 05’ 37.75471”S
LONGITUD	70º 12’ 21.18733”W
ALTURA NMM	10.032 “Modelo Geoidal EGM-96”

DESCRIPCION: Cota de bronce empotrada en cemento, esta ubicada en el techo de la capitanía de puerto de Tocopilla.

MONOGRAFIA DE VERTICE

VERTICE: CAMA	LUGAR: ARICA

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.909.500,340
ESTE	392.651,274
Mº CENTRAL	69
ZONA	19
LATITUD	18º 54’ 13.91041”S
LONGITUD	70º 01’ 9.53288”W
ALTURA NRS	1267.793 “Modelo Geoidal EGM-96”

DESCRIPCION: Perno empotrado en cemento, se encuentra aproximadamente a 15 metros del paradero que está en la entrada del camino a Compa.

MONOGRAFIA DE VERTICE

VERTICE: CH-1	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

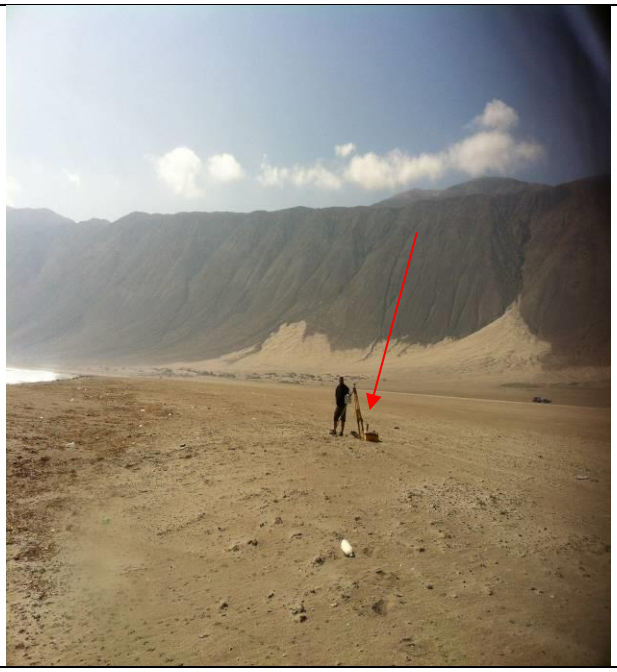
NORTE	7.641.933,566
ESTE	389.019,618
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 19’ 16.09826”S
LONGITUD	70º 04’ 12.39485”W
ALTURA NMM	4.883 “Modelo Geoidal EGM-96”

DESCRIPCION: Perno empotrado en roca, a un costado de huella que sale de la carretera en Chipana.

MONOGRAFIA DE VERTICE

VERTICE: CH-2	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.642.622,498
ESTE	389.287,082
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 18’ 53.75221”S
LONGITUD	70º 04’ 2.94976”W
ALTURA NMM	3.321 “Modelo Geoidal EGM-96”

DESCRIPCION: Perno empotrado en monolito de cemento de color rojo, se encuentra ubicado en la mitad de la playa en Chipana.

1.10 Monografía Puntos Esteroscópicos

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P2VG	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.877.729,135
ESTE	366.473,302
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 11’ 21.84077”S
LONGITUD	70º 16’ 12.09125”W
ALTURA NMM	5.392 “Modelo Geoidal EGM-96”

DESCRIPCION: Matorral que se encuentra a un costado de huella de tierra que va por el lado Weste del valle, paralela al mar hacia el Norte de Camarones, está ubicado al Este de la huella y a 80 metros antes que se confunda con la vegetación.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P1ME	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.875.831,388
ESTE	366.437,124
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 12’ 23.56007”S
LONGITUD	70º 16’ 13.80361”W
ALTURA NMM	5.843 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice SW de caseta de acopio de pescadores de Caleta Camarones, es la primera caseta que se encuentra de Norte a Sur, está aproximadamente a 25 metros al Este de inicio del muelle, a un costado del camino.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P8MO	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.926.485,692
ESTE	359.002,516
Mº CENTRAL	69º
ZONA	19
LATITUD	18º 44’ 54.12371”S
LONGITUD	70º 20’ 15.18009”W
ALTURA NMM	36.326 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice NW de muro que se encuentra en altura en la costa Sur de Caleta Vitor, está justo a un costado del camino que se ubica sobre ruinas.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P9VE	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

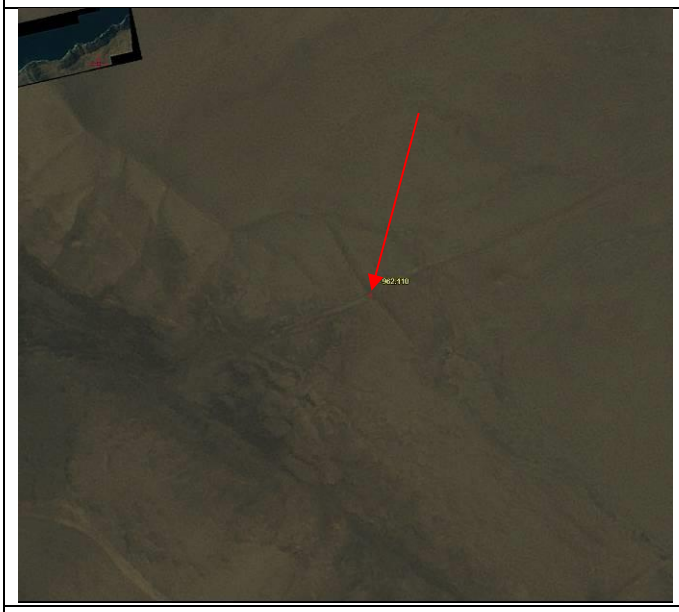
NORTE	7.925.072,690
ESTE	361.232,607
Mº CENTRAL	69º
ZONA	19
LATITUD	18º 45’ 40.62578”S
LONGITUD	70º 18’ 59.39210”W
ALTURA NMM	23.365 “Modelo Geoidal EGM-96”

DESCRIPCION: Arbusto que se encuentra a un costado del camino ubicado en la ladera Sur del cerro y a 200 metros al Este de junta de vecinos de Caleta Vitor.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P10C	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.886.910,645
ESTE	368.326,946
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 06’ 23.62703”S
LONGITUD	70º 15’ 6.37898”W
ALTURA NMM	931.624 “Modelo Geoidal EGM-96”

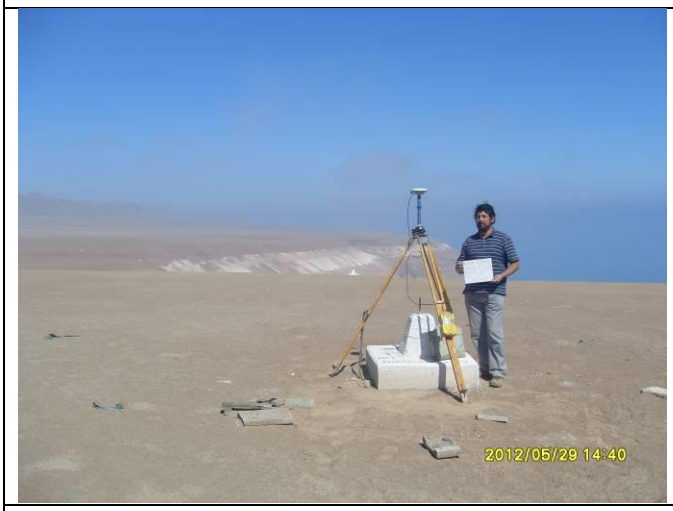
DESCRIPCION: Vértice SE de cruce de camino que se encuentra al Sur del sector costero de localidad denominada Poder de Compra.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P11N	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR



COORDENADAS

NORTE	7.900.650,352
ESTE	363.730,754
Mº CENTRAL	69º
ZONA	19
LATITUD	18º 58’ 55.62542”S
LONGITUD	70º 17’ 40.18329”W
ALTURA NMM	881.838 “Modelo Geoidal EGM-96”

DESCRIPCION: Monolito denominado INESPERADA 25 que se encuentra cercano al borde costero del sector Poder de Compra.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P12C	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.905.424,668
ESTE	363.767,635
Mº CENTRAL	69º
ZONA	19
LATITUD	18º 56’ 20.33785”S
LONGITUD	70º 17’ 37.72433”W
ALTURA NMM	1005.734 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice SW de cruce de pequeñas depresiones que se encuentran al SW de la localidad de Poder de Compra.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P13H	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.891.702,334
ESTE	366.138,302
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 03’ 47.25288”S
LONGITUD	70º 16’ 20.07896”W
ALTURA NMM	1022.963 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice NE de cruce de pequeñas depresiones que se encuentran al SW de la localidad de Poder de Compra.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P1MO	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

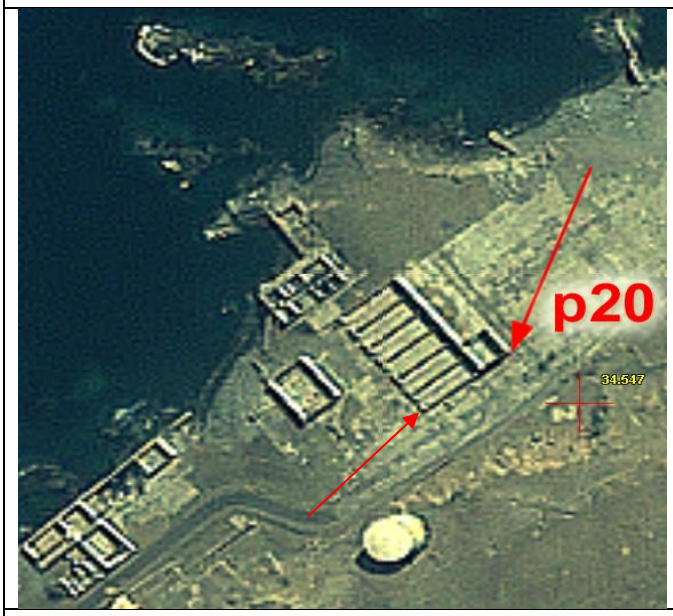
NORTE	7.832.956,793
ESTE	374.134,695
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 35’ 39.92007”S
LONGITUD	70º 12’ 0.46307”W
ALTURA NMM	347.214 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice interior SE de base de concreto que se encuentra a un costado de carretera que baja hacia Pisagua, al costado izquierdo de dicha carretera y aproximadamente a 20 metros al Este de asta de bandera.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P20A	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.832.965,223
ESTE	373.160,036
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 35’ 39.42228”S
LONGITUD	70º 12’ 33.91172”W
ALTURA NMM	4.732 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice SE de ruinas de concreto que se encuentran a 180 metros al Norte de Retén de Carabineros de la localidad de Pisagua y aproximadamente a 20 metros al Weste de estanque de concreto.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P2HO	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

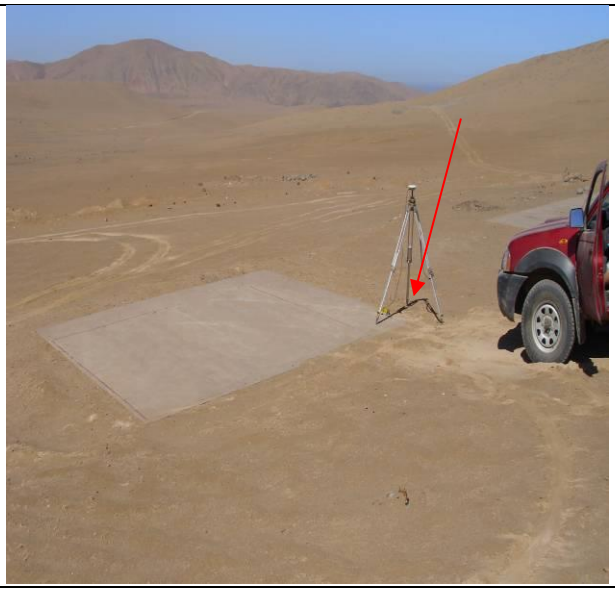
NORTE	7.828.751,635
ESTE	374.358,622
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 37’ 56.74954”S
LONGITUD	70º 11’ 53.79113”W
ALTURA NMM	20.313 “Modelo Geoidal EGM-96”

DESCRIPCION: Orilla Sur de hoyo que se encuentra al Weste de huella costera que va desde Caleta Jonasa hacia Caleta Junín, el hoyo corresponde a vertedero de rucas de algueros del sector.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P4CU	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.817.212,657
ESTE	381.867,724
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 44’ 13.74194”S
LONGITUD	70º 07’ 38.63669”W
ALTURA NMM	1008.112 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice NW de cuadrado de cemento de aproximadamente 3x3 metros que se encuentra en sector de ruinas, ubicado a 9 kilómetros al Sur de Caleta Junín.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P3CA	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.825.696,819
ESTE	378.705,043
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 39’ 37.08901”S
LONGITUD	70º 09’ 25.29563”W
ALTURA NMM	680.304 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice NW de rectángulo de cemento de aproximadamente 5x10 metros que se encuentra en la parte alta de acantilado que colinda con el sector denominado Caleta Junín.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P5RU	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.800.550,902
ESTE	382.970,839
Mº CENTRAL	69º
ZONA	19
LATITUD	19º 53’ 15.92860”S
LONGITUD	70º 07’ 4.52835”W
ALTURA NMM	738.331 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice SW de cuadrado de cenizas que se encuentra aproximadamente en el kilómetro 38 de la ruta A414, se debe salir de la ruta hacia el Weste unos 1800 metros, se ubica al Weste de muro de edificación salitrera en ruinas, a 40 metros al Este de borde costero.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P6MU	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

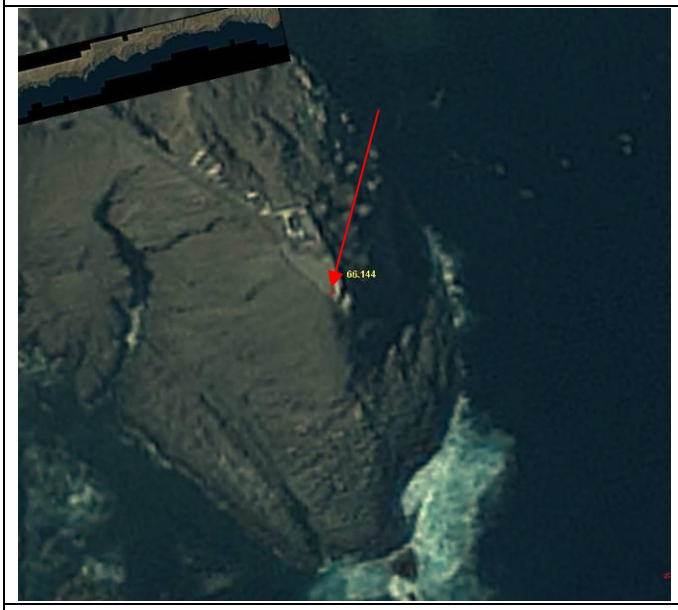
NORTE	7.784.389,648
ESTE	384.265,760
Mº CENTRAL	69º
ZONA	19
LATITUD	20º 02’ 1.86969”S
LONGITUD	70º 06’ 23.66765”W
ALTURA NMM	625.103 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice NE de muro de piedra en ruinas que se encuentra aproximadamente en el kilómetro 24 de la ruta A414, se debe viajar a 2,5 kilómetros hacia el Weste, el muro se encuentra al costado del sendero costero.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P7PR	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.768.625,112
ESTE	380.610,009
Mº CENTRAL	69º
ZONA	19
LATITUD	20º 10’ 33.81507”S
LONGITUD	70º 08’ 33.20264”W
ALTURA NMM	37.557 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice Weste de muro en forma de proa de barco que forma parte de la base que contiene estatua al marinero desconocido, que se encuentra en el sector de más al Norte de la carretera costera que pasa detrás de la ZOFRI.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P032	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

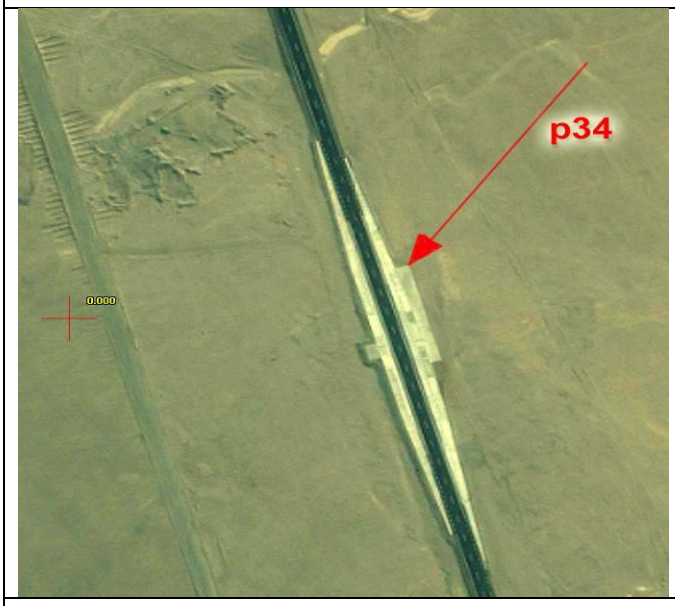
NORTE	7.642.874,402
ESTE	390.828,097
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 18’ 45.89697”S
LONGITUD	70º 03’ 9.40820”W
ALTURA NMM	37.490 “Modelo Geoidal EGM-96”

DESCRIPCION: Monolito de nombre EL PERDIDO 16092011, ubicado aproximadamente 1,3 kilómetros al Weste de kilómetro 281, carretera costera (Ruta 1), que va camino a la aduana del Loa.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P034	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.631.595,376
ESTE	390.235,354
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 24’ 52.57712”S
LONGITUD	70º 03’ 32.61605”W
ALTURA NMM	20.834 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice NE de losa de adoquines que se encuentra en sector de romanas al lado Este de la carretera costera (Ruta 1), a 1 kilómetro al Norte de aduana del Loa.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P033	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

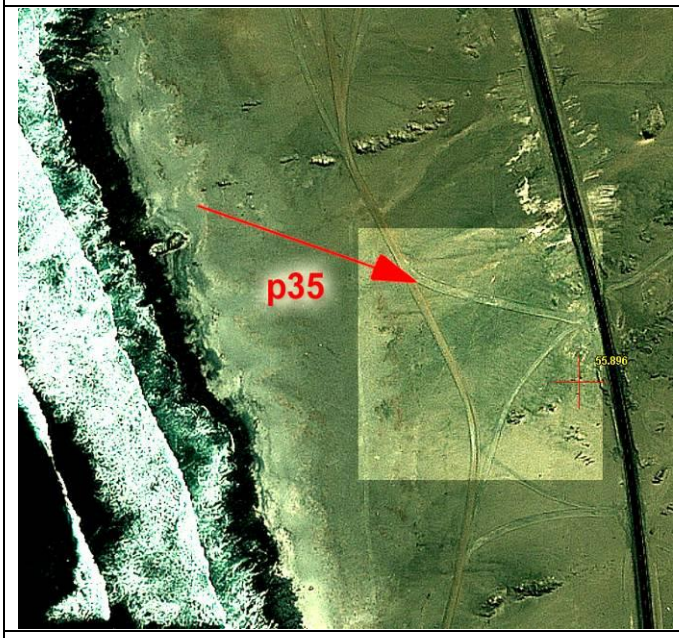
NORTE	7.651.246,327
ESTE	388.254,467
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 14’ 13.06386”S
LONGITUD	70º 04’ 36.74656”W
ALTURA NMM	37.550 “Modelo Geoidal EGM-96”

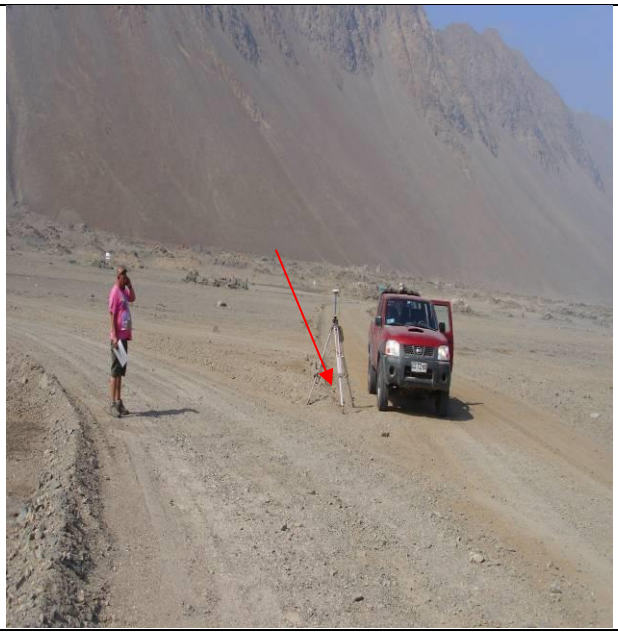
DESCRIPCION: Vértice Este de bifurcación de caminos de tierra que se encuentra aproximadamente a 80 metros al Weste de carretera costera (Ruta 1), a la altura del kilómetro 289, a un costado de letrero de fin de restricción.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P035	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES





FOTOGRAFIA PARTICULAR

COORDENADAS

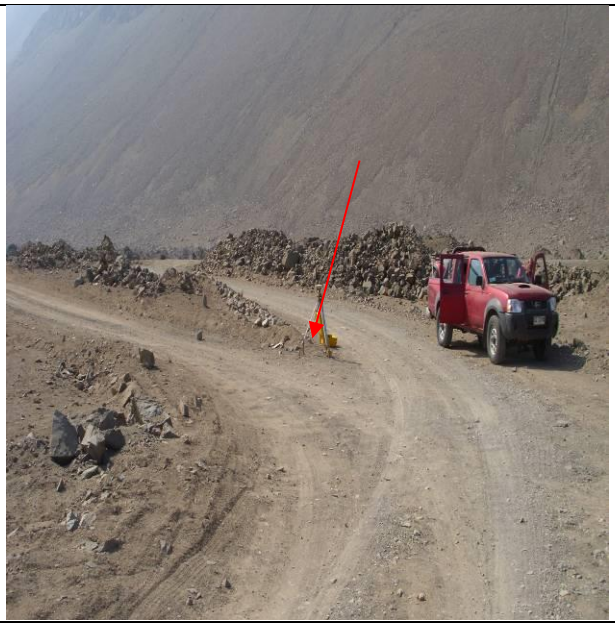
NORTE	7.629.378,777
ESTE	390.674,833
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 26’ 4.75975”S
LONGITUD	70º 03’ 17.87078”W
ALTURA NMM	6.949 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice NW que se produce al encuentro de tres caminos de tierra que se encuentran aproximadamente a 1,2 kilómetros al Sur de Aduana del Loa, desde Ruta 1 se debe avanzar 300 metros al Weste.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P036	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES



FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.626.787,955
ESTE	390.116,400
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 27’ 28.89340”S
LONGITUD	70º 03’ 37.87688”W
ALTURA NMM	16.151 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice NE que se produce al encontrarse cuatro senderos de tierra que se encuentran a 3,3 kilómetros al Sur del puente sobre el Río Loa, se debe avanzar 50 metros al Weste de Ruta 1.

MONOGRAFIA DE PUNTO ESTEROSCOPICO

PUNTO: P031	LUGAR: I REGIÓN

FOTOGRAFIAS GENERALES

FOTOGRAFIA PARTICULAR

COORDENADAS

NORTE	7.664.760,571
ESTE	383.249,830
Mº CENTRAL	69º
ZONA	19
LATITUD	21º 06’ 52.42919”S
LONGITUD	70º 07’ 27.02292”W
ALTURA NMM	3.179 “Modelo Geoidal EGM-96”

DESCRIPCION: Vértice Norte de pequeño muro que se encuentra al interior del muelle de pescadores de Caleta San Marcos, al costado izquierdo del acceso principal al muelle y a 30 metros al Weste de techo para botes varados.

2. Coordenadas A.A.A.

Sector	Punto	Coordenadas Geográficas WGS 84		Coordenadas UTM WGS 84	
		Latitud	Longitud	Norte	Este
1	1	19° 09' 02.90"	70° 16' 14.74"	7882000	366364.73
	2	19° 09' 02.45"	70° 17' 19.43"	7882000	364474.73
	3	18° 47' 19.00"	70° 22' 38.59"	7922000	354837.15
	4	18° 47' 19.58"	70° 21' 19.28"	7922000	357159.35
2	1	20° 09' 16.43"	70° 08' 54.65"	7771000	379971.02
	2	20° 09' 15.93"	70° 10' 11.10"	7771000	377751.2
	3	19° 54' 28.84"	70° 09' 53.54"	7798276.02	378071.11
	4	19° 54' 29.00"	70° 09' 29.12"	7798276.02	378781.2
	5	19° 54' 09.43"	70° 09' 28.25"	7798877.72	378802.56
	6	19° 53' 21.82"	70° 08' 55.99"	7800347.87	379730.52
	7	19° 53' 10.28"	70° 08' 15.97"	7800710.53	380892.04
	8	19° 52' 47.69"	70° 08' 11.61"	7801406.11	381013.97
	9	19° 52' 06.80"	70° 09' 31.49"	7802647.41	378682.37
	10	19° 51' 36.00"	70° 09' 41.64"	7803592.12	378380.6
	11	19° 51' 35.98"	70° 09' 44.64"	7803592.12	378293.31
	12	19° 50' 50.92"	70° 10' 07.36"	7804972.9	377622.93
	13	19° 50' 50.95"	70° 10' 02.81"	7804972.9	377755.05
	14	19° 50' 24.30"	70° 10' 37.94"	7805785.12	376727.67
	15	19° 49' 55.43"	70° 10' 55.97"	7806669.02	376196.93
	16	19° 49' 16.51"	70° 10' 53.77"	7807865.99	376252.58
	17	19° 49' 28.84"	70° 09' 48.07"	7807500.18	378166.48
	18	19° 49' 36.60"	70° 09' 48.56"	7807261.47	378153.98
	19	19° 49' 37.42"	70° 09' 42.04"	7807237.53	378343.67
	20	19° 49' 30.27"	70° 09' 41.73"	7807457.4	378351.35
	21	19° 49' 09.86"	70° 09' 34.36"	7808086.32	378561.58
	22	19° 48' 07.42"	70° 10' 06.20"	7809999.56	377621.93
	23	19° 48' 07.40"	70° 10' 09.84"	7809999.56	377515.76
	24	19° 40' 43.50"	70° 11' 30.14"	7823629.98	375083.55
	25	19° 40' 43.52"	70° 11' 42.50"	7823627.02	374723.59
	26	19° 40' 07.29"	70° 10' 34.34"	7824754.66	376700.77
	27	19° 40' 14.66"	70° 10' 30.74"	7824528.82	376807.16
	28	19° 40' 08.31"	70° 10' 23.41"	7824725.54	377019.1
	29	19° 40' 02.99"	70° 10' 27.45"	7824888.21	376900.29
	30	19° 39' 36.39"	70° 10' 26.68"	7825706.13	376917.2
	31	19° 37' 58.54"	70° 12' 25.42"	7828689.96	373437.83
	32	19° 37' 58.06"	70° 13' 32.03"	7828690.92	371497.23
	33	19° 37' 12.95"	70° 14' 24.36"	7830066.84	369963.01

	34	19° 36' 52.19"	70° 14' 57.02"	7830698.14	369006.87
	35	19° 36' 09.86"	70° 14' 54.57"	7831999.94	369068.79
	36	19° 36' 10.15"	70° 14' 13.10"	7831999.94	370277.01
3	1	21° 25' 47.95"	70° 03' 30.88"	7629893.02	390296.78
	2	21° 25' 46.98"	70° 04' 47.27"	7629908.08	388097.31
	3	21° 20' 50.05"	70° 06' 55.35"	7639012.3	384345.15
	4	21° 20' 50.11"	70° 06' 51.35"	7639011.14	384460.54
	5	21° 19' 56.31"	70° 06' 51.34"	7640665.38	384448.92
	6	21° 20' 06.41"	70° 05' 58.08"	7640365.54	385985.68
	7	21° 20' 18.15"	70° 05' 48.28"	7640006.52	386270.49
	8	21° 18' 37.39"	70° 06' 09.26"	7643100.54	385644.41
	9	21° 18' 37.39"	70° 05' 39.26"	7643106.49	386508.78
	10	21° 19' 01.19"	70° 05' 39.26"	7642374.72	386513.82
	11	21° 19' 01.19"	70° 05' 59.26"	7642370.74	385937.6
	12	21° 18' 53.49"	70° 06' 07.78"	7642605.8	385690.49
	13	21° 16' 09.38"	70° 04' 39.76"	7647669.31	388192
	14	21° 16' 08.90"	70° 05' 54.15"	7647669.31	386047.88
	15	21° 13' 48.07"	70° 06' 14.17"	7651995.58	385440.54
	16	21° 13' 48.07"	70° 06' 16.64"	7651995.09	385369.32
	17	21° 13' 06.56"	70° 05' 45.68"	7653277.57	386253.2
	18	21° 12' 53.59"	70° 05' 43.12"	7653676.72	386324.09
	19	21° 12' 50.52"	70° 05' 38.80"	7653772.1	386448.11
	20	21° 12' 38.95"	70° 05' 39.92"	7654127.45	386413.21
	21	21° 12' 45.09"	70° 05' 49.72"	7653936.78	386132.16
	22	21° 12' 43.29"	70° 05' 53.64"	7653991.27	386018.75
	23	21° 12' 07.88"	70° 06' 02.65"	7655078.33	385751.21
	24	21° 12' 05.96"	70° 05' 47.60"	7655140.34	386184.76
	25	21° 10' 54.95"	70° 06' 07.23"	7657319.72	385603.64
	26	21° 11' 02.98"	70° 06' 39.99"	7657066.34	384660.62
	27	21° 10' 53.56"	70° 07' 08.02"	7657350.39	383850.33
	28	21° 10' 29.05"	70° 07' 08.02"	7658104.01	383845.11
	29	21° 10' 28.82"	70° 07' 42.74"	7658104.01	382843.73
	30	21° 07' 16.53"	70° 09' 01.17"	7664000	380538.91
	31	21° 07' 17.11"	70° 07' 35.62"	7664000	383007.28