Network Adjustment Report

Basic Information

Name	Value
Username	DESKTOP-FI5SSB8
Project Datum	MAGNA-SIRGAS _ Colombia Bogota zone
Project Name	TOPOGRAFIA CAJICA 25 02 2025
Distance Units	Meter
Height Units	Meter

1 Adjustment Settings

Basic Parameters

Name	Value
Ellipsoid Name	GRS 1980
Major Axis(m)	6378137.0000
Flattening Reciprocal(1/f)	298.257222101206

Projection Parameters

Name	Value
Projection Method	Tansverse Mercator Projection
Scale Factor	1
Projection Height	0.0000
Original Latitude	04°35′46.32150″N
Central Meridian(L0)	074°04′39.02850″W
North Additive Constant(m)	1000000.0000
East Additive Constant(m)	1000000.0000

2 Adjustment Statistics

Statistical Summary

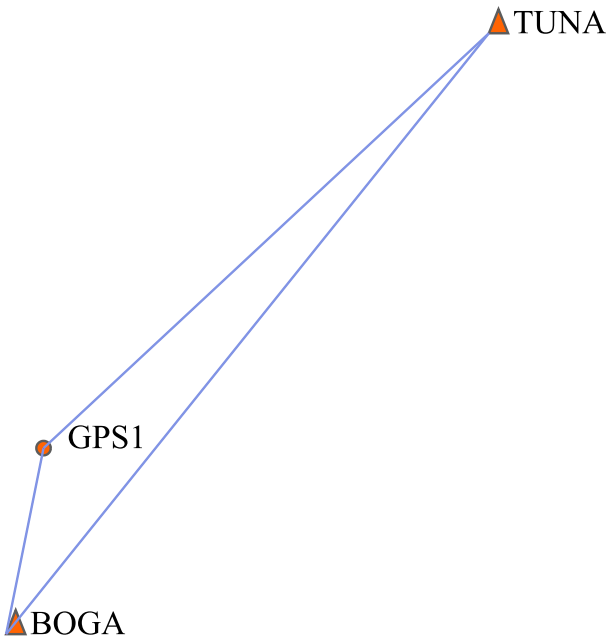
Name	Value
Network Reference Factor	406.290819999768

Chi Square Test	Pass
Chi Square Value	7.93296
Range of Chi Square Test	1.19766 ~ 14.66825
Ratio of Unit Weight Standard Error	1.14985
Precision Confidence Level	2 sigma
Horizontal Accuracymm	798.7
Vertical Accuracymm	1498.4
Check Result	Nonconformity

3 Control Point

Number Of Points	03
Control Point Sum	02

Control Points



4 WGS843D Constraint Adjustment

4.1 Baselines Input in WGS84

Observation ID	Baseline ID	DX(m)	Std.DX (mm)	DY(m)	Std.DY (mm)	DZ(m)	Std.DZ (mm)
B01	BOGA->GPS1	5207.5427	2.4	4168.9348	3.6	30479.8149	1.6
B02	TUNA->GPS1	-68646.9102	3.0	-26285.1104	4.6	-67904.0615	1.9
B03	BOGA->TUNA	73855.8942	1.2	30454.0939	4.2	98383.9100	1.5

4.2 Adjusted Baselines in WGS84

Style One:

Observation ID	Baseline ID		Observation	Residual	Horizontal Precision(Ratio)	3D Precision (Ratio)
B01	BOGA->GPS1	**Azimuth**	11°22′16.94312″	3°24′35.96148″	1:39127	1:18490
		ΔEllipsoid Height	-30.3099	0.1319		
		Ellipsoid Dist.	31201.4249	0.1808		
B02	TUNA->GPS1	**Azimuth**	227°5′49.72053″	1°20′30.54861″	1:125804	1:59305
		ΔEllipsoid Height	-252.4652	-0.3305		
		Ellipsoid Dist.	100072.0778	0.7688		
B03	BOGA->TUNA	**Azimuth**	38°46′51.58375″	0°4′0.00153″	1:999999	1:999999
		ΔEllipsoid Height	222.1554	0.0991		
		Ellipsoid Dist.	126734.3134	0.1874		

Style Two:

Observation ID	Baseline ID	DX (m)	V.DX (mm)	Std.DX (mm)	DY (m)	V.DY (mm)	Std.DY (mm)	DZ (m)	V.DZ (mm)	Std.DZ (mm)	dVDX (mm)	dVDY (mm)	dVDZ (mm)
B01	BOGA->GPS1	5208.0977	55.1	89.5	4168.9628	28.0	130.6	30479.9013	86.4	566.4	58.2	448.3	42.8
B02	TUN	-6864	-105	89.5	-2628	23.7	133	-6790	-75.9	566.4	181.9	686.2	75.0

	A->GPS1	7.9650	4.8		5.0867		0.6	4.1374					
B03	BOGA->TUNA	73856.0627	168.5	0.0	30454.0495	-44.4	0.0	98384.0387	128.7	0.0	240.1	1134.4	117.9

4.3 Adjusted Geodetic Coordinates in WGS84

Point ID	Latitude	Latitude Err.(s)	Longitude	Longitude Err.(s)	Ellipsoid Height(m)	H. Err. (m)
GPS1	04°54′54.66989″N	0.019896	074°01′28.22253″W	0.016688	2579.3768	1.4984
BOGA	04°38′19.26117″N	0.000000	074°04′47.81878″W	0.000000	2609.6867	0.0000
TUNA	05°31′52.79103″N	0.000000	073°21′49.97481″W	0.000000	2831.8420	0.0000

4.4 Adjusted ECEF Coordinates in WGS84

Point ID	X(m)	X Err. (m)	Y(m)	Y Err. (m)	Z(m)	Z Err. (m)	3D Err. (m)
GPS1	1749725.2103	0.8695	-6111881.9546	1.3306	543061.1107	0.5664	1.6874
BOGA	1744517.1125	0.0000	-6116050.9174	0.0000	512581.2094	0.0000	0.0000
TUNA	1818373.1753	0.0000	-6085596.8679	0.0000	610965.2481	0.0000	0.0000

4.5 Adjusted Grid Coordinates and Height in Local System

Point ID	North(m)	North Err.(m)	East(m)	East Err.(m)	Elev.(m)	Elev. Err.(m)
GPS1	1035274.2773	0.6111	1005878.5661	0.5141	2553.8926	1.4984
BOGA	1004697.8598	0.0000	999729.0706	0.0000	2583.4694	0.0000
TUNA	1103456.9504	0.0000	1079075.0612	0.0000	2805.9082	0.0000

4.6 Lat-Lon-Height(Local)

Point ID	Latitude	Latitude Err.(s)	Longitude	Longitude Err.(s)	Ellipsoid Height(m)	H. Err. (m)
GPS1	04°54′54.66989″N	0.019896	074°01′28.22253″W	0.016688	2579.3768	1.4984
BOGA	04°38′19.26117″N	0.000000	074°04′47.81878″W	0.000000	2609.6867	0.0000
TUNA	05°31′52.79103″N	0.000000	073°21′49.97481″W	0.000000	2831.8420	0.0000

4.7 Coordinate Change

Point ID(m)	ΔNorth(m)	ΔEast(m)	ΔEllipsoid Height(m)
GPS1	-2.0704	2.4870	-0.4054

BOGA	-2.2413	0.4286	-20.1070
TUNA	-1.8083	0.8275	-20.0297

4.8 Worst baseline and station statistics

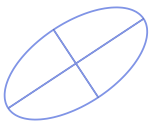
Worst baseline	Baseline ID	DX (m)	Std. DX (mm)	DY (m)	Std. DY (mm)	DZ (m)	Std. DZ (mm)	Distance (m)	Mean Error(m)	Relative error
B01 (BOGA->GPS1)	BOGA->GPS1	5208.0977	869.5	4168.9628	133 0.6	3047 9.90 13	566.4	3120 1.42 49	1.6874	1/1849 0.0000

Worst local station	North (m)	North Err.(m)	East(m)	East Err.(m)	Elev. (m)	Elev. Err.(m)	Standard Deviation
GPS1	1035274.2773	0.6111	1005878.5661	0.5141	2553.8926	1.4984	1.6980

4.9 Error Ellipse

Point ID	Major Axis(m)	Short Axis(m)	Azimuth
GPS1	0.6768	0.4241	146°33′5.10639″
BOGA	0.0000	0.0000	0°0′0.00000″
TUNA	0.0000	0.0000	0°0′0.00000″

Error Ellipse

GPS1		BOGA	
TUNA			