SantaClaraCAYear5	Ground Control Points
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Project file data		Coordinate System	
Name:	312020310_SantaClaraCAYear5.vce	Name:	United States/State Plane 1983
Size:	375 KB	Datum:	NAD 1983 (2011)
Modified:	5/14/2020 11:20:07 AM (UTC:-6)	Zone:	California Zone 3 0403
Time zone:	Mountain Standard Time	Geoid:	GEOID18 (Conus)
Reference number:	312020310	Vertical datum:	NAVD88
Description:	Ground Control Points	Calibrated site:	
Comment 1:			
Comment 2:			
Comment 3:			

Baseline Processing Report

Processing Summary

Observation	From	To	Solution Type	H. Prec.	V. Prec.	Geodetic	Ellipsoid	ΔHeight
NVA039 --- NVA065 (B10)	NVA039	NVA065	Fixed	0.127	0.224	58°32'20.7"	67507.830	1956.220
HS5407 --- VVA046 (B12)	HS5407	VVA046	Fixed	0.059	0.086	128°24'11.6"	56631.139	480.626
HS5407 --- VVA045 (B9)	HS5407	VVA045	Fixed	0.058	0.114	182°03'34.4"	44059.639	162.511
HS5407 --- NVA039 (B8)	HS5407	NVA039	Fixed	0.058	0.099	203°42'10.8"	38946.988	341.194
HS5407 --- NVA065 (B11)	HS5407	NVA065	Fixed	0.046	0.070	90°37'44.1"	41949.813	2297.364
HS5407 --- VVA047 (B7)	HS5407	VVA047	Fixed	0.040	0.062	195°55'14.9"	23984.775	207.739
P217 --- VVA046 (B24)	P217	VVA046	Fixed	0.038	0.054	98°03'36.6"	31719.979	473.744
P217 --- VVA045 (B26)	P217	VVA045	Fixed	0.039	0.074	227°38'12.8"	19705.847	155.610
P217 --- NVA039 (B27)	P217	NVA039	Fixed	0.050	0.092	260°17'02.2"	29046.251	334.214
P217 --- NVA065 (B25)	P217	NVA065	Fixed	0.055	0.091	43°45'41.3"	41914.793	2290.424
P217 --- VVA047 (B28)	P217	VVA047	Fixed	0.050	0.078	291°28'37.2"	21004.949	200.754
P217 --- HS5407 (B29)	P217	HS5407	Fixed	0.013	0.054	337°09'12.5"	33370.089	-7.036
P217 --- HS5407 (B49)	P217	HS5407	Fixed	0.008	0.034	337°09'12.6"	33370.072	-6.966
P217 --- VVA002 (B48)	P217	VVA002	Fixed	0.043	0.100	3°02'38.9"	9381.144	5.290
P217 --- NVA037 (B47)	P217	NVA037	Fixed	0.034	0.051	129°29'34.0"	24234.109	-93.588
P217 --- NVA036 (B42)	P217	NVA036	Fixed	0.050	0.062	131°11'08.2"	52158.317	-153.377

P217 --- NVA021 (B46)	P217	NVA021	Fixed	0.051	0.050	143°07'07.1"	36301.155	-139.538
P217 --- NVA020 (B45)	P217	NVA020	Fixed	0.061	0.082	169°27'01.5"	34421.399	-81.658
P217 --- VVA010 (B44)	P217	VVA010	Fixed	0.070	0.164	194°05'48.6"	37356.503	148.255
P217 --- VVA011 (B41)	P217	VVA011	Fixed	0.040	0.085	101°27'47.2"	57984.283	542.945
P217 --- NVA029 (B43)	P217	NVA029	Fixed	0.090	0.158	206°17'25.6"	37811.296	1502.097
HS5407 --- VVA027 (B35)	HS5407	VVA027	Fixed	0.084	0.129	336°33'32.8"	31771.943	328.628
HS5407 --- NVA046 (B37)	HS5407	NVA046	Fixed	0.032	0.056	315°43'15.5"	39812.526	-80.218
HS5407 --- VVA002 (B17)	HS5407	VVA002	Fixed	0.050	0.108	147°47'45.2"	25264.813	12.222
HS5407 --- NVA037 (B18)	HS5407	NVA037	Fixed	0.082	0.118	145°31'56.1"	55976.744	-86.724
HS5407 --- NVA036 (B30)	HS5407	NVA036	Fixed	0.061	0.205	141°14'35.1"	83448.498	-146.525
HS5407 --- NVA021 (B20)	HS5407	NVA021	Fixed	0.068	0.213	149°48'45.0"	69150.167	-132.547
HS5407 --- NVA020 (B22)	HS5407	NVA020	Fixed	0.109	0.130	163°22'15.0"	67401.532	-74.704
HS5407 --- VVA010 (B24)	HS5407	VVA010	Fixed	0.051	0.320	176°40'36.7"	67094.609	155.700
HS5407 --- VVA011 (B33)	HS5407	VVA011	Fixed	0.040	0.213	121°10'51.2"	81590.730	549.721
HS5407 --- NVA029 (B26)	HS5407	NVA029	Fixed	0.134	0.229	183°19'44.4"	64763.326	1509.071
NVA036 --- NVA037 (B29)	NVA036	NVA037	Fixed	0.049	0.068	312°44'04.5"	27943.939	59.784
NVA036 --- NVA021 (B28)	NVA036	NVA021	Fixed	0.054	0.062	286°59'23.5"	18256.024	13.851
VVA010 --- VVA011 (B32)	VVA010	VVA011	Fixed	0.056	0.319	69°26'10.5"	70404.121	394.312
P217 --- VVA027 (B40)	P217	VVA027	Fixed	0.159	0.281	336°52'36.3"	65141.121	321.887
P217 --- NVA046 (B39)	P217	NVA046	Fixed	0.060	0.109	325°29'50.7"	71919.399	-87.194
VVA043 --- VVA050 (B9)	VVA043	VVA050	Fixed	0.087	0.242	50°30'58.8"	77850.174	-139.373
NVA023 --- VVA044 (B7)	NVA023	VVA044	Fixed	0.126	0.148	260°55'27.5"	64763.984	-62.494
HS2738 --- VVA028 (B12)	HS2738	VVA028	Fixed	0.060	0.308	90°58'01.1"	126719.321	304.265
HS2738 --- NVA034 (B4)	HS2738	NVA034	Fixed	0.047	0.238	171°23'50.7"	72422.232	-113.815
HS2738 --- VVA043 (B3)	HS2738	VVA043	Fixed	0.064	0.202	175°02'41.5"	76346.767	149.026
HS2738 --- VVA050 (B10)	HS2738	VVA050	Fixed	0.080	0.218	111°42'39.8"	71758.422	9.660
HS2738 --- VVA044 (B2)	HS2738	VVA044	Fixed	0.072	0.083	185°15'38.3"	59203.035	-134.014
HS2738 --- NVA023 (B8)	HS2738	NVA023	Fixed	0.076	0.290	129°43'08.7"	76058.961	-71.708
HS2738 --- NVA028 (B1)	HS2738	NVA028	Fixed	0.073	0.119	223°13'17.0"	56306.154	-122.712

P242 --- NVA042 (B14)	P242	NVA042	Fixed	0.068	0.127	55°29'27.5"	53440.431	222.752
P242 --- NVA048 (B15)	P242	NVA048	Fixed	0.050	0.170	60°05'58.5"	82105.740	1196.218
P242 --- VVA028 (B16)	P242	VVA028	Fixed	0.048	0.250	64°42'11.7"	95204.985	414.098
P242 --- NVA034 (B20)	P242	NVA034	Fixed	0.026	0.050	226°15'01.5"	41383.768	-3.834
P242 --- VVA043 (B21)	P242	VVA043	Fixed	0.052	0.061	225°54'56.9"	47526.628	258.826
P242 --- VVA050 (B17)	P242	VVA050	Fixed	0.032	0.035	57°49'19.1"	30726.062	119.478
P242 --- VVA044 (B22)	P242	VVA044	Fixed	0.071	0.064	250°56'26.4"	48812.754	-24.185
P242 --- NVA023 (B18)	P242	NVA023	Fixed	0.032	0.036	107°41'51.2"	18694.490	38.268
P242 --- NVA028 (B23)	P242	NVA028	Fixed	0.075	0.123	271°28'06.4"	79268.105	-12.922
P242 --- HS2738 (B24)	P242	HS2738	Fixed	0.018	0.075	316°37'57.1"	59158.410	109.824
HS2787 --- VVA016 (B8)	HS2787	VVA016	Fixed	0.122	0.184	295°03'53.3"	25016.368	-36.033
MHCB --- VVA049 (B31)	MHCB	VVA049	Fixed	0.081	0.155	217°35'38.7"	52382.883	-4006.464
MHCB --- NVA018 (B30)	MHCB	NVA018	Fixed	0.000	0.000	220°33'51.8"	56008.003	-4028.830
MHCB --- NVA002 (B25)	MHCB	NVA002	Fixed	0.077	0.147	253°08'18.8"	69880.234	-3999.108
MHCB --- VVA016 (B24)	MHCB	VVA016	Fixed	0.140	0.308	253°46'21.0"	72674.898	-4093.447
HS2787 --- NVA002 (B7)	HS2787	NVA002	Fixed	0.043	0.088	298°18'36.7"	22441.255	58.275
HS2787 --- NVA057 (B6)	HS2787	NVA057	Fixed	0.052	0.099	272°25'09.5"	16167.791	-13.923
HS2787 --- NVA001 (B5)	HS2787	NVA001	Fixed	0.098	0.123	210°19'55.6"	23789.659	205.111
HS2787 --- VVA041 (B4)	HS2787	VVA041	Fixed	0.209	0.192	230°08'11.0"	18624.918	53.129
HS2787 --- NVA015 (B3)	HS2787	NVA015	Fixed	0.077	0.110	158°07'45.8"	7564.783	6.342
HS2787 --- NVA018 (B2)	HS2787	NVA018	Fixed	0.048	0.087	137°10'42.9"	15792.673	28.448
HS2787 --- VVA049 (B1)	HS2787	VVA049	Fixed	0.044	0.095	124°43'31.7"	18491.913	50.905
MHCB --- HS2787 (B32)	HS2787	MHCB	Fixed	0.031	0.114	56°37'00.1"	56387.574	4057.346
MHCB --- NVA015 (B29)	MHCB	NVA015	Fixed	0.183	0.205	229°25'08.2"	58370.019	-4050.924
MHCB --- VVA041 (B28)	MHCB	VVA041	Fixed	0.317	0.201	235°06'26.8"	74922.358	-4004.762
MHCB --- NVA001 (B27)	MHCB	NVA001	Fixed	0.157	0.134	228°59'43.1"	78428.358	-3852.368
MHCB --- NVA057 (B26)	MHCB	NVA057	Fixed	0.085	0.137	244°27'52.0"	70140.855	-4071.249
SLAC --- AA1872 (B25)	SLAC	AA1872	Fixed	0.022	0.102	104°41'50.8"	89325.680	-257.260
SLAC --- VVA004 (B24)	SLAC	VVA004	Fixed	0.092	0.199	107°06'45.0"	89299.513	-249.835

SLAC --- NVA047 (B23)	SLAC	NVA047	Fixed	0.105	0.234	115°32'32.1"	95235.958	-173.459
SLAC --- NVA011 (B22)	SLAC	NVA011	Fixed	0.146	0.196	120°15'59.4"	71866.433	-145.086
SLAC --- VVA014 (B21)	SLAC	VVA014	Fixed	0.259	0.239	116°36'44.7"	69990.743	-180.081
SLAC --- VVA055 (B20)	SLAC	VVA055	Fixed	0.175	0.281	104°35'16.3"	68488.400	-265.140
SLAC --- NVA061 (B19)	SLAC	NVA061	Fixed	0.078	0.142	98°11'53.3"	66749.900	-295.668
SLAC --- VVA039 (B18)	SLAC	VVA039	Fixed	0.094	0.186	92°37'28.9"	71633.848	-306.154
SLAC --- VVA033 (B17)	SLAC	VVA033	Fixed	0.100	0.171	87°32'10.1"	81225.938	-292.723
SLAC --- NVA060 (B16)	SLAC	NVA060	Fixed	0.142	0.210	90°38'45.3"	90259.384	-284.853
SLAC --- VVA005 (B15)	SLAC	VVA005	Fixed	0.196	0.272	97°40'58.1"	94356.903	-241.812
SLAC --- NVA014 (B13)	SLAC	NVA014	Fixed	0.097	0.173	100°55'19.6"	90733.752	-260.923
AA1872 --- VVA015 (B11)	AA1872	VVA015	Fixed	0.063	0.105	75°14'17.2"	15263.915	37.748
AA1872 --- VVA004 (B1)	AA1872	VVA004	Fixed	0.013	0.028	196°29'04.4"	3764.386	7.314
AA1872 --- NVA047 (B2)	AA1872	NVA047	Fixed	0.041	0.091	181°39'27.7"	18406.346	83.643
AA1872 --- NVA011 (B3)	AA1872	NVA011	Fixed	0.064	0.090	241°03'07.7"	27855.294	112.110
AA1872 --- VVA014 (B4)	AA1872	VVA014	Fixed	0.185	0.180	250°08'41.1"	25362.037	77.062
AA1872 --- VVA055 (B5)	AA1872	VVA055	Fixed	0.067	0.109	285°14'17.1"	20837.876	-7.956
AA1872 --- NVA061 (B6)	AA1872	NVA061	Fixed	0.033	0.062	303°03'34.9"	24213.766	-38.513
AA1872 --- VVA039 (B7)	AA1872	VVA039	Fixed	0.036	0.070	322°44'03.0"	24414.059	-49.082
AA1872 --- VVA033 (B8)	AA1872	VVA033	Fixed	0.042	0.072	348°49'34.9"	26677.153	-35.528
AA1872 --- NVA060 (B9)	AA1872	NVA060	Fixed	0.039	0.058	10°16'04.6"	21985.517	-27.696
AA1872 --- VVA005 (B10)	AA1872	VVA005	Fixed	0.109	0.117	35°27'02.6"	12307.984	15.311
AA1872 --- NVA014 (B12)	AA1872	NVA014	Fixed	0.016	0.029	26°20'16.9"	6095.844	-3.735
SLAC --- VVA015 (B14)	SLAC	VVA015	Fixed	0.160	0.268	100°29'21.1"	102869.644	-219.404
SLAC --- DG6887 (B23)	SLAC	DG6887	Fixed	0.015	0.065	96°07'11.0"	49072.850	-281.765
SLAC --- NVA049 (B22)	SLAC	NVA049	Fixed	0.085	0.102	96°17'43.3"	48823.556	-281.514
SLAC --- NVA066 (B21)	SLAC	NVA066	Fixed	0.127	0.134	109°24'45.0"	40403.652	-191.532
SLAC --- VVA003 (B20)	SLAC	VVA003	Fixed	0.223	0.262	108°05'12.8"	51141.391	-203.254
SLAC --- NVA012 (B19)	SLAC	NVA012	Fixed	0.082	0.131	109°54'16.0"	53998.370	-198.943
SLAC --- NVA010 (B18)	SLAC	NVA010	Fixed	0.087	0.219	123°38'23.5"	60827.149	-90.205

SLAC --- NVA062 (B17)	SLAC	NVA062	Fixed	0.094	0.164	129°47'18.7"	41524.031	24.392
SLAC --- VVA035 (B16)	SLAC	VVA035	Fixed	0.146	0.220	129°43'22.4"	36112.226	-23.683
SLAC --- NVA009 (B15)	SLAC	NVA009	Fixed	0.065	0.096	116°32'45.6"	29980.119	-141.012
SLAC --- VVA038 (B14)	SLAC	VVA038	Fixed	0.054	0.087	115°44'57.7"	29361.943	-145.199
SLAC --- NVA050 (B13)	SLAC	NVA050	Fixed	0.056	0.083	86°33'11.7"	27262.825	-302.488
SLAC --- VVA034 (B12)	SLAC	VVA034	Fixed	0.063	0.110	83°01'38.8"	36648.010	-306.476
DG6887 --- NVA049 (B1)	DG6887	NVA049	Fixed	0.018	0.021	245°16'09.9"	291.010	0.171
DG6887 --- NVA066 (B2)	DG6887	NVA066	Fixed	0.047	0.049	232°36'40.2"	13468.420	90.118
DG6887 --- VVA003 (B3)	DG6887	VVA003	Fixed	0.080	0.091	181°03'52.8"	10647.317	78.476
DG6887 --- NVA012 (B4)	DG6887	NVA012	Fixed	0.031	0.049	171°32'35.9"	13300.503	82.773
DG6887 --- NVA010 (B5)	DG6887	NVA010	Fixed	0.162	0.280	176°23'18.7"	28525.537	192.787
DG6887 --- NVA062 (B6)	DG6887	NVA062	Fixed	0.050	0.092	218°27'09.6"	27214.140	306.127
DG6887 --- VVA035 (B7)	DG6887	VVA035	Fixed	0.051	0.079	229°45'57.6"	27572.773	258.151
DG6887 --- NVA009 (B8)	DG6887	NVA009	Fixed	0.049	0.072	249°42'46.9"	23442.397	140.701
DG6887 --- VVA038 (B9)	DG6887	VVA038	Fixed	0.043	0.068	251°29'35.0"	23579.578	136.607
DG6887 --- NVA050 (B10)	DG6887	NVA050	Fixed	0.046	0.068	287°45'44.7"	22647.059	-20.737
DG6887 --- VVA034 (B11)	DG6887	VVA034	Fixed	0.037	0.064	308°02'37.4"	15744.014	-24.640
SLAC --- DG6890 (B23)	SLAC	DG6890	Fixed	0.010	0.042	33°37'16.4"	28560.979	-308.482
SLAC --- NVA005 (B22)	SLAC	NVA005	Fixed	0.064	0.119	21°17'37.0"	26461.474	-311.148
SLAC --- NVA053 (B21)	SLAC	NVA053	Fixed	0.046	0.064	2°18'17.4"	19173.964	-277.416
SLAC --- NVA007 (B20)	SLAC	NVA007	Fixed	0.061	0.067	30°02'02.4"	13128.002	-243.434
SLAC --- NVA052 (B19)	SLAC	NVA052	Fixed	0.057	0.058	67°51'48.1"	7067.127	-180.201
SLAC --- VVA037 (B18)	SLAC	VVA037	Fixed	0.114	0.137	72°01'18.4"	6875.956	-168.144
SLAC --- NVA055 (B17)	SLAC	NVA055	Fixed	0.020	0.035	45°53'41.4"	2522.958	-108.496
SLAC --- NVA004 (B16)	SLAC	NVA004	Fixed	0.055	0.118	154°03'36.3"	7568.997	-45.929
SLAC --- NVA056 (B15)	SLAC	NVA056	Fixed	0.035	0.065	211°56'23.3"	14872.649	134.739
SLAC --- VVA021 (B14)	SLAC	VVA021	Fixed	0.028	0.044	188°42'20.7"	17928.679	350.422
DG6890 --- NVA005 (B1)	DG6890	NVA005	Fixed	0.016	0.030	278°01'51.4"	6265.731	-2.561
DG6890 --- NVA053 (B2)	DG6890	NVA053	Fixed	0.036	0.050	252°56'38.2"	15737.974	31.147

DG6890 --- NVA007 (B3)	DG6890	NVA007	Fixed	0.045	0.050	216°41'45.0"	15480.519	65.124
DG6890 --- NVA052 (B4)	DG6890	NVA052	Fixed	0.073	0.076	203°43'34.0"	23064.254	128.297
DG6890 --- VVA037 (B5)	DG6890	VVA037	Fixed	0.047	0.057	203°12'39.7"	23562.697	140.420
DG6890 --- NVA055 (B6)	DG6890	NVA055	Fixed	0.043	0.079	212°28'37.1"	26101.174	200.040
DG6890 --- NVA004 (B7)	DG6890	NVA004	Fixed	0.073	0.151	202°15'54.4"	33046.325	262.655
DG6890 --- NVA056 (B8)	DG6890	NVA056	Fixed	0.056	0.104	213°04'43.0"	43429.436	443.370
DG6890 --- VVA021 (B9)	DG6890	VVA021	Fixed	0.065	0.102	204°05'20.4"	45453.006	659.113
MHCB --- VVA025 (B30)	MHCB	VVA025	Fixed	0.255	0.242	235°25'29.4"	120263.173	-2938.056
MHCB --- NVA006 (B31)	MHCB	NVA006	Fixed	0.080	0.154	224°49'53.5"	120384.041	-2281.439
MHCB --- NVA030 (B32)	MHCB	NVA030	Fixed	0.072	0.119	236°01'53.8"	120091.263	-2753.172
VVA048 --- NVA059 (B17)	VVA048	NVA059	Fixed	0.170	0.291	28°04'31.2"	83776.053	-561.640
MHCB --- VVA048 (B33)	MHCB	VVA048	Fixed	0.090	0.314	242°07'53.0"	112531.529	-3498.542
MHCB --- NVA031 (B34)	MHCB	NVA031	Fixed	0.077	0.106	246°15'33.2"	104824.087	-3896.536
NVA032 --- NVA025 (B15)	NVA032	NVA025	Fixed	0.158	0.294	49°24'08.1"	72510.856	268.479
MHCB --- NVA032 (B35)	MHCB	NVA032	Fixed	0.068	0.320	255°11'20.8"	104364.411	-3964.524
MHCB --- VVA017 (B36)	MHCB	VVA017	Fixed	0.078	0.137	251°28'18.0"	96307.036	-3969.897
MHCB --- NVA044 (B37)	MHCB	NVA044	Fixed	0.160	0.182	240°37'41.7"	88926.371	-3939.563
MHCB --- NVA063 (B38)	MHCB	NVA063	Fixed	0.192	0.266	249°45'54.7"	84569.660	-4044.458
NVA017 --- NVA006 (B21)	NVA017	NVA006	Fixed	0.156	0.305	191°07'03.0"	126400.834	1403.823
VVA022 --- NVA032 (B12)	VVA022	NVA032	Fixed	0.117	0.308	229°50'37.5"	72752.733	-278.313
NVA058 --- NVA044 (B10)	NVA058	NVA044	Fixed	0.132	0.158	203°44'15.9"	57666.460	155.036
HS2787 --- NVA017 (B23)	HS2787	NVA017	Fixed	0.049	0.320	349°14'28.1"	70768.461	372.933
HS2787 --- VVA054 (B20)	HS2787	VVA054	Fixed	0.162	0.248	344°59'12.4"	59312.735	-15.355
HS2787 --- NVA059 (B18)	HS2787	NVA059	Fixed	0.098	0.159	346°15'38.1"	53631.934	-2.611
HS2787 --- NVA025 (B16)	HS2787	NVA025	Fixed	0.091	0.160	1°32'42.4"	51272.102	361.351
HS2787 --- VVA022 (B14)	HS2787	VVA022	Fixed	0.085	0.231	2°03'20.4"	51127.949	371.964
HS2787 --- NVA058 (B11)	HS2787	NVA058	Fixed	0.074	0.103	349°56'12.3"	40685.479	-37.269
HS2787 --- VVA025 (B9)	HS2787	VVA025	Fixed	0.191	0.272	234°11'07.9"	63895.874	1120.820
HS2787 --- NVA006 (B8)	HS2787	NVA006	Fixed	0.097	0.186	214°38'11.3"	66230.633	1775.841

HS2787 --- NVA030 (B7)	HS2787	NVA030	Fixed	0.130	0.202	235°19'43.7"	63711.388	1304.281
HS2787 --- VVA048 (B6)	HS2787	VVA048	Fixed	0.118	0.204	247°25'29.5"	56646.454	559.117
HS2787 --- NVA031 (B5)	HS2787	NVA031	Fixed	0.087	0.132	256°55'02.2"	50097.204	160.726
HS2787 --- NVA032 (B4)	HS2787	NVA032	Fixed	0.090	0.186	274°26'24.5"	53928.765	92.939
HS2787 --- VVA017 (B3)	HS2787	VVA017	Fixed	0.078	0.145	270°20'43.2"	44179.283	87.444
HS2787 --- NVA044 (B2)	HS2787	NVA044	Fixed	0.103	0.155	247°14'54.0"	32896.150	117.741
HS2787 --- NVA063 (B1)	HS2787	NVA063	Fixed	0.138	0.204	272°54'55.3"	32257.692	12.917
MHCB --- NVA017 (B24)	MHCB	NVA017	Fixed	0.055	0.317	302°39'22.5"	71537.026	-3684.469
MHCB --- VVA054 (B25)	MHCB	VVA054	Fixed	0.119	0.180	292°54'23.5"	67745.743	-4072.758
MHCB --- NVA059 (B26)	MHCB	NVA059	Fixed	0.079	0.109	289°30'06.2"	63424.368	-4059.984
MHCB --- NVA025 (B27)	MHCB	NVA025	Fixed	0.080	0.137	293°58'18.1"	49977.595	-3695.986
MHCB --- VVA022 (B28)	MHCB	VVA022	Fixed	0.109	0.301	294°00'56.1"	49500.634	-3685.536
MHCB --- NVA058 (B29)	MHCB	NVA058	Fixed	0.078	0.089	279°33'40.8"	54940.898	-4094.593
MHCB --- HS2787 (B39)	MHCB	HS2787	Fixed	0.023	0.092	236°42'53.4"	56387.572	-4057.400
P217 --- HS5407 (B22)	P217	HS5407	Fixed	0.011	0.044	337°09'12.6"	33370.055	-6.943
P217 --- NVA019 (B21)	P217	NVA019	Fixed	0.044	0.091	154°04'57.7"	45978.571	-80.714
P217 --- VVA008 (B20)	P217	VVA008	Fixed	0.082	0.104	153°00'26.0"	45255.171	-131.383
P217 --- NVA035 (B19)	P217	NVA035	Fixed	0.094	0.088	150°31'44.9"	59640.034	-180.297
P217 --- VVA012 (B13)	P217	VVA012	Fixed	0.073	0.078	52°15'05.8"	45800.352	1974.431
HS5407 --- VVA001 (B4)	HS5407	VVA001	Fixed	0.070	0.112	232°53'34.1"	55493.351	2738.124
HS5407 --- NVA019 (B1)	HS5407	NVA019	Fixed	0.038	0.170	155°20'49.9"	79320.857	-73.806
HS5407 --- VVA008 (B2)	HS5407	VVA008	Fixed	0.083	0.315	154°44'24.0"	78575.008	-124.470
HS5407 --- NVA035 (B3)	HS5407	NVA035	Fixed	0.092	0.204	152°52'40.7"	92867.088	-173.322
HS5407 --- VVA012 (B6)	HS5407	VVA012	Fixed	0.069	0.076	93°07'53.5"	49245.868	1981.417
NVA035 --- VVA012 (B5)	NVA035	VVA012	Fixed	0.153	0.148	4°58'23.6"	80256.497	2154.724
P217 --- VVA001 (B18)	P217	VVA001	Fixed	0.071	0.121	267°17'31.5"	57292.461	2731.168
P242 --- AA1864 (B7)	P242	AA1864	Fixed	0.020	0.090	55°11'32.9"	54052.078	255.306
P242 --- NVA024 (B6)	P242	NVA024	Fixed	0.088	0.116	55°17'01.1"	54017.048	247.297
P242 --- NVA070 (B5)	P242	NVA070	Fixed	0.066	0.144	358°45'19.1"	44461.883	698.543

P242 --- VVA042 (B4)	P242	VVA042	Fixed	0.130	0.189	205°18'37.7"	8895.403	2.999
AA1864 --- NVA024 (B1)	AA1864	NVA024	Fixed	0.014	0.020	167°30'10.6"	92.822	-8.112
AA1864 --- NVA070 (B2)	AA1864	NVA070	Fixed	0.044	0.100	286°46'59.1"	47341.260	443.236
AA1864 --- VVA042 (B3)	AA1864	VVA042	Fixed	0.087	0.134	231°10'47.3"	61923.642	-252.454
P217 --- HS5407 (B13)	P217	HS5407	Fixed	0.008	0.032	337°09'12.6"	33370.083	-6.981
HS5407 --- VVA052 (B5)	HS5407	VVA052	Fixed	0.129	0.191	315°07'53.2"	48777.949	-174.704
HS5407 --- NVA022 (B6)	HS5407	NVA022	Fixed	0.075	0.148	255°08'25.0"	60349.632	2963.309
HS5407 --- VVA026 (B7)	HS5407	VVA026	Fixed	0.093	0.140	261°16'32.7"	38237.825	146.658
HS5407 --- NVA043 (B8)	HS5407	NVA043	Fixed	0.064	0.098	261°48'16.1"	38247.525	140.581
P217 --- VVA052 (B12)	P217	VVA052	Fixed	0.245	0.248	324°04'05.7"	80692.814	-181.987
P217 --- NVA022 (B11)	P217	NVA022	Fixed	0.084	0.172	282°06'50.4"	72918.713	2956.402
P217 --- VVA026 (B10)	P217	VVA026	Fixed	0.151	0.232	296°11'45.9"	56564.226	139.485
P217 --- NVA043 (B9)	P217	NVA043	Fixed	0.097	0.164	296°29'00.6"	56773.521	133.553
MHCB --- HS5407 (B11)	MHCB	HS5407	Fixed	0.016	0.062	195°24'02.5"	57623.156	-3909.385
MHCB --- VVA007 (B10)	MHCB	VVA007	Fixed	0.068	0.220	262°56'52.3"	111677.431	-3985.334
MHCB --- NVA064 (B9)	MHCB	NVA064	Fixed	0.060	0.118	263°15'46.7"	64718.898	-4143.381
MHCB --- NVA040 (B8)	MHCB	NVA040	Fixed	0.063	0.141	268°43'25.1"	51141.544	-4127.152
MHCB --- NVA038 (B7)	MHCB	NVA038	Fixed	0.092	0.137	261°10'12.1"	40939.600	-3986.341
MHCB --- VVA032 (B6)	MHCB	VVA032	Fixed	0.083	0.108	254°28'49.7"	36498.731	-3809.250
HS5407 --- VVA007 (B1)	HS5407	VVA007	Fixed	0.068	0.239	293°37'18.8"	104291.639	-76.001
HS5407 --- NVA064 (B2)	HS5407	NVA064	Fixed	0.064	0.268	314°22'21.3"	68544.088	-234.093
HS5407 --- NVA040 (B3)	HS5407	NVA040	Fixed	0.067	0.175	326°36'27.9"	65149.631	-217.755
HS5407 --- NVA038 (B4)	HS5407	NVA038	Fixed	0.064	0.099	332°55'27.8"	55318.126	-77.009
HS5407 --- VVA032 (B5)	HS5407	VVA032	Fixed	0.050	0.073	336°30'52.7"	49911.700	100.021
SLAC --- AA1871 (B16)	SLAC	AA1871	Fixed	0.015	0.065	131°20'14.9"	46896.047	117.744
SLAC --- VVA006 (B15)	SLAC	VVA006	Fixed	0.039	0.066	61°19'33.3"	21799.795	-296.491
SLAC --- NVA008 (B14)	SLAC	NVA008	Fixed	0.057	0.121	71°09'54.3"	15270.494	-265.567
SLAC --- NVA003 (B13)	SLAC	NVA003	Fixed	0.032	0.080	168°08'02.8"	13133.191	87.682
AA1871 --- VVA036 (B9)	AA1871	VVA036	Fixed	0.138	0.256	178°24'59.9"	13405.587	134.201

AA1871 --- NVA033 (B10)	AA1871	NVA033	Fixed	0.083	0.109	175°14'44.2"	12343.315	118.101
AA1871 --- VVA006 (B6)	AA1871	VVA006	Fixed	0.052	0.089	338°51'27.0"	44447.100	-414.218
AA1871 --- NVA008 (B7)	AA1871	NVA008	Fixed	0.085	0.181	330°02'20.3"	41473.303	-383.279
AA1871 --- NVA003 (B8)	AA1871	NVA003	Fixed	0.050	0.118	299°12'34.2"	37220.214	-30.163
SLAC --- VVA036 (B12)	SLAC	VVA036	Fixed	0.135	0.249	141°15'43.9"	56889.043	251.883
SLAC --- NVA033 (B11)	SLAC	NVA033	Fixed	0.081	0.113	140°02'51.7"	56450.813	235.827
SLAC --- VVA051 (B7)	SLAC	VVA051	Fixed	0.079	0.291	123°42'39.5"	149428.385	164.426
SLAC --- VVA018 (B8)	SLAC	VVA018	Fixed	0.118	0.307	144°34'29.6"	73315.363	409.651
SLAC --- NVA041 (B9)	SLAC	NVA041	Fixed	0.129	0.227	157°14'00.9"	62567.809	2319.164
SLAC --- VVA019 (B10)	SLAC	VVA019	Fixed	0.116	0.138	162°23'47.2"	48159.517	2002.856
AA1871 --- NVA069 (B2)	AA1871	NVA069	Fixed	0.105	0.148	259°09'56.1"	31110.127	1812.130
AA1871 --- VVA020 (B1)	AA1871	VVA020	Fixed	0.045	0.072	276°35'08.2"	27456.178	1415.114
AA1871 --- VVA051 (B6)	AA1871	VVA051	Fixed	0.086	0.310	120°19'28.8"	103134.907	46.910
AA1871 --- VVA018 (B5)	AA1871	VVA018	Fixed	0.094	0.215	165°51'44.5"	29676.428	291.953
AA1871 --- NVA041 (B4)	AA1871	NVA041	Fixed	0.063	0.105	202°26'53.4"	28893.967	2201.348
AA1871 --- VVA019 (B3)	AA1871	VVA019	Fixed	0.170	0.235	234°12'07.0"	25478.706	1885.064
SLAC --- NVA069 (B11)	SLAC	NVA069	Fixed	0.059	0.093	172°47'25.4"	37155.301	1929.852
SLAC --- VVA020 (B12)	SLAC	VVA020	Fixed	0.054	0.097	164°06'29.4"	28967.798	1532.906
SLAC --- AA1871 (B13)	SLAC	AA1871	Fixed	0.017	0.071	131°20'15.1"	46896.063	117.775
P217 --- AA1864 (B12)	P217	AA1864	Fixed	0.041	0.143	103°31'08.8"	101918.223	66.555
P217 --- NVA042 (B10)	P217	NVA042	Fixed	0.083	0.143	99°39'23.0"	116671.767	651.787
P217 --- VVA029 (B9)	P217	VVA029	Fixed	0.105	0.158	99°42'39.6"	116607.798	645.503
P217 --- HS5407 (B11)	P217	HS5407	Fixed	0.020	0.075	337°09'12.6"	33370.139	-6.954
AA1864 --- NVA042 (B1)	AA1864	NVA042	Fixed	0.065	0.116	75°14'41.4"	16483.098	585.266
AA1864 --- VVA029 (B2)	AA1864	VVA029	Fixed	0.067	0.104	75°30'17.8"	16378.750	579.014
HS5407 --- NVA054 (B3)	HS5407	NVA054	Fixed	0.118	0.198	9°13'14.9"	22427.781	676.162
HS5407 --- VVA030 (B4)	HS5407	VVA030	Fixed	0.067	0.095	9°03'50.7"	22395.772	675.488
HS5407 --- NVA068 (B5)	HS5407	NVA068	Fixed	0.082	0.152	310°32'00.2"	48751.038	-50.281
P217 --- NVA054 (B8)	P217	NVA054	Fixed	0.110	0.192	349°58'19.4"	53708.875	669.214

P217 --- VVA030 (B7)	P217	VVA030	Fixed	0.087	0.126	349°53'56.8"	53698.897	668.487
P217 --- NVA068 (B6)	P217	NVA068	Fixed	0.106	0.195	321°19'20.6"	79997.947	-57.186
MHCB --- AI8013 (B11)	MHCB	AI8013	Fixed	0.003	0.015	260°01'33.2"	3620.789	-747.924
MHCB --- NVA067 (B8)	MHCB	NVA067	Fixed	0.111	0.251	70°44'55.4"	16555.233	-2039.529
MHCB --- VVA053 (B7)	MHCB	VVA053	Fixed	0.082	0.141	95°26'04.8"	44455.217	-1895.924
MHCB --- NVA051 (B6)	MHCB	NVA051	Fixed	0.051	0.072	95°34'40.0"	44832.617	-1914.124
AI8013 --- VVA013 (B1)	AI8013	VVA013	Fixed	0.042	0.060	160°28'17.1"	1229.335	-112.319
AI8013 --- NVA016 (B2)	AI8013	NVA016	Fixed	0.033	0.057	243°04'31.8"	8639.591	-1143.738
AI8013 --- NVA067 (B3)	AI8013	NVA067	Fixed	0.102	0.234	72°24'08.4"	20137.139	-1291.613
AI8013 --- VVA053 (B4)	AI8013	VVA053	Fixed	0.081	0.153	94°16'40.1"	47955.515	-1148.047
AI8013 --- NVA051 (B5)	AI8013	NVA051	Fixed	0.078	0.120	94°25'10.0"	48330.617	-1166.227
MHCB --- VVA013 (B10)	MHCB	VVA013	Fixed	0.027	0.039	240°29'29.5"	3625.560	-860.316
MHCB --- NVA016 (B9)	MHCB	NVA016	Fixed	0.038	0.066	248°03'55.3"	12149.140	-1891.665
P254 --- AI8013 (B9)	P254	AI8013	Fixed	0.013	0.052	224°43'17.1"	76703.808	-139.132
P254 --- VVA009 (B8)	P254	VVA009	Fixed	0.085	0.109	189°32'08.1"	36096.787	-1451.851
P254 --- NVA045 (B7)	P254	NVA045	Fixed	0.035	0.058	189°14'47.0"	31668.178	-1377.685
P254 --- VVA024 (B6)	P254	VVA024	Fixed	0.023	0.053	250°21'03.2"	17279.583	-1030.308
P254 --- VVA031 (B5)	P254	VVA031	Fixed	0.106	0.174	215°41'58.9"	59682.069	-1428.622
AI8013 --- VVA009 (B1)	AI8013	VVA009	Fixed	0.047	0.067	68°23'22.8"	51582.016	-1312.747
AI8013 --- NVA045 (B2)	AI8013	NVA045	Fixed	0.049	0.078	64°27'24.3"	54129.762	-1238.630
AI8013 --- VVA024 (B3)	AI8013	VVA024	Fixed	0.077	0.169	37°38'13.6"	61579.615	-891.365
AI8013 --- VVA031 (B4)	AI8013	VVA031	Fixed	0.101	0.171	72°23'43.7"	20075.006	-1289.501
ZOA1 --- HS4392 (B11)	ZOA1	HS4392	Fixed	0.009	0.042	132°36'52.3"	31981.433	-64.324
ZOA1 --- NVA026 (B7)	ZOA1	NVA026	Fixed	0.079	0.171	104°51'13.9"	55004.528	835.455
ZOA1 --- VVA023 (B6)	ZOA1	VVA023	Fixed	0.125	0.214	105°58'34.1"	55464.346	770.615
HS4392 --- NVA027 (B1)	HS4392	NVA027	Fixed	0.023	0.034	69°53'09.2"	3555.934	50.301
HS4392 --- VVA040 (B2)	HS4392	VVA040	Fixed	0.067	0.115	114°56'38.9"	22989.047	591.858
HS4392 --- NVA013 (B3)	HS4392	NVA013	Fixed	0.055	0.121	114°51'46.5"	52797.245	2261.338
HS4392 --- VVA023 (B5)	HS4392	VVA023	Fixed	0.163	0.286	77°56'44.7"	30463.387	834.884

HS4392 --- NVA026 (B4)	HS4392	NVA026	Fixed	0.073	0.161	75°44'57.9"	30577.915	899.518
ZOA1 --- NVA027 (B10)	ZOA1	NVA027	Fixed	0.055	0.083	127°14'22.3"	33756.469	-13.958
ZOA1 --- VVA040 (B9)	ZOA1	VVA040	Fixed	0.139	0.227	125°12'55.3"	54332.220	527.520
ZOA1 --- NVA013 (B8)	ZOA1	NVA013	Fixed	0.072	0.161	121°30'43.2"	83819.722	2197.062

Acceptance Summary

Processed	Passed	Flag	Fail
281	281	0	0

NVA039 - NVA065 (9:07:28 PM-9:18:50 PM) (S10)

Baseline observation:	NVA039 --- NVA065 (B10)
Processed:	5/12/2020 6:50:07 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.127 ft
Vertical precision:	0.224 ft
RMS:	0.039 ft
Maximum PDOP:	1.814
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 9:07:28 PM (UTC)
Processing stop time:	3/11/2020 9:18:50 PM (UTC)
Processing duration:	00:11:22
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	NVA039				
Grid		**Local**		**Global**	
Easting	6197432.011 ft	**Latitude**	N37°05'27.57204"	**Latitude**	N37°05'27.57203"
Northing	1858034.547 ft	**Longitude**	W121°44'55.58319"	**Longitude**	W121°44'55.58319"
Elevation	679.699 ft	**Height**	573.230 ft	**Height**	573.230 ft

To:	NVA065				
Grid		**Local**		**Global**	
Easting	6255479.613 ft	**Latitude**	N37°11'15.33917"	**Latitude**	N37°11'15.33917"
Northing	1892496.911 ft	**Longitude**	W121°33'03.97101"	**Longitude**	W121°33'03.97101"
Elevation	2634.341 ft	**Height**	2529.450 ft	**Height**	2529.450 ft

Vector					
ΔEasting	58047.601 ft	**NS Fwd Azimuth**	58°32'20.7"	**ΔX**	59380.025 ft
ΔNorthing	34462.364 ft	**Ellipsoid Dist.**	67507.830 ft	**ΔY**	-13485.817 ft
ΔElevation	1954.642 ft	**ΔHeight**	1956.220 ft	**ΔZ**	29222.441 ft

Standard Errors

Vector errors:	11

σ ΔEasting	0.038 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.075 ft
σ ΔNorthing	0.048 ft	**σ Ellipsoid Dist.**	0.047 ft	**σ ΔY**	0.090 ft
σ ΔElevation	0.114 ft	**σ ΔHeight**	0.114 ft	**σ ΔZ**	0.054 ft

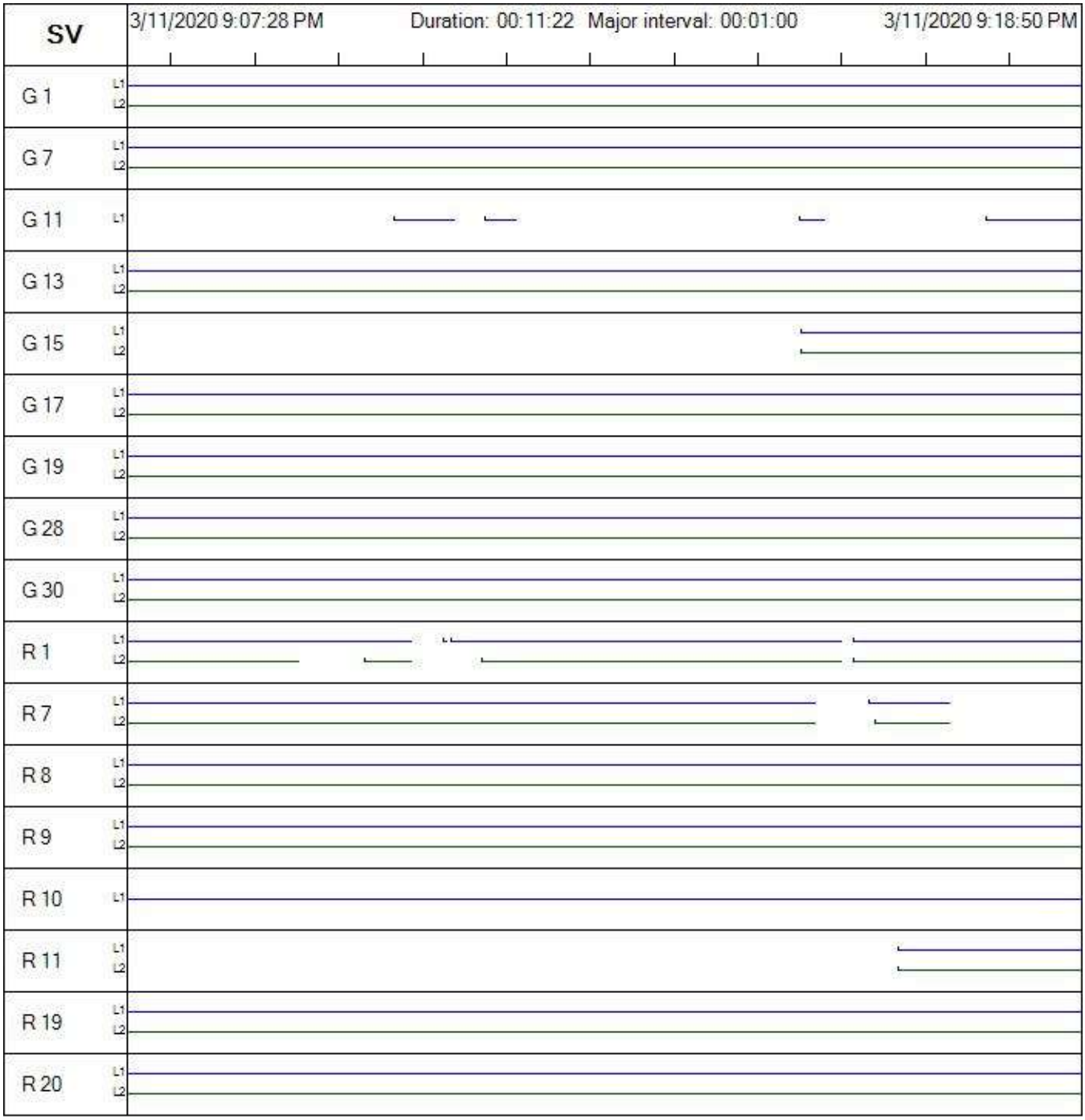
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0056456350		
Y	0.0055049976	0.0081529329	
Z	-0.0023507126	-0.0035280404	0.0029675867

Occupations

	From	To
Point ID:	NVA039	NVA065
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYe	A:\GroundSurvey\312020310_SantaClaraCAYe
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4748141711	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA046 (10:46:32 PM-11:06:34 PM) (S12)

Baseline observation:	HS5407 --- VVA046 (B12)
Processed:	5/12/2020 6:50:09 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.059 ft
Vertical precision:	0.086 ft
RMS:	0.071 ft
Maximum PDOP:	1.357
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 10:46:32 PM (UTC)
Processing stop time:	3/11/2020 11:06:32 PM (UTC)
Processing duration:	00:20:00
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.542 ft	**Latitude**	N37°11'20.20701"	**Latitude**	N37°11'20.20701"
Northing	1893492.582 ft	**Longitude**	W121°41'42.34876"	**Longitude**	W121°41'42.34876"
Elevation	338.204 ft	**Height**	231.934 ft	**Height**	231.934 ft

To:	VVA046				
Grid		**Local**		**Global**	
Easting	6257468.940 ft	**Latitude**	N37°05'32.03599"	**Latitude**	N37°05'32.03599"
Northing	1857750.933 ft	**Longitude**	W121°32'34.60300"	**Longitude**	W121°32'34.60300"
Elevation	818.799 ft	**Height**	712.560 ft	**Height**	712.559 ft

Vector					
ΔEasting	43926.398 ft	**NS Fwd Azimuth**	128°24'11.6"	**ΔX**	26420.439 ft
ΔNorthing	-35741.650 ft	**Ellipsoid Dist.**	56631.139 ft	**ΔY**	-41684.420 ft
ΔElevation	480.595 ft	**ΔHeight**	480.626 ft	**ΔZ**	-27781.816 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.027 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.024 ft	**σ ΔY**	0.034 ft
σ ΔElevation	0.044 ft	**σ ΔHeight**	0.044 ft	**σ ΔZ**	0.031 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0007528885		
Y	0.0004622495	0.0011572431	
Z	-0.0004687832	-0.0004869980	0.0009504049

Occupations

	From	To
Point ID:	HS5407	VVA046
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730710.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430711.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA045 (9:55:10 PM-10:15:12 PM) (S9)

Baseline observation:	HS5407 --- VVA045 (B9)
Processed:	5/12/2020 6:50:09 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.058 ft
Vertical precision:	0.114 ft
RMS:	0.058 ft
Maximum PDOP:	1.631
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 9:55:12 PM (UTC)
Processing stop time:	3/11/2020 10:15:12 PM (UTC)
Processing duration:	00:20:00
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.542 ft	**Latitude**	N37°11'20.20701"	**Latitude**	N37°11'20.20701"
Northing	1893492.582 ft	**Longitude**	W121°41'42.34876"	**Longitude**	W121°41'42.34876"
Elevation	338.204 ft	**Height**	231.934 ft	**Height**	231.934 ft

To:	VVA045				
Grid		**Local**		**Global**	
Easting	6211396.985 ft	**Latitude**	N37°04'04.86142"	**Latitude**	N37°04'04.86142"
Northing	1849485.745 ft	**Longitude**	W121°42'01.88567"	**Longitude**	W121°42'01.88567"
Elevation	501.103 ft	**Height**	394.445 ft	**Height**	394.444 ft

Vector					
ΔEasting	-2145.557 ft	**NS Fwd Azimuth**	182°03'34.4"	**ΔX**	-15379.289 ft
ΔNorthing	-44006.837 ft	**Ellipsoid Dist.**	44059.639 ft	**ΔY**	-21892.146 ft
ΔElevation	162.899 ft	**ΔHeight**	162.511 ft	**ΔZ**	-35007.816 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.030 ft
σ ΔNorthing	0.023 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.043 ft
σ ΔElevation	0.058 ft	**σ ΔHeight**	0.058 ft	**σ ΔZ**	0.040 ft

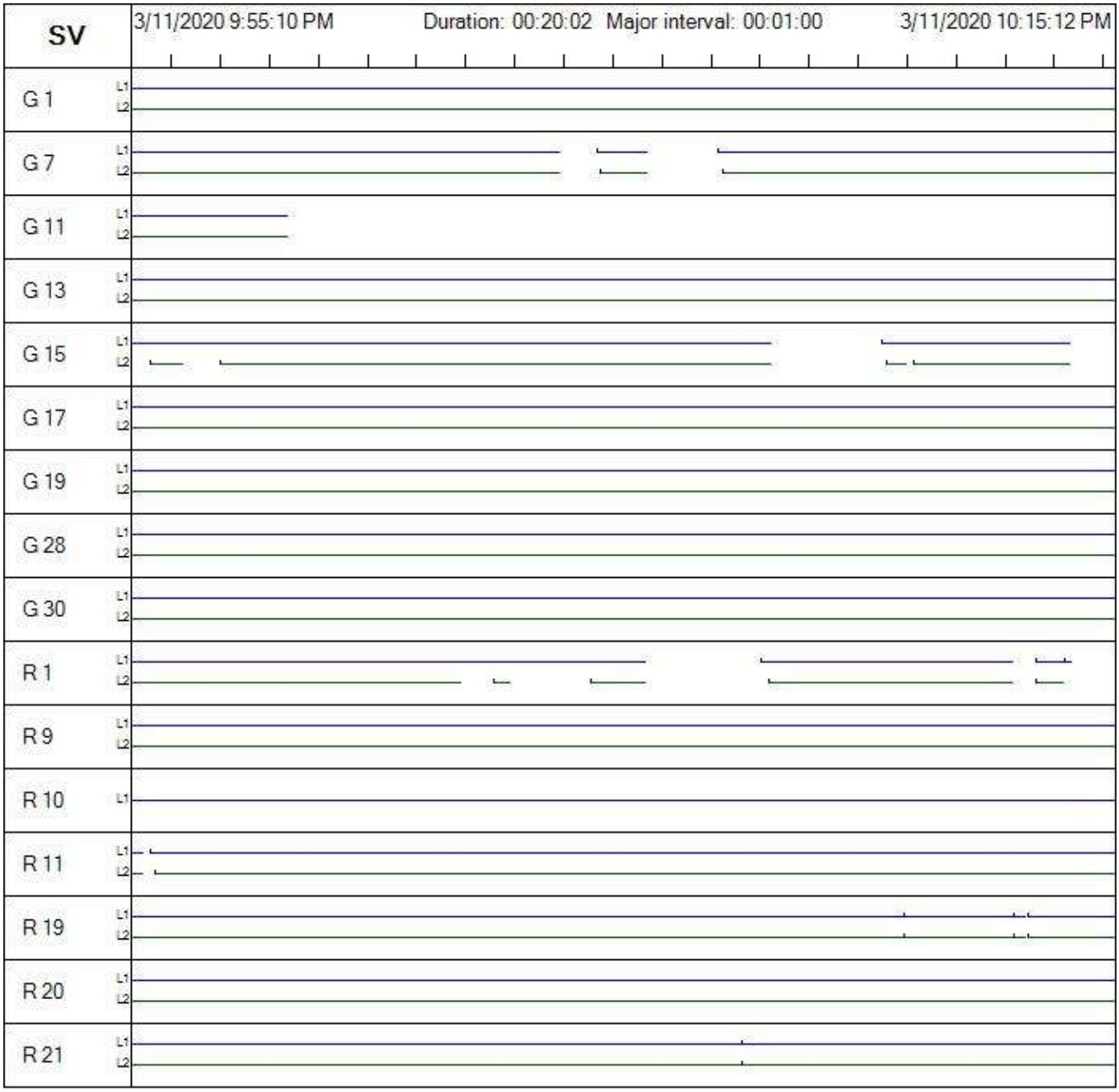
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0008782904		
Y	0.0007878257	0.0018368882	
Z	-0.0007389486	-0.0011638934	0.0016360695

Occupations

	From	To
Point ID:	HS5407	VVA045
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730710.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870713.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA039 (9:07:28 PM-9:34:10 PM) (S8)

Baseline observation:	HS5407 --- NVA039 (B8)
Processed:	5/12/2020 6:50:08 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.058 ft
Vertical precision:	0.099 ft
RMS:	0.040 ft
Maximum PDOP:	1.858
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 9:07:32 PM (UTC)
Processing stop time:	3/11/2020 9:34:02 PM (UTC)
Processing duration:	00:26:30
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.542 ft	**Latitude**	N37°11'20.20701"	**Latitude**	N37°11'20.20701"
Northing	1893492.582 ft	**Longitude**	W121°41'42.34876"	**Longitude**	W121°41'42.34876"
Elevation	338.204 ft	**Height**	231.934 ft	**Height**	231.934 ft

To:	NVA039				
Grid		**Local**		**Global**	
Easting	6197432.000 ft	**Latitude**	N37°05'27.57164"	**Latitude**	N37°05'27.57164"
Northing	1858034.507 ft	**Longitude**	W121°44'55.58333"	**Longitude**	W121°44'55.58333"
Elevation	679.597 ft	**Height**	573.128 ft	**Height**	573.128 ft

Vector					
ΔEasting	-16110.543 ft	**NS Fwd Azimuth**	203°42'10.8"	**ΔX**	-24774.902 ft
ΔNorthing	-35458.075 ft	**Ellipsoid Dist.**	38946.988 ft	**ΔY**	-10321.560 ft
ΔElevation	341.392 ft	**ΔHeight**	341.194 ft	**ΔZ**	-28226.086 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.033 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.039 ft
σ ΔElevation	0.050 ft	**σ ΔHeight**	0.050 ft	**σ ΔZ**	0.027 ft

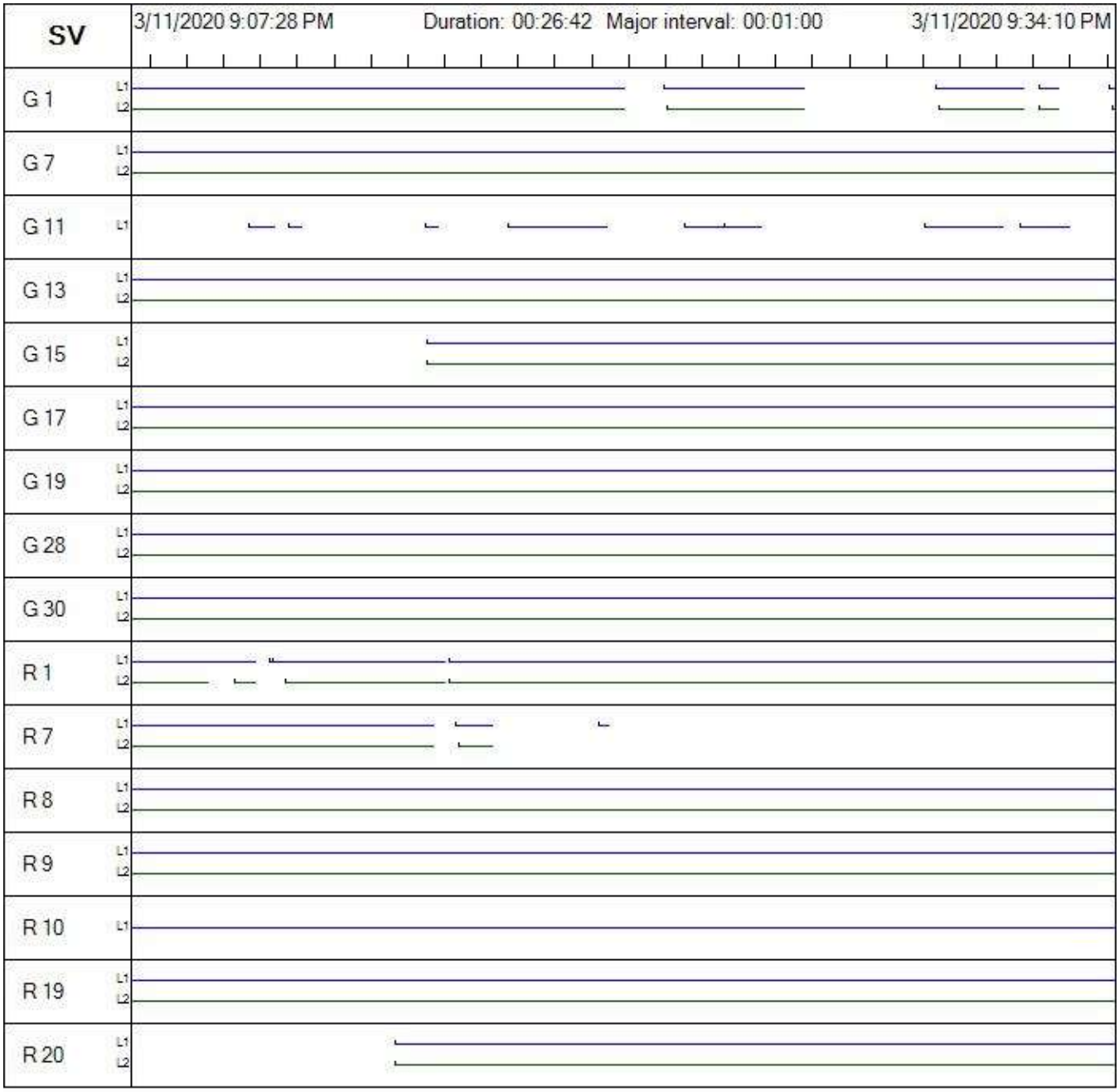
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0011013183		
Y	0.0009778661	0.0014969396	
Z	-0.0004715606	-0.0007186565	0.0007397464

Occupations

	From	To
Point ID:	HS5407	NVA039
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730710.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870712.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA065 (8:58:49 PM-9:18:50 PM) (S11)

Baseline observation:	HS5407 --- NVA065 (B11)
Processed:	5/12/2020 6:50:08 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.046 ft
Vertical precision:	0.070 ft
RMS:	0.035 ft
Maximum PDOP:	1.431
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 8:58:52 PM (UTC)
Processing stop time:	3/11/2020 9:18:42 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.542 ft	**Latitude**	N37°11'20.20701"	**Latitude**	N37°11'20.20701"
Northing	1893492.582 ft	**Longitude**	W121°41'42.34876"	**Longitude**	W121°41'42.34876"
Elevation	338.204 ft	**Height**	231.934 ft	**Height**	231.934 ft

To:	NVA065				
Grid		**Local**		**Global**	
Easting	6255479.577 ft	**Latitude**	N37°11'15.33930"	**Latitude**	N37°11'15.33930"
Northing	1892496.924 ft	**Longitude**	W121°33'03.97146"	**Longitude**	W121°33'03.97146"
Elevation	2634.188 ft	**Height**	2529.298 ft	**Height**	2529.298 ft

Vector					
ΔEasting	41937.034 ft	**NS Fwd Azimuth**	90°37'44.1"	**ΔX**	34605.139 ft
ΔNorthing	-995.658 ft	**Ellipsoid Dist.**	41949.813 ft	**ΔY**	-23807.303 ft
ΔElevation	2295.984 ft	**ΔHeight**	2297.364 ft	**ΔZ**	996.367 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.015 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.022 ft
σ ΔNorthing	0.018 ft	**σ Ellipsoid Dist.**	0.015 ft	**σ ΔY**	0.029 ft
σ ΔElevation	0.035 ft	**σ ΔHeight**	0.035 ft	**σ ΔZ**	0.022 ft

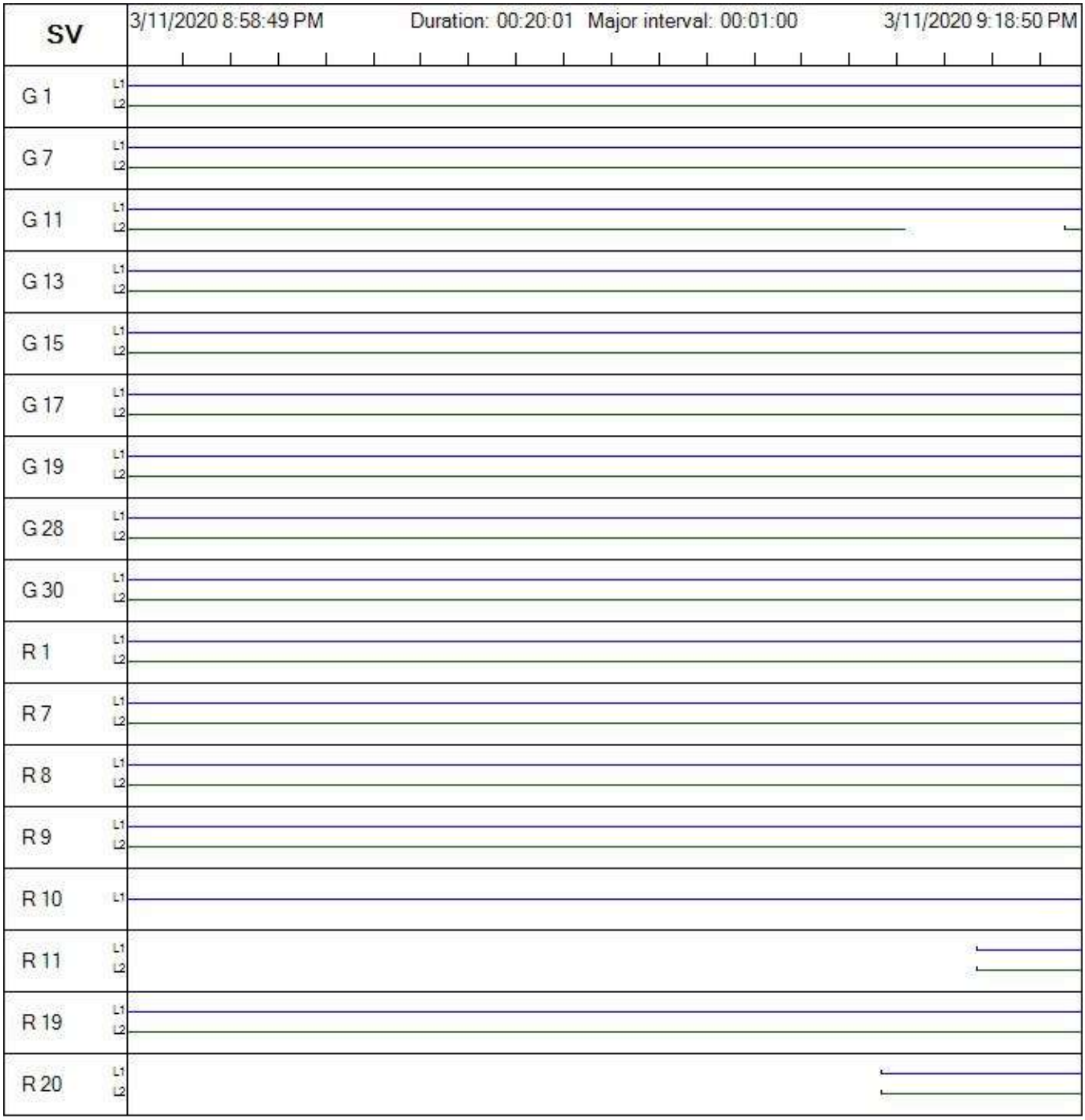
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0004925165		
Y	0.0003941109	0.0008219947	
Z	-0.0001713885	-0.0003682343	0.0005033822

Occupations

	From	To
Point ID:	HS5407	NVA065
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730710.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430710.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA047 (8:38:22 PM-8:49:02 PM) (S7)

Baseline observation:	HS5407 --- VVA047 (B7)
Processed:	5/12/2020 6:50:10 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.040 ft
Vertical precision:	0.062 ft
RMS:	0.045 ft
Maximum PDOP:	1.532
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 8:38:22 PM (UTC)
Processing stop time:	3/11/2020 8:49:02 PM (UTC)
Processing duration:	00:10:40
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.542 ft	**Latitude**	N37°11'20.20701"	**Latitude**	N37°11'20.20701"
Northing	1893492.582 ft	**Longitude**	W121°41'42.34876"	**Longitude**	W121°41'42.34876"
Elevation	338.204 ft	**Height**	231.934 ft	**Height**	231.934 ft

To:	VVA047				
Grid		**Local**		**Global**	
Easting	6206669.398 ft	**Latitude**	N37°07'32.15444"	**Latitude**	N37°07'32.15444"
Northing	1870514.130 ft	**Longitude**	W121°43'03.58736"	**Longitude**	W121°43'03.58736"
Elevation	546.065 ft	**Height**	439.673 ft	**Height**	439.673 ft

Vector					
ΔEasting	-6873.144 ft	**NS Fwd Azimuth**	195°55'14.9"	**ΔX**	-13004.219 ft
ΔNorthing	-22978.452 ft	**Ellipsoid Dist.**	23984.775 ft	**ΔY**	-8537.040 ft
ΔElevation	207.860 ft	**ΔHeight**	207.739 ft	**ΔZ**	-18257.609 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.013 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.018 ft
σ ΔNorthing	0.016 ft	**σ Ellipsoid Dist.**	0.016 ft	**σ ΔY**	0.026 ft
σ ΔElevation	0.032 ft	**σ ΔHeight**	0.032 ft	**σ ΔZ**	0.020 ft

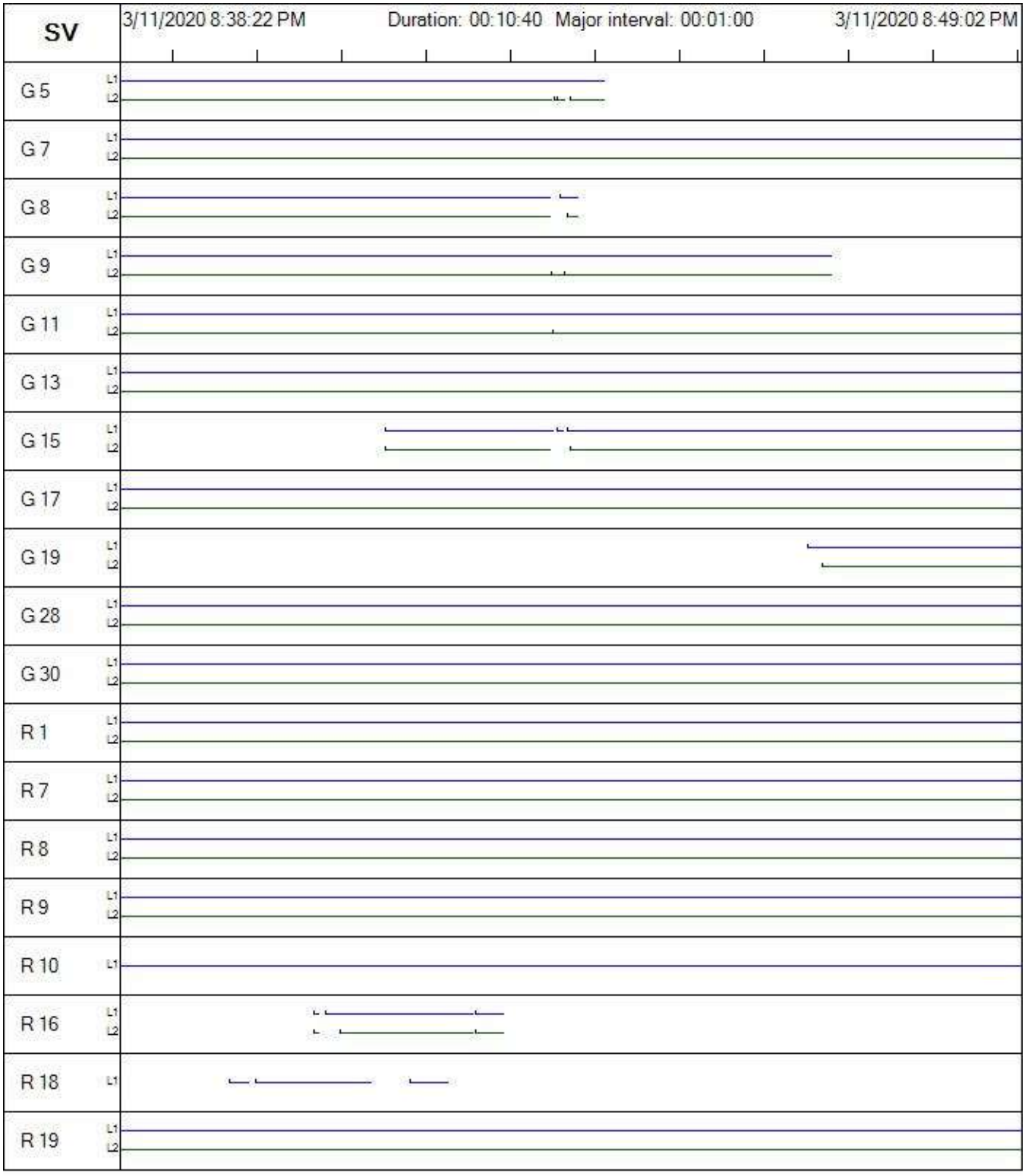
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003348635		
Y	0.0002964417	0.0006912214	
Z	-0.0001491700	-0.0002827301	0.0004174411

Occupations

	From	To
Point ID:	HS5407	VVA047
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730710.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870710.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA046 (10:46:32 PM-11:06:34 PM) (S24)

Baseline observation:	P217 --- VVA046 (B24)
Processed:	5/12/2020 6:50:06 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.038 ft
Vertical precision:	0.054 ft
RMS:	0.034 ft
Maximum PDOP:	1.499
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 10:46:42 PM (UTC)
Processing stop time:	3/11/2020 11:06:12 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.588 ft	**Latitude**	N37°06'16.18573"	**Latitude**	N37°06'16.18572"
Northing	1862583.948 ft	**Longitude**	W121°39'02.23298"	**Longitude**	W121°39'02.23298"
Elevation	345.545 ft	**Height**	239.017 ft	**Height**	239.016 ft

To:	VVA046				
Grid		**Local**		**Global**	
Easting	6257469.003 ft	**Latitude**	N37°05'32.03562"	**Latitude**	N37°05'32.03562"
Northing	1857750.894 ft	**Longitude**	W121°32'34.60222"	**Longitude**	W121°32'34.60222"
Elevation	819.000 ft	**Height**	712.760 ft	**Height**	712.760 ft

Vector					
ΔEasting	31349.415 ft	**NS Fwd Azimuth**	98°03'36.6"	**ΔX**	25140.049 ft
ΔNorthing	-4833.054 ft	**Ellipsoid Dist.**	31719.979 ft	**ΔY**	-19070.224 ft
ΔElevation	473.455 ft	**ΔHeight**	473.744 ft	**ΔZ**	-3275.899 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.013 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.017 ft
σ ΔNorthing	0.014 ft	**σ Ellipsoid Dist.**	0.014 ft	**σ ΔY**	0.023 ft
σ ΔElevation	0.028 ft	**σ ΔHeight**	0.028 ft	**σ ΔZ**	0.018 ft

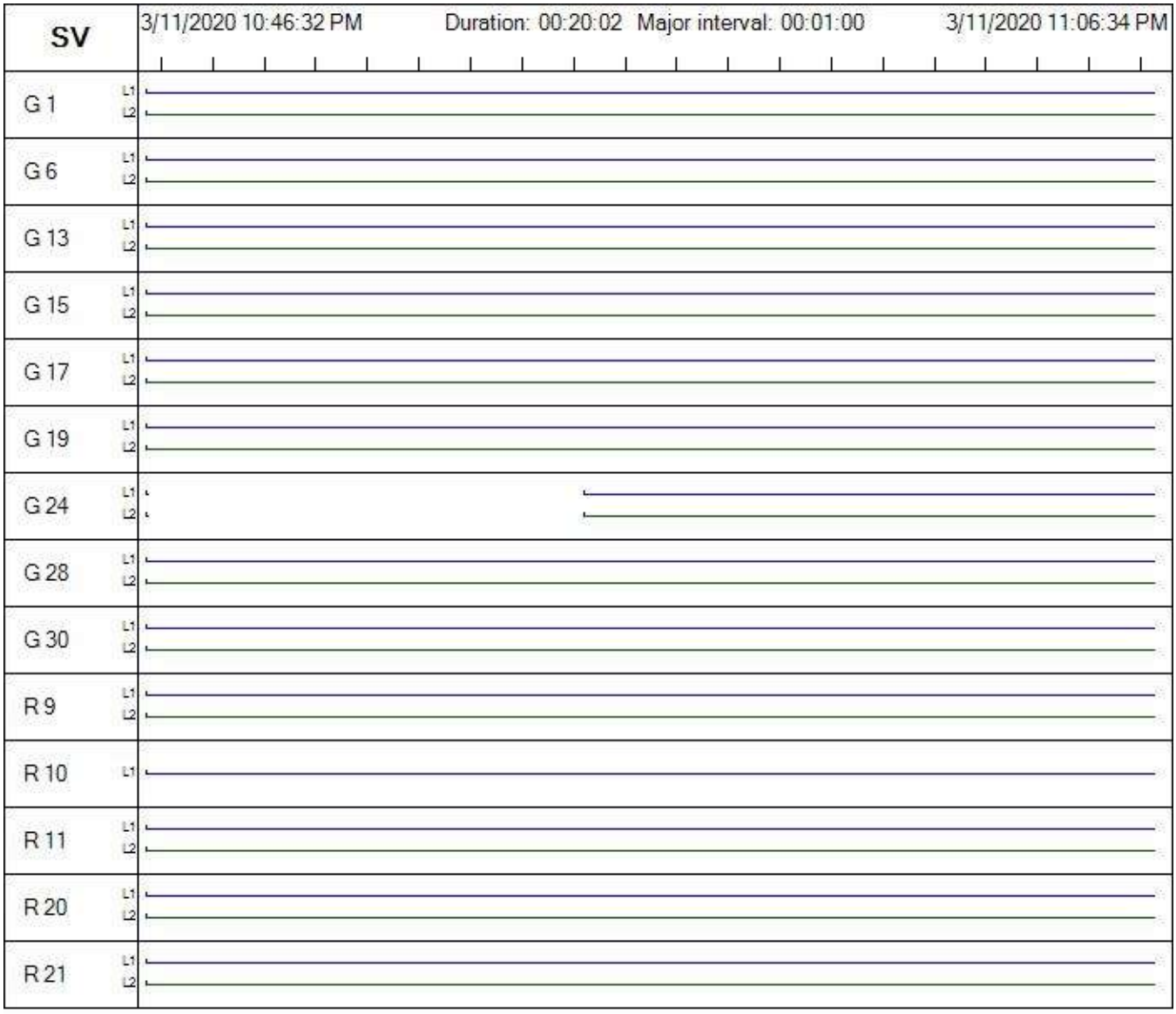
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0002750200		
Y	0.0001957570	0.0005430851	
Z	-0.0001539815	-0.0001939357	0.0003299687

Occupations

	From	To
Point ID:	P217	VVA046
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170710.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430711.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5018426973
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA045 (9:55:10 PM-10:15:12 PM) (S26)

Baseline observation:	P217 --- VVA045 (B26)
Processed:	5/12/2020 6:50:06 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.039 ft
Vertical precision:	0.074 ft
RMS:	0.050 ft
Maximum PDOP:	1.626
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 9:55:12 PM (UTC)
Processing stop time:	3/11/2020 10:15:12 PM (UTC)
Processing duration:	00:20:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.588 ft	**Latitude**	N37°06'16.18573"	**Latitude**	N37°06'16.18572"
Northing	1862583.948 ft	**Longitude**	W121°39'02.23298"	**Longitude**	W121°39'02.23298"
Elevation	345.545 ft	**Height**	239.017 ft	**Height**	239.016 ft

To:	VVA045				
Grid		**Local**		**Global**	
Easting	6211397.004 ft	**Latitude**	N37°04'04.86146"	**Latitude**	N37°04'04.86146"
Northing	1849485.749 ft	**Longitude**	W121°42'01.88543"	**Longitude**	W121°42'01.88543"
Elevation	501.285 ft	**Height**	394.627 ft	**Height**	394.627 ft

Vector					
ΔEasting	-14722.584 ft	**NS Fwd Azimuth**	227°38'12.8"	**ΔX**	-16659.696 ft
ΔNorthing	-13098.200 ft	**Ellipsoid Dist.**	19705.847 ft	**ΔY**	722.107 ft
ΔElevation	155.740 ft	**ΔHeight**	155.610 ft	**ΔZ**	-10501.879 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.020 ft
σ ΔNorthing	0.016 ft	**σ Ellipsoid Dist.**	0.014 ft	**σ ΔY**	0.028 ft
σ ΔElevation	0.038 ft	**σ ΔHeight**	0.038 ft	**σ ΔZ**	0.026 ft

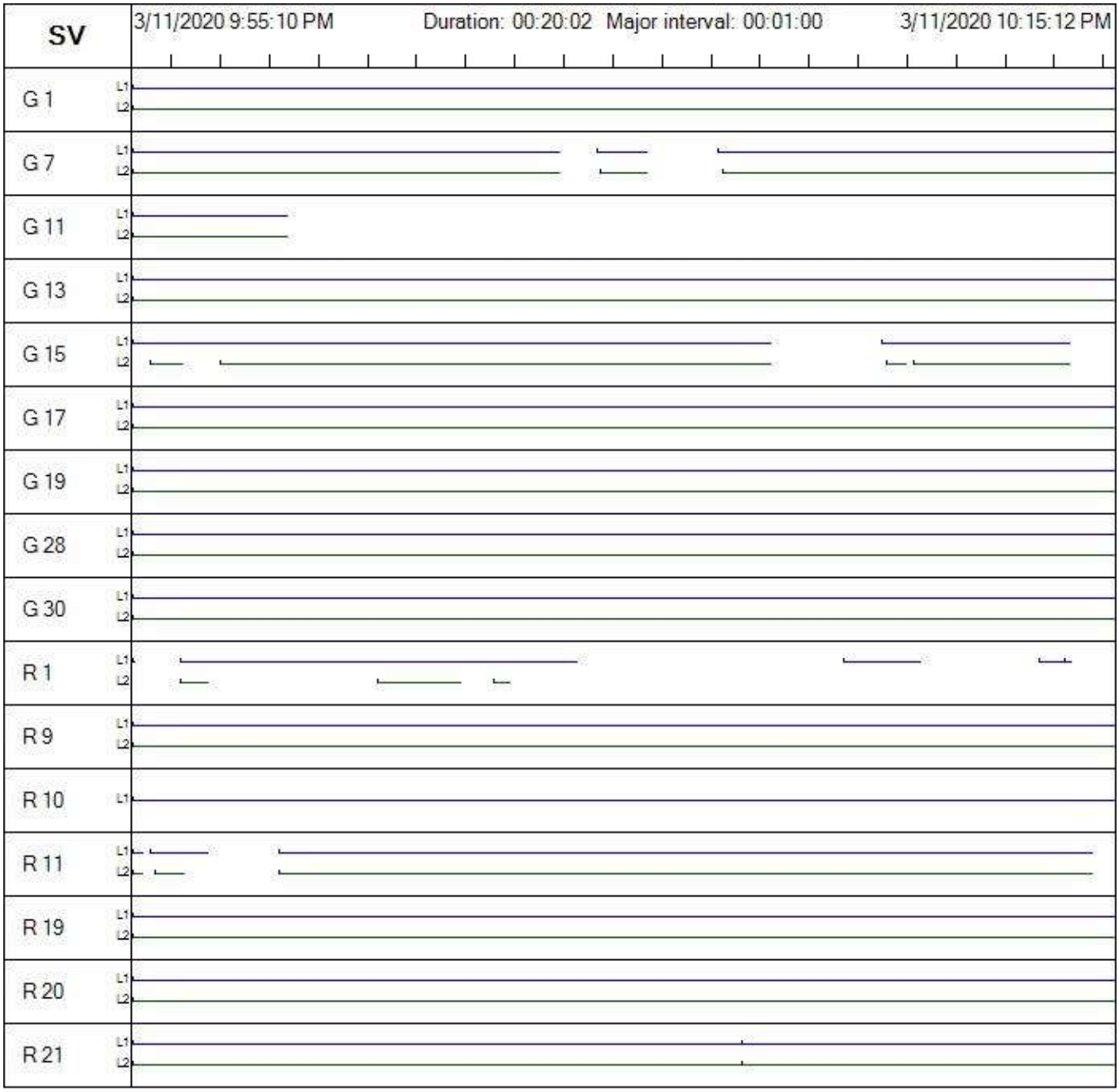
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003816060		
Y	0.0003336245	0.0008056244	
Z	-0.0002990344	-0.0004864838	0.0006771428

Occupations

	From	To
Point ID:	P217	VVA045
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170710.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870713.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4748141711
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA039 (9:07:28 PM-9:34:10 PM) (S27)

Baseline observation:	P217 --- NVA039 (B27)
Processed:	5/12/2020 6:50:06 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.050 ft
Vertical precision:	0.092 ft
RMS:	0.057 ft
Maximum PDOP:	1.858
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 9:07:42 PM (UTC)
Processing stop time:	3/11/2020 9:33:42 PM (UTC)
Processing duration:	00:26:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.588 ft	**Latitude**	N37°06'16.18573"	**Latitude**	N37°06'16.18572"
Northing	1862583.948 ft	**Longitude**	W121°39'02.23298"	**Longitude**	W121°39'02.23298"
Elevation	345.545 ft	**Height**	239.017 ft	**Height**	239.016 ft

To:	NVA039				
Grid		**Local**		**Global**	
Easting	6197432.011 ft	**Latitude**	N37°05'27.57204"	**Latitude**	N37°05'27.57203"
Northing	1858034.547 ft	**Longitude**	W121°44'55.58319"	**Longitude**	W121°44'55.58319"
Elevation	679.699 ft	**Height**	573.230 ft	**Height**	573.230 ft

Vector					
ΔEasting	-28687.577 ft	**NS Fwd Azimuth**	260°17'02.2"	**ΔX**	-26055.271 ft
ΔNorthing	-4549.402 ft	**Ellipsoid Dist.**	29046.251 ft	**ΔY**	12292.770 ft
ΔElevation	334.154 ft	**ΔHeight**	334.214 ft	**ΔZ**	-3720.167 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.029 ft
σ ΔNorthing	0.019 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.037 ft
σ ΔElevation	0.047 ft	**σ ΔHeight**	0.047 ft	**σ ΔZ**	0.025 ft

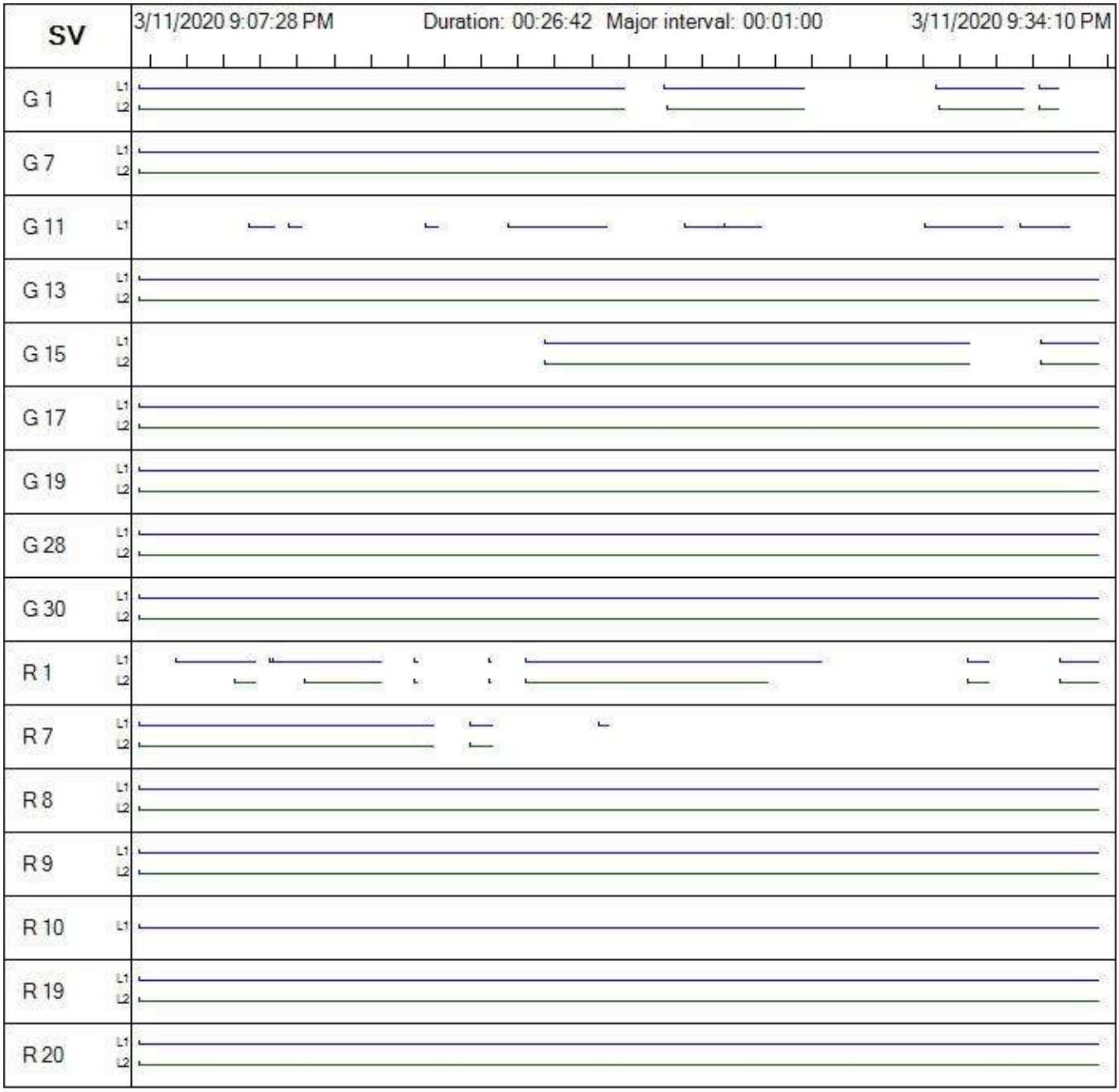
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0008417351		
Y	0.0008223432	0.0013577109	
Z	-0.0003969885	-0.0006395969	0.0006103398

Occupations

	From	To
Point ID:	P217	NVA039
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170710.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870712.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4748141711
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA065 (8:58:49 PM-9:18:50 PM) (S25)

Baseline observation:	P217 --- NVA065 (B25)
Processed:	5/12/2020 6:50:06 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.055 ft
Vertical precision:	0.091 ft
RMS:	0.049 ft
Maximum PDOP:	1.747
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 8:59:12 PM (UTC)
Processing stop time:	3/11/2020 9:18:42 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.588 ft	**Latitude**	N37°06'16.18573"	**Latitude**	N37°06'16.18572"
Northing	1862583.948 ft	**Longitude**	W121°39'02.23298"	**Longitude**	W121°39'02.23298"
Elevation	345.545 ft	**Height**	239.017 ft	**Height**	239.016 ft

To:	NVA065				
Grid		**Local**		**Global**	
Easting	6255479.589 ft	**Latitude**	N37°11'15.33931"	**Latitude**	N37°11'15.33931"
Northing	1892496.925 ft	**Longitude**	W121°33'03.97131"	**Longitude**	W121°33'03.97131"
Elevation	2634.331 ft	**Height**	2529.440 ft	**Height**	2529.440 ft

Vector					
ΔEasting	29360.001 ft	**NS Fwd Azimuth**	43°45'41.3"	**ΔX**	33324.742 ft
ΔNorthing	29912.977 ft	**Ellipsoid Dist.**	41914.793 ft	**ΔY**	-1193.020 ft
ΔElevation	2288.786 ft	**ΔHeight**	2290.424 ft	**ΔZ**	25502.279 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.019 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.027 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.039 ft
σ ΔElevation	0.046 ft	**σ ΔHeight**	0.046 ft	**σ ΔZ**	0.028 ft

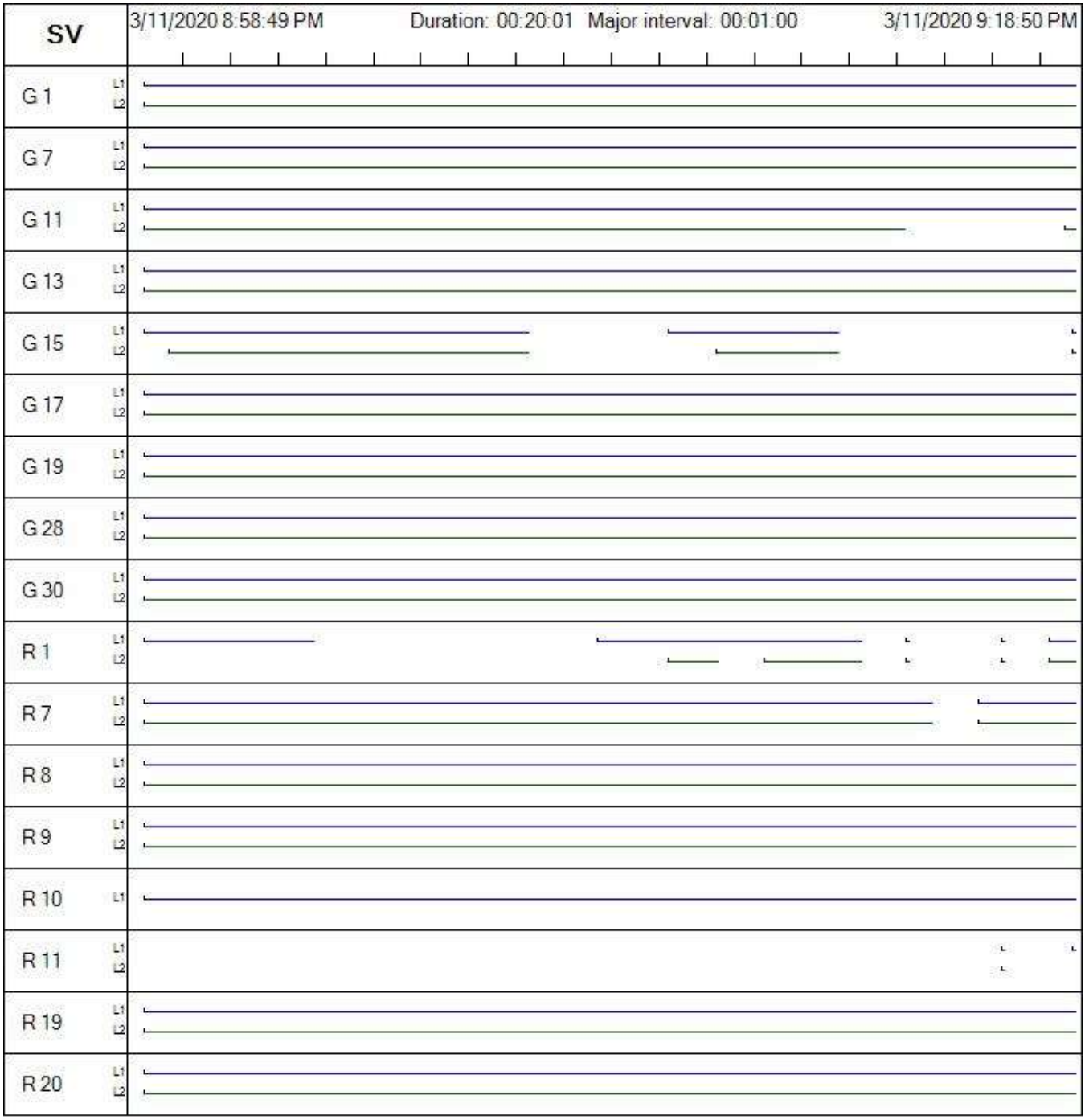
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0007180334		
Y	0.0006601973	0.0015028674	
Z	-0.0002816091	-0.0006424180	0.0007587570

Occupations

	From	To
Point ID:	P217	NVA065
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170710.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430710.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5018426973
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA047 (8:38:22 PM-8:49:02 PM) (S28)

Baseline observation:	P217 --- VVA047 (B28)
Processed:	5/12/2020 6:50:06 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.050 ft
Vertical precision:	0.078 ft
RMS:	0.042 ft
Maximum PDOP:	1.388
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 8:38:42 PM (UTC)
Processing stop time:	3/11/2020 8:48:42 PM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.588 ft	**Latitude**	N37°06'16.18573"	**Latitude**	N37°06'16.18572"
Northing	1862583.948 ft	**Longitude**	W121°39'02.23298"	**Longitude**	W121°39'02.23298"
Elevation	345.545 ft	**Height**	239.017 ft	**Height**	239.016 ft

To:	VVA047				
Grid		**Local**		**Global**	
Easting	6206669.382 ft	**Latitude**	N37°07'32.15511"	**Latitude**	N37°07'32.15511"
Northing	1870514.198 ft	**Longitude**	W121°43'03.58757"	**Longitude**	W121°43'03.58757"
Elevation	546.162 ft	**Height**	439.770 ft	**Height**	439.770 ft

Vector					
ΔEasting	-19450.206 ft	**NS Fwd Azimuth**	291°28'37.2"	**ΔX**	-14284.601 ft
ΔNorthing	7930.249 ft	**Ellipsoid Dist.**	21004.949 ft	**ΔY**	14077.323 ft
ΔElevation	200.617 ft	**ΔHeight**	200.754 ft	**ΔZ**	6248.329 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.015 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.022 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.016 ft	**σ ΔY**	0.034 ft
σ ΔElevation	0.040 ft	**σ ΔHeight**	0.040 ft	**σ ΔZ**	0.025 ft

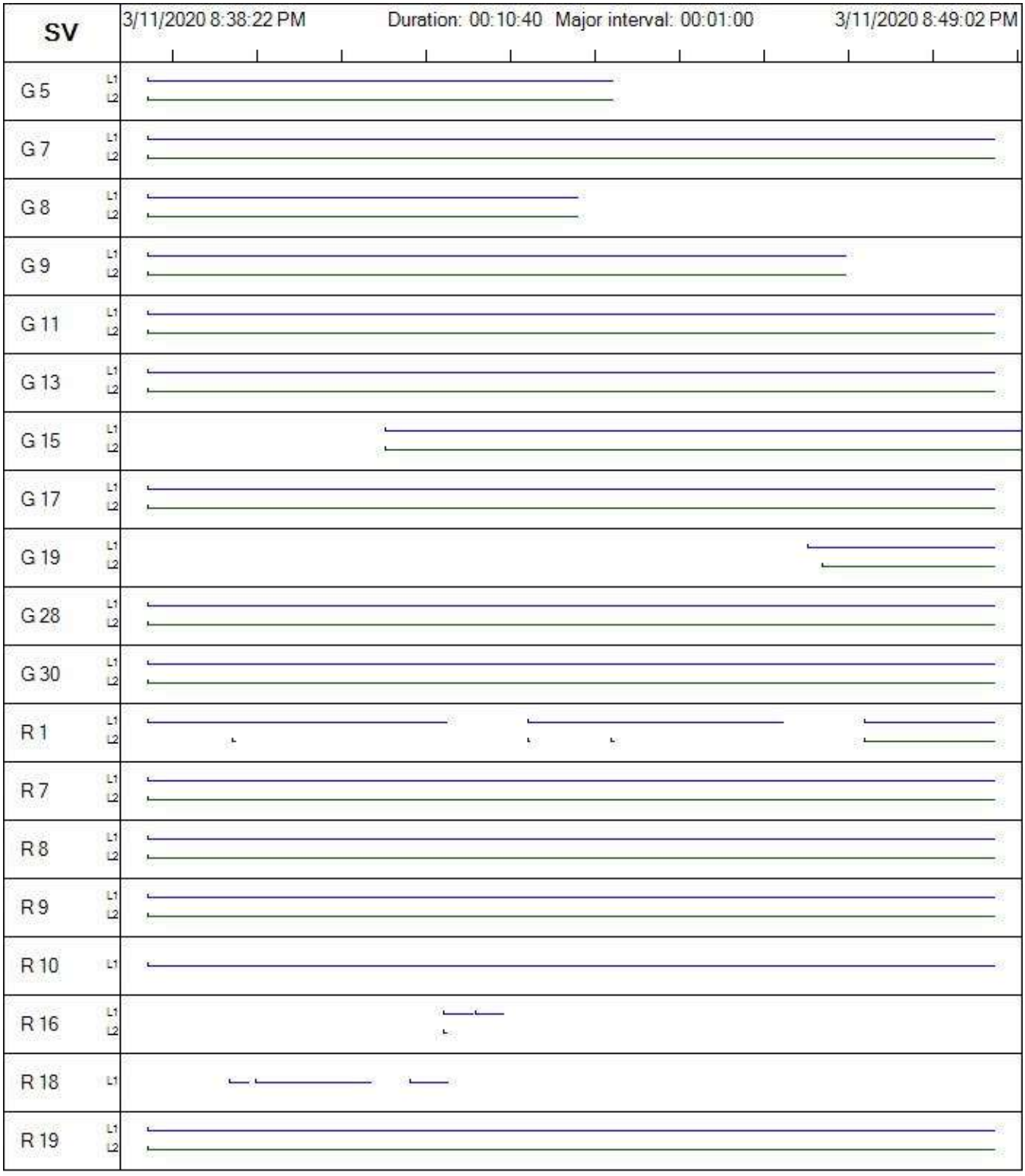
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0004813320		
Y	0.0004851956	0.0011480223	
Z	-0.0002270901	-0.0004471323	0.0006011031

Occupations

	From	To
Point ID:	P217	VVA047
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170710.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870710.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4748141711
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - HS5407 (8:03:21 PM-11:08:15 PM) (S29)

Baseline observation:	P217 --- HS5407 (B29)
Processed:	5/12/2020 6:50:07 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.013 ft
Vertical precision:	0.054 ft
RMS:	0.051 ft
Maximum PDOP:	1.655
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/11/2020 8:03:42 PM (UTC)
Processing stop time:	3/11/2020 11:08:12 PM (UTC)
Processing duration:	03:04:30
Processing interval:	1 Minute

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.588 ft	**Latitude**	N37°06'16.18573"	**Latitude**	N37°06'16.18572"
Northing	1862583.948 ft	**Longitude**	W121°39'02.23298"	**Longitude**	W121°39'02.23298"
Elevation	345.545 ft	**Height**	239.017 ft	**Height**	239.016 ft

To:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.542 ft	**Latitude**	N37°11'20.20743"	**Latitude**	N37°11'20.20743"
Northing	1893492.624 ft	**Longitude**	W121°41'42.34877"	**Longitude**	W121°41'42.34877"
Elevation	338.251 ft	**Height**	231.981 ft	**Height**	231.981 ft

Vector					
ΔEasting	-12577.046 ft	**NS Fwd Azimuth**	337°09'12.5"	**ΔX**	-1280.355 ft
ΔNorthing	30908.676 ft	**Ellipsoid Dist.**	33370.089 ft	**ΔY**	22614.375 ft
ΔElevation	-7.294 ft	**ΔHeight**	-7.036 ft	**ΔZ**	24505.887 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.004 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.013 ft
σ ΔNorthing	0.005 ft	**σ Ellipsoid Dist.**	0.005 ft	**σ ΔY**	0.019 ft
σ ΔElevation	0.028 ft	**σ ΔHeight**	0.028 ft	**σ ΔZ**	0.016 ft

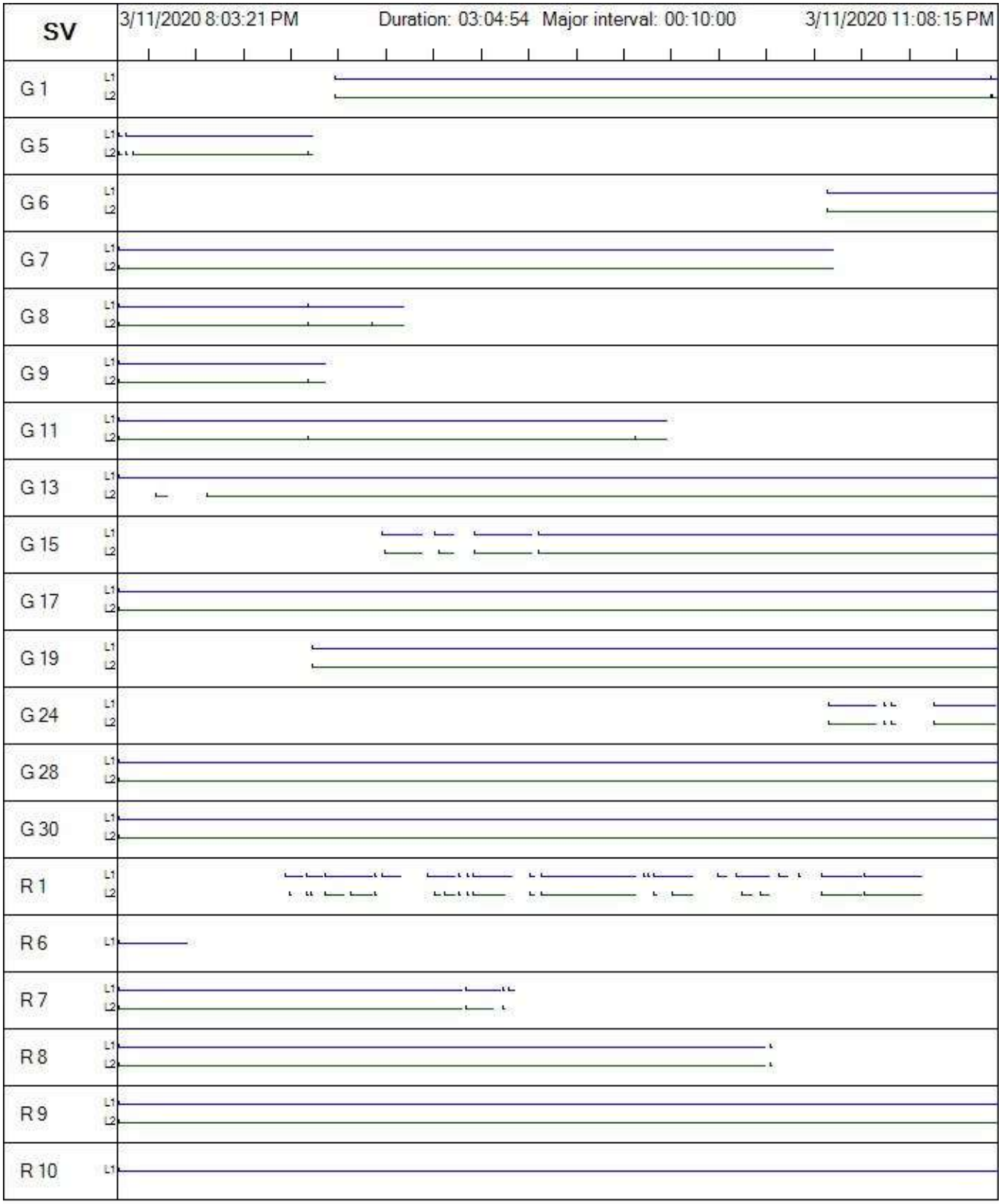
Aposteriori Covariance Matrix (US survey foot²)

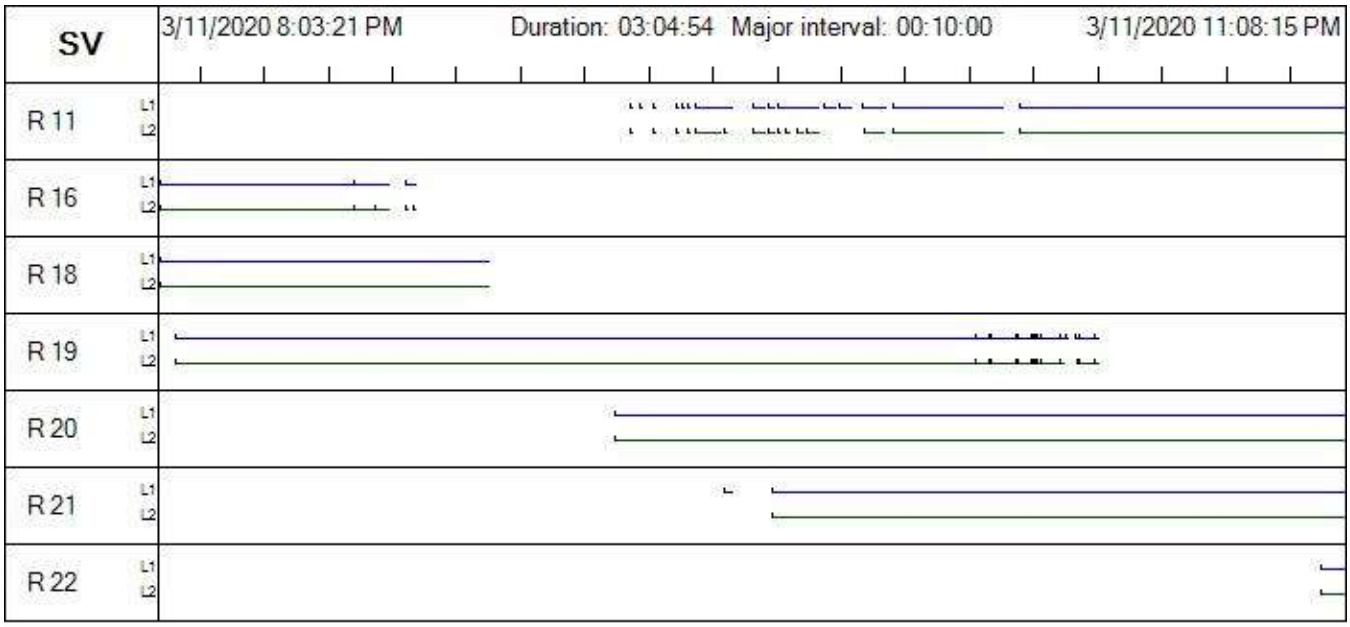
	X	Y	Z
X	0.0001631078		
Y	0.0002271025	0.0003780004	
Z	-0.0001871474	-0.0002901196	0.0002677202

Occupations

	From	To
Point ID:	P217	HS5407
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170710.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730710.T01
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4720132973
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
3/11/2020 8:03:21 PM
Duration: 03:04:54 Major interval: 00:10:00
3/11/2020 11:08:15 PM
R 11
R 16
R 18
R 19
R 20
R 21
R 22

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - HS5407 (3:47:56 PM-10:34:16 PM) (S49)

Baseline observation:	P217 --- HS5407 (B49)
Processed:	5/13/2020 1:17:51 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.008 ft
Vertical precision:	0.034 ft
RMS:	0.040 ft
Maximum PDOP:	1.850
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 3:48:12 PM (UTC)
Processing stop time:	3/12/2020 10:34:12 PM (UTC)
Processing duration:	06:46:00
Processing interval:	3 Minutes

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18571"	**Latitude**	N37°06'16.18571"
Northing	1862583.947 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.519 ft	**Height**	238.990 ft	**Height**	238.990 ft

To:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.562 ft	**Latitude**	N37°11'20.20736"	**Latitude**	N37°11'20.20736"
Northing	1893492.617 ft	**Longitude**	W121°41'42.34852"	**Longitude**	W121°41'42.34852"
Elevation	338.295 ft	**Height**	232.025 ft	**Height**	232.024 ft

Vector					
ΔEasting	-12577.016 ft	**NS Fwd Azimuth**	337°09'12.6"	**ΔX**	-1280.360 ft
ΔNorthing	30908.670 ft	**Ellipsoid Dist.**	33370.072 ft	**ΔY**	22614.309 ft
ΔElevation	-7.224 ft	**ΔHeight**	-6.966 ft	**ΔZ**	24505.925 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.003 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.008 ft
σ ΔNorthing	0.003 ft	**σ Ellipsoid Dist.**	0.003 ft	**σ ΔY**	0.012 ft
σ ΔElevation	0.018 ft	**σ ΔHeight**	0.018 ft	**σ ΔZ**	0.011 ft

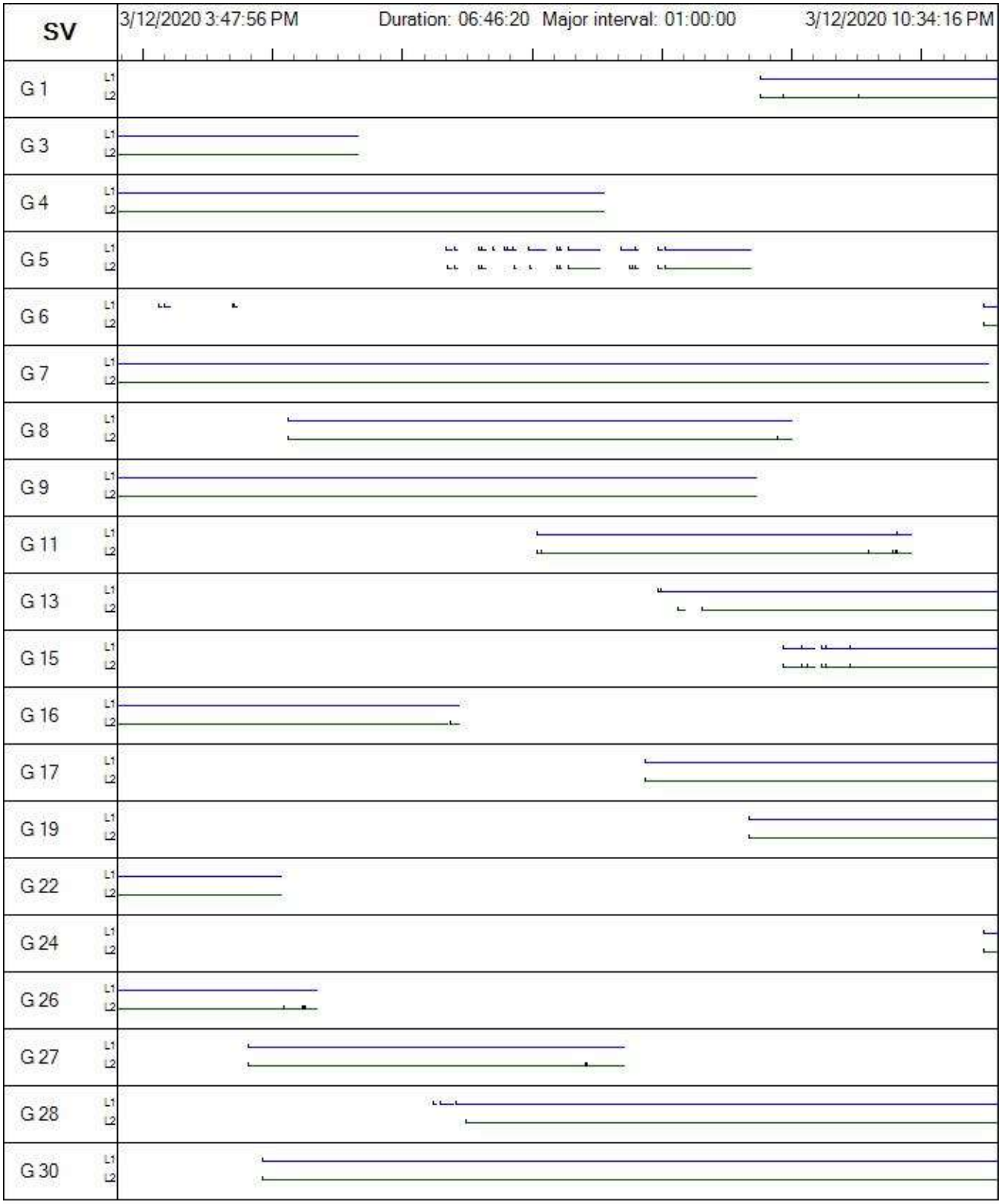
Aposteriori Covariance Matrix (US survey foot²)

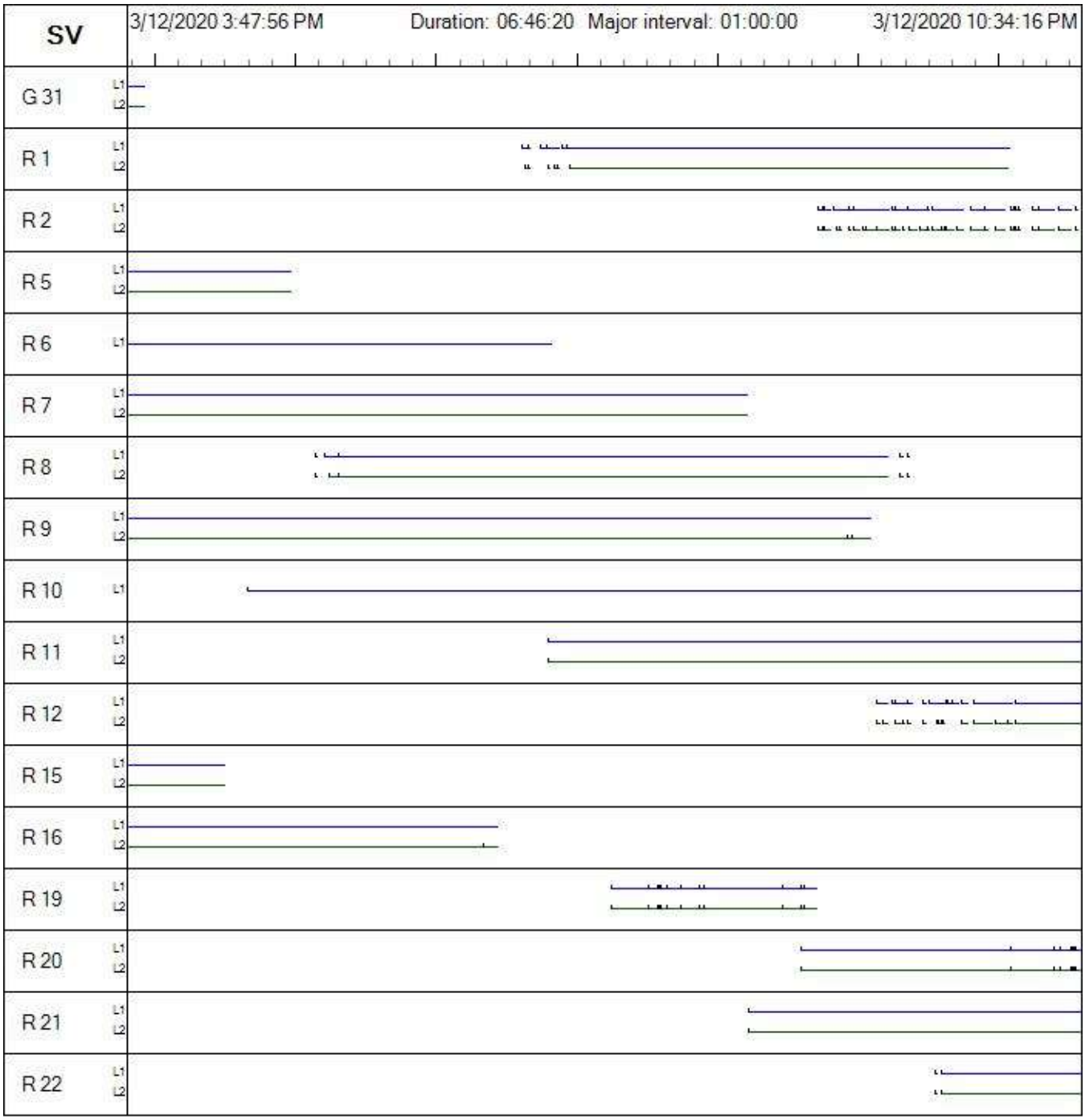
	X	Y	Z
X	0.0000633792		
Y	0.0000890749	0.0001525899	
Z	-0.0000742364	-0.0001191712	0.0001106620

Occupations

	From	To
Point ID:	P217	HS5407
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170720.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730720.T01
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4720132973
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
3/12/2020 3:47:56 PM
Duration: 06:46:20 Major interval: 01:00:00
3/12/2020 10:34:16 PM
G 31
R 1
R 2
R 5
R 6
R 7
R 8
R 9
R 10
R 11
R 12
R 15
R 16
R 19
R 20
R 21
R 22

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA002 (4:20:27 PM-4:34:34 PM) (S48)

Baseline observation:	P217 --- VVA002 (B48)
Processed:	5/13/2020 1:17:48 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.043 ft
Vertical precision:	0.100 ft
RMS:	0.043 ft
Maximum PDOP:	1.853
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 4:20:42 PM (UTC)
Processing stop time:	3/12/2020 4:34:12 PM (UTC)
Processing duration:	00:13:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18571"	**Latitude**	N37°06'16.18571"
Northing	1862583.947 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.519 ft	**Height**	238.990 ft	**Height**	238.990 ft

To:	VVA002				
Grid		**Local**		**Global**	
Easting	6226732.894 ft	**Latitude**	N37°07'48.80823"	**Latitude**	N37°07'48.80823"
Northing	1871944.927 ft	**Longitude**	W121°38'56.08126"	**Longitude**	W121°38'56.08126"
Elevation	350.665 ft	**Height**	244.280 ft	**Height**	244.280 ft

Vector					
ΔEasting	613.316 ft	**NS Fwd Azimuth**	3°02'38.9"	**ΔX**	3388.292 ft
ΔNorthing	9360.980 ft	**Ellipsoid Dist.**	9381.144 ft	**ΔY**	4547.293 ft
ΔElevation	5.146 ft	**ΔHeight**	5.290 ft	**ΔZ**	7473.255 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.031 ft
σ ΔNorthing	0.017 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.039 ft
σ ΔElevation	0.051 ft	**σ ΔHeight**	0.051 ft	**σ ΔZ**	0.026 ft

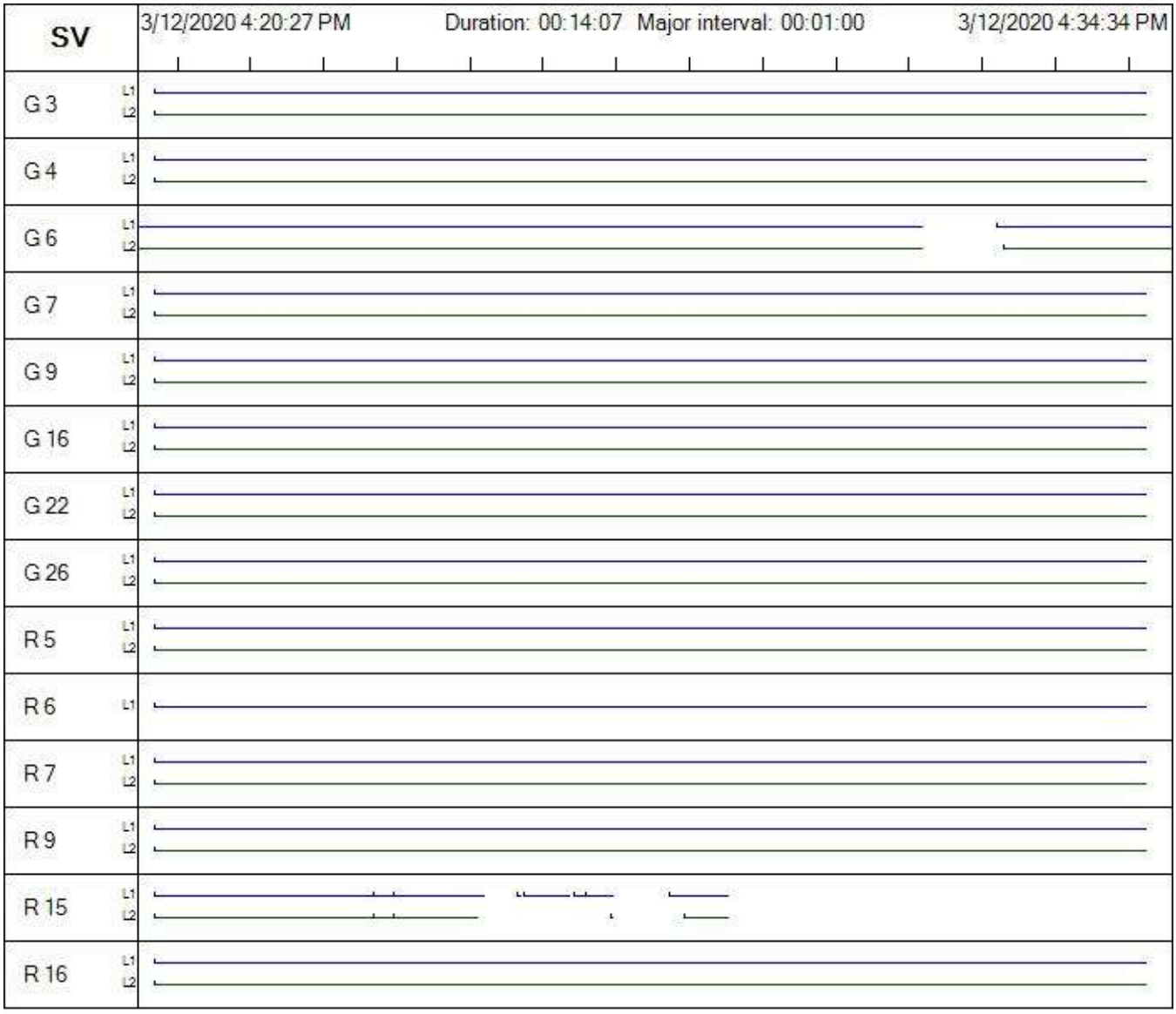
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0009364558		
Y	0.0009253384	0.0015124951	
Z	-0.0005925556	-0.0007856117	0.0006981001

Occupations

	From	To
Point ID:	P217	VVA002
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170720.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870720.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4748141711
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA037 (4:53:49 PM-5:15:03 PM) (S47)

Baseline observation:	P217 --- NVA037 (B47)
Processed:	5/13/2020 1:17:48 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.034 ft
Vertical precision:	0.051 ft
RMS:	0.033 ft
Maximum PDOP:	1.514
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 4:54:12 PM (UTC)
Processing stop time:	3/12/2020 5:14:42 PM (UTC)
Processing duration:	00:20:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18571"	**Latitude**	N37°06'16.18571"
Northing	1862583.947 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.519 ft	**Height**	238.990 ft	**Height**	238.990 ft

To:	NVA037				
Grid		**Local**		**Global**	
Easting	6244630.268 ft	**Latitude**	N37°03'43.73634"	**Latitude**	N37°03'43.73634"
Northing	1846942.898 ft	**Longitude**	W121°35'11.50343"	**Longitude**	W121°35'11.50343"
Elevation	252.252 ft	**Height**	145.402 ft	**Height**	145.402 ft

Vector					
ΔEasting	18510.690 ft	**NS Fwd Azimuth**	129°29'34.0"	**ΔX**	11086.142 ft
ΔNorthing	-15641.049 ft	**Ellipsoid Dist.**	24234.109 ft	**ΔY**	-17655.417 ft
ΔElevation	-93.267 ft	**ΔHeight**	-93.588 ft	**ΔZ**	-12356.991 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.010 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.014 ft
σ ΔNorthing	0.014 ft	**σ Ellipsoid Dist.**	0.013 ft	**σ ΔY**	0.023 ft
σ ΔElevation	0.026 ft	**σ ΔHeight**	0.026 ft	**σ ΔZ**	0.015 ft

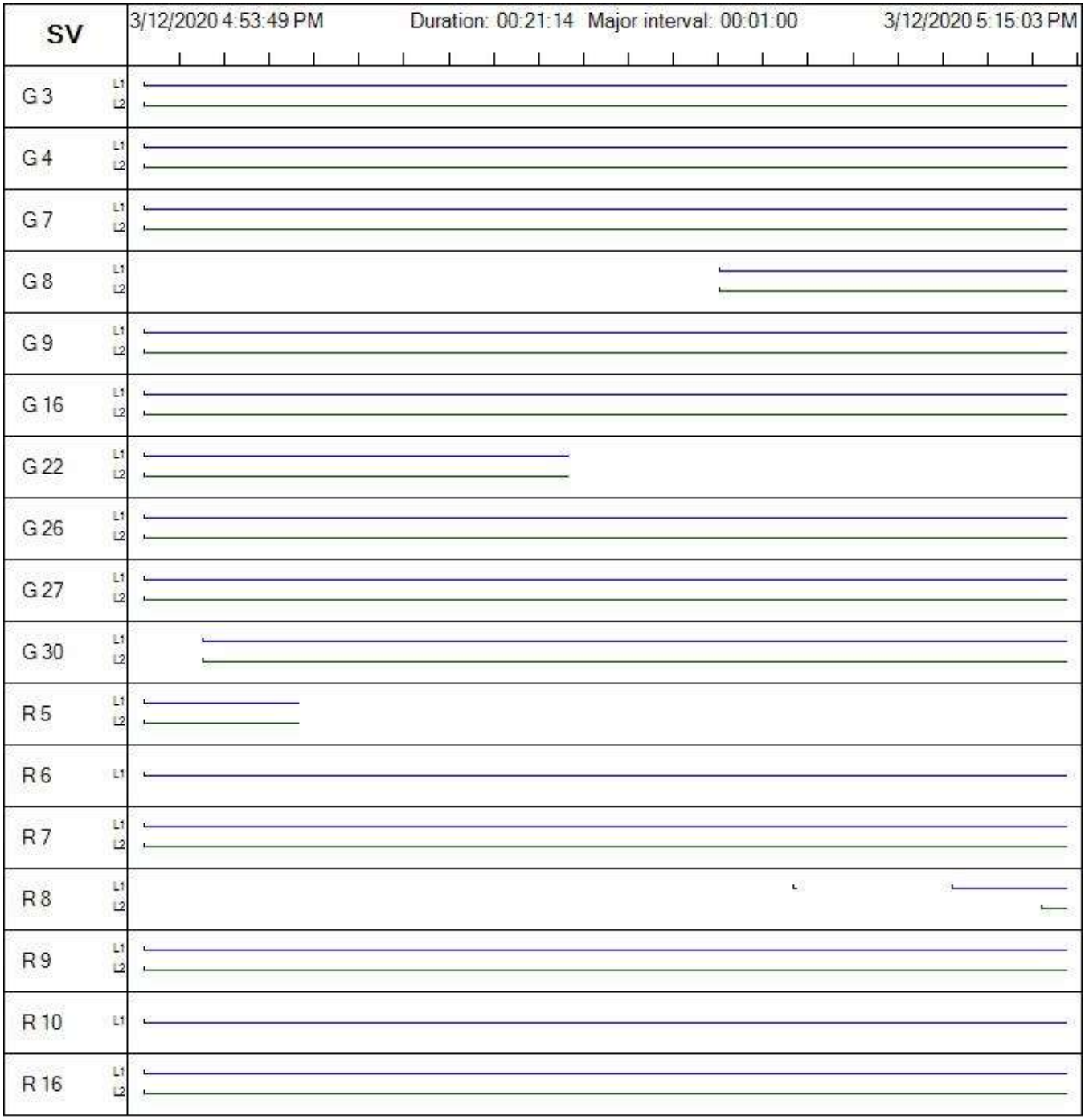
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0002000354		
Y	0.0002133940	0.0005480300	
Z	-0.0001011894	-0.0001720600	0.0002273497

Occupations

	From	To
Point ID:	P217	NVA037
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170720.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870721.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4748141711
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA036 (5:04:42 PM-5:37:08 PM) (S42)

Baseline observation:	P217 --- NVA036 (B42)
Processed:	5/13/2020 1:17:49 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.050 ft
Vertical precision:	0.062 ft
RMS:	0.039 ft
Maximum PDOP:	1.384
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 5:04:42 PM (UTC)
Processing stop time:	3/12/2020 5:36:42 PM (UTC)
Processing duration:	00:32:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18571"	**Latitude**	N37°06'16.18571"
Northing	1862583.947 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.519 ft	**Height**	238.990 ft	**Height**	238.990 ft

To:	NVA036				
Grid		**Local**		**Global**	
Easting	6264948.129 ft	**Latitude**	N37°00'36.31863"	**Latitude**	N37°00'36.31863"
Northing	1827758.025 ft	**Longitude**	W121°30'58.27787"	**Longitude**	W121°30'58.27787"
Elevation	192.894 ft	**Height**	85.613 ft	**Height**	85.613 ft

Vector					
ΔEasting	38828.551 ft	**NS Fwd Azimuth**	131°11'08.2"	**ΔX**	22633.785 ft
ΔNorthing	-34825.922 ft	**Ellipsoid Dist.**	52158.317 ft	**ΔY**	-38087.810 ft
ΔElevation	-152.625 ft	**ΔHeight**	-153.377 ft	**ΔZ**	-27524.260 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.013 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.018 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.029 ft
σ ΔElevation	0.032 ft	**σ ΔHeight**	0.032 ft	**σ ΔZ**	0.021 ft

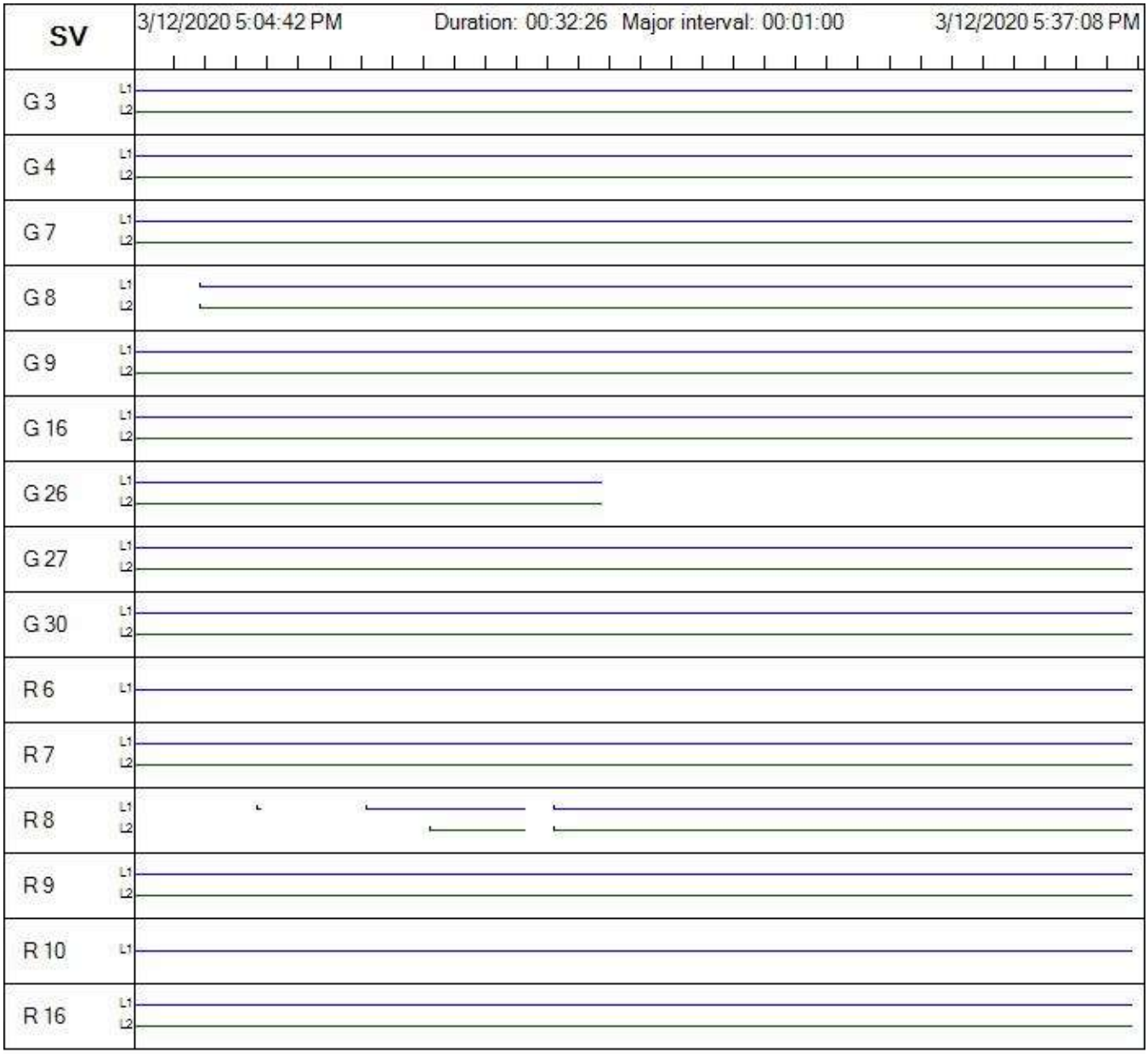
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003163967		
Y	0.0003113005	0.0008275092	
Z	-0.0001090800	-0.0002136358	0.0004580805

Occupations

	From	To
Point ID:	P217	NVA036
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170720.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430720.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5018426973
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA021 (5:32:34 PM-5:56:46 PM) (S46)

Baseline observation:	P217 --- NVA021 (B46)
Processed:	5/13/2020 1:17:48 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.051 ft
Vertical precision:	0.050 ft
RMS:	0.038 ft
Maximum PDOP:	1.614
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 5:32:42 PM (UTC)
Processing stop time:	3/12/2020 5:56:42 PM (UTC)
Processing duration:	00:24:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18571"	**Latitude**	N37°06'16.18571"
Northing	1862583.947 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.519 ft	**Height**	238.990 ft	**Height**	238.990 ft

To:	NVA021				
Grid		**Local**		**Global**	
Easting	6247547.635 ft	**Latitude**	N37°01'29.00769"	**Latitude**	N37°01'29.00768"
Northing	1833281.839 ft	**Longitude**	W121°34'33.57522"	**Longitude**	W121°34'33.57522"
Elevation	206.605 ft	**Height**	99.453 ft	**Height**	99.453 ft

Vector					
ΔEasting	21428.057 ft	**NS Fwd Azimuth**	143°07'07.1"	**ΔX**	9425.908 ft
ΔNorthing	-29302.108 ft	**Ellipsoid Dist.**	36301.155 ft	**ΔY**	-26227.684 ft
ΔElevation	-138.914 ft	**ΔHeight**	-139.538 ft	**ΔZ**	-23261.022 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.012 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.015 ft
σ ΔNorthing	0.021 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.021 ft
σ ΔElevation	0.026 ft	**σ ΔHeight**	0.026 ft	**σ ΔZ**	0.024 ft

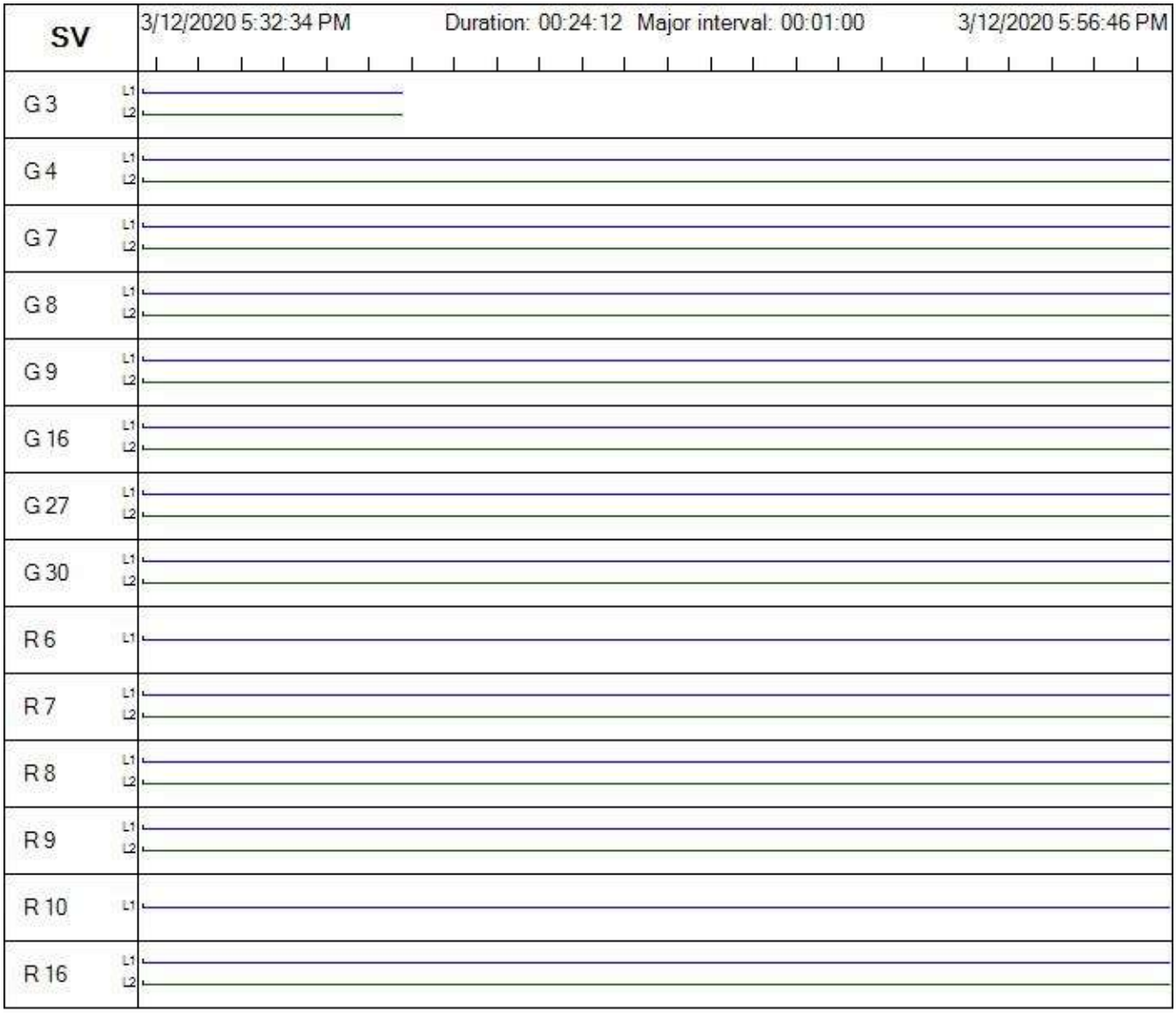
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0002141872		
Y	0.0001619283	0.0004488423	
Z	0.0000066783	-0.0001561655	0.0005564601

Occupations

	From	To
Point ID:	P217	NVA021
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170720.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870722.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4748141711
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA020 (6:17:15 PM-6:37:17 PM) (S45)

Baseline observation:	P217 --- NVA020 (B45)
Processed:	5/13/2020 1:17:48 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.061 ft
Vertical precision:	0.082 ft
RMS:	0.041 ft
Maximum PDOP:	1.983
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 6:17:42 PM (UTC)
Processing stop time:	3/12/2020 6:37:12 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18571"	**Latitude**	N37°06'16.18571"
Northing	1862583.947 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.519 ft	**Height**	238.990 ft	**Height**	238.990 ft

To:	NVA020				
Grid		**Local**		**Global**	
Easting	6232005.222 ft	**Latitude**	N37°00'41.59601"	**Latitude**	N37°00'41.59601"
Northing	1828669.402 ft	**Longitude**	W121°37'44.53298"	**Longitude**	W121°37'44.53298"
Elevation	264.553 ft	**Height**	157.332 ft	**Height**	157.332 ft

Vector					
ΔEasting	5885.644 ft	**NS Fwd Azimuth**	169°27'01.5"	**ΔX**	-5301.462 ft
ΔNorthing	-33914.546 ft	**Ellipsoid Dist.**	34421.399 ft	**ΔY**	-20610.430 ft
ΔElevation	-80.966 ft	**ΔHeight**	-81.658 ft	**ΔZ**	-27054.875 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.017 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.023 ft
σ ΔNorthing	0.023 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.032 ft
σ ΔElevation	0.042 ft	**σ ΔHeight**	0.042 ft	**σ ΔZ**	0.032 ft

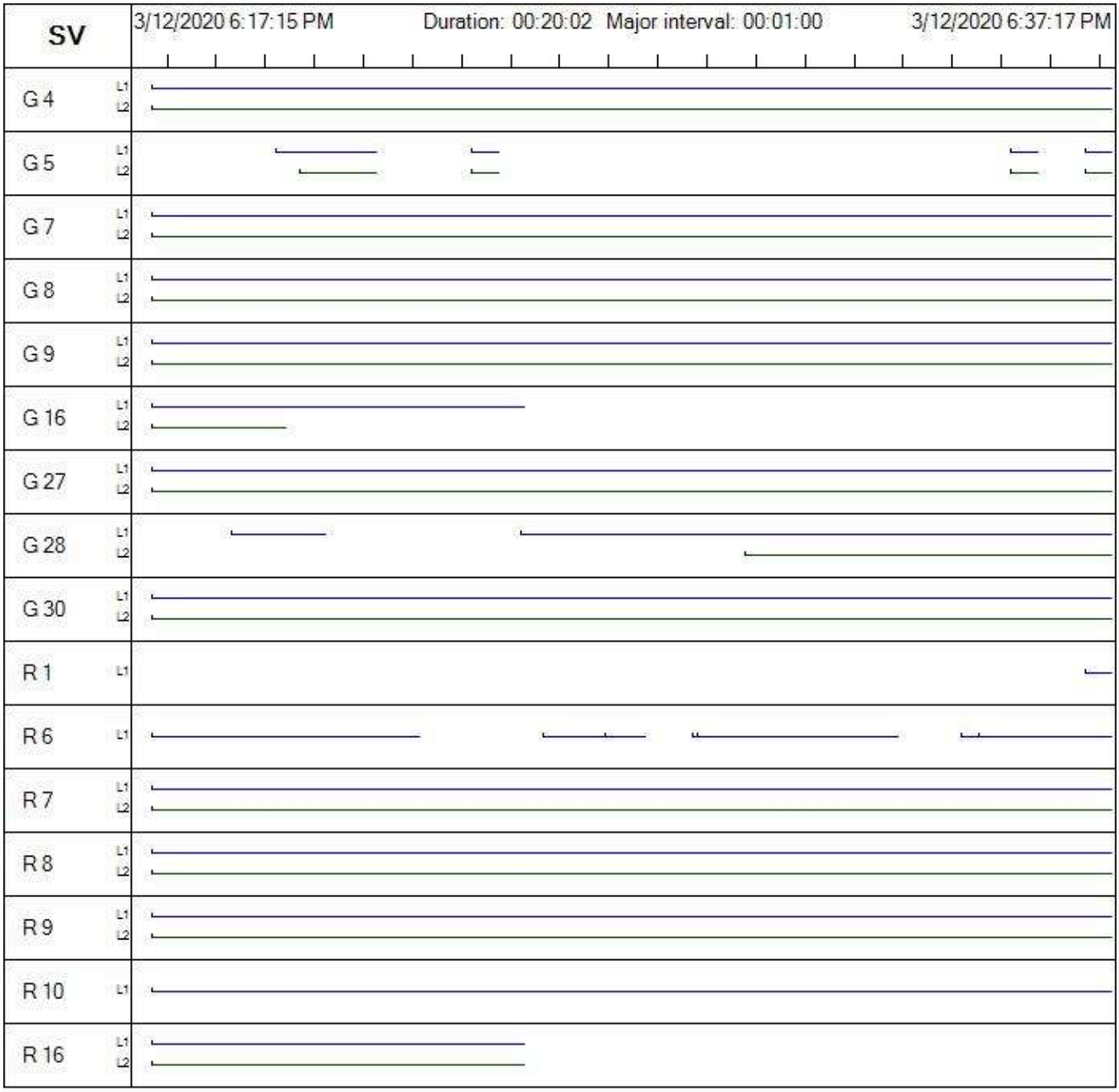
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0005214106		
Y	0.0003997434	0.0010314211	
Z	-0.0001127048	-0.0006353055	0.0010533458

Occupations

	From	To
Point ID:	P217	NVA020
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170720.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870723.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4748141711
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA010 (6:53:27 PM-7:23:54 PM) (S44)

Baseline observation:	P217 --- VVA010 (B44)
Processed:	5/13/2020 1:17:50 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.070 ft
Vertical precision:	0.164 ft
RMS:	0.088 ft
Maximum PDOP:	3.095
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 6:53:42 PM (UTC)
Processing stop time:	3/12/2020 7:23:42 PM (UTC)
Processing duration:	00:30:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18571"	**Latitude**	N37°06'16.18571"
Northing	1862583.947 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.519 ft	**Height**	238.990 ft	**Height**	238.990 ft

To:	VVA010				
Grid		**Local**		**Global**	
Easting	6216576.087 ft	**Latitude**	N37°00'17.93807"	**Latitude**	N37°00'17.93806"
Northing	1826466.952 ft	**Longitude**	W121°40'54.40253"	**Longitude**	W121°40'54.40253"
Elevation	494.519 ft	**Height**	387.245 ft	**Height**	387.245 ft

Vector					
ΔEasting	-9543.491 ft	**NS Fwd Azimuth**	194°05'48.6"	**ΔX**	-19263.132 ft
ΔNorthing	-36116.995 ft	**Ellipsoid Dist.**	37356.503 ft	**ΔY**	-13910.235 ft
ΔElevation	149.000 ft	**ΔHeight**	148.255 ft	**ΔZ**	-28827.225 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.027 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.040 ft
σ ΔNorthing	0.027 ft	**σ Ellipsoid Dist.**	0.027 ft	**σ ΔY**	0.069 ft
σ ΔElevation	0.084 ft	**σ ΔHeight**	0.084 ft	**σ ΔZ**	0.046 ft

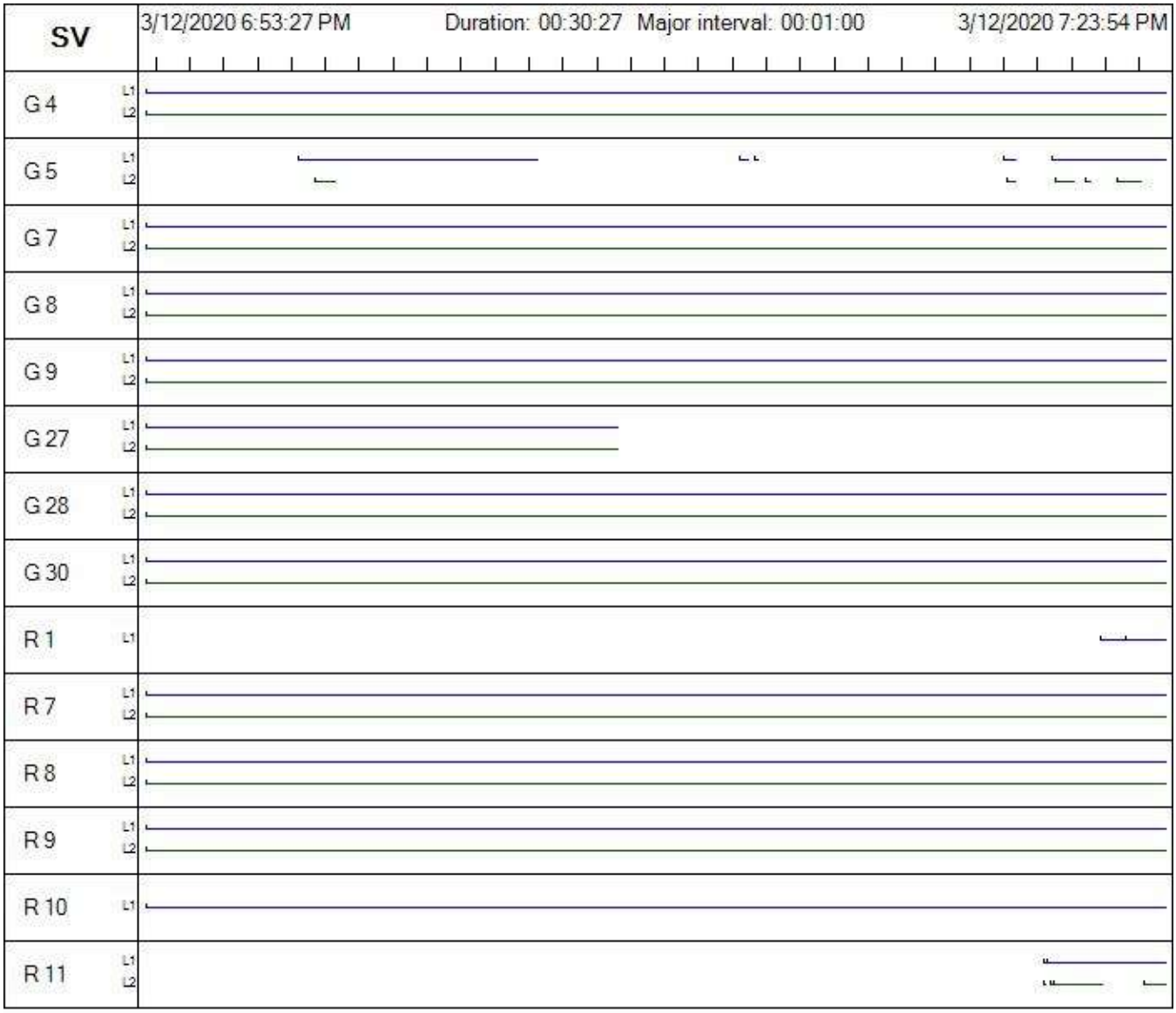
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0015737760		
Y	0.0019648950	0.0047878642	
Z	-0.0011729837	-0.0024893318	0.0020821140

Occupations

	From	To
Point ID:	P217	VVA010
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170720.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870724.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4748141711
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA011 (6:53:56 PM-7:23:56 PM) (S41)

Baseline observation:	P217 --- VVA011 (B41)
Processed:	5/13/2020 1:17:50 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.040 ft
Vertical precision:	0.085 ft
RMS:	0.042 ft
Maximum PDOP:	1.546
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 6:54:12 PM (UTC)
Processing stop time:	3/12/2020 7:23:42 PM (UTC)
Processing duration:	00:29:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18571"	**Latitude**	N37°06'16.18571"
Northing	1862583.947 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.519 ft	**Height**	238.990 ft	**Height**	238.990 ft

To:	VVA011				
Grid		**Local**		**Global**	
Easting	6282801.204 ft	**Latitude**	N37°04'21.67256"	**Latitude**	N37°04'21.67256"
Northing	1850363.456 ft	**Longitude**	W121°27'21.02747"	**Longitude**	W121°27'21.02747"
Elevation	887.871 ft	**Height**	781.935 ft	**Height**	781.935 ft

Vector					
ΔEasting	56681.626 ft	**NS Fwd Azimuth**	101°27'47.2"	**ΔX**	44535.394 ft
ΔNorthing	-12220.491 ft	**Ellipsoid Dist.**	57984.283 ft	**ΔY**	-36052.928 ft
ΔElevation	542.352 ft	**ΔHeight**	542.945 ft	**ΔZ**	-8911.715 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.021 ft
σ ΔNorthing	0.016 ft	**σ Ellipsoid Dist.**	0.016 ft	**σ ΔY**	0.036 ft
σ ΔElevation	0.043 ft	**σ ΔHeight**	0.043 ft	**σ ΔZ**	0.026 ft

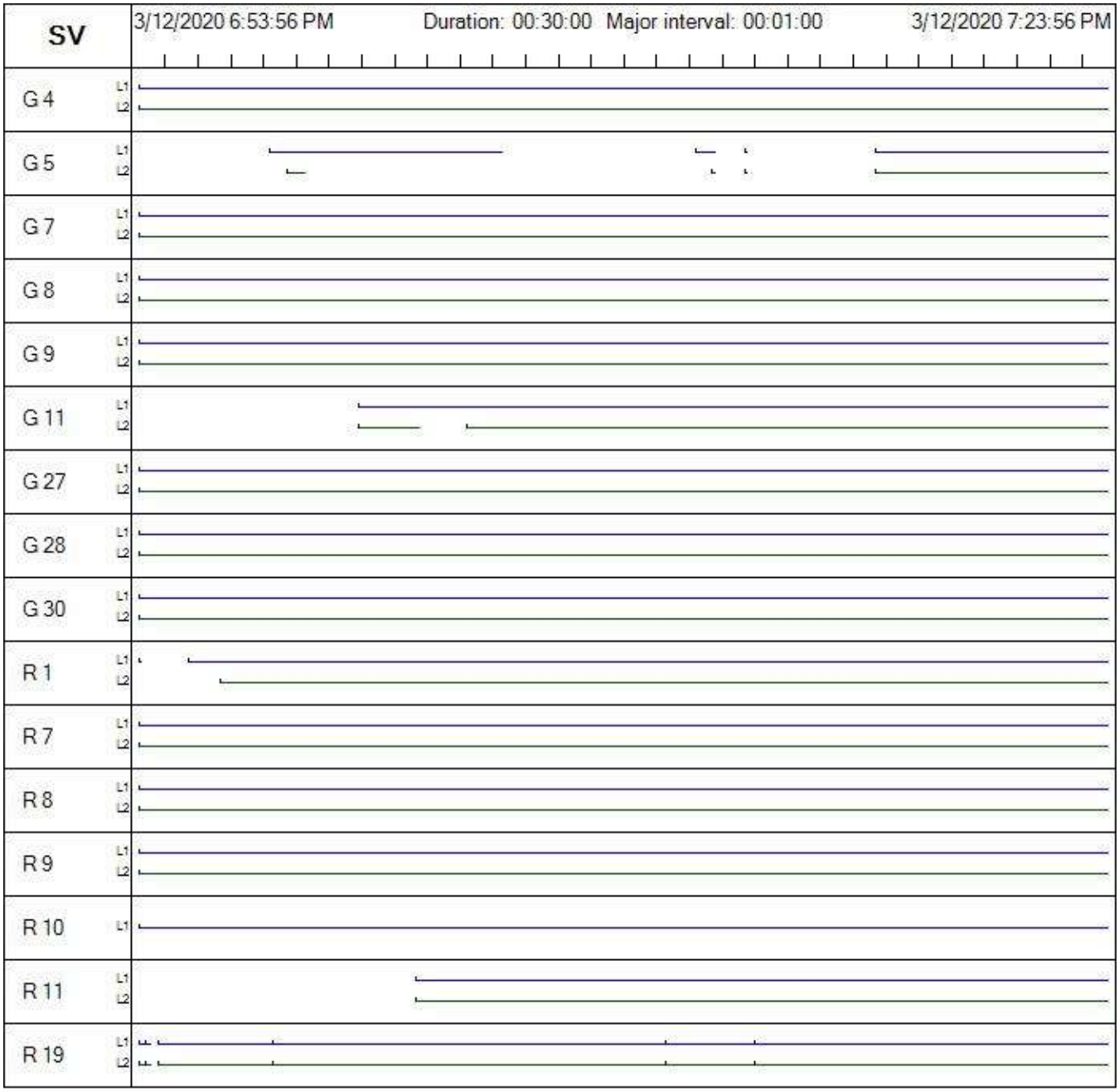
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0004310894		
Y	0.0004664930	0.0012841387	
Z	-0.0002914695	-0.0006812992	0.0006791022

Occupations

	From	To
Point ID:	P217	VVA011
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170720.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430722.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5018426973
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA029 (7:51:57 PM-8:11:58 PM) (S43)

Baseline observation:	P217 --- NVA029 (B43)
Processed:	5/13/2020 1:17:50 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.090 ft
Vertical precision:	0.158 ft
RMS:	0.051 ft
Maximum PDOP:	1.975
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 7:52:12 PM (UTC)
Processing stop time:	3/12/2020 8:11:42 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18571"	**Latitude**	N37°06'16.18571"
Northing	1862583.947 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.519 ft	**Height**	238.990 ft	**Height**	238.990 ft

To:	NVA029				
Grid		**Local**		**Global**	
Easting	6208956.422 ft	**Latitude**	N37°00'40.95453"	**Latitude**	N37°00'40.95453"
Northing	1828892.320 ft	**Longitude**	W121°42'28.71615"	**Longitude**	W121°42'28.71615"
Elevation	1848.305 ft	**Height**	1741.087 ft	**Height**	1741.087 ft

Vector					
ΔEasting	-17163.155 ft	**NS Fwd Azimuth**	206°17'25.6"	**ΔX**	-25604.238 ft
ΔNorthing	-33691.627 ft	**Ellipsoid Dist.**	37811.296 ft	**ΔY**	-9618.384 ft
ΔElevation	1502.786 ft	**ΔHeight**	1502.097 ft	**ΔZ**	-26153.304 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.030 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.033 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.026 ft	**σ ΔY**	0.074 ft
σ ΔElevation	0.081 ft	**σ ΔHeight**	0.081 ft	**σ ΔZ**	0.044 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0010786092		
Y	0.0015574879	0.0054649166	
Z	-0.0008377232	-0.0022286677	0.0019176703

Occupations

	From	To
Point ID:	P217	NVA029
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170720.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870725.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4748141711
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA027 (9:11:18 PM-9:21:20 PM) (S35)

Baseline observation:	HS5407 --- VVA027 (B35)
Processed:	5/13/2020 1:17:56 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.084 ft
Vertical precision:	0.129 ft
RMS:	0.053 ft
Maximum PDOP:	1.769
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 9:11:18 PM (UTC)
Processing stop time:	3/12/2020 9:21:20 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.585 ft	**Latitude**	N37°11'20.20733"	**Latitude**	N37°11'20.20733"
Northing	1893492.614 ft	**Longitude**	W121°41'42.34824"	**Longitude**	W121°41'42.34824"
Elevation	338.263 ft	**Height**	231.993 ft	**Height**	231.993 ft

To:	VVA027				
Grid		**Local**		**Global**	
Easting	6201277.325 ft	**Latitude**	N37°16'08.38406"	**Latitude**	N37°16'08.38406"
Northing	1922800.636 ft	**Longitude**	W121°44'18.70635"	**Longitude**	W121°44'18.70635"
Elevation	666.614 ft	**Height**	560.621 ft	**Height**	560.621 ft

Vector					
ΔEasting	-12265.260 ft	**NS Fwd Azimuth**	336°33'32.8"	**ΔX**	-1624.159 ft
ΔNorthing	29308.023 ft	**Ellipsoid Dist.**	31771.943 ft	**ΔY**	21426.352 ft
ΔElevation	328.351 ft	**ΔHeight**	328.628 ft	**ΔZ**	23406.752 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.032 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.036 ft
σ ΔNorthing	0.031 ft	**σ Ellipsoid Dist.**	0.029 ft	**σ ΔY**	0.055 ft
σ ΔElevation	0.066 ft	**σ ΔHeight**	0.066 ft	**σ ΔZ**	0.044 ft

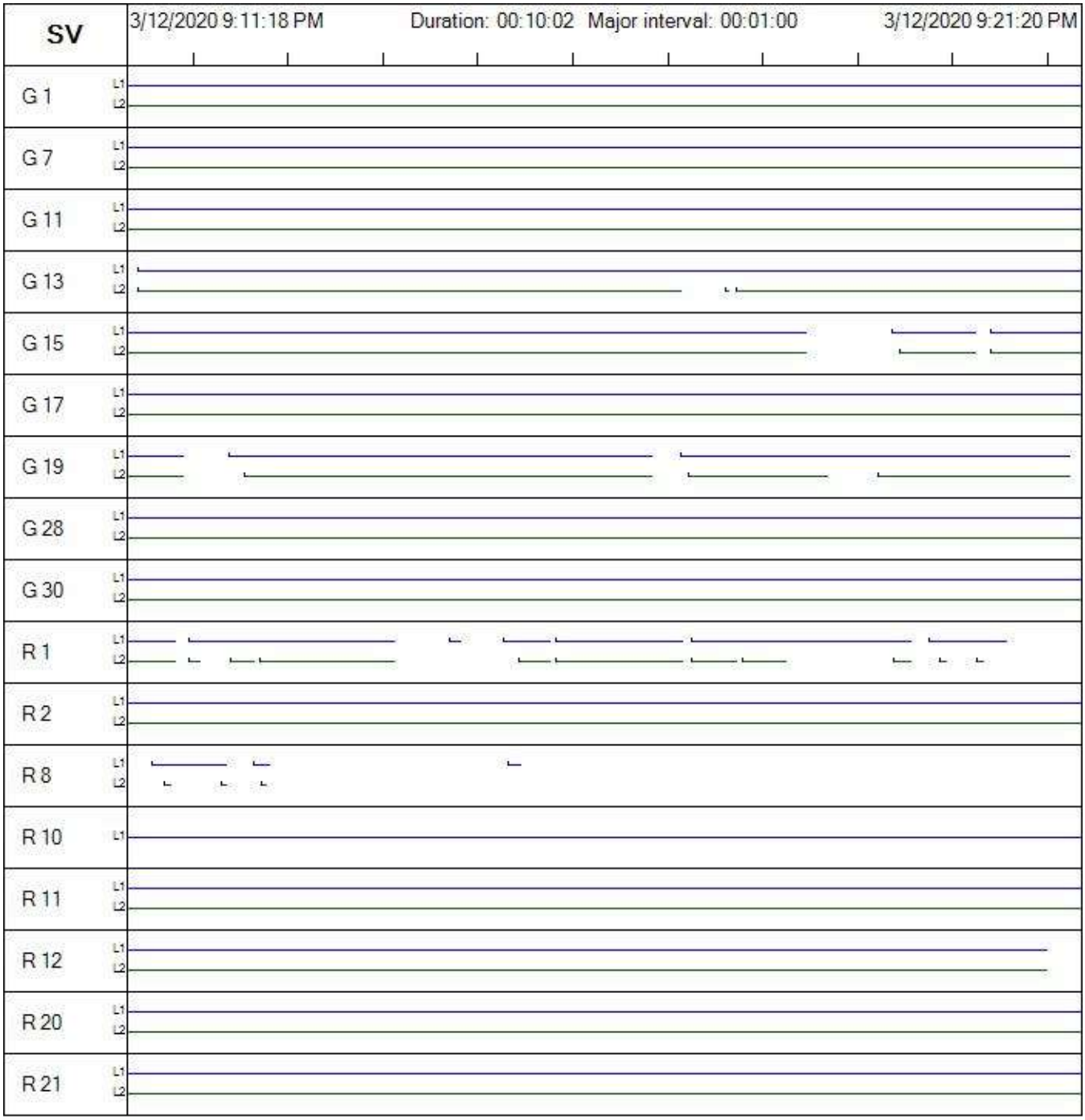
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0013172688		
Y	0.0008664933	0.0030198106	
Z	-0.0003733872	-0.0015818529	0.0019263842

Occupations

	From	To
Point ID:	HS5407	VVA027
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730720.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430723.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA046 (9:52:58 PM-10:12:58 PM) (S37)

Baseline observation:	HS5407 --- NVA046 (B37)
Processed:	5/13/2020 1:17:54 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.032 ft
Vertical precision:	0.056 ft
RMS:	0.045 ft
Maximum PDOP:	1.407
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 9:53:02 PM (UTC)
Processing stop time:	3/12/2020 10:12:52 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.585 ft	**Latitude**	N37°11'20.20733"	**Latitude**	N37°11'20.20733"
Northing	1893492.614 ft	**Longitude**	W121°41'42.34824"	**Longitude**	W121°41'42.34824"
Elevation	338.263 ft	**Height**	231.993 ft	**Height**	231.993 ft

To:	NVA046				
Grid		**Local**		**Global**	
Easting	6186114.571 ft	**Latitude**	N37°16'01.88593"	**Latitude**	N37°16'01.88593"
Northing	1922348.257 ft	**Longitude**	W121°47'26.19818"	**Longitude**	W121°47'26.19818"
Elevation	258.280 ft	**Height**	151.775 ft	**Height**	151.775 ft

Vector					
ΔEasting	-27428.014 ft	**NS Fwd Azimuth**	315°43'15.5"	**ΔX**	-14548.350 ft
ΔNorthing	28855.644 ft	**Ellipsoid Dist.**	39812.526 ft	**ΔY**	29343.202 ft
ΔElevation	-79.983 ft	**ΔHeight**	-80.218 ft	**ΔZ**	22636.128 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.011 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.016 ft
σ ΔNorthing	0.013 ft	**σ Ellipsoid Dist.**	0.012 ft	**σ ΔY**	0.021 ft
σ ΔElevation	0.028 ft	**σ ΔHeight**	0.028 ft	**σ ΔZ**	0.020 ft

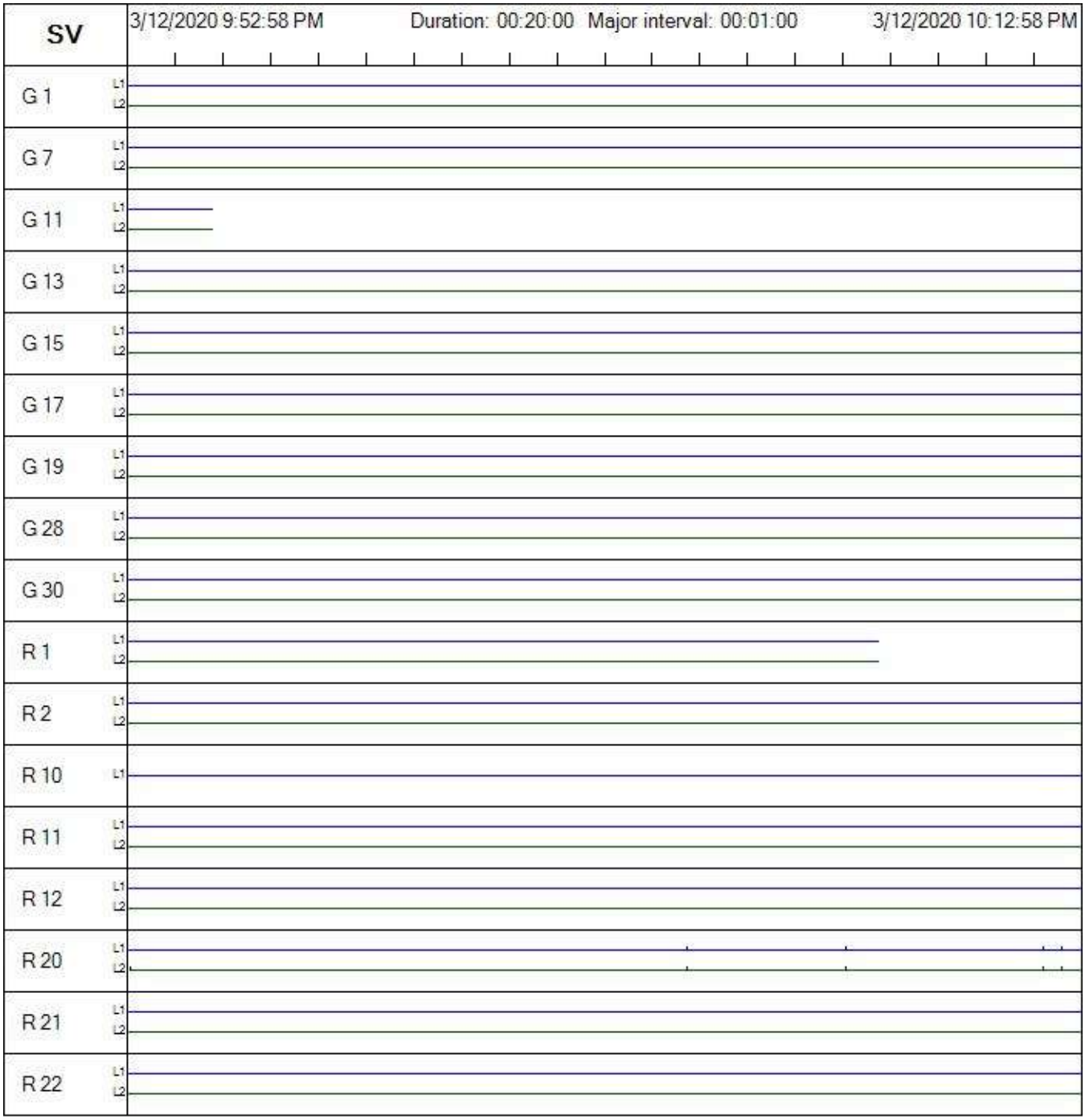
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0002628794		
Y	0.0002086263	0.0004245703	
Z	-0.0001687798	-0.0002590867	0.0004102401

Occupations

	From	To
Point ID:	HS5407	NVA046
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730720.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430724.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA002 (4:20:27 PM-4:34:34 PM) (S17)

Baseline observation:	HS5407 --- VVA002 (B17)
Processed:	5/13/2020 1:17:55 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.050 ft
Vertical precision:	0.108 ft
RMS:	0.047 ft
Maximum PDOP:	1.847
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 4:20:27 PM (UTC)
Processing stop time:	3/12/2020 4:34:34 PM (UTC)
Processing duration:	00:14:07
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.585 ft	**Latitude**	N37°11'20.20733"	**Latitude**	N37°11'20.20733"
Northing	1893492.614 ft	**Longitude**	W121°41'42.34824"	**Longitude**	W121°41'42.34824"
Elevation	338.263 ft	**Height**	231.993 ft	**Height**	231.993 ft

To:	VVA002				
Grid		**Local**		**Global**	
Easting	6226732.887 ft	**Latitude**	N37°07'48.80798"	**Latitude**	N37°07'48.80797"
Northing	1871944.901 ft	**Longitude**	W121°38'56.08134"	**Longitude**	W121°38'56.08134"
Elevation	350.599 ft	**Height**	244.215 ft	**Height**	244.214 ft

Vector					
ΔEasting	13190.301 ft	**NS Fwd Azimuth**	147°47'45.2"	**ΔX**	4668.635 ft
ΔNorthing	-21547.713 ft	**Ellipsoid Dist.**	25264.813 ft	**ΔY**	-18066.989 ft
ΔElevation	12.336 ft	**ΔHeight**	12.222 ft	**ΔZ**	-17032.709 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.019 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.032 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.020 ft	**σ ΔY**	0.042 ft
σ ΔElevation	0.055 ft	**σ ΔHeight**	0.055 ft	**σ ΔZ**	0.032 ft

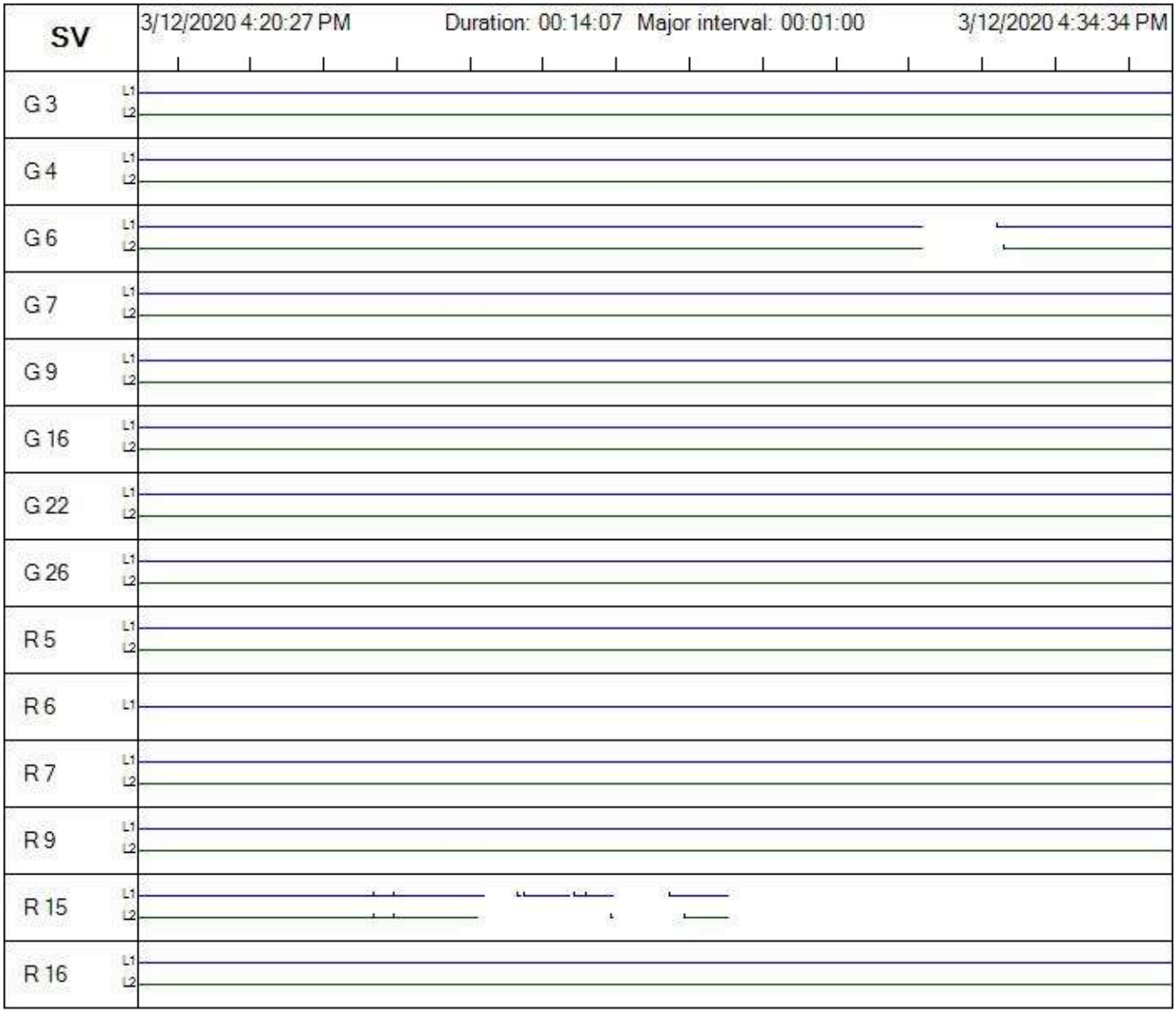
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0010330058		
Y	0.0009612713	0.0017772598	
Z	-0.0006856980	-0.0009358654	0.0009946679

Occupations

	From	To
Point ID:	HS5407	VVA002
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730720.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870720.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA037 (4:53:49 PM-5:15:03 PM) (S18)

Baseline observation:	HS5407 --- NVA037 (B18)
Processed:	5/13/2020 1:17:53 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.082 ft
Vertical precision:	0.118 ft
RMS:	0.033 ft
Maximum PDOP:	1.514
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 4:53:52 PM (UTC)
Processing stop time:	3/12/2020 5:15:02 PM (UTC)
Processing duration:	00:21:10
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.585 ft	**Latitude**	N37°11'20.20733"	**Latitude**	N37°11'20.20733"
Northing	1893492.614 ft	**Longitude**	W121°41'42.34824"	**Longitude**	W121°41'42.34824"
Elevation	338.263 ft	**Height**	231.993 ft	**Height**	231.993 ft

To:	NVA037				
Grid		**Local**		**Global**	
Easting	6244630.303 ft	**Latitude**	N37°03'43.73614"	**Latitude**	N37°03'43.73614"
Northing	1846942.878 ft	**Longitude**	W121°35'11.50300"	**Longitude**	W121°35'11.50300"
Elevation	252.118 ft	**Height**	145.269 ft	**Height**	145.269 ft

Vector					
ΔEasting	31087.718 ft	**NS Fwd Azimuth**	145°31'56.1"	**ΔX**	12366.550 ft
ΔNorthing	-46549.736 ft	**Ellipsoid Dist.**	55976.744 ft	**ΔY**	-40269.672 ft
ΔElevation	-86.145 ft	**ΔHeight**	-86.724 ft	**ΔZ**	-36862.990 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.023 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.033 ft
σ ΔNorthing	0.033 ft	**σ Ellipsoid Dist.**	0.032 ft	**σ ΔY**	0.055 ft
σ ΔElevation	0.060 ft	**σ ΔHeight**	0.060 ft	**σ ΔZ**	0.034 ft

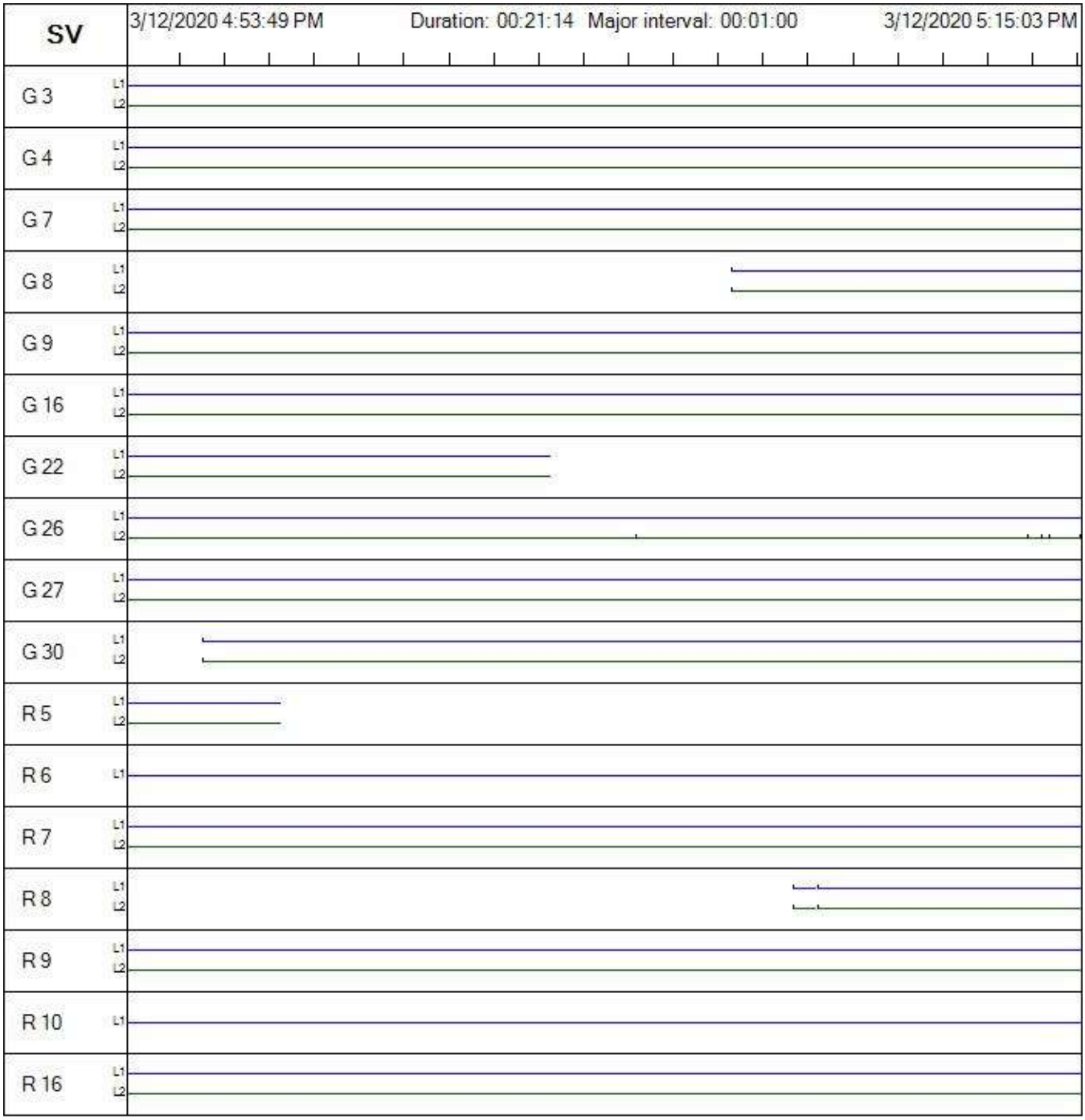
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0011059710		
Y	0.0012242450	0.0029875398	
Z	-0.0005153813	-0.0008658412	0.0011584395

Occupations

	From	To
Point ID:	HS5407	NVA037
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730720.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870721.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA036 (5:04:42 PM-5:37:08 PM) (S30)

Baseline observation:	HS5407 --- NVA036 (B30)
Processed:	5/13/2020 1:17:53 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.061 ft
Vertical precision:	0.205 ft
RMS:	0.054 ft
Maximum PDOP:	1.384
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 5:04:42 PM (UTC)
Processing stop time:	3/12/2020 5:37:02 PM (UTC)
Processing duration:	00:32:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.585 ft	**Latitude**	N37°11'20.20733"	**Latitude**	N37°11'20.20733"
Northing	1893492.614 ft	**Longitude**	W121°41'42.34824"	**Longitude**	W121°41'42.34824"
Elevation	338.263 ft	**Height**	231.993 ft	**Height**	231.993 ft

To:	NVA036				
Grid		**Local**		**Global**	
Easting	6264948.126 ft	**Latitude**	N37°00'36.31868"	**Latitude**	N37°00'36.31868"
Northing	1827758.030 ft	**Longitude**	W121°30'58.27791"	**Longitude**	W121°30'58.27791"
Elevation	192.749 ft	**Height**	85.468 ft	**Height**	85.468 ft

Vector					
ΔEasting	51405.540 ft	**NS Fwd Azimuth**	141°14'35.1"	**ΔX**	23914.173 ft
ΔNorthing	-65734.584 ft	**Ellipsoid Dist.**	83448.498 ft	**ΔY**	-60702.024 ft
ΔElevation	-145.514 ft	**ΔHeight**	-146.525 ft	**ΔZ**	-52030.246 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.045 ft
σ ΔNorthing	0.025 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.072 ft
σ ΔElevation	0.105 ft	**σ ΔHeight**	0.105 ft	**σ ΔZ**	0.067 ft

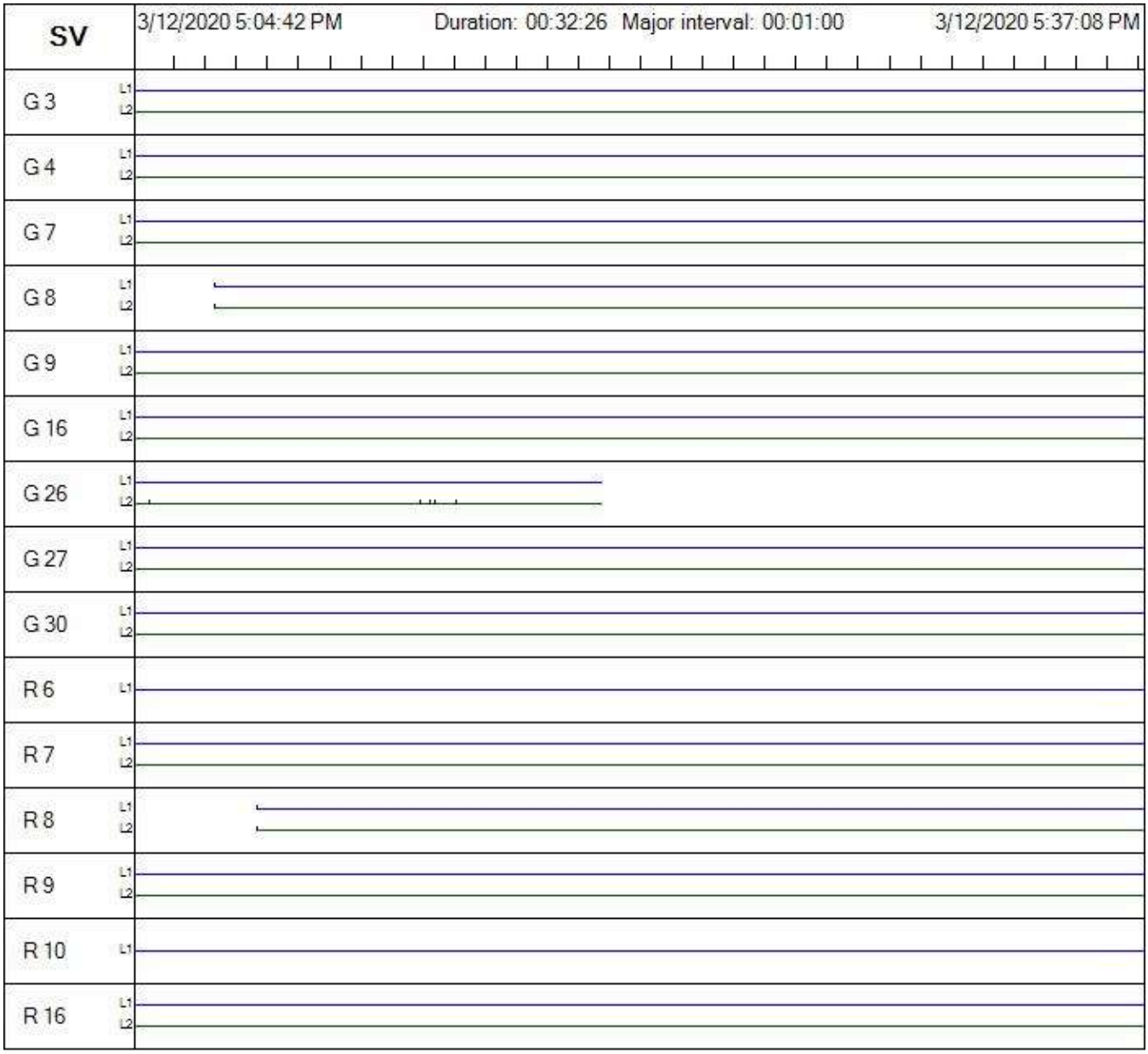
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0020684027		
Y	0.0030025003	0.0052336251	
Z	-0.0026498707	-0.0042638503	0.0045397135

Occupations

	From	To
Point ID:	HS5407	NVA036
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730720.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430720.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA021 (5:32:34 PM-5:56:46 PM) (S20)

Baseline observation:	HS5407 --- NVA021 (B20)
Processed:	5/13/2020 1:17:54 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.068 ft
Vertical precision:	0.213 ft
RMS:	0.038 ft
Maximum PDOP:	1.614
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 5:32:42 PM (UTC)
Processing stop time:	3/12/2020 5:56:42 PM (UTC)
Processing duration:	00:24:00
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.585 ft	**Latitude**	N37°11'20.20733"	**Latitude**	N37°11'20.20733"
Northing	1893492.614 ft	**Longitude**	W121°41'42.34824"	**Longitude**	W121°41'42.34824"
Elevation	338.263 ft	**Height**	231.993 ft	**Height**	231.993 ft

To:	NVA021				
Grid		**Local**		**Global**	
Easting	6247547.613 ft	**Latitude**	N37°01'29.00830"	**Latitude**	N37°01'29.00830"
Northing	1833281.902 ft	**Longitude**	W121°34'33.57551"	**Longitude**	W121°34'33.57551"
Elevation	206.598 ft	**Height**	99.446 ft	**Height**	99.446 ft

Vector					
ΔEasting	34005.028 ft	**NS Fwd Azimuth**	149°48'45.0"	**ΔX**	10706.239 ft
ΔNorthing	-60210.712 ft	**Ellipsoid Dist.**	69150.167 ft	**ΔY**	-48841.953 ft
ΔElevation	-131.665 ft	**ΔHeight**	-132.547 ft	**ΔZ**	-47766.880 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.015 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.045 ft
σ ΔNorthing	0.028 ft	**σ Ellipsoid Dist.**	0.024 ft	**σ ΔY**	0.072 ft
σ ΔElevation	0.108 ft	**σ ΔHeight**	0.108 ft	**σ ΔZ**	0.075 ft

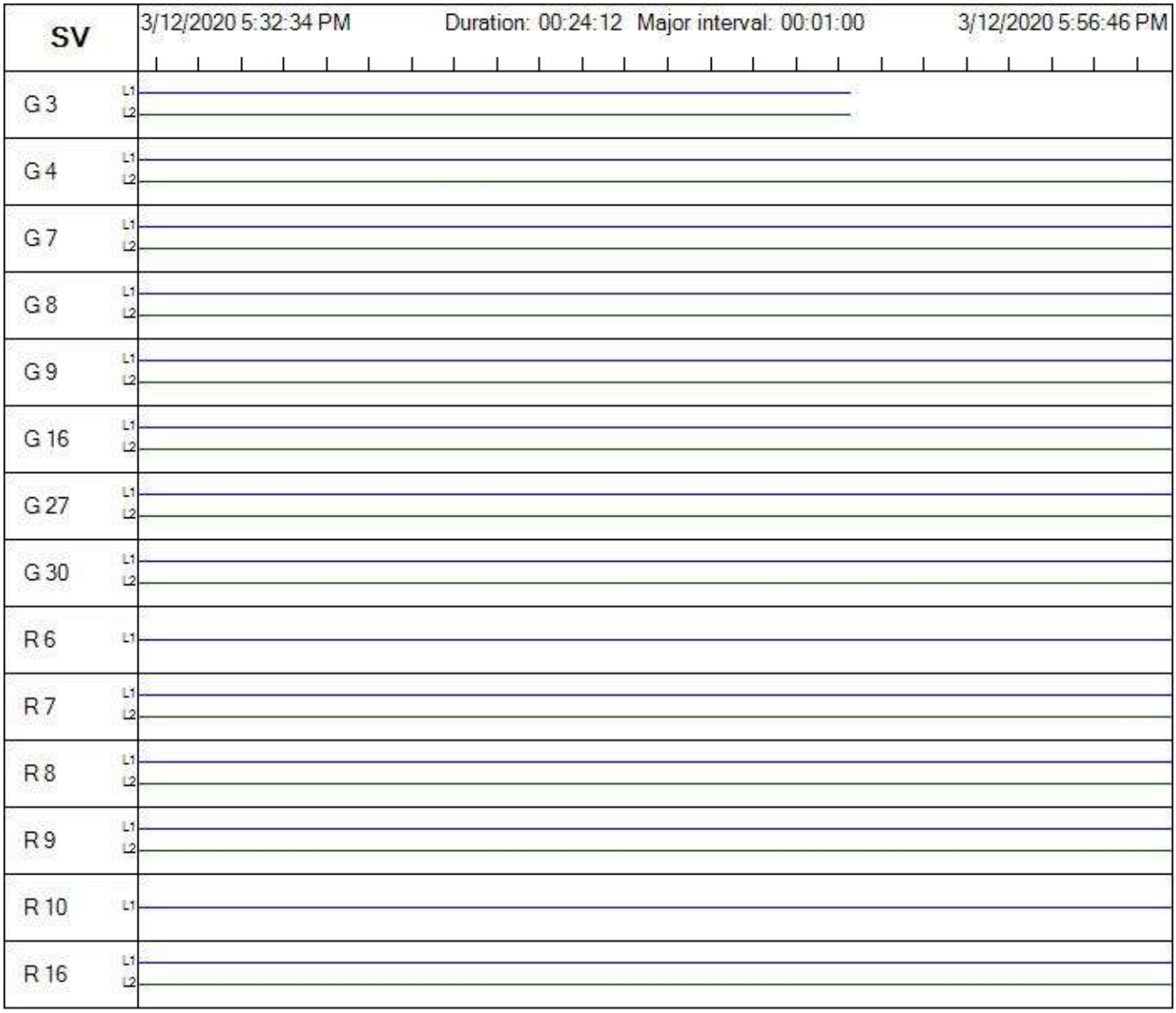
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0020599173		
Y	0.0030087782	0.0051125248	
Z	-0.0027935829	-0.0047603553	0.0055717491

Occupations

	From	To
Point ID:	HS5407	NVA021
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730720.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870722.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA020 (6:17:15 PM-6:37:17 PM) (S22)

Baseline observation:	HS5407 --- NVA020 (B22)
Processed:	5/13/2020 1:17:55 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.109 ft
Vertical precision:	0.130 ft
RMS:	0.057 ft
Maximum PDOP:	1.983
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 6:17:22 PM (UTC)
Processing stop time:	3/12/2020 6:37:12 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.585 ft	**Latitude**	N37°11'20.20733"	**Latitude**	N37°11'20.20733"
Northing	1893492.614 ft	**Longitude**	W121°41'42.34824"	**Longitude**	W121°41'42.34824"
Elevation	338.263 ft	**Height**	231.993 ft	**Height**	231.993 ft

To:	NVA020				
Grid		**Local**		**Global**	
Easting	6232005.217 ft	**Latitude**	N37°00'41.59670"	**Latitude**	N37°00'41.59670"
Northing	1828669.471 ft	**Longitude**	W121°37'44.53305"	**Longitude**	W121°37'44.53305"
Elevation	264.510 ft	**Height**	157.289 ft	**Height**	157.289 ft

Vector					
ΔEasting	18462.632 ft	**NS Fwd Azimuth**	163°22'15.0"	**ΔX**	-4021.098 ft
ΔNorthing	-64823.143 ft	**Ellipsoid Dist.**	67401.532 ft	**ΔY**	-43224.679 ft
ΔElevation	-73.753 ft	**ΔHeight**	-74.704 ft	**ΔZ**	-51560.749 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.030 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.039 ft
σ ΔNorthing	0.041 ft	**σ Ellipsoid Dist.**	0.036 ft	**σ ΔY**	0.049 ft
σ ΔElevation	0.066 ft	**σ ΔHeight**	0.066 ft	**σ ΔZ**	0.055 ft

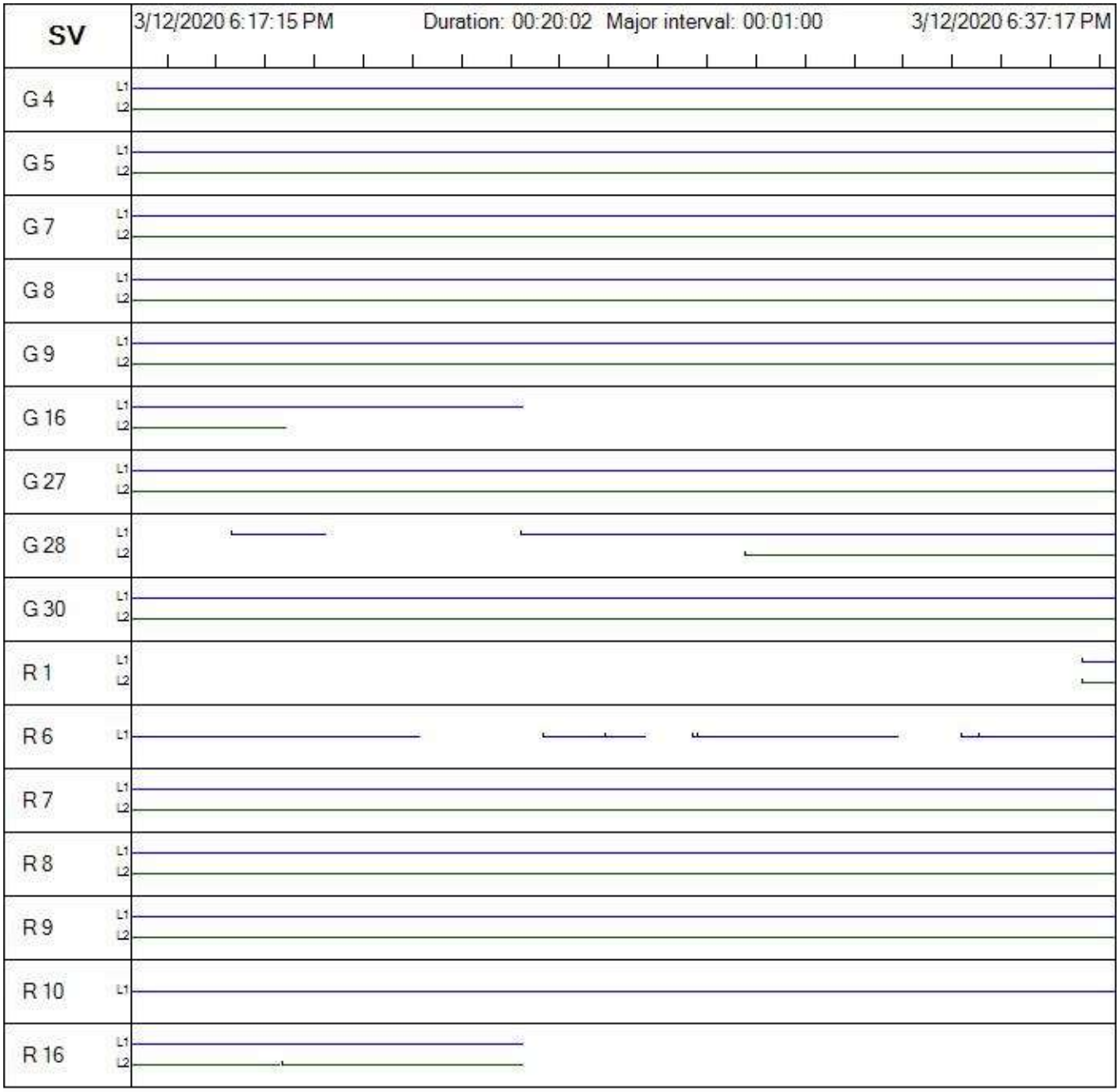
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0015279741		
Y	0.0009844564	0.0023722703	
Z	-0.0001652500	-0.0015721868	0.0030767377

Occupations

	From	To
Point ID:	HS5407	NVA020
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730720.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870723.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA010 (6:53:27 PM-7:23:54 PM) (S24)

Baseline observation:	HS5407 --- VVA010 (B24)
Processed:	5/13/2020 1:17:56 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.051 ft
Vertical precision:	0.320 ft
RMS:	0.082 ft
Maximum PDOP:	3.095
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 6:53:32 PM (UTC)
Processing stop time:	3/12/2020 7:23:52 PM (UTC)
Processing duration:	00:30:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.585 ft	**Latitude**	N37°11'20.20733"	**Latitude**	N37°11'20.20733"
Northing	1893492.614 ft	**Longitude**	W121°41'42.34824"	**Longitude**	W121°41'42.34824"
Elevation	338.263 ft	**Height**	231.993 ft	**Height**	231.993 ft

To:	VVA010				
Grid		**Local**		**Global**	
Easting	6216576.245 ft	**Latitude**	N37°00'17.93862"	**Latitude**	N37°00'17.93862"
Northing	1826467.006 ft	**Longitude**	W121°40'54.40059"	**Longitude**	W121°40'54.40059"
Elevation	494.966 ft	**Height**	387.693 ft	**Height**	387.692 ft

Vector					
ΔEasting	3033.660 ft	**NS Fwd Azimuth**	176°40'36.7"	**ΔX**	-17982.839 ft
ΔNorthing	-67025.608 ft	**Ellipsoid Dist.**	67094.609 ft	**ΔY**	-36524.910 ft
ΔElevation	156.703 ft	**ΔHeight**	155.700 ft	**ΔZ**	-53332.814 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.073 ft
σ ΔNorthing	0.021 ft	**σ Ellipsoid Dist.**	0.021 ft	**σ ΔY**	0.115 ft
σ ΔElevation	0.163 ft	**σ ΔHeight**	0.163 ft	**σ ΔZ**	0.094 ft

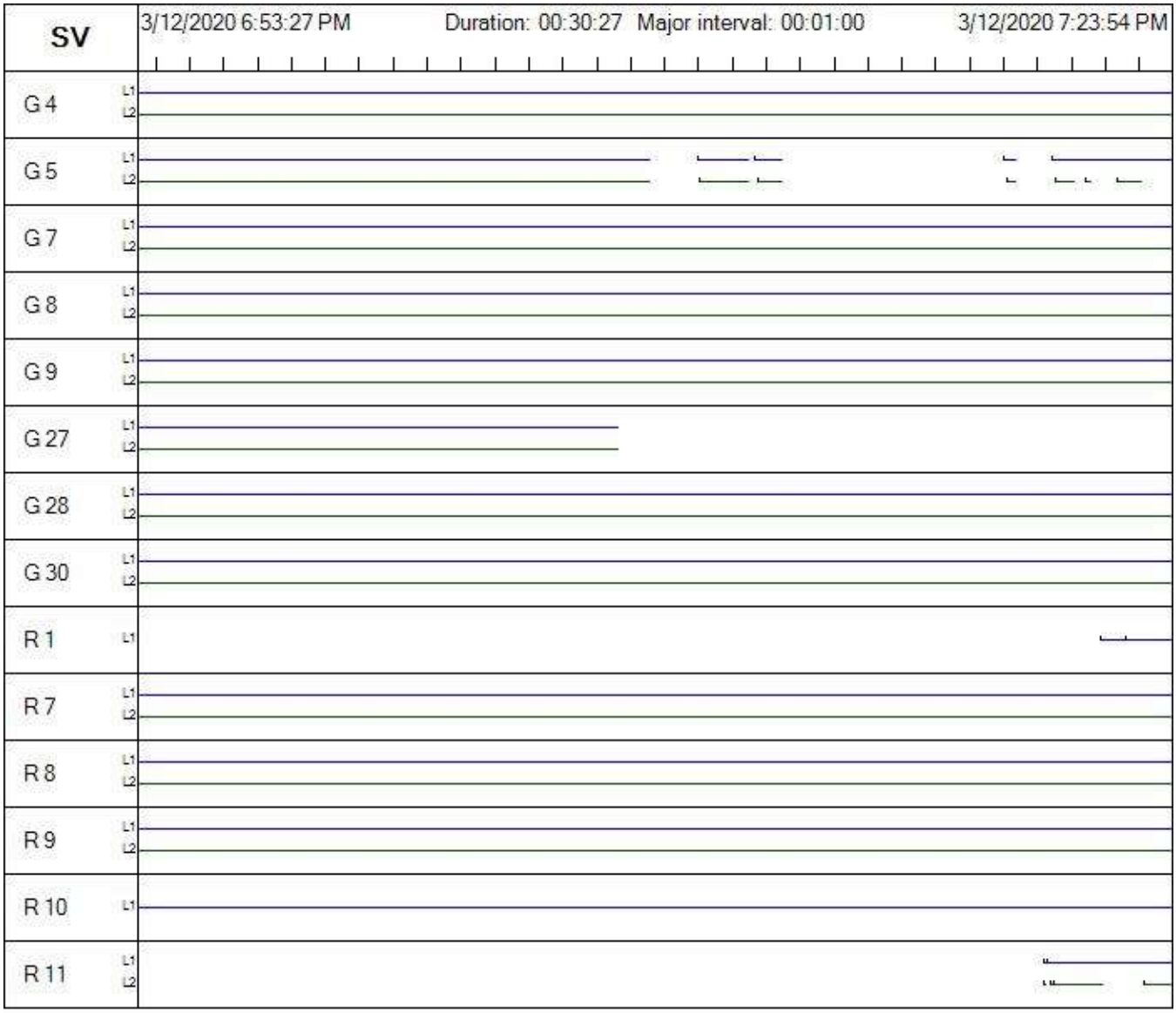
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0052591560		
Y	0.0079621328	0.0132140723	
Z	-0.0064585294	-0.0104514032	0.0088736238

Occupations

	From	To
Point ID:	HS5407	VVA010
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730720.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870724.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA011 (6:53:56 PM-7:23:56 PM) (S33)

Baseline observation:	HS5407 --- VVA011 (B33)
Processed:	5/13/2020 1:17:56 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.040 ft
Vertical precision:	0.213 ft
RMS:	0.049 ft
Maximum PDOP:	1.546
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 6:54:02 PM (UTC)
Processing stop time:	3/12/2020 7:23:52 PM (UTC)
Processing duration:	00:29:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.585 ft	**Latitude**	N37°11'20.20733"	**Latitude**	N37°11'20.20733"
Northing	1893492.614 ft	**Longitude**	W121°41'42.34824"	**Longitude**	W121°41'42.34824"
Elevation	338.263 ft	**Height**	231.993 ft	**Height**	231.993 ft

To:	VVA011				
Grid		**Local**		**Global**	
Easting	6282801.226 ft	**Latitude**	N37°04'21.67285"	**Latitude**	N37°04'21.67285"
Northing	1850363.485 ft	**Longitude**	W121°27'21.02720"	**Longitude**	W121°27'21.02720"
Elevation	887.650 ft	**Height**	781.714 ft	**Height**	781.714 ft

Vector					
ΔEasting	69258.641 ft	**NS Fwd Azimuth**	121°10'51.2"	**ΔX**	45815.843 ft
ΔNorthing	-43129.129 ft	**Ellipsoid Dist.**	81590.730 ft	**ΔY**	-58667.090 ft
ΔElevation	549.386 ft	**ΔHeight**	549.721 ft	**ΔZ**	-33417.728 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.015 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.050 ft
σ ΔNorthing	0.016 ft	**σ Ellipsoid Dist.**	0.014 ft	**σ ΔY**	0.076 ft
σ ΔElevation	0.109 ft	**σ ΔHeight**	0.109 ft	**σ ΔZ**	0.063 ft

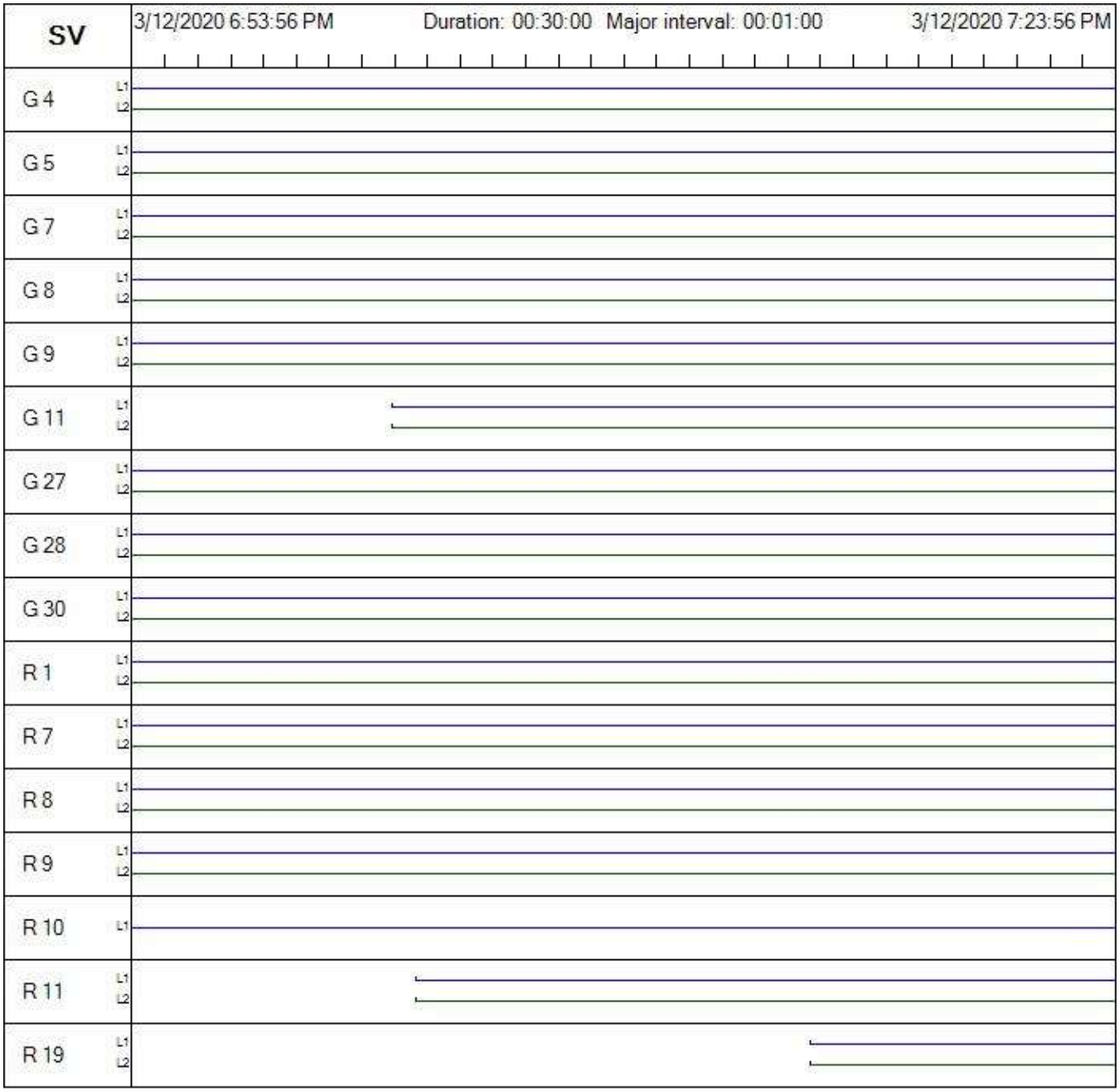
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0025248637		
Y	0.0035885240	0.0057641199	
Z	-0.0029429678	-0.0045882177	0.0040273730

Occupations

	From	To
Point ID:	HS5407	VVA011
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730720.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430722.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA029 (7:51:57 PM-8:11:58 PM) (S26)

Baseline observation:	HS5407 --- NVA029 (B26)
Processed:	5/13/2020 1:17:56 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.134 ft
Vertical precision:	0.229 ft
RMS:	0.047 ft
Maximum PDOP:	1.976
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 7:52:02 PM (UTC)
Processing stop time:	3/12/2020 8:11:52 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.585 ft	**Latitude**	N37°11'20.20733"	**Latitude**	N37°11'20.20733"
Northing	1893492.614 ft	**Longitude**	W121°41'42.34824"	**Longitude**	W121°41'42.34824"
Elevation	338.263 ft	**Height**	231.993 ft	**Height**	231.993 ft

To:	NVA029				
Grid		**Local**		**Global**	
Easting	6208956.485 ft	**Latitude**	N37°00'40.95417"	**Latitude**	N37°00'40.95417"
Northing	1828892.283 ft	**Longitude**	W121°42'28.71537"	**Longitude**	W121°42'28.71537"
Elevation	1848.282 ft	**Height**	1741.064 ft	**Height**	1741.063 ft

Vector					
ΔEasting	-4586.100 ft	**NS Fwd Azimuth**	183°19'44.4"	**ΔX**	-24323.858 ft
ΔNorthing	-64600.331 ft	**Ellipsoid Dist.**	64763.326 ft	**ΔY**	-32232.737 ft
ΔElevation	1510.018 ft	**ΔHeight**	1509.071 ft	**ΔZ**	-50659.251 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.047 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.059 ft
σ ΔNorthing	0.053 ft	**σ Ellipsoid Dist.**	0.053 ft	**σ ΔY**	0.097 ft
σ ΔElevation	0.117 ft	**σ ΔHeight**	0.117 ft	**σ ΔZ**	0.077 ft

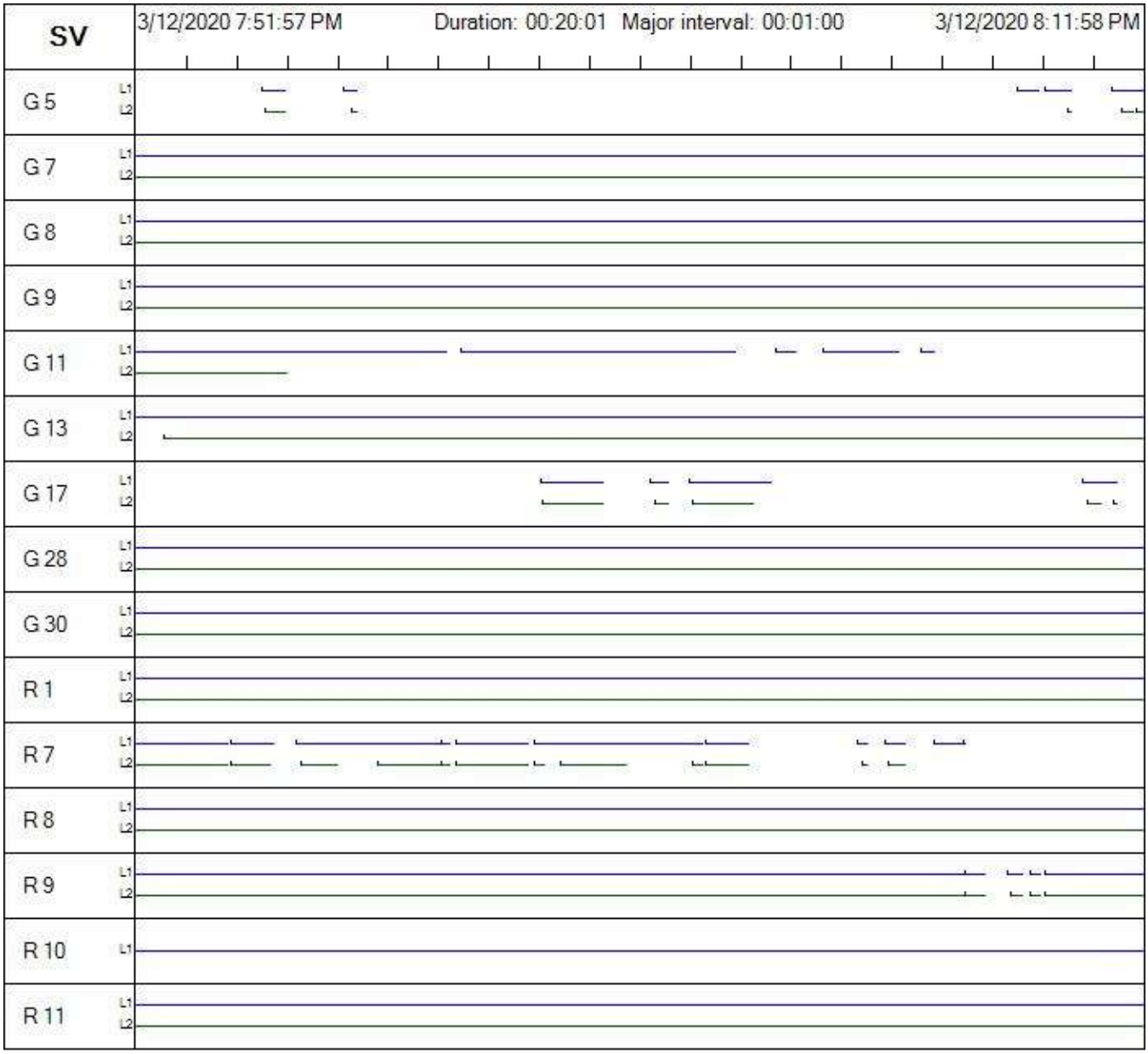
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0034681006		
Y	0.0032025146	0.0093809172	
Z	-0.0022036780	-0.0044798207	0.0059115115

Occupations

	From	To
Point ID:	HS5407	NVA029
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730720.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870725.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

NVA036 - NVA037 (5:04:42 PM-5:15:03 PM) (S29)

Baseline observation:	NVA036 --- NVA037 (B29)
Processed:	5/13/2020 1:17:52 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.049 ft
Vertical precision:	0.068 ft
RMS:	0.032 ft
Maximum PDOP:	1.384
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 5:04:42 PM (UTC)
Processing stop time:	3/12/2020 5:15:03 PM (UTC)
Processing duration:	00:10:21
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	NVA036				
Grid		**Local**		**Global**	
Easting	6264948.129 ft	**Latitude**	N37°00'36.31863"	**Latitude**	N37°00'36.31863"
Northing	1827758.025 ft	**Longitude**	W121°30'58.27787"	**Longitude**	W121°30'58.27787"
Elevation	192.894 ft	**Height**	85.613 ft	**Height**	85.613 ft

To:	NVA037				
Grid		**Local**		**Global**	
Easting	6244630.266 ft	**Latitude**	N37°03'43.73606"	**Latitude**	N37°03'43.73606"
Northing	1846942.870 ft	**Longitude**	W121°35'11.50346"	**Longitude**	W121°35'11.50346"
Elevation	252.246 ft	**Height**	145.397 ft	**Height**	145.397 ft

Vector					
ΔEasting	-20317.863 ft	**NS Fwd Azimuth**	312°44'04.5"	**ΔX**	-11547.651 ft
ΔNorthing	19184.846 ft	**Ellipsoid Dist.**	27943.939 ft	**ΔY**	20432.384 ft
ΔElevation	59.352 ft	**ΔHeight**	59.784 ft	**ΔZ**	15167.244 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.019 ft
σ ΔNorthing	0.019 ft	**σ Ellipsoid Dist.**	0.019 ft	**σ ΔY**	0.031 ft
σ ΔElevation	0.035 ft	**σ ΔHeight**	0.035 ft	**σ ΔZ**	0.022 ft

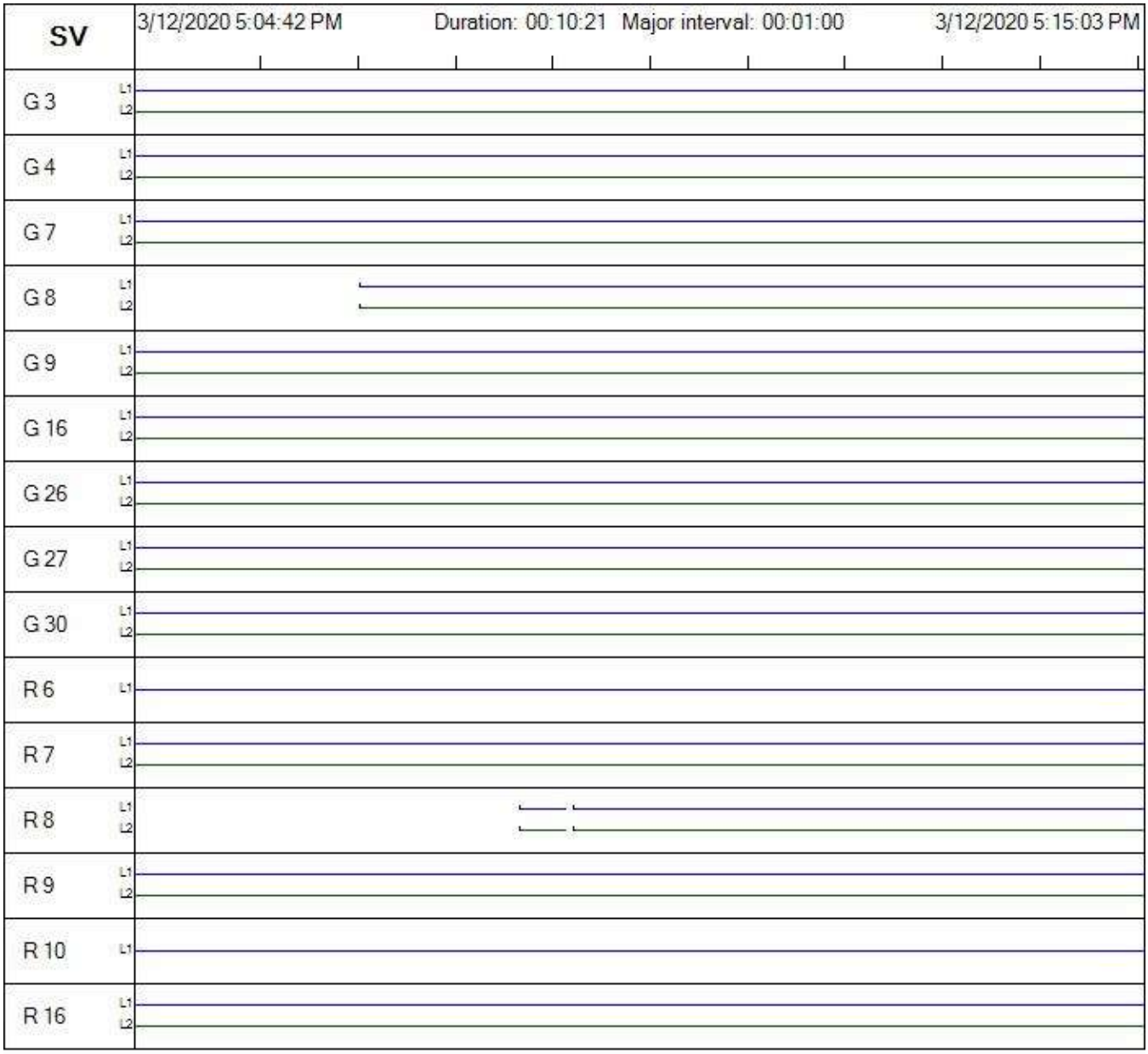
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003530882		
Y	0.0003507241	0.0009695529	
Z	-0.0001763149	-0.0002946563	0.0004703780

Occupations

	From	To
Point ID:	NVA036	NVA037
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430720.t02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870721.t02
Receiver type:	R8 Model 3	R8 Model 2
Receiver serial number:	5018426973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

NVA036 - NVA021 (5:32:34 PM-5:37:08 PM) (S28)

Baseline observation:	NVA036 --- NVA021 (B28)
Processed:	5/13/2020 1:17:50 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.054 ft
Vertical precision:	0.062 ft
RMS:	0.025 ft
Maximum PDOP:	1.334
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 5:32:34 PM (UTC)
Processing stop time:	3/12/2020 5:37:08 PM (UTC)
Processing duration:	00:04:34
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	NVA036				
Grid		**Local**		**Global**	
Easting	6264948.129 ft	**Latitude**	N37°00'36.31863"	**Latitude**	N37°00'36.31863"
Northing	1827758.025 ft	**Longitude**	W121°30'58.27787"	**Longitude**	W121°30'58.27787"
Elevation	192.894 ft	**Height**	85.613 ft	**Height**	85.613 ft

To:	NVA021				
Grid		**Local**		**Global**	
Easting	6247547.662 ft	**Latitude**	N37°01'29.00825"	**Latitude**	N37°01'29.00825"
Northing	1833281.896 ft	**Longitude**	W121°34'33.57490"	**Longitude**	W121°34'33.57490"
Elevation	206.616 ft	**Height**	99.464 ft	**Height**	99.464 ft

Vector					
ΔEasting	-17400.467 ft	**NS Fwd Azimuth**	286°59'23.5"	**ΔX**	-13207.842 ft
ΔNorthing	5523.872 ft	**Ellipsoid Dist.**	18256.024 ft	**ΔY**	11860.134 ft
ΔElevation	13.722 ft	**ΔHeight**	13.851 ft	**ΔZ**	4263.290 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.019 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.015 ft	**σ ΔY**	0.028 ft
σ ΔElevation	0.032 ft	**σ ΔHeight**	0.032 ft	**σ ΔZ**	0.023 ft

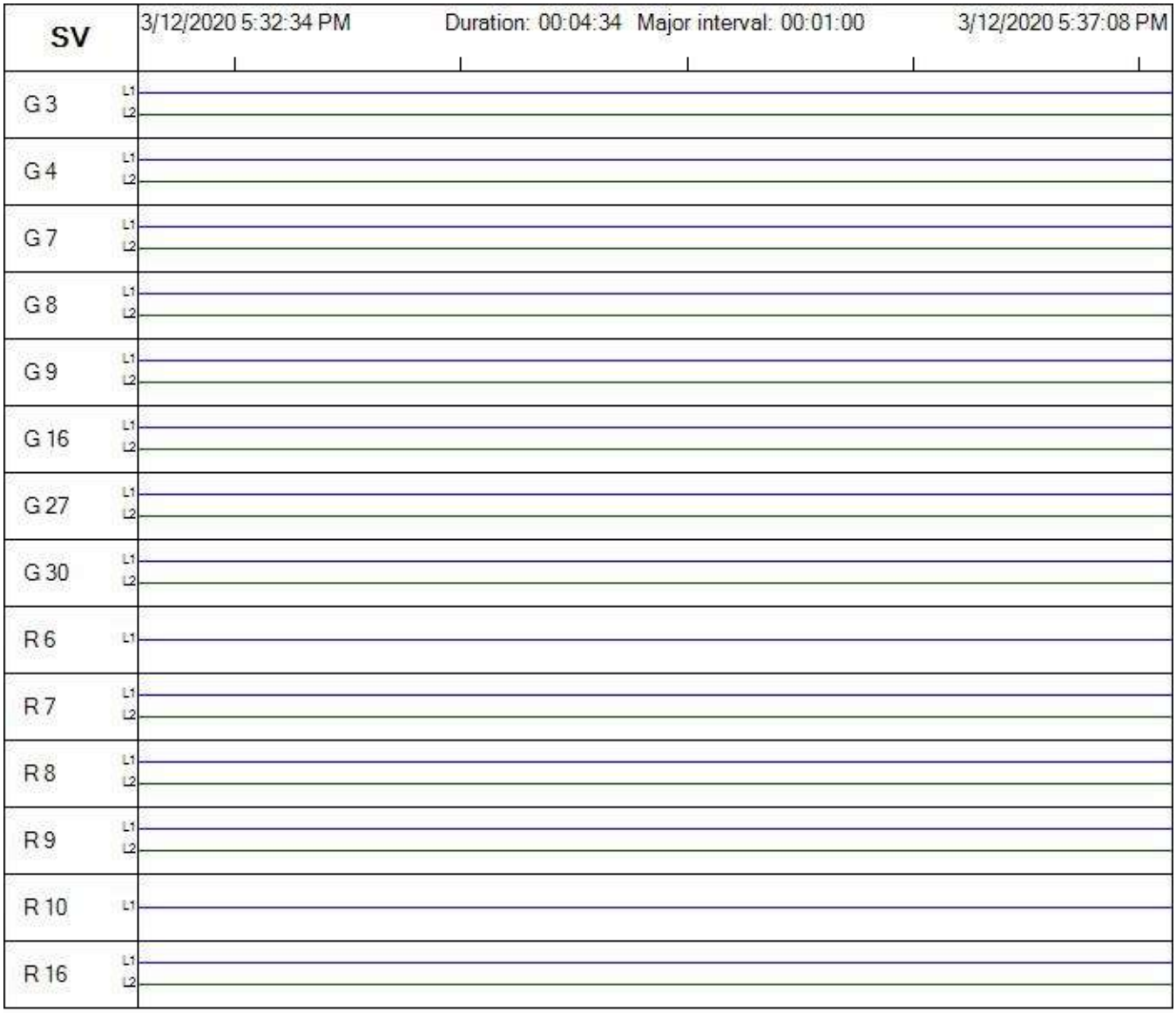
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003566408		
Y	0.0003112087	0.0007821579	
Z	-0.0000566333	-0.0002123483	0.0005469619

Occupations

	From	To
Point ID:	NVA036	NVA021
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430720.t02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870722.t02
Receiver type:	R8 Model 3	R8 Model 2
Receiver serial number:	5018426973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

VVA010 - VVA011 (6:53:56 PM-7:23:54 PM) (S32)

Baseline observation:	VVA010 --- VVA011 (B32)
Processed:	5/13/2020 1:17:51 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.056 ft
Vertical precision:	0.319 ft
RMS:	0.080 ft
Maximum PDOP:	3.095
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 6:54:02 PM (UTC)
Processing stop time:	3/12/2020 7:23:52 PM (UTC)
Processing duration:	00:29:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	VVA010				
Grid		**Local**		**Global**	
Easting	6216576.087 ft	**Latitude**	N37°00'17.93807"	**Latitude**	N37°00'17.93806"
Northing	1826466.952 ft	**Longitude**	W121°40'54.40253"	**Longitude**	W121°40'54.40253"
Elevation	494.519 ft	**Height**	387.245 ft	**Height**	387.245 ft

To:	VVA011				
Grid		**Local**		**Global**	
Easting	6282801.124 ft	**Latitude**	N37°04'21.67265"	**Latitude**	N37°04'21.67265"
Northing	1850363.466 ft	**Longitude**	W121°27'21.02846"	**Longitude**	W121°27'21.02846"
Elevation	887.493 ft	**Height**	781.557 ft	**Height**	781.557 ft

Vector					
ΔEasting	66225.037 ft	**NS Fwd Azimuth**	69°26'10.5"	**ΔX**	63798.618 ft
ΔNorthing	23896.514 ft	**Ellipsoid Dist.**	70404.121 ft	**ΔY**	-22142.389 ft
ΔElevation	392.974 ft	**ΔHeight**	394.312 ft	**ΔZ**	19915.290 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.020 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.068 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.115 ft
σ ΔElevation	0.163 ft	**σ ΔHeight**	0.163 ft	**σ ΔZ**	0.098 ft

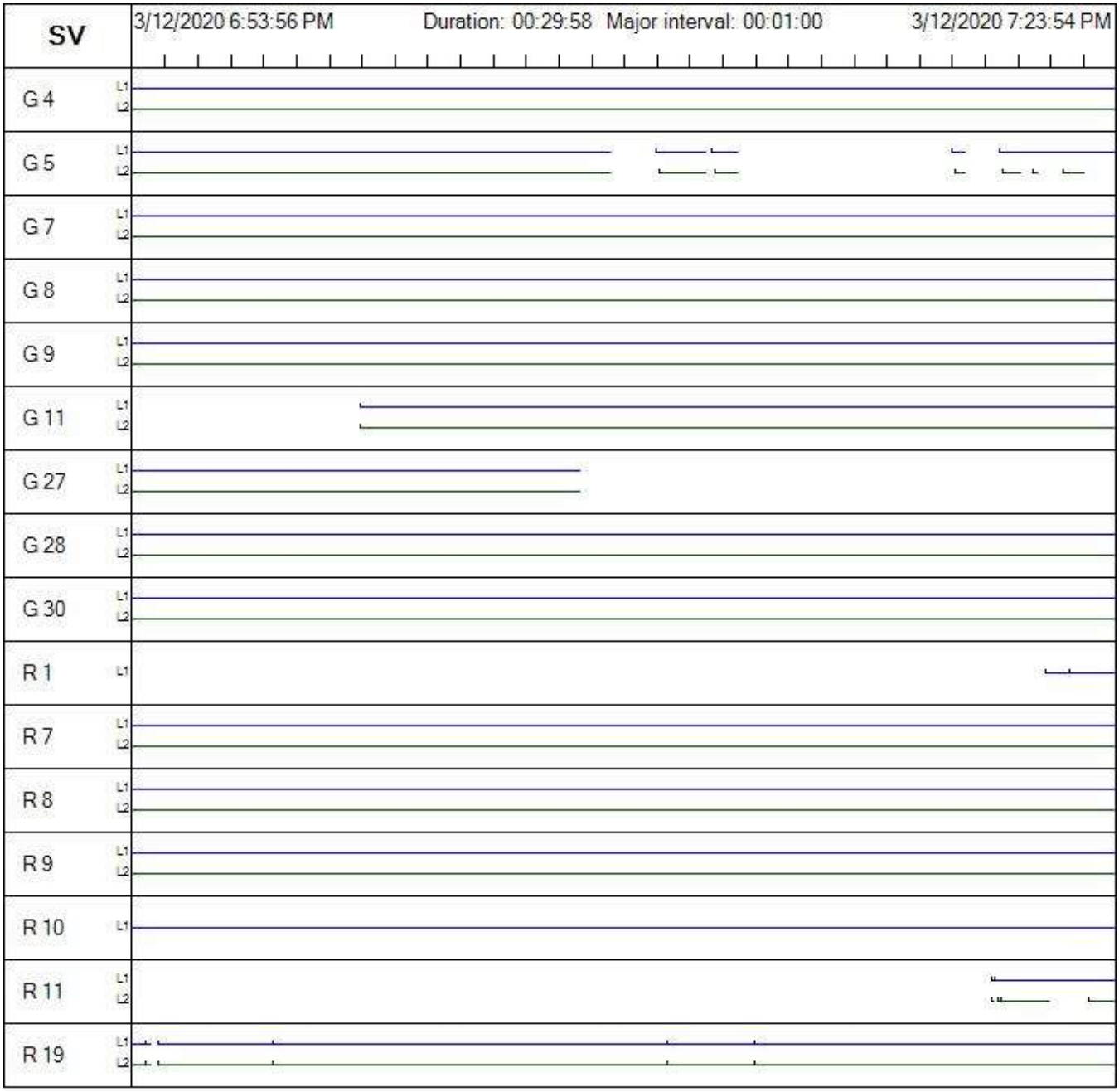
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0045725955		
Y	0.0073184242	0.0132288574	
Z	-0.0060566550	-0.0109124780	0.0095747904

Occupations

	From	To
Point ID:	VVA010	VVA011
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870724.t02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430722.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4748141711	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA027 (9:11:18 PM-9:21:20 PM) (S40)

Baseline observation:	P217 --- VVA027 (B40)
Processed:	5/13/2020 1:17:57 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.159 ft
Vertical precision:	0.281 ft
RMS:	0.070 ft
Maximum PDOP:	1.768
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 9:11:42 PM (UTC)
Processing stop time:	3/12/2020 9:21:12 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18571"	**Latitude**	N37°06'16.18571"
Northing	1862583.947 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.519 ft	**Height**	238.990 ft	**Height**	238.990 ft

To:	VVA027				
Grid		**Local**		**Global**	
Easting	6201277.385 ft	**Latitude**	N37°16'08.38342"	**Latitude**	N37°16'08.38342"
Northing	1922800.571 ft	**Longitude**	W121°44'18.70560"	**Longitude**	W121°44'18.70560"
Elevation	666.870 ft	**Height**	560.877 ft	**Height**	560.877 ft

Vector					
ΔEasting	-24842.193 ft	**NS Fwd Azimuth**	336°52'36.3"	**ΔX**	-2904.564 ft
ΔNorthing	60216.624 ft	**Ellipsoid Dist.**	65141.121 ft	**ΔY**	44040.430 ft
ΔElevation	321.351 ft	**ΔHeight**	321.887 ft	**ΔZ**	47912.758 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.059 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.072 ft
σ ΔNorthing	0.062 ft	**σ Ellipsoid Dist.**	0.058 ft	**σ ΔY**	0.120 ft
σ ΔElevation	0.143 ft	**σ ΔHeight**	0.143 ft	**σ ΔZ**	0.091 ft

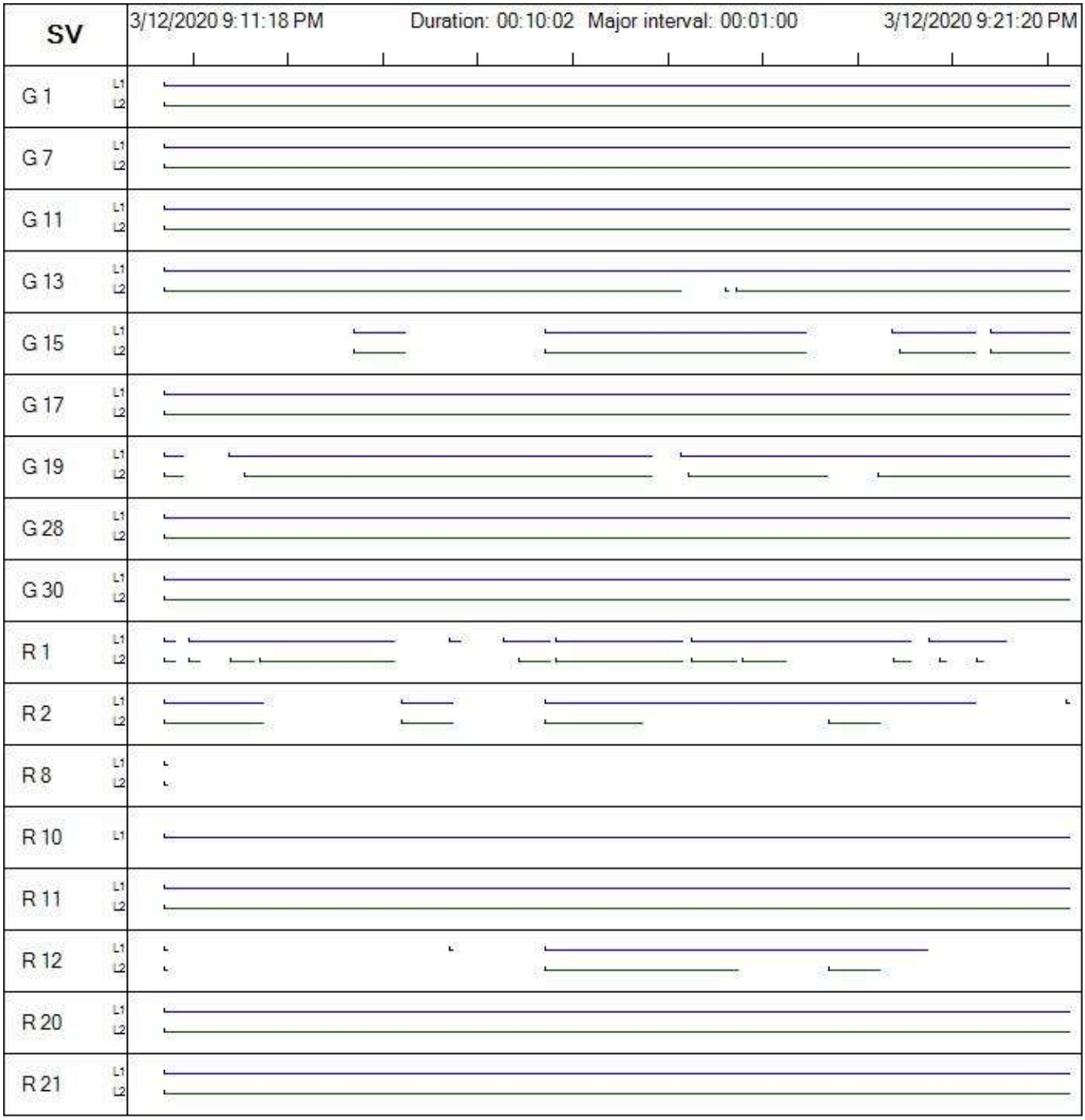
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0051577684		
Y	0.0046717877	0.0144364735	
Z	-0.0021026452	-0.0076052602	0.0082314721

Occupations

	From	To
Point ID:	P217	VVA027
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170720.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430723.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5018426973
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA046 (9:52:58 PM-10:12:58 PM) (S39)

Baseline observation:	P217 --- NVA046 (B39)
Processed:	5/13/2020 1:17:56 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.060 ft
Vertical precision:	0.109 ft
RMS:	0.061 ft
Maximum PDOP:	1.565
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/12/2020 9:53:12 PM (UTC)
Processing stop time:	3/12/2020 10:12:42 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18571"	**Latitude**	N37°06'16.18571"
Northing	1862583.947 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.519 ft	**Height**	238.990 ft	**Height**	238.990 ft

To:	NVA046				
Grid		**Local**		**Global**	
Easting	6186114.564 ft	**Latitude**	N37°16'01.88566"	**Latitude**	N37°16'01.88566"
Northing	1922348.230 ft	**Longitude**	W121°47'26.19826"	**Longitude**	W121°47'26.19826"
Elevation	258.301 ft	**Height**	151.797 ft	**Height**	151.797 ft

Vector					
ΔEasting	-40005.014 ft	**NS Fwd Azimuth**	325°29'50.7"	**ΔX**	-15828.702 ft
ΔNorthing	59764.283 ft	**Ellipsoid Dist.**	71919.399 ft	**ΔY**	51957.493 ft
ΔElevation	-87.217 ft	**ΔHeight**	-87.194 ft	**ΔZ**	47142.022 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.022 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.031 ft
σ ΔNorthing	0.025 ft	**σ Ellipsoid Dist.**	0.024 ft	**σ ΔY**	0.041 ft
σ ΔElevation	0.056 ft	**σ ΔHeight**	0.056 ft	**σ ΔZ**	0.039 ft

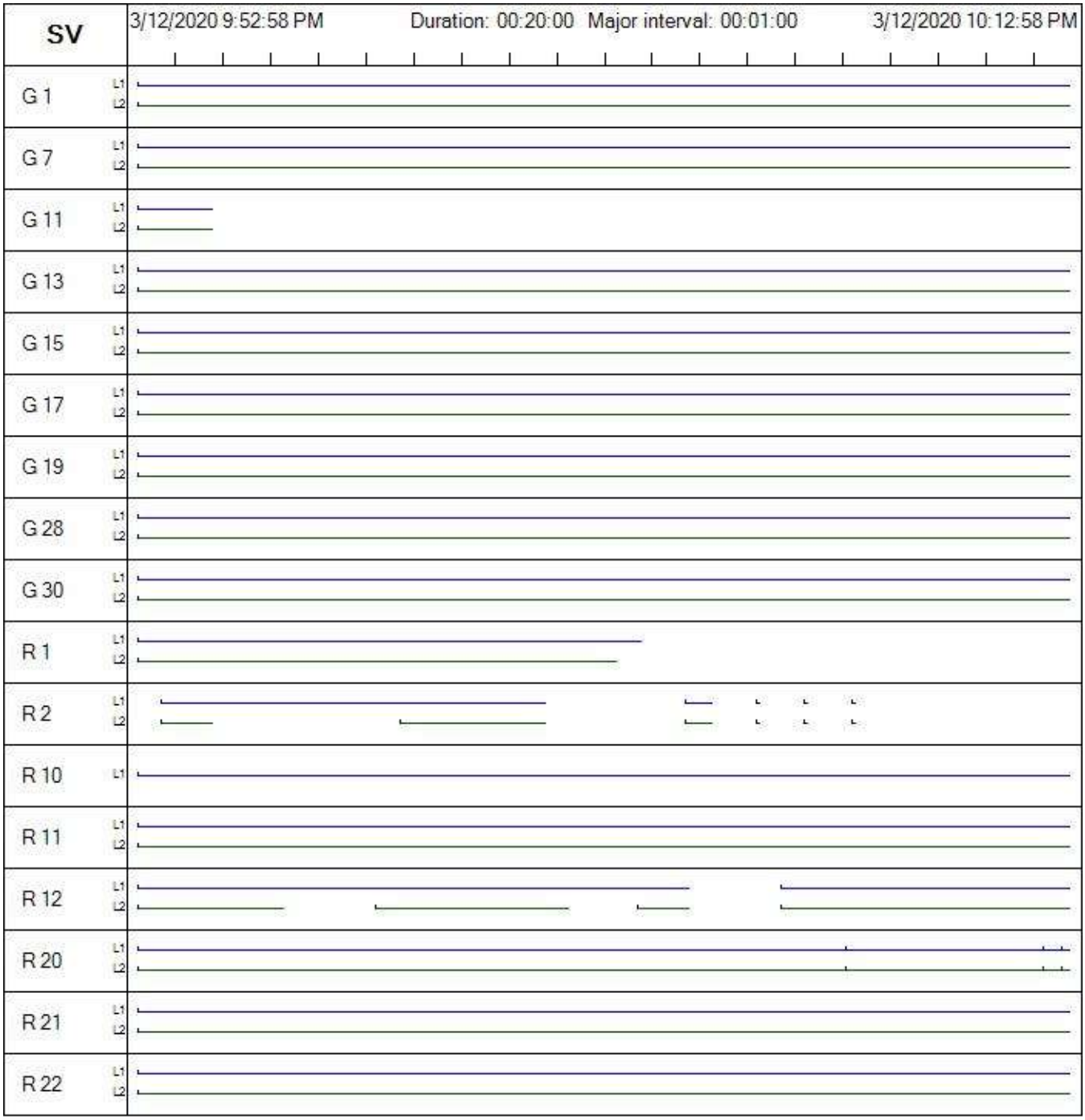
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0009693572		
Y	0.0007850363	0.0016829380	
Z	-0.0006540815	-0.0010207863	0.0015278555

Occupations

	From	To
Point ID:	P217	NVA046
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170720.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430724.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5018426973
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

VVA043 - VVA050 (6:08:30 PM-6:35:47 PM) (S9)

Baseline observation:	VVA043 --- VVA050 (B9)
Processed:	5/14/2020 4:13:41 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.087 ft
Vertical precision:	0.242 ft
RMS:	0.063 ft
Maximum PDOP:	1.493
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 6:08:32 PM (UTC)
Processing stop time:	3/13/2020 6:35:42 PM (UTC)
Processing duration:	00:27:10
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	VVA043				
Grid		**Local**		**Global**	
Easting	6245738.360 ft	**Latitude**	N36°51'47.01153"	**Latitude**	N36°51'47.01153"
Northing	1774435.380 ft	**Longitude**	W121°34'47.51141"	**Longitude**	W121°34'47.51141"
Elevation	417.805 ft	**Height**	309.049 ft	**Height**	309.049 ft

To:	VVA050				
Grid		**Local**		**Global**	
Easting	6306391.616 ft	**Latitude**	N36°59'55.82038"	**Latitude**	N36°59'55.82037"
Northing	1823243.251 ft	**Longitude**	W121°22'26.82846"	**Longitude**	W121°22'26.82846"
Elevation	276.528 ft	**Height**	169.676 ft	**Height**	169.676 ft

Vector					
ΔEasting	60653.256 ft	**NS Fwd Azimuth**	50°30'58.8"	**ΔX**	66858.292 ft
ΔNorthing	48807.871 ft	**Ellipsoid Dist.**	77850.174 ft	**ΔY**	-5973.516 ft
ΔElevation	-141.277 ft	**ΔHeight**	-139.373 ft	**ΔZ**	39434.586 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.023 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.058 ft
σ ΔNorthing	0.033 ft	**σ Ellipsoid Dist.**	0.033 ft	**σ ΔY**	0.088 ft
σ ΔElevation	0.123 ft	**σ ΔHeight**	0.123 ft	**σ ΔZ**	0.076 ft

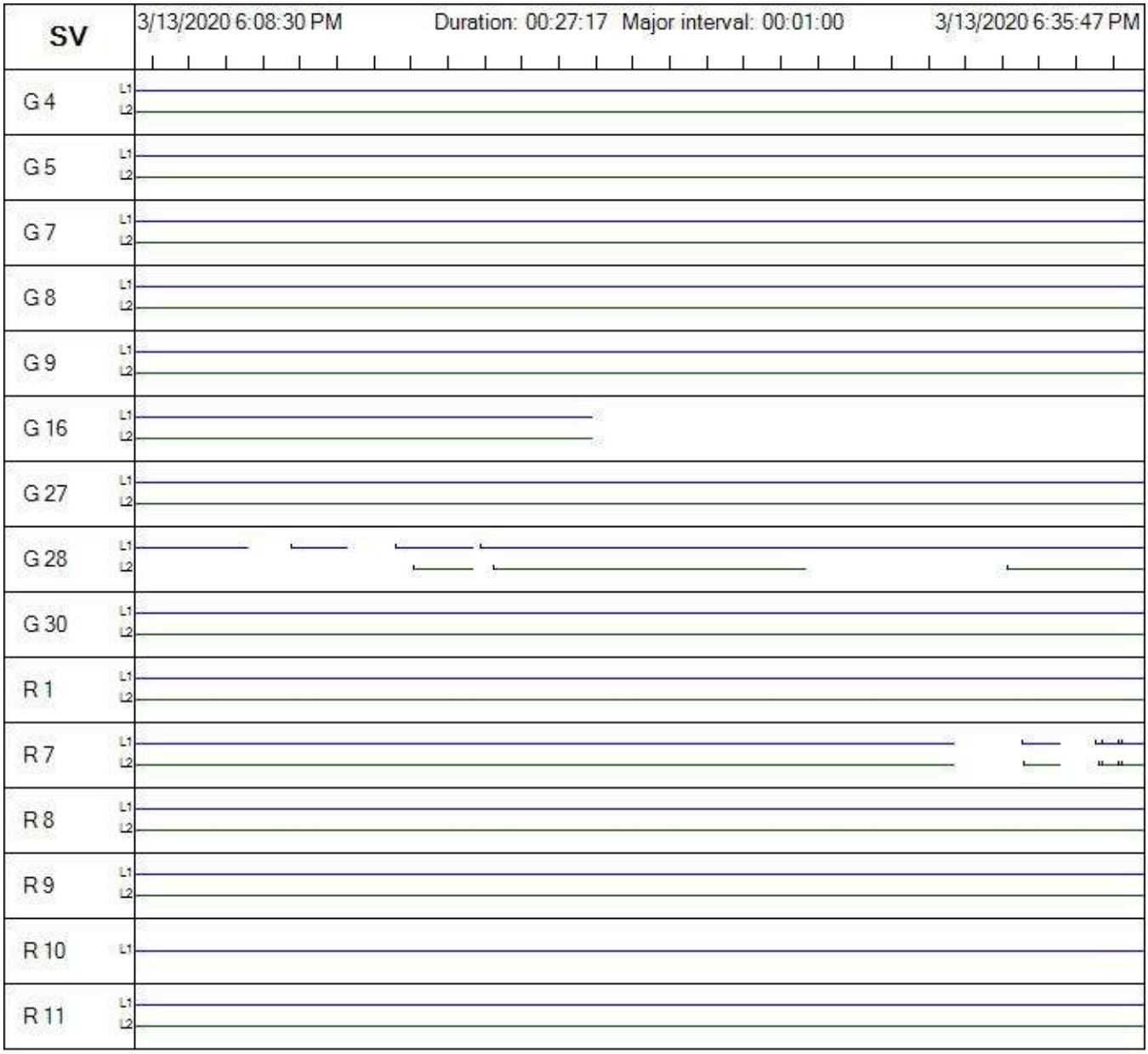
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0033346013		
Y	0.0045159335	0.0077677953	
Z	-0.0031420140	-0.0058848629	0.0057146039

Occupations

	From	To
Point ID:	VVA043	VVA050
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870732.t02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430732.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4748141711	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

NVA023 - VVA044 (5:27:01 PM-5:39:43 PM) (S7)

Baseline observation:	NVA023 --- VVA044 (B7)
Processed:	5/14/2020 4:13:42 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.126 ft
Vertical precision:	0.148 ft
RMS:	0.033 ft
Maximum PDOP:	1.546
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 5:27:01 PM (UTC)
Processing stop time:	3/13/2020 5:39:43 PM (UTC)
Processing duration:	00:12:42
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	NVA023				
Grid		**Local**		**Global**	
Easting	6297968.591 ft	**Latitude**	N36°56'17.90339"	**Latitude**	N36°56'17.90339"
Northing	1801282.008 ft	**Longitude**	W121°24'08.04462"	**Longitude**	W121°24'08.04462"
Elevation	196.343 ft	**Height**	88.491 ft	**Height**	88.491 ft

To:	VVA044				
Grid		**Local**		**Global**	
Easting	6233917.597 ft	**Latitude**	N36°54'36.16872"	**Latitude**	N36°54'36.16871"
Northing	1791684.285 ft	**Longitude**	W121°37'15.49497"	**Longitude**	W121°37'15.49497"
Elevation	134.465 ft	**Height**	25.997 ft	**Height**	25.996 ft

Vector					
ΔEasting	-64050.995 ft	**NS Fwd Azimuth**	260°55'27.5"	**ΔX**	-57717.070 ft
ΔNorthing	-9597.722 ft	**Ellipsoid Dist.**	64763.984 ft	**ΔY**	28193.239 ft
ΔElevation	-61.878 ft	**ΔHeight**	-62.494 ft	**ΔZ**	-8263.055 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.032 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.043 ft
σ ΔNorthing	0.051 ft	**σ Ellipsoid Dist.**	0.033 ft	**σ ΔY**	0.063 ft
σ ΔElevation	0.076 ft	**σ ΔHeight**	0.076 ft	**σ ΔZ**	0.059 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0018902983		
Y	0.0016240823	0.0039295341	
Z	-0.0003927682	-0.0014079457	0.0035217540

Occupations

	From	To
Point ID:	NVA023	VVA044
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430731.t02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870731.t02
Receiver type:	R8 Model 3	R8 Model 2
Receiver serial number:	5018426973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2738 - VVA028 (7:32:52 PM-7:56:30 PM) (S12)

Baseline observation:	HS2738 --- VVA028 (B12)
Processed:	5/14/2020 4:13:42 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.060 ft
Vertical precision:	0.308 ft
RMS:	0.056 ft
Maximum PDOP:	1.423
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 7:32:52 PM (UTC)
Processing stop time:	3/13/2020 7:56:22 PM (UTC)
Processing duration:	00:23:30
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2738				
Grid		**Local**		**Global**	
Easting	6240039.986 ft	**Latitude**	N37°04'19.07446"	**Latitude**	N37°04'19.07446"
Northing	1850570.918 ft	**Longitude**	W121°36'08.65906"	**Longitude**	W121°36'08.65906"
Elevation	266.753 ft	**Height**	159.981 ft	**Height**	159.981 ft

To:	VVA028				
Grid		**Local**		**Global**	
Easting	6366707.355 ft	**Latitude**	N37°03'55.06851"	**Latitude**	N37°03'55.06851"
Northing	1846944.585 ft	**Longitude**	W121°10'05.41899"	**Longitude**	W121°10'05.41899"
Elevation	570.615 ft	**Height**	464.246 ft	**Height**	464.246 ft

Vector					
ΔEasting	126667.368 ft	**NS Fwd Azimuth**	90°58'01.1"	**ΔX**	107271.294 ft
ΔNorthing	-3626.332 ft	**Ellipsoid Dist.**	126719.321 ft	**ΔY**	-67439.614 ft
ΔElevation	303.862 ft	**ΔHeight**	304.265 ft	**ΔZ**	-1753.928 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.020 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.067 ft
σ ΔNorthing	0.024 ft	**σ Ellipsoid Dist.**	0.020 ft	**σ ΔY**	0.114 ft
σ ΔElevation	0.157 ft	**σ ΔHeight**	0.157 ft	**σ ΔZ**	0.090 ft

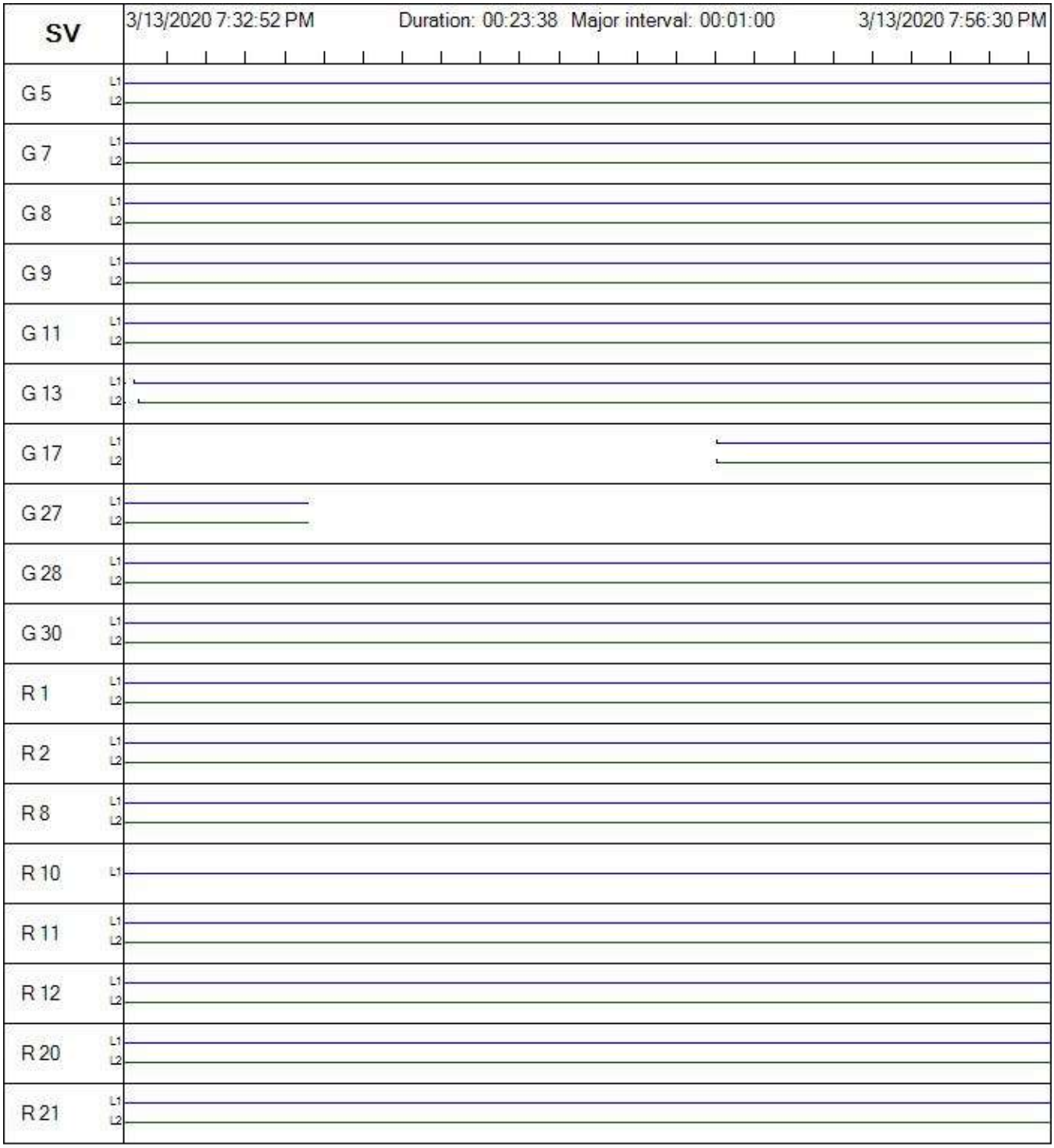
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0045505395		
Y	0.0072282463	0.0129771589	
Z	-0.0056373541	-0.0097484196	0.0081577165

Occupations

	From	To
Point ID:	HS2738	VVA028
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730730.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430733.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2738 - NVA034 (7:03:14 PM-7:37:54 PM) (S4)

Baseline observation:	HS2738 --- NVA034 (B4)
Processed:	5/14/2020 4:13:42 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.047 ft
Vertical precision:	0.238 ft
RMS:	0.054 ft
Maximum PDOP:	1.406
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 7:03:22 PM (UTC)
Processing stop time:	3/13/2020 7:37:52 PM (UTC)
Processing duration:	00:34:30
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2738				
Grid		**Local**		**Global**	
Easting	6240039.986 ft	**Latitude**	N37°04'19.07446"	**Latitude**	N37°04'19.07446"
Northing	1850570.918 ft	**Longitude**	W121°36'08.65906"	**Longitude**	W121°36'08.65906"
Elevation	266.753 ft	**Height**	159.981 ft	**Height**	159.981 ft

To:	NVA034				
Grid		**Local**		**Global**	
Easting	6250029.097 ft	**Latitude**	N36°52'31.03771"	**Latitude**	N36°52'31.03771"
Northing	1778839.350 ft	**Longitude**	W121°33'55.33519"	**Longitude**	W121°33'55.33519"
Elevation	154.935 ft	**Height**	46.166 ft	**Height**	46.166 ft

Vector					
ΔEasting	9989.110 ft	**NS Fwd Azimuth**	171°23'50.7"	**ΔX**	-13293.464 ft
ΔNorthing	-71731.568 ft	**Ellipsoid Dist.**	72422.232 ft	**ΔY**	-42278.823 ft
ΔElevation	-111.818 ft	**ΔHeight**	-113.815 ft	**ΔZ**	-57278.479 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.057 ft
σ ΔNorthing	0.019 ft	**σ Ellipsoid Dist.**	0.019 ft	**σ ΔY**	0.087 ft
σ ΔElevation	0.121 ft	**σ ΔHeight**	0.121 ft	**σ ΔZ**	0.067 ft

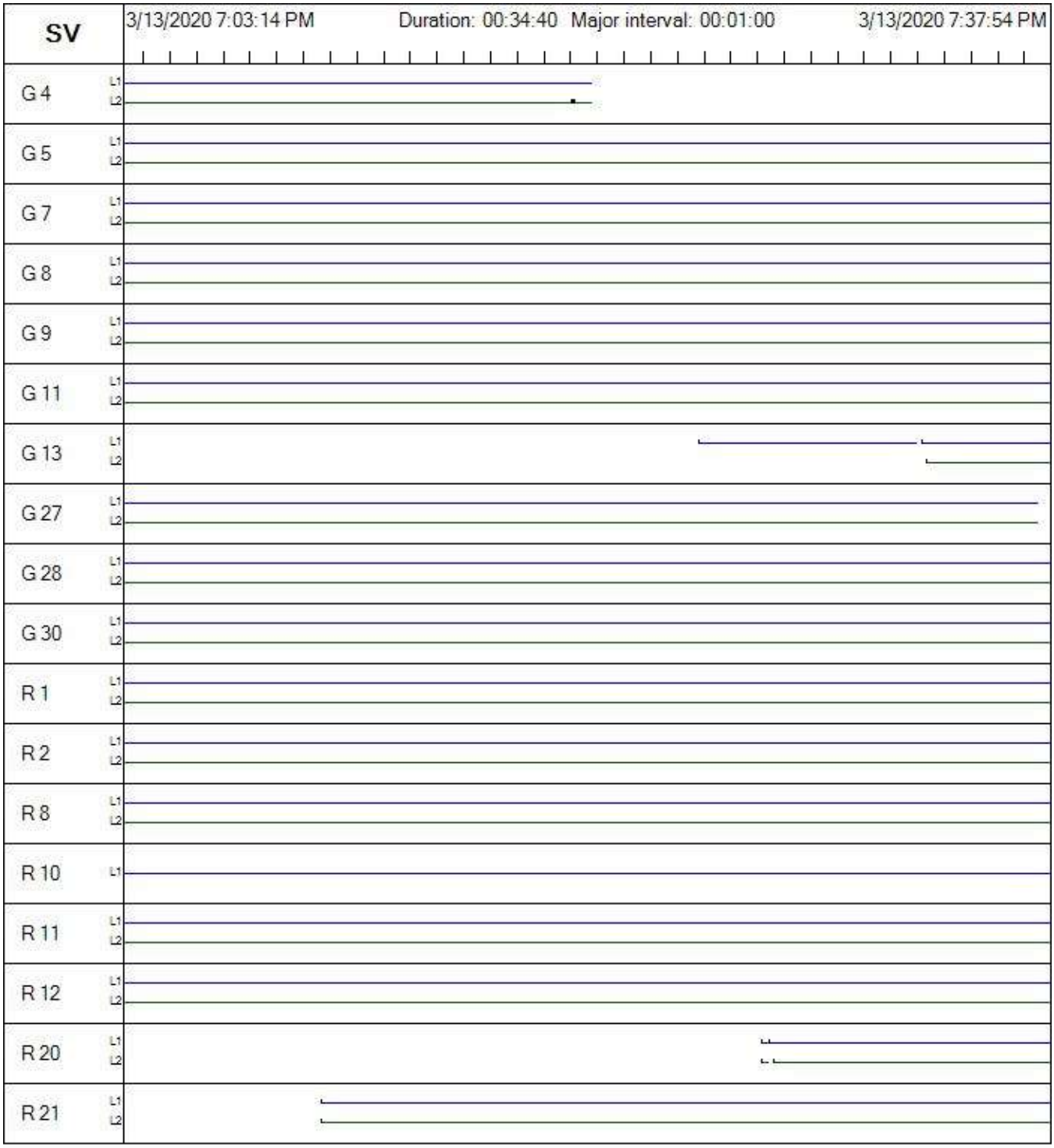
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0032826164		
Y	0.0046924099	0.0075327070	
Z	-0.0035876400	-0.0055722886	0.0045553456

Occupations

	From	To
Point ID:	HS2738	NVA034
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730730.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870733.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2738 - VVA043 (6:08:30 PM-6:41:55 PM) (S3)

Baseline observation:	HS2738 --- VVA043 (B3)
Processed:	5/14/2020 4:13:42 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.064 ft
Vertical precision:	0.202 ft
RMS:	0.054 ft
Maximum PDOP:	1.347
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 6:08:32 PM (UTC)
Processing stop time:	3/13/2020 6:41:52 PM (UTC)
Processing duration:	00:33:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2738				
Grid		**Local**		**Global**	
Easting	6240039.986 ft	**Latitude**	N37°04'19.07446"	**Latitude**	N37°04'19.07446"
Northing	1850570.918 ft	**Longitude**	W121°36'08.65906"	**Longitude**	W121°36'08.65906"
Elevation	266.753 ft	**Height**	159.981 ft	**Height**	159.981 ft

To:	VVA043				
Grid		**Local**		**Global**	
Easting	6245738.356 ft	**Latitude**	N36°51'47.01155"	**Latitude**	N36°51'47.01155"
Northing	1774435.382 ft	**Longitude**	W121°34'47.51146"	**Longitude**	W121°34'47.51146"
Elevation	417.763 ft	**Height**	309.006 ft	**Height**	309.006 ft

Vector					
ΔEasting	5698.369 ft	**NS Fwd Azimuth**	175°02'41.5"	**ΔX**	-18414.567 ft
ΔNorthing	-76135.536 ft	**Ellipsoid Dist.**	76346.767 ft	**ΔY**	-42514.205 ft
ΔElevation	151.010 ft	**ΔHeight**	149.026 ft	**ΔZ**	-60682.960 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.046 ft
σ ΔNorthing	0.025 ft	**σ Ellipsoid Dist.**	0.024 ft	**σ ΔY**	0.073 ft
σ ΔElevation	0.103 ft	**σ ΔHeight**	0.103 ft	**σ ΔZ**	0.064 ft

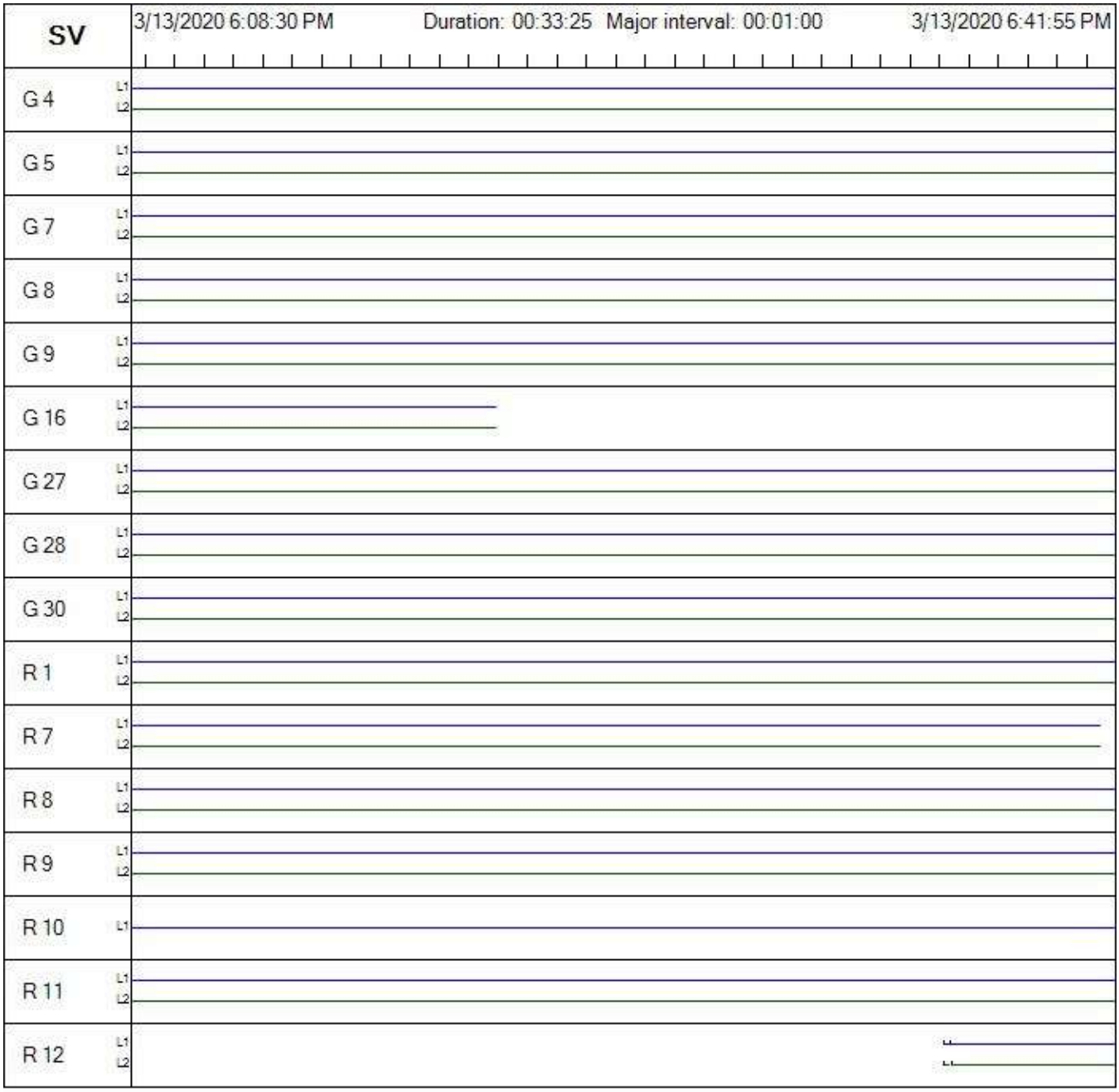
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0021420925		
Y	0.0029906574	0.0052800511	
Z	-0.0022719318	-0.0041873235	0.0040993016

Occupations

	From	To
Point ID:	HS2738	VVA043
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730730.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870732.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2738 - VVA050 (6:05:46 PM-6:35:47 PM) (S10)

Baseline observation:	HS2738 --- VVA050 (B10)
Processed:	5/14/2020 4:13:42 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.080 ft
Vertical precision:	0.218 ft
RMS:	0.059 ft
Maximum PDOP:	1.493
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 6:05:52 PM (UTC)
Processing stop time:	3/13/2020 6:35:42 PM (UTC)
Processing duration:	00:29:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2738				
Grid		**Local**		**Global**	
Easting	6240039.986 ft	**Latitude**	N37°04'19.07446"	**Latitude**	N37°04'19.07446"
Northing	1850570.918 ft	**Longitude**	W121°36'08.65906"	**Longitude**	W121°36'08.65906"
Elevation	266.753 ft	**Height**	159.981 ft	**Height**	159.981 ft

To:	VVA050				
Grid		**Local**		**Global**	
Easting	6306391.616 ft	**Latitude**	N36°59'55.82044"	**Latitude**	N36°59'55.82043"
Northing	1823243.257 ft	**Longitude**	W121°22'26.82847"	**Longitude**	W121°22'26.82847"
Elevation	276.493 ft	**Height**	169.641 ft	**Height**	169.641 ft

Vector					
ΔEasting	66351.629 ft	**NS Fwd Azimuth**	111°42'39.8"	**ΔX**	48443.726 ft
ΔNorthing	-27327.661 ft	**Ellipsoid Dist.**	71758.422 ft	**ΔY**	-48487.725 ft
ΔElevation	9.740 ft	**ΔHeight**	9.660 ft	**ΔZ**	-21248.366 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.053 ft
σ ΔNorthing	0.030 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.079 ft
σ ΔElevation	0.111 ft	**σ ΔHeight**	0.111 ft	**σ ΔZ**	0.068 ft

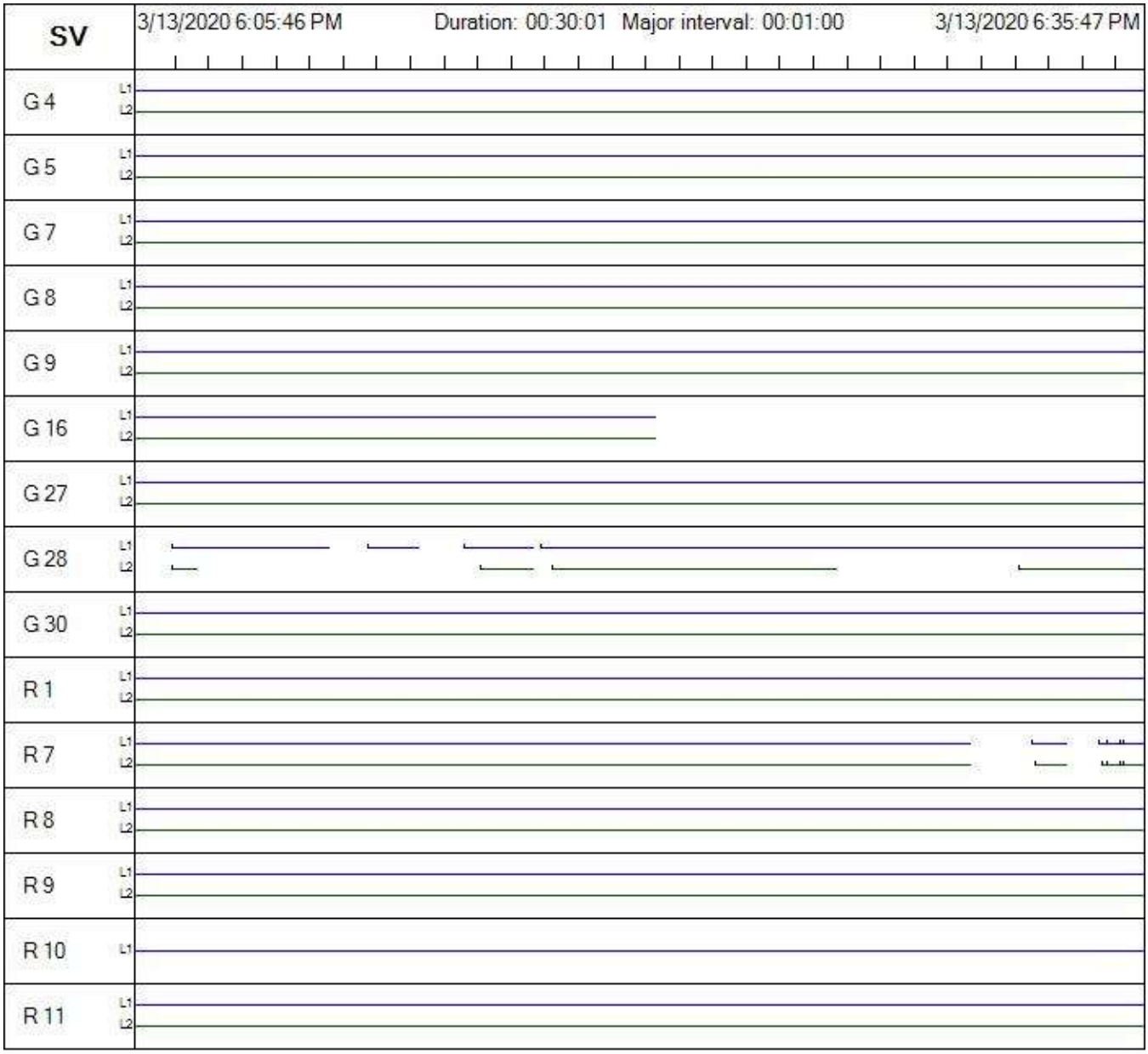
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0028069761		
Y	0.0037333182	0.0063093722	
Z	-0.0025610668	-0.0047310803	0.0046214324

Occupations

	From	To
Point ID:	HS2738	VVA050
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730730.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430732.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2738 - VVA044 (5:27:01 PM-5:51:40 PM) (S2)

Baseline observation:	HS2738 --- VVA044 (B2)
Processed:	5/14/2020 4:13:42 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.072 ft
Vertical precision:	0.083 ft
RMS:	0.038 ft
Maximum PDOP:	1.625
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 5:27:02 PM (UTC)
Processing stop time:	3/13/2020 5:51:32 PM (UTC)
Processing duration:	00:24:30
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2738				
Grid		**Local**		**Global**	
Easting	6240039.986 ft	**Latitude**	N37°04'19.07446"	**Latitude**	N37°04'19.07446"
Northing	1850570.918 ft	**Longitude**	W121°36'08.65906"	**Longitude**	W121°36'08.65906"
Elevation	266.753 ft	**Height**	159.981 ft	**Height**	159.981 ft

To:	VVA044				
Grid		**Local**		**Global**	
Easting	6233917.608 ft	**Latitude**	N36°54'36.16886"	**Latitude**	N36°54'36.16886"
Northing	1791684.300 ft	**Longitude**	W121°37'15.49484"	**Longitude**	W121°37'15.49484"
Elevation	134.435 ft	**Height**	25.967 ft	**Height**	25.967 ft

Vector					
ΔEasting	-6122.379 ft	**NS Fwd Azimuth**	185°15'38.3"	**ΔX**	-23154.840 ft
ΔNorthing	-58886.617 ft	**Ellipsoid Dist.**	59203.035 ft	**ΔY**	-27275.548 ft
ΔElevation	-132.317 ft	**ΔHeight**	-134.014 ft	**ΔZ**	-47169.313 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.024 ft
σ ΔNorthing	0.029 ft	**σ Ellipsoid Dist.**	0.029 ft	**σ ΔY**	0.035 ft
σ ΔElevation	0.042 ft	**σ ΔHeight**	0.042 ft	**σ ΔZ**	0.034 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0005841394		
Y	0.0004826097	0.0011923216	
Z	-0.0000918538	-0.0004687208	0.0011871763

Occupations

	From	To
Point ID:	HS2738	VVA044
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730730.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870731.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2738 - NVA023 (5:09:17 PM-5:39:43 PM) (S8)

Baseline observation:	HS2738 --- NVA023 (B8)
Processed:	5/14/2020 4:13:42 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.076 ft
Vertical precision:	0.290 ft
RMS:	0.066 ft
Maximum PDOP:	1.418
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 5:09:22 PM (UTC)
Processing stop time:	3/13/2020 5:39:42 PM (UTC)
Processing duration:	00:30:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2738				
Grid		**Local**		**Global**	
Easting	6240039.986 ft	**Latitude**	N37°04'19.07446"	**Latitude**	N37°04'19.07446"
Northing	1850570.918 ft	**Longitude**	W121°36'08.65906"	**Longitude**	W121°36'08.65906"
Elevation	266.753 ft	**Height**	159.981 ft	**Height**	159.981 ft

To:	NVA023				
Grid		**Local**		**Global**	
Easting	6297968.592 ft	**Latitude**	N36°56'17.90322"	**Latitude**	N36°56'17.90322"
Northing	1801281.990 ft	**Longitude**	W121°24'08.04461"	**Longitude**	W121°24'08.04461"
Elevation	196.126 ft	**Height**	88.273 ft	**Height**	88.273 ft

Vector					
ΔEasting	57928.605 ft	**NS Fwd Azimuth**	129°43'08.7"	**ΔX**	34562.290 ft
ΔNorthing	-49288.928 ft	**Ellipsoid Dist.**	76058.961 ft	**ΔY**	-55468.670 ft
ΔElevation	-70.627 ft	**ΔHeight**	-71.708 ft	**ΔZ**	-38906.396 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.020 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.063 ft
σ ΔNorthing	0.031 ft	**σ Ellipsoid Dist.**	0.025 ft	**σ ΔY**	0.099 ft
σ ΔElevation	0.148 ft	**σ ΔHeight**	0.148 ft	**σ ΔZ**	0.097 ft

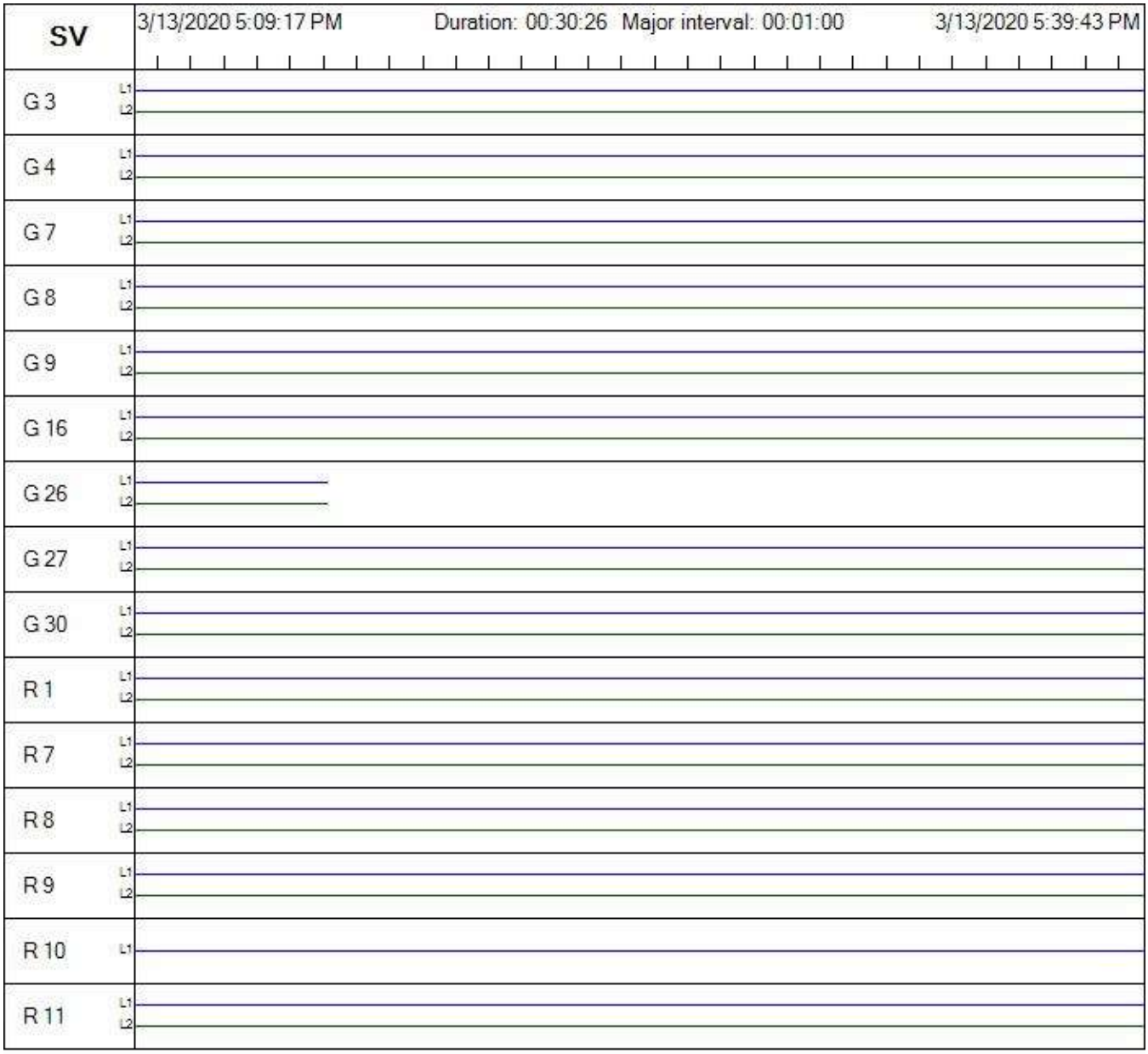
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0040022860		
Y	0.0058287149	0.0098822722	
Z	-0.0053598735	-0.0087492707	0.0093171398

Occupations

	From	To
Point ID:	HS2738	NVA023
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730730.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430731.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2738 - NVA028 (4:41:47 PM-5:02:08 PM) (S1)

Baseline observation:	HS2738 --- NVA028 (B1)
Processed:	5/14/2020 4:13:42 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.073 ft
Vertical precision:	0.119 ft
RMS:	0.036 ft
Maximum PDOP:	1.555
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 4:41:52 PM (UTC)
Processing stop time:	3/13/2020 5:02:02 PM (UTC)
Processing duration:	00:20:10
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2738				
Grid		**Local**		**Global**	
Easting	6240039.986 ft	**Latitude**	N37°04'19.07446"	**Latitude**	N37°04'19.07446"
Northing	1850570.918 ft	**Longitude**	W121°36'08.65906"	**Longitude**	W121°36'08.65906"
Elevation	266.753 ft	**Height**	159.981 ft	**Height**	159.981 ft

To:	NVA028				
Grid		**Local**		**Global**	
Easting	6200998.905 ft	**Latitude**	N36°57'33.12022"	**Latitude**	N36°57'33.12021"
Northing	1809996.944 ft	**Longitude**	W121°44'03.74389"	**Longitude**	W121°44'03.74389"
Elevation	145.855 ft	**Height**	37.269 ft	**Height**	37.269 ft

Vector					
ΔEasting	-39041.082 ft	**NS Fwd Azimuth**	223°13'17.0"	**ΔX**	-45719.631 ft
ΔNorthing	-40573.974 ft	**Ellipsoid Dist.**	56306.154 ft	**ΔY**	-725.309 ft
ΔElevation	-120.897 ft	**ΔHeight**	-122.712 ft	**ΔZ**	-32857.500 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.022 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.033 ft
σ ΔNorthing	0.029 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.053 ft
σ ΔElevation	0.061 ft	**σ ΔHeight**	0.061 ft	**σ ΔZ**	0.033 ft

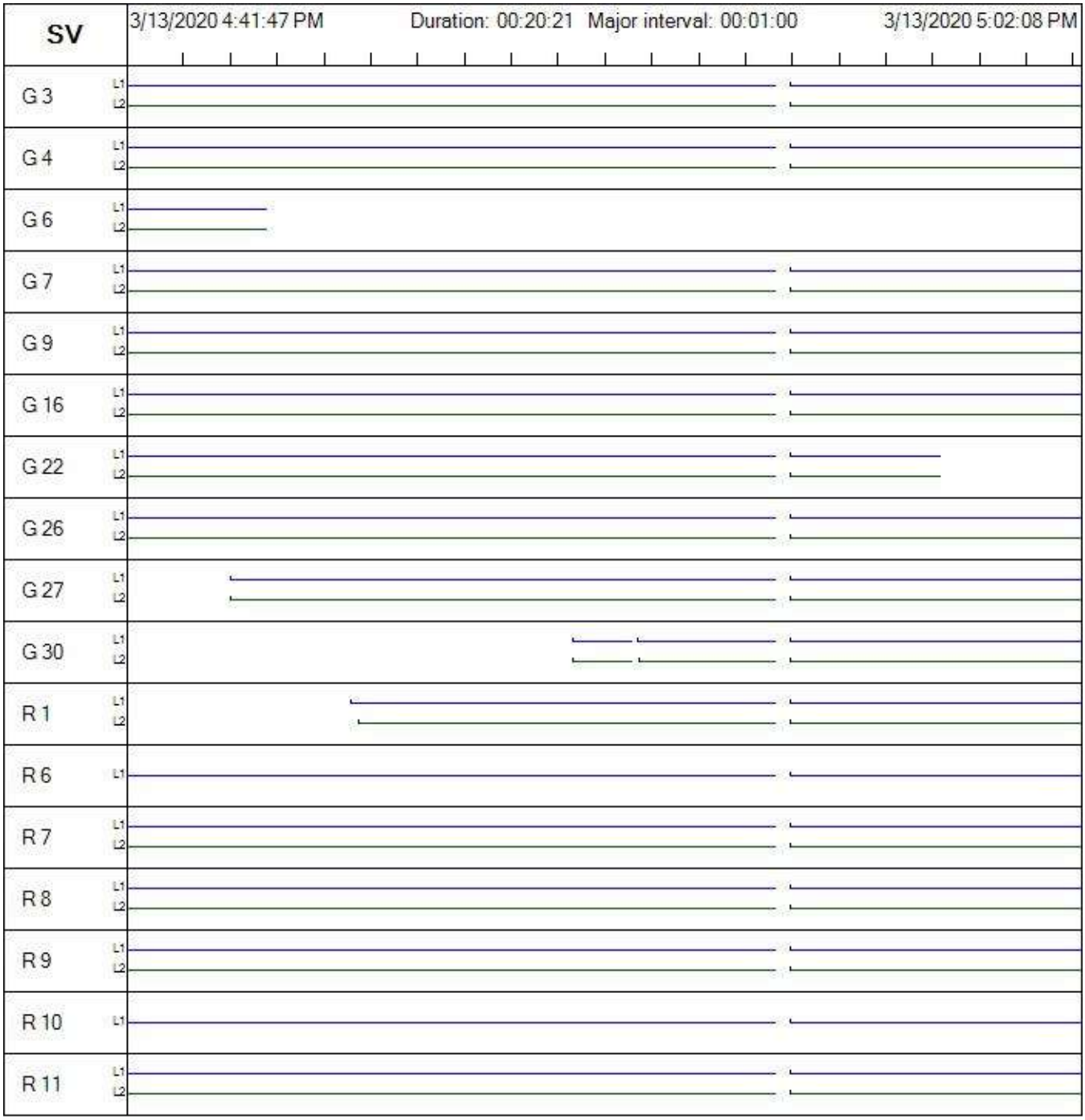
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0010772892		
Y	0.0011859407	0.0028469515	
Z	-0.0005923191	-0.0009918492	0.0010976791

Occupations

	From	To
Point ID:	HS2738	NVA028
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730730.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870730.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4720132973	4748141711
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - NVA042 (9:23:16 PM-9:36:11 PM) (S14)

Baseline observation:	P242 --- NVA042 (B14)
Processed:	5/14/2020 4:13:40 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.068 ft
Vertical precision:	0.127 ft
RMS:	0.038 ft
Maximum PDOP:	1.908
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 9:23:42 PM (UTC)
Processing stop time:	3/13/2020 9:35:42 PM (UTC)
Processing duration:	00:12:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.742 ft	**Latitude**	N36°57'14.15018"	**Latitude**	N36°57'14.15017"
Northing	1807148.034 ft	**Longitude**	W121°27'47.41556"	**Longitude**	W121°27'47.41556"
Elevation	158.190 ft	**Height**	50.223 ft	**Height**	50.223 ft

To:	NVA042				
Grid		**Local**		**Global**	
Easting	6324564.158 ft	**Latitude**	N37°02'13.15639"	**Latitude**	N37°02'13.15639"
Northing	1836970.240 ft	**Longitude**	W121°18'44.29218"	**Longitude**	W121°18'44.29218"
Elevation	379.205 ft	**Height**	272.975 ft	**Height**	272.975 ft

Vector					
ΔEasting	44346.415 ft	**NS Fwd Azimuth**	55°29'27.5"	**ΔX**	46998.573 ft
ΔNorthing	29822.206 ft	**Ellipsoid Dist.**	53440.431 ft	**ΔY**	-7565.399 ft
ΔElevation	221.015 ft	**ΔHeight**	222.752 ft	**ΔZ**	24287.254 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.026 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.032 ft
σ ΔNorthing	0.028 ft	**σ Ellipsoid Dist.**	0.026 ft	**σ ΔY**	0.055 ft
σ ΔElevation	0.065 ft	**σ ΔHeight**	0.065 ft	**σ ΔZ**	0.040 ft

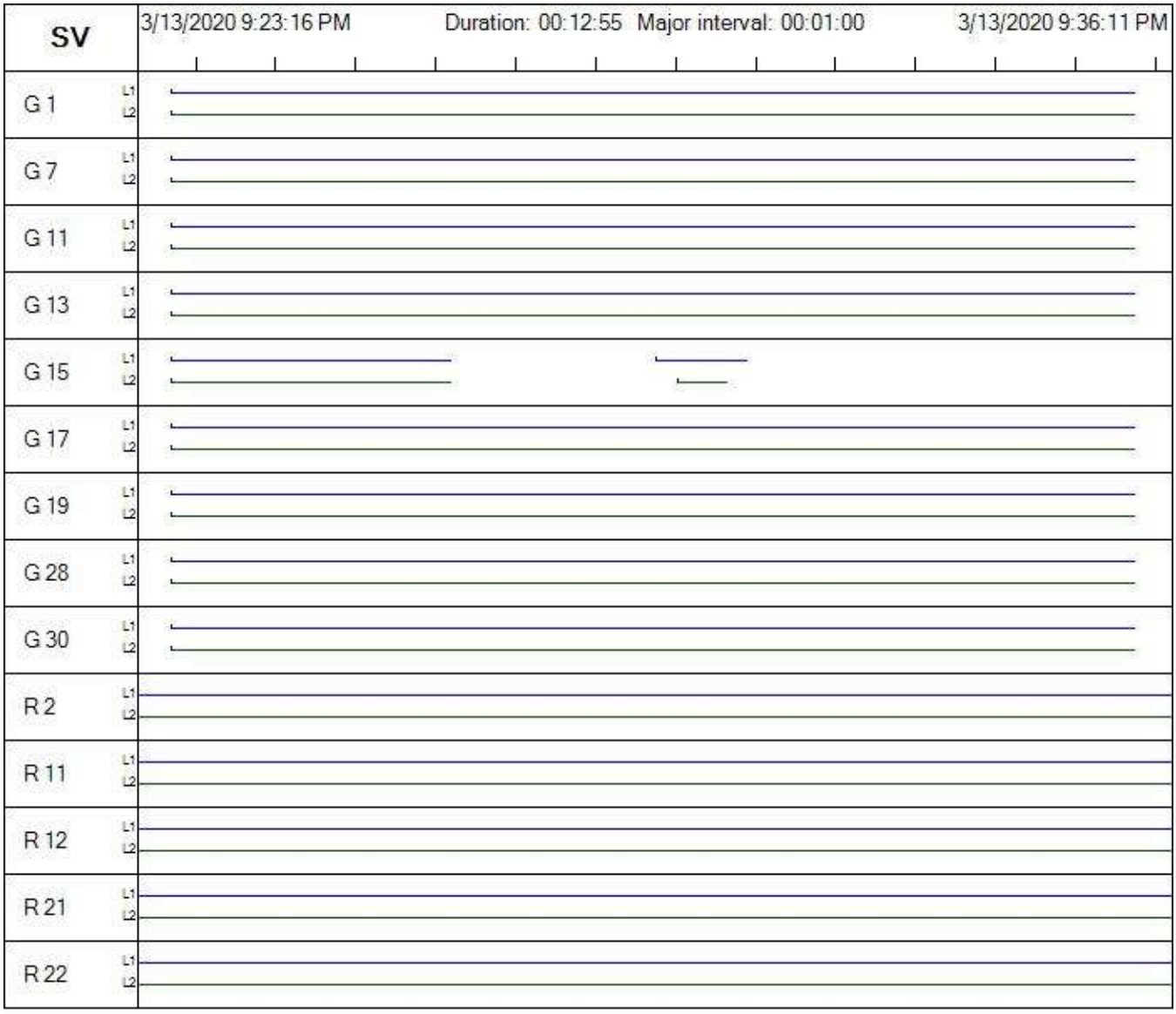
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0010097297		
Y	0.0009846168	0.0030361148	
Z	-0.0005463175	-0.0014863325	0.0016328158

Occupations

	From	To
Point ID:	P242	NVA042
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420730.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430735.t02
Receiver type:	NetRS	R8 Model 3
Receiver serial number:	4541260327	5018426973
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - NVA048 (8:26:43 PM-9:06:44 PM) (S15)

Baseline observation:	P242 --- NVA048 (B15)
Processed:	5/14/2020 4:13:40 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.050 ft
Vertical precision:	0.170 ft
RMS:	0.056 ft
Maximum PDOP:	1.664
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 8:27:12 PM (UTC)
Processing stop time:	3/13/2020 9:06:42 PM (UTC)
Processing duration:	00:39:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.742 ft	**Latitude**	N36°57'14.15018"	**Latitude**	N36°57'14.15017"
Northing	1807148.034 ft	**Longitude**	W121°27'47.41556"	**Longitude**	W121°27'47.41556"
Elevation	158.190 ft	**Height**	50.223 ft	**Height**	50.223 ft

To:	NVA048				
Grid		**Local**		**Global**	
Easting	6351812.099 ft	**Latitude**	N37°03'57.93218"	**Latitude**	N37°03'57.93218"
Northing	1847344.638 ft	**Longitude**	W121°13'09.22845"	**Longitude**	W121°13'09.22845"
Elevation	1352.353 ft	**Height**	1246.441 ft	**Height**	1246.441 ft

Vector					
ΔEasting	71594.357 ft	**NS Fwd Azimuth**	60°05'58.5"	**ΔX**	73127.474 ft
ΔNorthing	40196.604 ft	**Ellipsoid Dist.**	82105.740 ft	**ΔY**	-16869.408 ft
ΔElevation	1194.163 ft	**ΔHeight**	1196.218 ft	**ΔZ**	33331.488 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.041 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.063 ft
σ ΔElevation	0.087 ft	**σ ΔHeight**	0.087 ft	**σ ΔZ**	0.050 ft

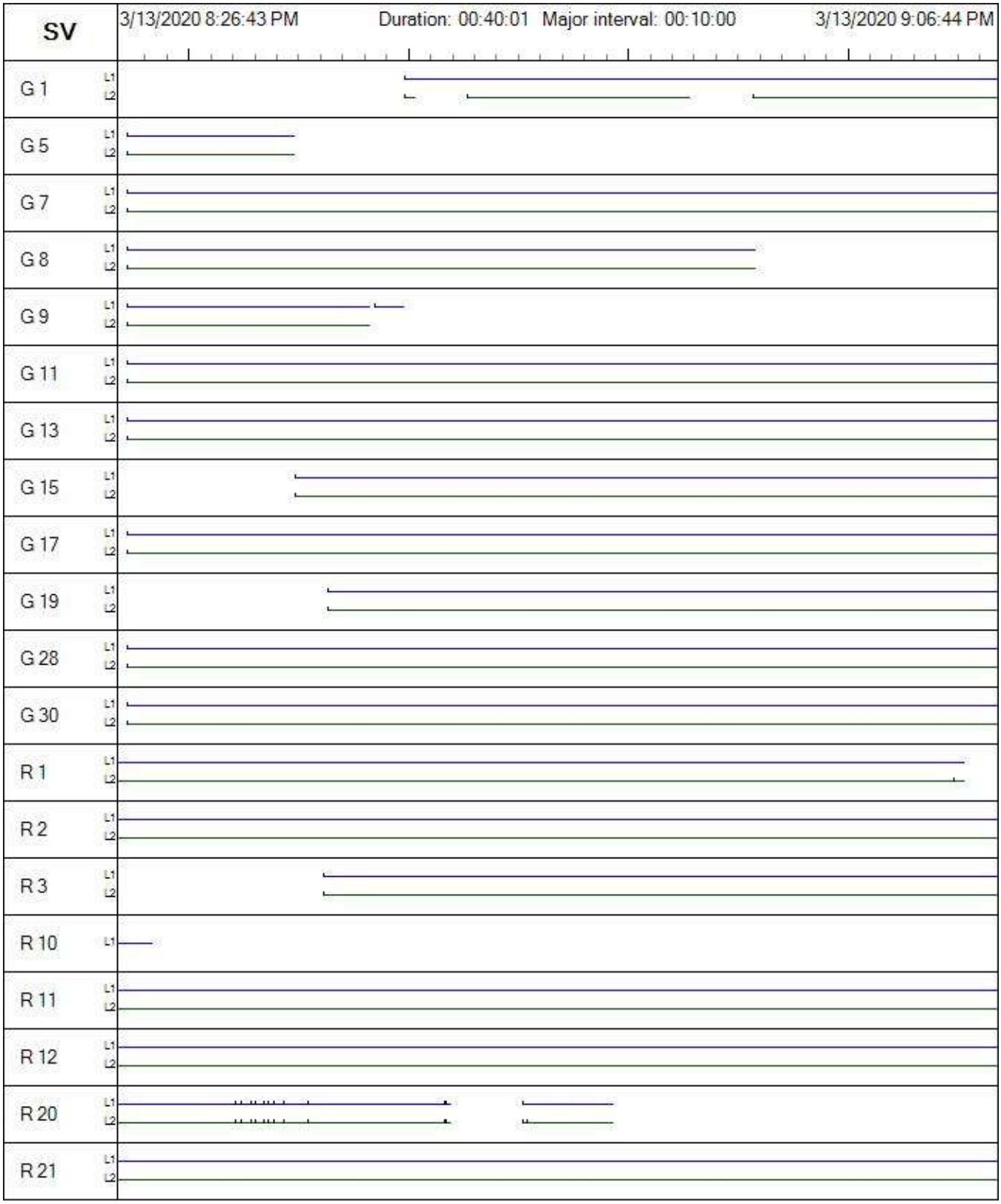
Aposteriori Covariance Matrix (US survey foot²)

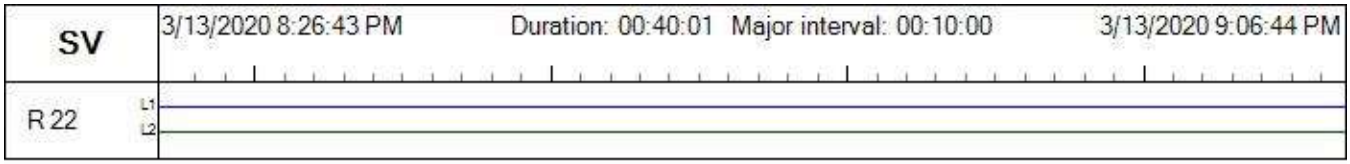
	X	Y	Z
X	0.0016577154		
Y	0.0022819966	0.0040199535	
Z	-0.0016615938	-0.0028316195	0.0025021616

Occupations

	From	To
Point ID:	P242	NVA048
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420730.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430734.t02
Receiver type:	NetRS	R8 Model 3
Receiver serial number:	4541260327	5018426973
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
3/13/2020 8:26:43 PM
Duration: 00:40:01
Major interval: 00:10:00
3/13/2020 9:06:44 PM
R 22
L1
L2

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - VVA028 (7:32:52 PM-8:12:52 PM) (S16)

Baseline observation:	P242 --- VVA028 (B16)
Processed:	5/14/2020 4:13:40 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.048 ft
Vertical precision:	0.250 ft
RMS:	0.045 ft
Maximum PDOP:	1.833
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 7:33:12 PM (UTC)
Processing stop time:	3/13/2020 8:12:42 PM (UTC)
Processing duration:	00:39:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.742 ft	**Latitude**	N36°57'14.15018"	**Latitude**	N36°57'14.15017"
Northing	1807148.034 ft	**Longitude**	W121°27'47.41556"	**Longitude**	W121°27'47.41556"
Elevation	158.190 ft	**Height**	50.223 ft	**Height**	50.223 ft

To:	VVA028				
Grid		**Local**		**Global**	
Easting	6366707.334 ft	**Latitude**	N37°03'55.06841"	**Latitude**	N37°03'55.06840"
Northing	1846944.575 ft	**Longitude**	W121°10'05.41924"	**Longitude**	W121°10'05.41924"
Elevation	570.690 ft	**Height**	464.322 ft	**Height**	464.322 ft

Vector					
ΔEasting	86489.592 ft	**NS Fwd Azimuth**	64°42'11.7"	**ΔX**	86104.692 ft
ΔNorthing	39796.542 ft	**Ellipsoid Dist.**	95204.985 ft	**ΔY**	-24201.263 ft
ΔElevation	412.500 ft	**ΔHeight**	414.098 ft	**ΔZ**	32628.953 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.052 ft
σ ΔNorthing	0.019 ft	**σ Ellipsoid Dist.**	0.015 ft	**σ ΔY**	0.093 ft
σ ΔElevation	0.128 ft	**σ ΔHeight**	0.128 ft	**σ ΔZ**	0.075 ft

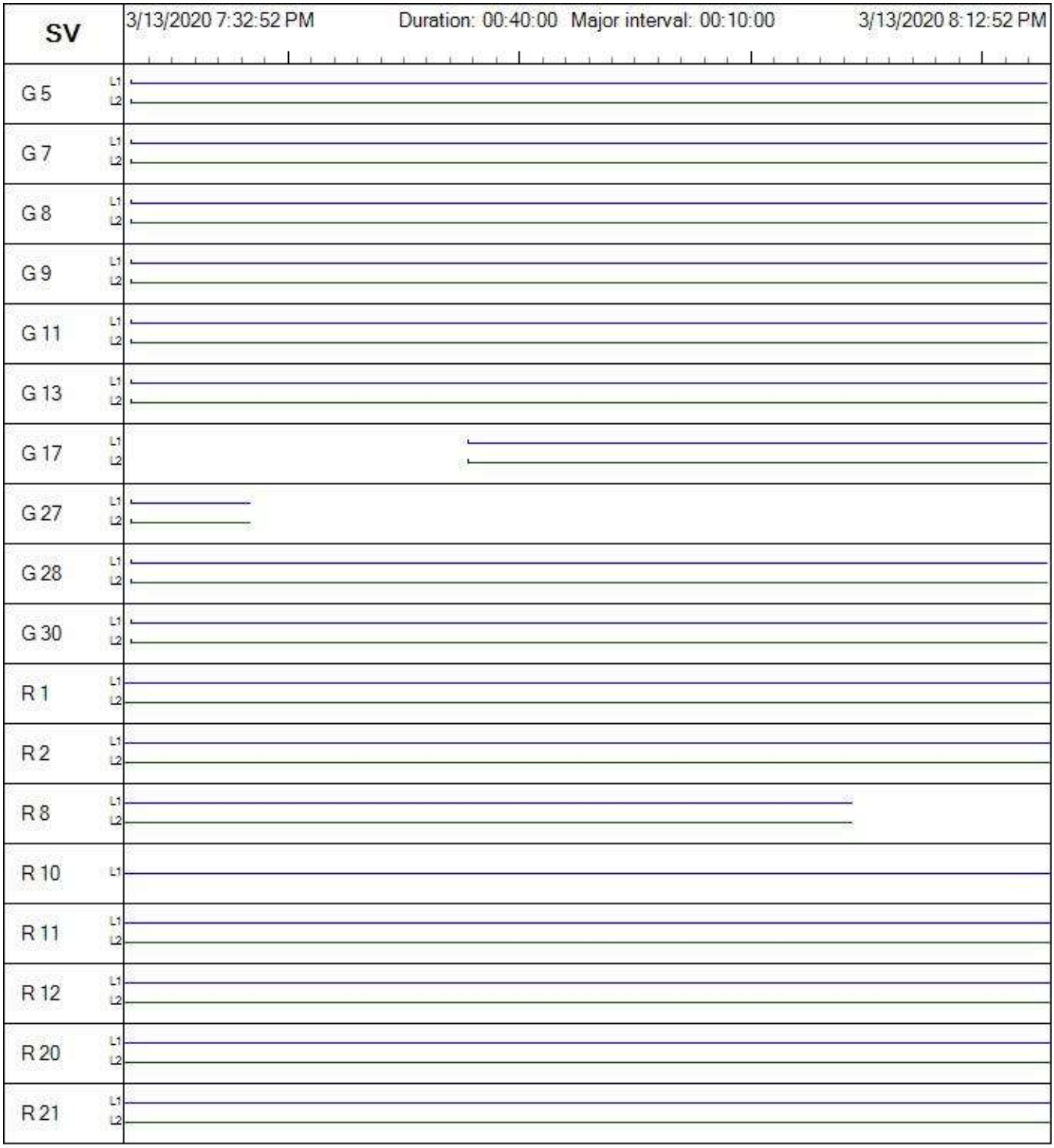
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0027543167		
Y	0.0045901609	0.0085621534	
Z	-0.0036353933	-0.0065388004	0.0055667499

Occupations

	From	To
Point ID:	P242	VVA028
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420730.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430733.t02
Receiver type:	NetRS	R8 Model 3
Receiver serial number:	4541260327	5018426973
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - NVA034 (7:03:14 PM-7:37:54 PM) (S20)

Baseline observation:	P242 --- NVA034 (B20)
Processed:	5/14/2020 4:13:40 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.026 ft
Vertical precision:	0.050 ft
RMS:	0.031 ft
Maximum PDOP:	1.828
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 7:03:42 PM (UTC)
Processing stop time:	3/13/2020 7:37:42 PM (UTC)
Processing duration:	00:34:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.742 ft	**Latitude**	N36°57'14.15018"	**Latitude**	N36°57'14.15017"
Northing	1807148.034 ft	**Longitude**	W121°27'47.41556"	**Longitude**	W121°27'47.41556"
Elevation	158.190 ft	**Height**	50.223 ft	**Height**	50.223 ft

To:	NVA034				
Grid		**Local**		**Global**	
Easting	6250029.106 ft	**Latitude**	N36°52'31.03758"	**Latitude**	N36°52'31.03758"
Northing	1778839.337 ft	**Longitude**	W121°33'55.33507"	**Longitude**	W121°33'55.33507"
Elevation	155.159 ft	**Height**	46.389 ft	**Height**	46.389 ft

Vector					
ΔEasting	-30188.636 ft	**NS Fwd Azimuth**	226°15'01.5"	**ΔX**	-34460.103 ft
ΔNorthing	-28308.696 ft	**Ellipsoid Dist.**	41383.768 ft	**ΔY**	959.411 ft
ΔElevation	-3.031 ft	**ΔHeight**	-3.834 ft	**ΔZ**	-22895.511 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.009 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.013 ft
σ ΔNorthing	0.011 ft	**σ Ellipsoid Dist.**	0.010 ft	**σ ΔY**	0.020 ft
σ ΔElevation	0.025 ft	**σ ΔHeight**	0.025 ft	**σ ΔZ**	0.016 ft

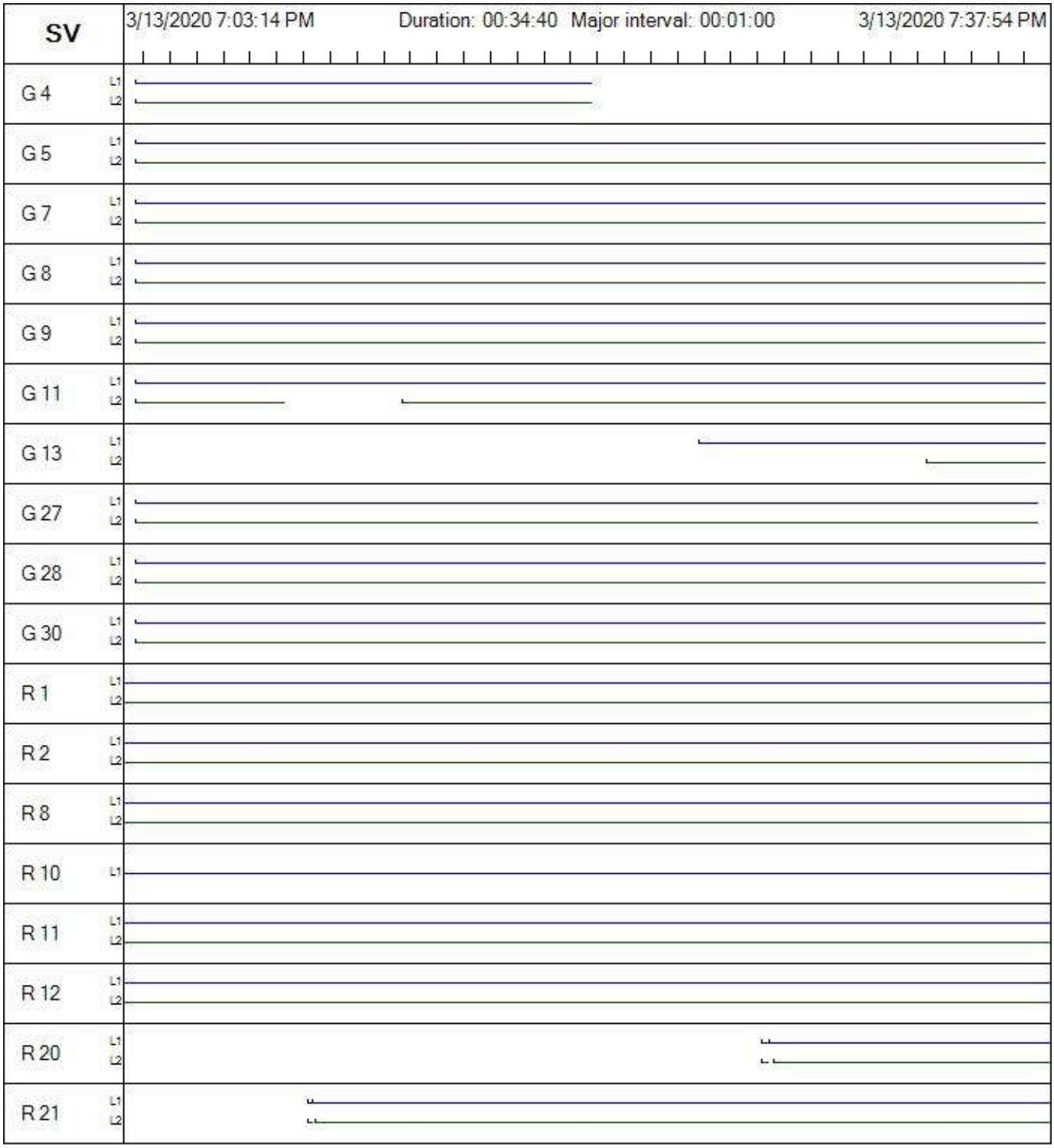
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0001749189		
Y	0.0001768015	0.0004144476	
Z	-0.0001112146	-0.0002147921	0.0002574731

Occupations

	From	To
Point ID:	P242	NVA034
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420730.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870733.t02
Receiver type:	NetRS	R8 Model 2
Receiver serial number:	4541260327	4748141711
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - VVA043 (6:08:30 PM-6:41:55 PM) (S21)

Baseline observation:	P242 --- VVA043 (B21)
Processed:	5/14/2020 4:13:40 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.052 ft
Vertical precision:	0.061 ft
RMS:	0.027 ft
Maximum PDOP:	1.953
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 6:08:42 PM (UTC)
Processing stop time:	3/13/2020 6:41:42 PM (UTC)
Processing duration:	00:33:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.742 ft	**Latitude**	N36°57'14.15018"	**Latitude**	N36°57'14.15017"
Northing	1807148.034 ft	**Longitude**	W121°27'47.41556"	**Longitude**	W121°27'47.41556"
Elevation	158.190 ft	**Height**	50.223 ft	**Height**	50.223 ft

To:	VVA043				
Grid		**Local**		**Global**	
Easting	6245738.360 ft	**Latitude**	N36°51'47.01153"	**Latitude**	N36°51'47.01153"
Northing	1774435.380 ft	**Longitude**	W121°34'47.51141"	**Longitude**	W121°34'47.51141"
Elevation	417.805 ft	**Height**	309.049 ft	**Height**	309.049 ft

Vector					
ΔEasting	-34479.382 ft	**NS Fwd Azimuth**	225°54'56.9"	**ΔX**	-39581.132 ft
ΔNorthing	-32712.654 ft	**Ellipsoid Dist.**	47526.628 ft	**ΔY**	724.161 ft
ΔElevation	259.615 ft	**ΔHeight**	258.826 ft	**ΔZ**	-26300.092 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.020 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.020 ft	**σ ΔY**	0.024 ft
σ ΔElevation	0.031 ft	**σ ΔHeight**	0.031 ft	**σ ΔZ**	0.025 ft

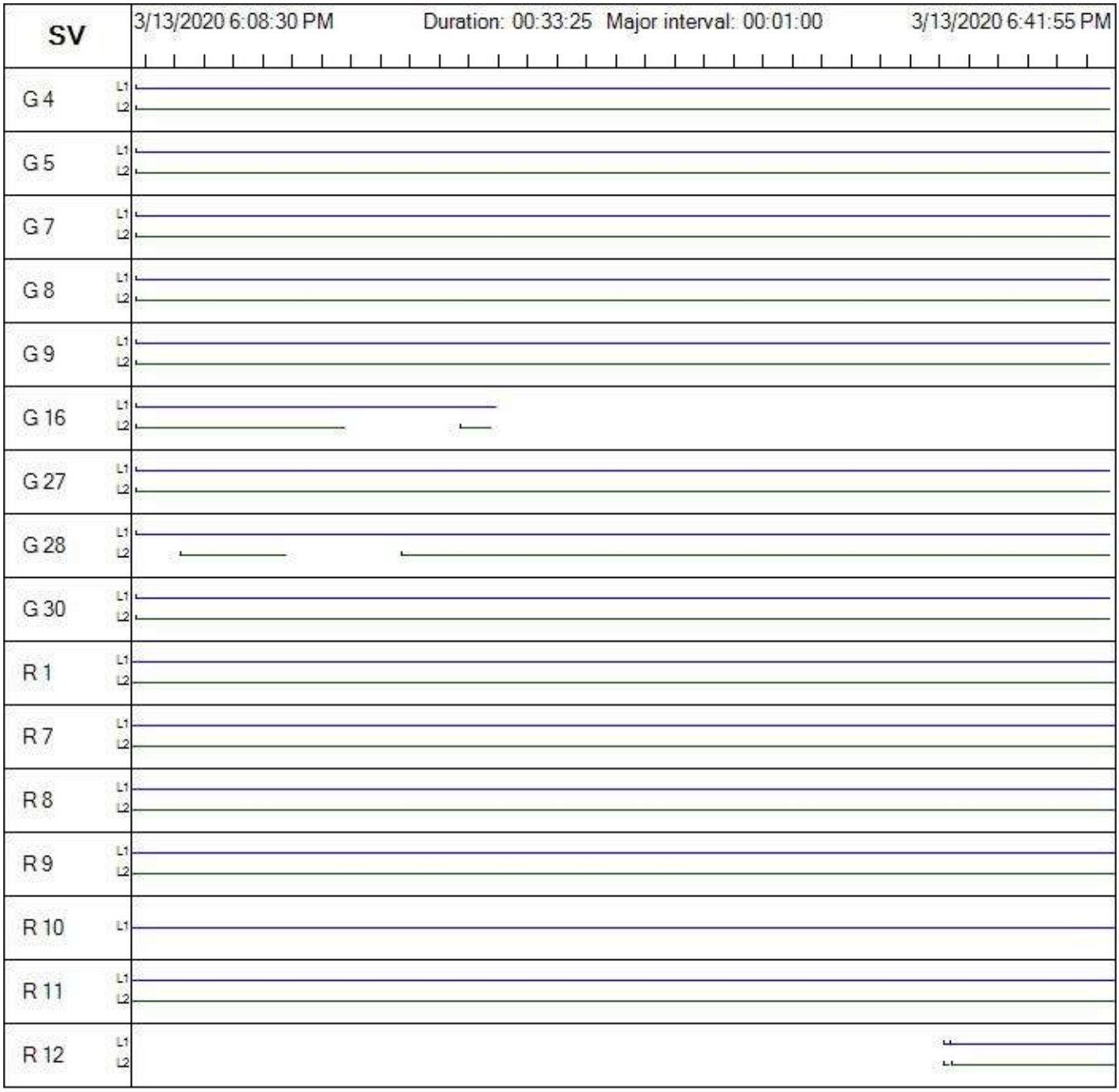
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003861792		
Y	0.0002792042	0.0005755935	
Z	-0.0000424680	-0.0002882288	0.0006035237

Occupations

	From	To
Point ID:	P242	VVA043
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420730.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870732.t02
Receiver type:	NetRS	R8 Model 2
Receiver serial number:	4541260327	4748141711
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - VVA050 (6:05:46 PM-6:35:47 PM) (S17)

Baseline observation:	P242 --- VVA050 (B17)
Processed:	5/14/2020 4:13:40 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.032 ft
Vertical precision:	0.035 ft
RMS:	0.027 ft
Maximum PDOP:	1.925
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 6:06:12 PM (UTC)
Processing stop time:	3/13/2020 6:35:42 PM (UTC)
Processing duration:	00:29:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.742 ft	**Latitude**	N36°57'14.15018"	**Latitude**	N36°57'14.15017"
Northing	1807148.034 ft	**Longitude**	W121°27'47.41556"	**Longitude**	W121°27'47.41556"
Elevation	158.190 ft	**Height**	50.223 ft	**Height**	50.223 ft

To:	VVA050				
Grid		**Local**		**Global**	
Easting	6306391.621 ft	**Latitude**	N36°59'55.82054"	**Latitude**	N36°59'55.82054"
Northing	1823243.267 ft	**Longitude**	W121°22'26.82841"	**Longitude**	W121°22'26.82841"
Elevation	276.553 ft	**Height**	169.701 ft	**Height**	169.701 ft

Vector					
ΔEasting	26173.879 ft	**NS Fwd Azimuth**	57°49'19.1"	**ΔX**	27277.159 ft
ΔNorthing	16095.234 ft	**Ellipsoid Dist.**	30726.062 ft	**ΔY**	-5249.365 ft
ΔElevation	118.363 ft	**ΔHeight**	119.478 ft	**ΔZ**	13134.523 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.008 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.011 ft
σ ΔNorthing	0.012 ft	**σ Ellipsoid Dist.**	0.011 ft	**σ ΔY**	0.013 ft
σ ΔElevation	0.018 ft	**σ ΔHeight**	0.018 ft	**σ ΔZ**	0.016 ft

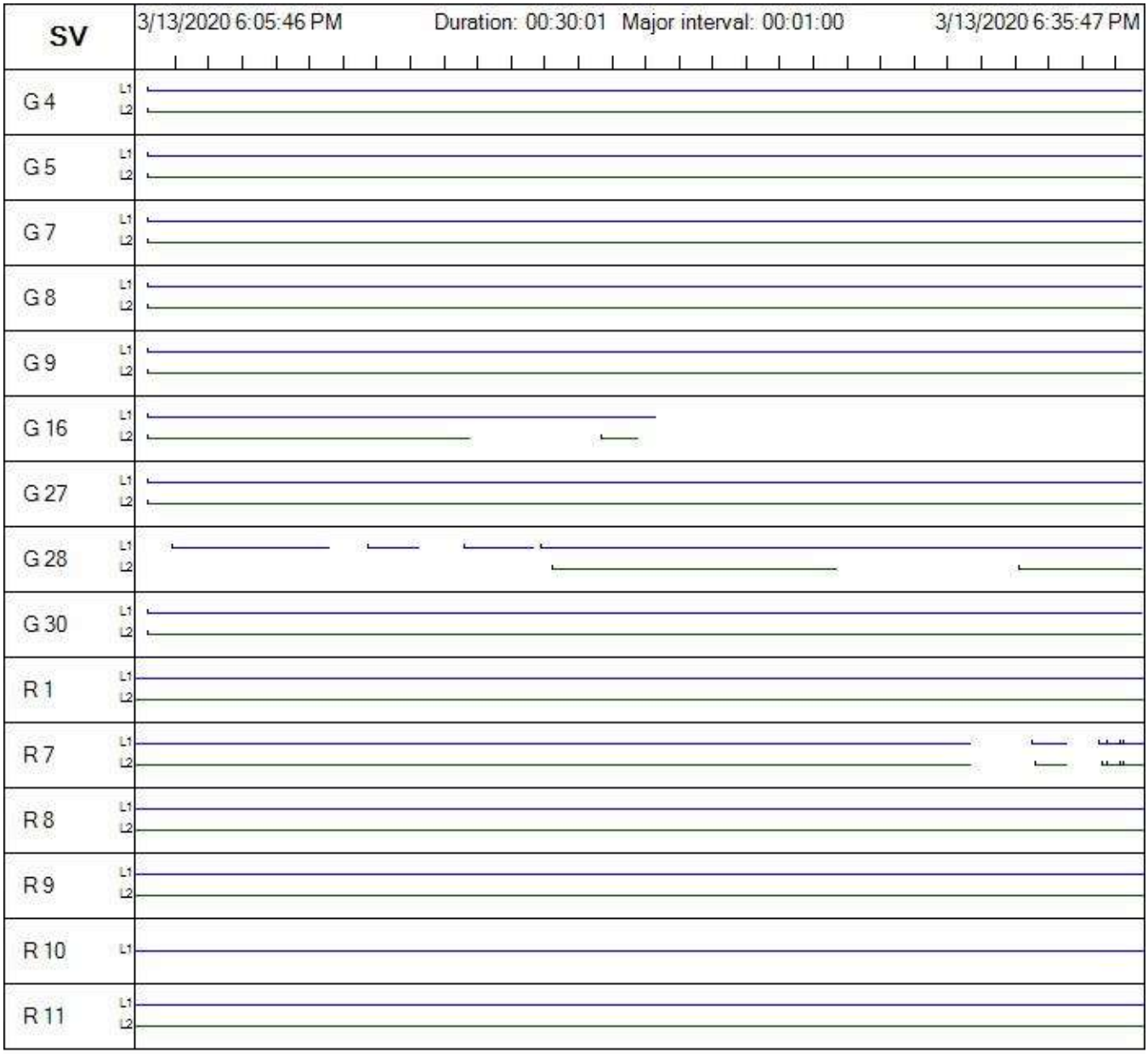
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0001119651		
Y	0.0000740282	0.0001722414	
Z	0.0000025416	-0.0001029335	0.0002480989

Occupations

	From	To
Point ID:	P242	VVA050
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420730.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430732.t02
Receiver type:	NetRS	R8 Model 3
Receiver serial number:	4541260327	5018426973
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - VVA044 (5:27:01 PM-5:51:40 PM) (S22)

Baseline observation:	P242 --- VVA044 (B22)
Processed:	5/14/2020 4:13:40 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.071 ft
Vertical precision:	0.064 ft
RMS:	0.031 ft
Maximum PDOP:	2.232
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 5:27:12 PM (UTC)
Processing stop time:	3/13/2020 5:51:12 PM (UTC)
Processing duration:	00:24:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.742 ft	**Latitude**	N36°57'14.15018"	**Latitude**	N36°57'14.15017"
Northing	1807148.034 ft	**Longitude**	W121°27'47.41556"	**Longitude**	W121°27'47.41556"
Elevation	158.190 ft	**Height**	50.223 ft	**Height**	50.223 ft

To:	VVA044				
Grid		**Local**		**Global**	
Easting	6233917.600 ft	**Latitude**	N36°54'36.16871"	**Latitude**	N36°54'36.16870"
Northing	1791684.284 ft	**Longitude**	W121°37'15.49493"	**Longitude**	W121°37'15.49493"
Elevation	134.507 ft	**Height**	26.039 ft	**Height**	26.039 ft

Vector					
ΔEasting	-46300.142 ft	**NS Fwd Azimuth**	250°56'26.4"	**ΔX**	-44321.431 ft
ΔNorthing	-15463.749 ft	**Ellipsoid Dist.**	48812.754 ft	**ΔY**	15962.797 ft
ΔElevation	-23.683 ft	**ΔHeight**	-24.185 ft	**ΔZ**	-12786.438 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.020 ft
σ ΔNorthing	0.029 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.028 ft
σ ΔElevation	0.033 ft	**σ ΔHeight**	0.033 ft	**σ ΔZ**	0.029 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0004037084		
Y	0.0003680386	0.0008046889	
Z	0.0000613831	-0.0001564507	0.0008508037

Occupations

	From	To
Point ID:	P242	VVA044
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420730.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870731.t02
Receiver type:	NetRS	R8 Model 2
Receiver serial number:	4541260327	4748141711
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - NVA023 (5:09:17 PM-5:39:43 PM) (S18)

Baseline observation:	P242 --- NVA023 (B18)
Processed:	5/14/2020 4:13:40 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.032 ft
Vertical precision:	0.036 ft
RMS:	0.028 ft
Maximum PDOP:	2.072
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 5:09:42 PM (UTC)
Processing stop time:	3/13/2020 5:39:42 PM (UTC)
Processing duration:	00:30:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.742 ft	**Latitude**	N36°57'14.15018"	**Latitude**	N36°57'14.15017"
Northing	1807148.034 ft	**Longitude**	W121°27'47.41556"	**Longitude**	W121°27'47.41556"
Elevation	158.190 ft	**Height**	50.223 ft	**Height**	50.223 ft

To:	NVA023				
Grid		**Local**		**Global**	
Easting	6297968.591 ft	**Latitude**	N36°56'17.90339"	**Latitude**	N36°56'17.90339"
Northing	1801282.008 ft	**Longitude**	W121°24'08.04462"	**Longitude**	W121°24'08.04462"
Elevation	196.343 ft	**Height**	88.491 ft	**Height**	88.491 ft

Vector					
ΔEasting	17750.849 ft	**NS Fwd Azimuth**	107°41'51.2"	**ΔX**	13395.654 ft
ΔNorthing	-5866.026 ft	**Ellipsoid Dist.**	18694.490 ft	**ΔY**	-12230.411 ft
ΔElevation	38.153 ft	**ΔHeight**	38.268 ft	**ΔZ**	-4523.407 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.007 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.011 ft
σ ΔNorthing	0.013 ft	**σ Ellipsoid Dist.**	0.008 ft	**σ ΔY**	0.017 ft
σ ΔElevation	0.018 ft	**σ ΔHeight**	0.018 ft	**σ ΔZ**	0.012 ft

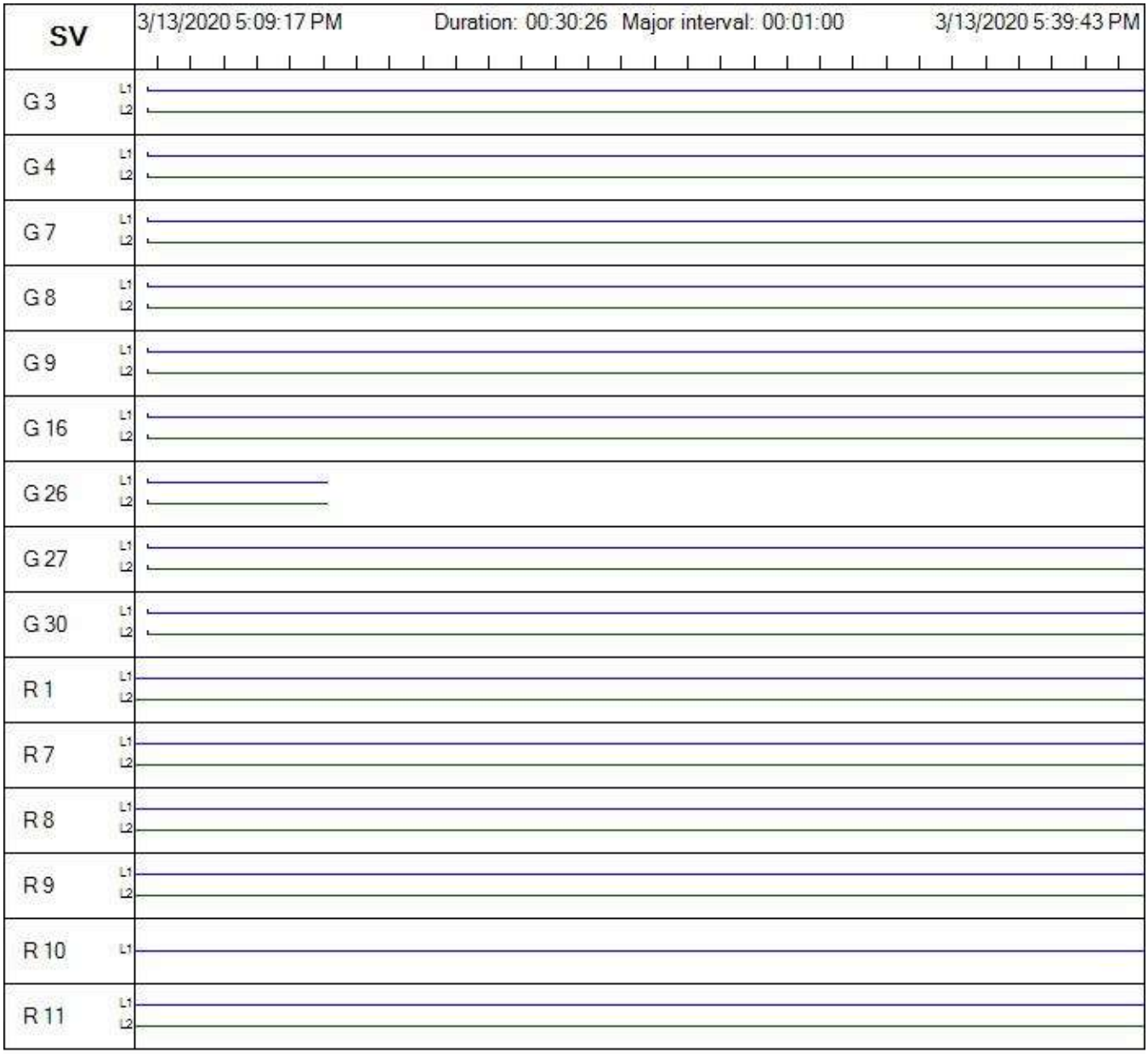
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0001240131		
Y	0.0001304911	0.0002911452	
Z	-0.0000180869	-0.0000548009	0.0001432216

Occupations

	From	To
Point ID:	P242	NVA023
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420730.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430731.t02
Receiver type:	NetRS	R8 Model 3
Receiver serial number:	4541260327	5018426973
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - NVA028 (4:41:47 PM-5:02:08 PM) (S23)

Baseline observation:	P242 --- NVA028 (B23)
Processed:	5/14/2020 4:13:40 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.075 ft
Vertical precision:	0.123 ft
RMS:	0.052 ft
Maximum PDOP:	2.174
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 4:42:12 PM (UTC)
Processing stop time:	3/13/2020 5:01:42 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.742 ft	**Latitude**	N36°57'14.15018"	**Latitude**	N36°57'14.15017"
Northing	1807148.034 ft	**Longitude**	W121°27'47.41556"	**Longitude**	W121°27'47.41556"
Elevation	158.190 ft	**Height**	50.223 ft	**Height**	50.223 ft

To:	NVA028				
Grid		**Local**		**Global**	
Easting	6200998.901 ft	**Latitude**	N36°57'33.12039"	**Latitude**	N36°57'33.12039"
Northing	1809996.961 ft	**Longitude**	W121°44'03.74394"	**Longitude**	W121°44'03.74394"
Elevation	145.887 ft	**Height**	37.301 ft	**Height**	37.301 ft

Vector					
ΔEasting	-79218.841 ft	**NS Fwd Azimuth**	271°28'06.4"	**ΔX**	-66886.193 ft
ΔNorthing	2848.928 ft	**Ellipsoid Dist.**	79268.105 ft	**ΔY**	42513.079 ft
ΔElevation	-12.303 ft	**ΔHeight**	-12.922 ft	**ΔZ**	1525.377 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.023 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.034 ft
σ ΔNorthing	0.030 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.055 ft
σ ΔElevation	0.063 ft	**σ ΔHeight**	0.063 ft	**σ ΔZ**	0.034 ft

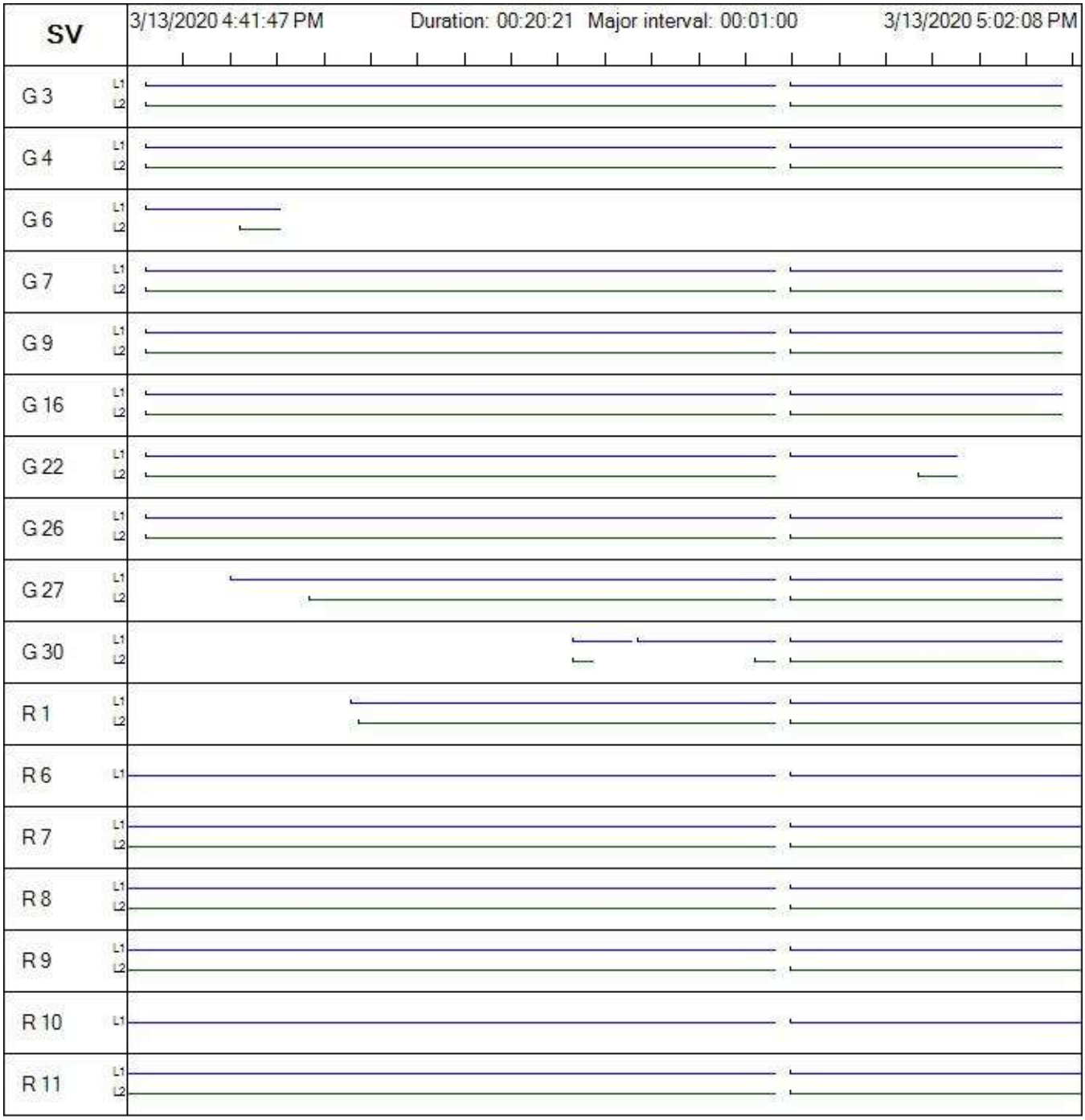
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0011277624		
Y	0.0012626544	0.0030302930	
Z	-0.0006306909	-0.0010555008	0.0011682879

Occupations

	From	To
Point ID:	P242	NVA028
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420730.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\45870730.t02
Receiver type:	NetRS	R8 Model 2
Receiver serial number:	4541260327	4748141711
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - HS2738 (4:02:01 PM-7:56:30 PM) (S24)

Baseline observation:	P242 --- HS2738 (B24)
Processed:	5/14/2020 4:13:41 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.018 ft
Vertical precision:	0.075 ft
RMS:	0.041 ft
Maximum PDOP:	2.298
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/13/2020 4:02:12 PM (UTC)
Processing stop time:	3/13/2020 7:56:12 PM (UTC)
Processing duration:	03:54:00
Processing interval:	1 Minute

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.742 ft	**Latitude**	N36°57'14.15018"	**Latitude**	N36°57'14.15017"
Northing	1807148.034 ft	**Longitude**	W121°27'47.41556"	**Longitude**	W121°27'47.41556"
Elevation	158.190 ft	**Height**	50.223 ft	**Height**	50.223 ft

To:	HS2738				
Grid		**Local**		**Global**	
Easting	6240039.984 ft	**Latitude**	N37°04'19.07450"	**Latitude**	N37°04'19.07449"
Northing	1850570.921 ft	**Longitude**	W121°36'08.65909"	**Longitude**	W121°36'08.65909"
Elevation	266.819 ft	**Height**	160.048 ft	**Height**	160.047 ft

Vector					
ΔEasting	-40177.758 ft	**NS Fwd Azimuth**	316°37'57.1"	**ΔX**	-21166.579 ft
ΔNorthing	43422.888 ft	**Ellipsoid Dist.**	59158.410 ft	**ΔY**	43238.356 ft
ΔElevation	108.629 ft	**ΔHeight**	109.824 ft	**ΔZ**	34382.887 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.006 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.017 ft
σ ΔNorthing	0.007 ft	**σ Ellipsoid Dist.**	0.006 ft	**σ ΔY**	0.027 ft
σ ΔElevation	0.038 ft	**σ ΔHeight**	0.038 ft	**σ ΔZ**	0.022 ft

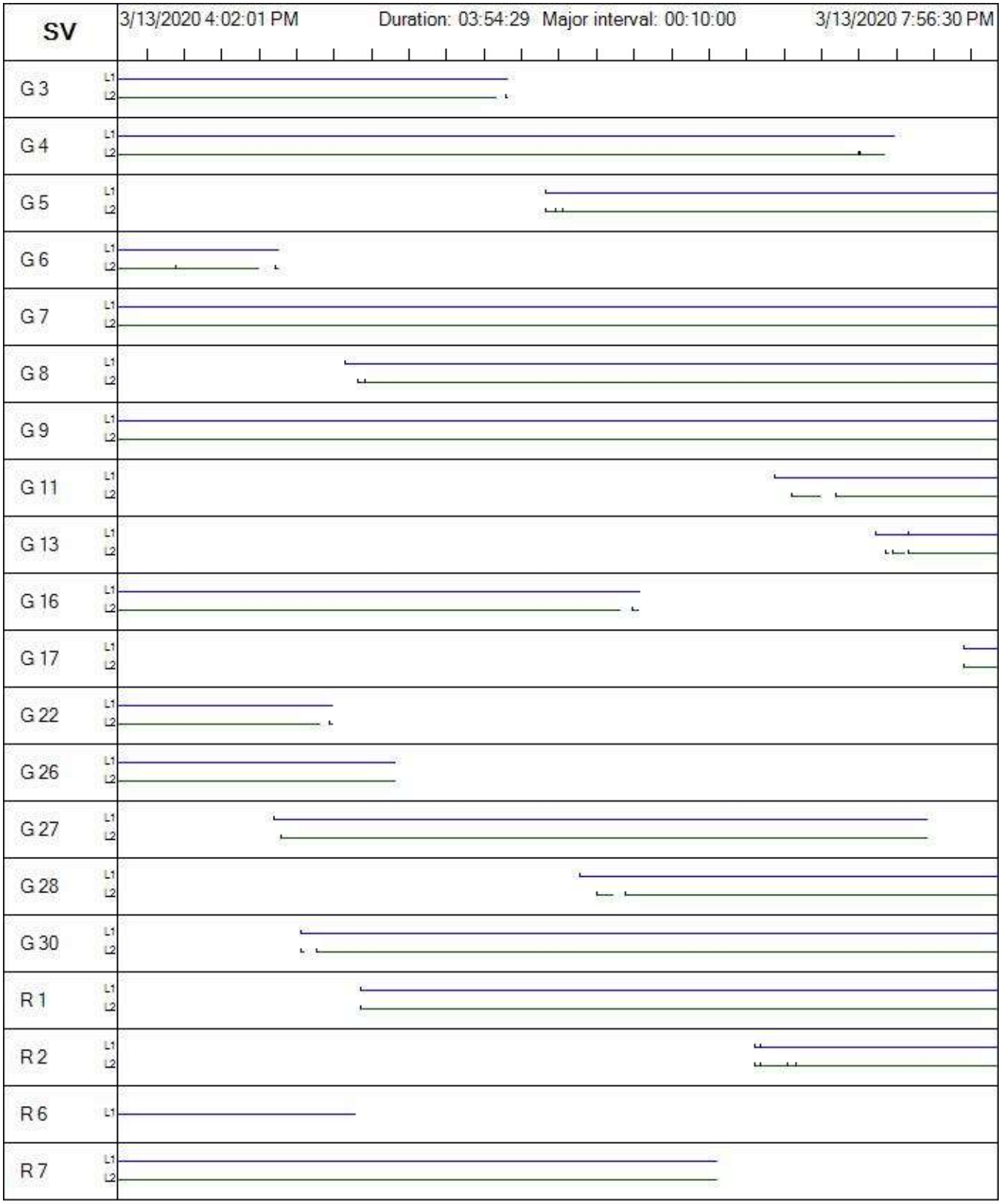
Aposteriori Covariance Matrix (US survey foot²)

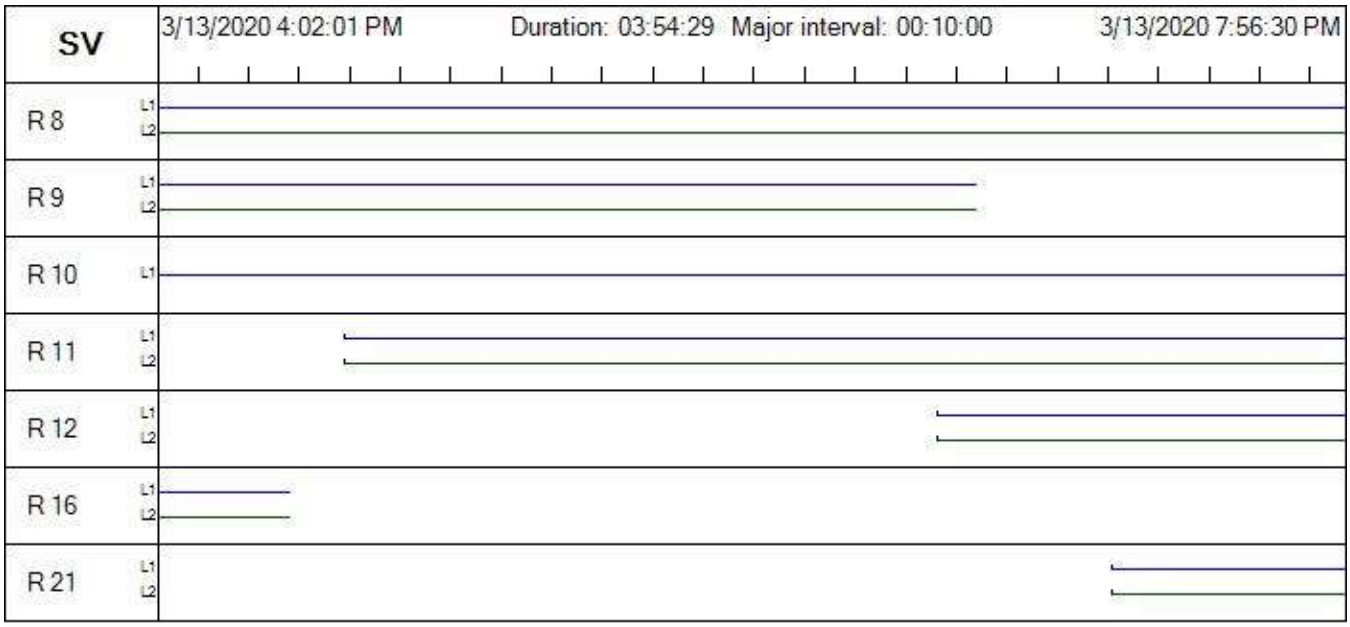
	X	Y	Z
X	0.0003023703		
Y	0.0004413488	0.0007474307	
Z	-0.0003354320	-0.0005531652	0.0004830934

Occupations

	From	To
Point ID:	P242	HS2738
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420730.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730730.T01
Receiver type:	NetRS	R8 Model 2
Receiver serial number:	4541260327	4720132973
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
3/13/2020 4:02:01 PM
Duration: 03:54:29 Major interval: 00:10:00
3/13/2020 7:56:30 PM
R 8
R 9
R 10
R 11
R 12
R 16
R 21
L1
L2

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - VVA016 (7:49:43 PM-7:59:45 PM) (S8)

Baseline observation:	HS2787 --- VVA016 (B8)
Processed:	5/14/2020 4:25:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.122 ft
Vertical precision:	0.184 ft
RMS:	0.103 ft
Maximum PDOP:	1.707
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 7:49:43 PM (UTC)
Processing stop time:	3/14/2020 7:59:45 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.295 ft	**Latitude**	N37°15'23.15208"	**Latitude**	N37°15'23.15208"
Northing	1918487.235 ft	**Longitude**	W121°48'16.27775"	**Longitude**	W121°48'16.27775"
Elevation	190.707 ft	**Height**	84.122 ft	**Height**	84.122 ft

To:	VVA016				
Grid		**Local**		**Global**	
Easting	6159502.523 ft	**Latitude**	N37°17'07.84204"	**Latitude**	N37°17'07.84203"
Northing	1929399.794 ft	**Longitude**	W121°52'56.67533"	**Longitude**	W121°52'56.67533"
Elevation	155.022 ft	**Height**	48.089 ft	**Height**	48.089 ft

Vector					
ΔEasting	-22509.771 ft	**NS Fwd Azimuth**	295°03'53.3"	**ΔX**	-15855.442 ft
ΔNorthing	10912.558 ft	**Ellipsoid Dist.**	25016.368 ft	**ΔY**	17429.677 ft
ΔElevation	-35.685 ft	**ΔHeight**	-36.033 ft	**ΔZ**	8404.474 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.039 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.050 ft
σ ΔNorthing	0.047 ft	**σ Ellipsoid Dist.**	0.046 ft	**σ ΔY**	0.083 ft
σ ΔElevation	0.094 ft	**σ ΔHeight**	0.094 ft	**σ ΔZ**	0.056 ft

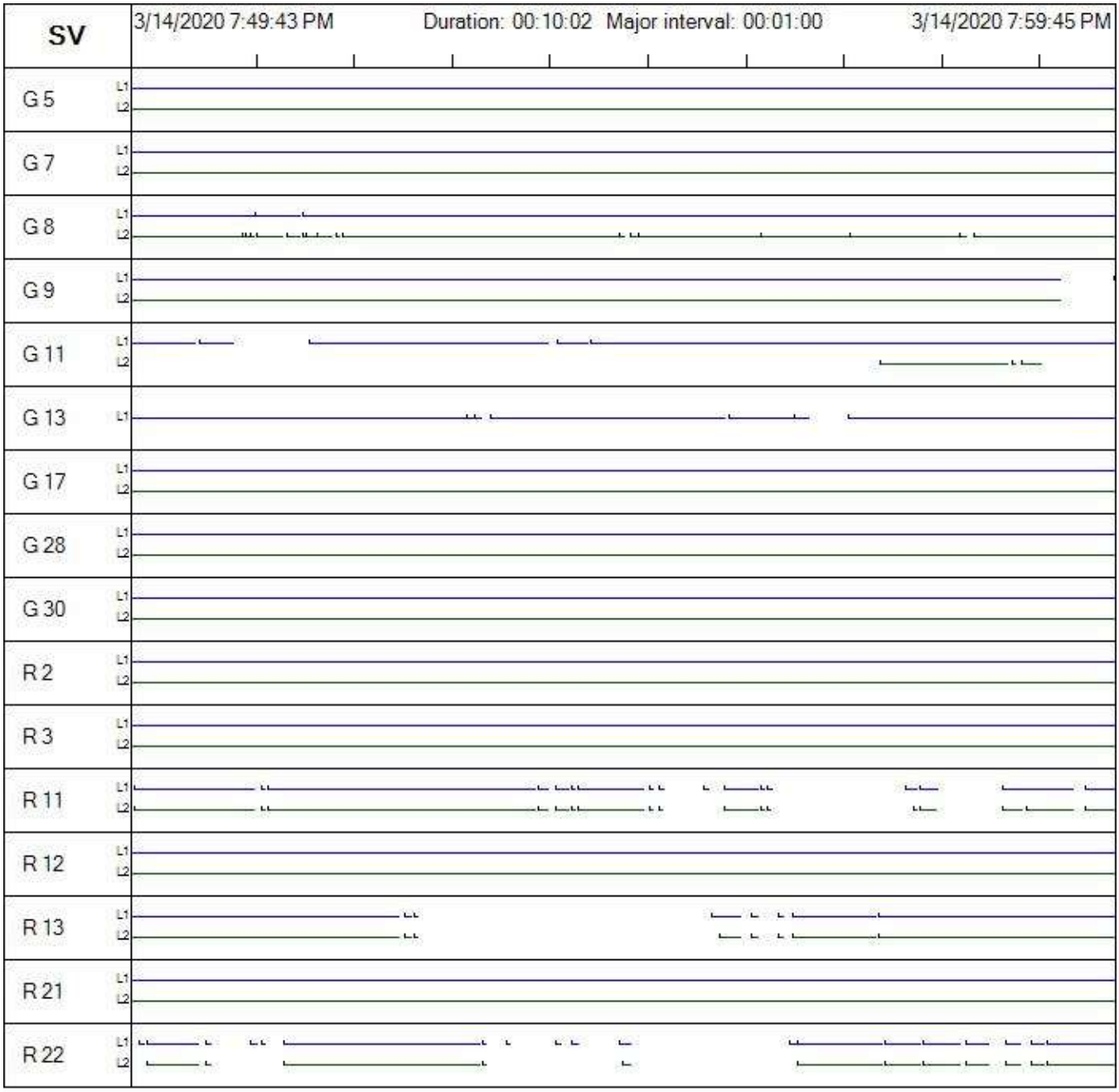
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0024992253		
Y	0.0024327282	0.0069462616	
Z	-0.0013997044	-0.0023720181	0.0031161361

Occupations

	From	To
Point ID:	HS2787	VVA016
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730740.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430747.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA049 (4:25:57 PM-4:35:59 PM) (S31)

Baseline observation:	MHCB --- VVA049 (B31)
Processed:	5/14/2020 4:25:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.081 ft
Vertical precision:	0.155 ft
RMS:	0.045 ft
Maximum PDOP:	1.906
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 4:26:12 PM (UTC)
Processing stop time:	3/14/2020 4:35:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.118 ft	**Latitude**	N37°20'29.51051"	**Latitude**	N37°20'29.51050"
Northing	1948853.699 ft	**Longitude**	W121°38'33.23538"	**Longitude**	W121°38'33.23538"
Elevation	4244.970 ft	**Height**	4141.468 ft	**Height**	4141.468 ft

To:	VVA049				
Grid		**Local**		**Global**	
Easting	6197061.880 ft	**Latitude**	N37°13'38.96253"	**Latitude**	N37°13'38.96253"
Northing	1907742.966 ft	**Longitude**	W121°45'08.36054"	**Longitude**	W121°45'08.36054"
Elevation	241.349 ft	**Height**	135.004 ft	**Height**	135.004 ft

Vector					
ΔEasting	-32460.238 ft	**NS Fwd Azimuth**	217°35'38.7"	**ΔX**	-38715.610 ft
ΔNorthing	-41110.733 ft	**Ellipsoid Dist.**	52382.883 ft	**ΔY**	-1911.864 ft
ΔElevation	-4003.621 ft	**ΔHeight**	-4006.464 ft	**ΔZ**	-35468.643 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.028 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.046 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.029 ft	**σ ΔY**	0.063 ft
σ ΔElevation	0.079 ft	**σ ΔHeight**	0.079 ft	**σ ΔZ**	0.045 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0020767261		
Y	0.0020321285	0.0040070230	
Z	-0.0013350436	-0.0018269976	0.0020201601

Occupations

	From	To
Point ID:	MHCB	VVA049
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0740.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430740.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA018 (4:49:02 PM-4:59:04 PM) (S30)

Baseline observation:	MHCB --- NVA018 (B30)
Processed:	5/14/2020 4:25:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.000 ft
Vertical precision:	0.000 ft
RMS:	0.123 ft
Maximum PDOP:	1.705
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 4:49:12 PM (UTC)
Processing stop time:	3/14/2020 4:58:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.118 ft	**Latitude**	N37°20'29.51051"	**Latitude**	N37°20'29.51050"
Northing	1948853.699 ft	**Longitude**	W121°38'33.23538"	**Longitude**	W121°38'33.23538"
Elevation	4244.970 ft	**Height**	4141.468 ft	**Height**	4141.468 ft

To:	NVA018				
Grid		**Local**		**Global**	
Easting	6192584.349 ft	**Latitude**	N37°13'28.60353"	**Latitude**	N37°13'28.60353"
Northing	1906755.453 ft	**Longitude**	W121°46'03.55337"	**Longitude**	W121°46'03.55337"
Elevation	219.052 ft	**Height**	112.639 ft	**Height**	112.638 ft

Vector					
ΔEasting	-36937.768 ft	**NS Fwd Azimuth**	220°33'51.8"	**ΔX**	-42835.418 ft
ΔNorthing	-42098.246 ft	**Ellipsoid Dist.**	56008.003 ft	**ΔY**	-85.981 ft
ΔElevation	-4025.918 ft	**ΔHeight**	-4028.830 ft	**ΔZ**	-36316.443 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.000 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.000 ft
σ ΔNorthing	0.000 ft	**σ Ellipsoid Dist.**	0.000 ft	**σ ΔY**	0.000 ft
σ ΔElevation	0.000 ft	**σ ΔHeight**	0.000 ft	**σ ΔZ**	0.000 ft

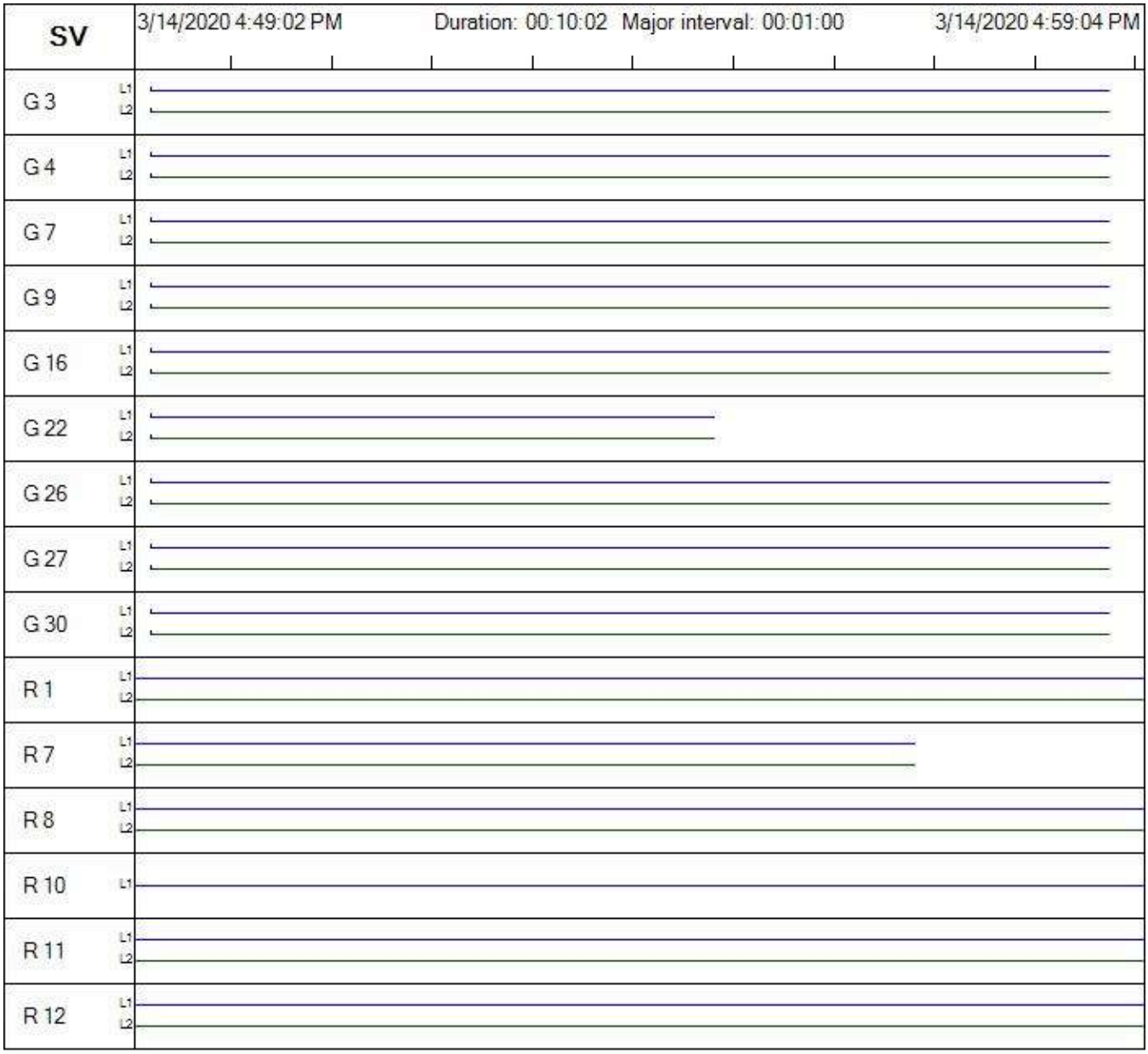
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0000000045		
Y	0.0000000000	0.0000000045	
Z	0.0000000000	0.0000000000	0.0000000045

Occupations

	From	To
Point ID:	MHCB	NVA018
Data file:	A:\GroundSurvey \312020310_SantaClaraCAYear5\03_Survey_Project \312020310_SantaClaraCAYear5\mhcb0740.20o	A:\GroundSurvey \312020310_SantaClaraCAYear5\03_Survey_Project \312020310_SantaClaraCAYear5\88430741.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA002 (7:12:39 PM-7:22:42 PM) (S25)

Baseline observation:	MHCB --- NVA002 (B25)
Processed:	5/14/2020 4:25:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.077 ft
Vertical precision:	0.147 ft
RMS:	0.052 ft
Maximum PDOP:	1.728
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 7:12:42 PM (UTC)
Processing stop time:	3/14/2020 7:22:42 PM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.118 ft	**Latitude**	N37°20'29.51051"	**Latitude**	N37°20'29.51050"
Northing	1948853.699 ft	**Longitude**	W121°38'33.23538"	**Longitude**	W121°38'33.23538"
Elevation	4244.970 ft	**Height**	4141.468 ft	**Height**	4141.468 ft

To:	NVA002				
Grid		**Local**		**Global**	
Easting	6162406.208 ft	**Latitude**	N37°17'08.30549"	**Latitude**	N37°17'08.30549"
Northing	1929403.932 ft	**Longitude**	W121°52'20.74891"	**Longitude**	W121°52'20.74891"
Elevation	249.249 ft	**Height**	142.360 ft	**Height**	142.360 ft

Vector					
ΔEasting	-67115.909 ft	**NS Fwd Azimuth**	253°08'18.8"	**ΔX**	-61667.766 ft
ΔNorthing	-19449.767 ft	**Ellipsoid Dist.**	69880.234 ft	**ΔY**	27403.270 ft
ΔElevation	-3995.721 ft	**ΔHeight**	-3999.108 ft	**ΔZ**	-18611.333 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.027 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.039 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.027 ft	**σ ΔY**	0.061 ft
σ ΔElevation	0.075 ft	**σ ΔHeight**	0.075 ft	**σ ΔZ**	0.046 ft

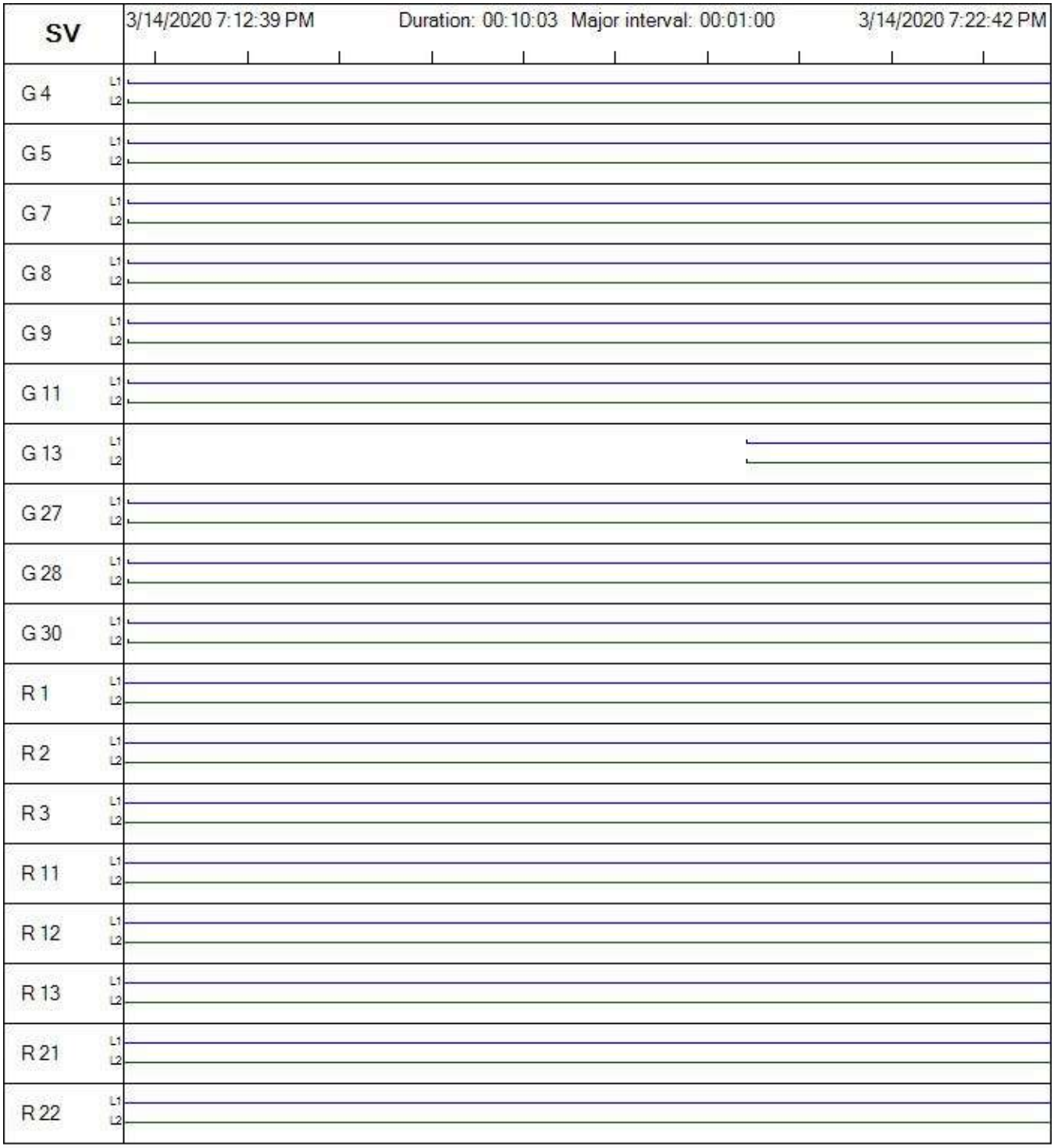
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0015431537		
Y	0.0015714952	0.0037151433	
Z	-0.0009403927	-0.0018275123	0.0020704005

Occupations

	From	To
Point ID:	MHCB	NVA002
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0740.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430746.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA016 (7:49:43 PM-7:59:45 PM) (S24)

Baseline observation:	MHCB --- VVA016 (B24)
Processed:	5/14/2020 4:25:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.140 ft
Vertical precision:	0.308 ft
RMS:	0.073 ft
Maximum PDOP:	1.683
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 7:50:12 PM (UTC)
Processing stop time:	3/14/2020 7:59:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.118 ft	**Latitude**	N37°20'29.51051"	**Latitude**	N37°20'29.51050"
Northing	1948853.699 ft	**Longitude**	W121°38'33.23538"	**Longitude**	W121°38'33.23538"
Elevation	4244.970 ft	**Height**	4141.468 ft	**Height**	4141.468 ft

To:	VVA016				
Grid		**Local**		**Global**	
Easting	6159502.549 ft	**Latitude**	N37°17'07.84082"	**Latitude**	N37°17'07.84082"
Northing	1929399.671 ft	**Longitude**	W121°52'56.67499"	**Longitude**	W121°52'56.67499"
Elevation	154.955 ft	**Height**	48.022 ft	**Height**	48.022 ft

Vector					
ΔEasting	-70019.569 ft	**NS Fwd Azimuth**	253°46'21.0"	**ΔX**	-64108.677 ft
ΔNorthing	-19454.028 ft	**Ellipsoid Dist.**	72674.898 ft	**ΔY**	28976.130 ft
ΔElevation	-4090.015 ft	**ΔHeight**	-4093.447 ft	**ΔZ**	-18705.875 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.028 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.069 ft
σ ΔNorthing	0.054 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.141 ft
σ ΔElevation	0.157 ft	**σ ΔHeight**	0.157 ft	**σ ΔZ**	0.061 ft

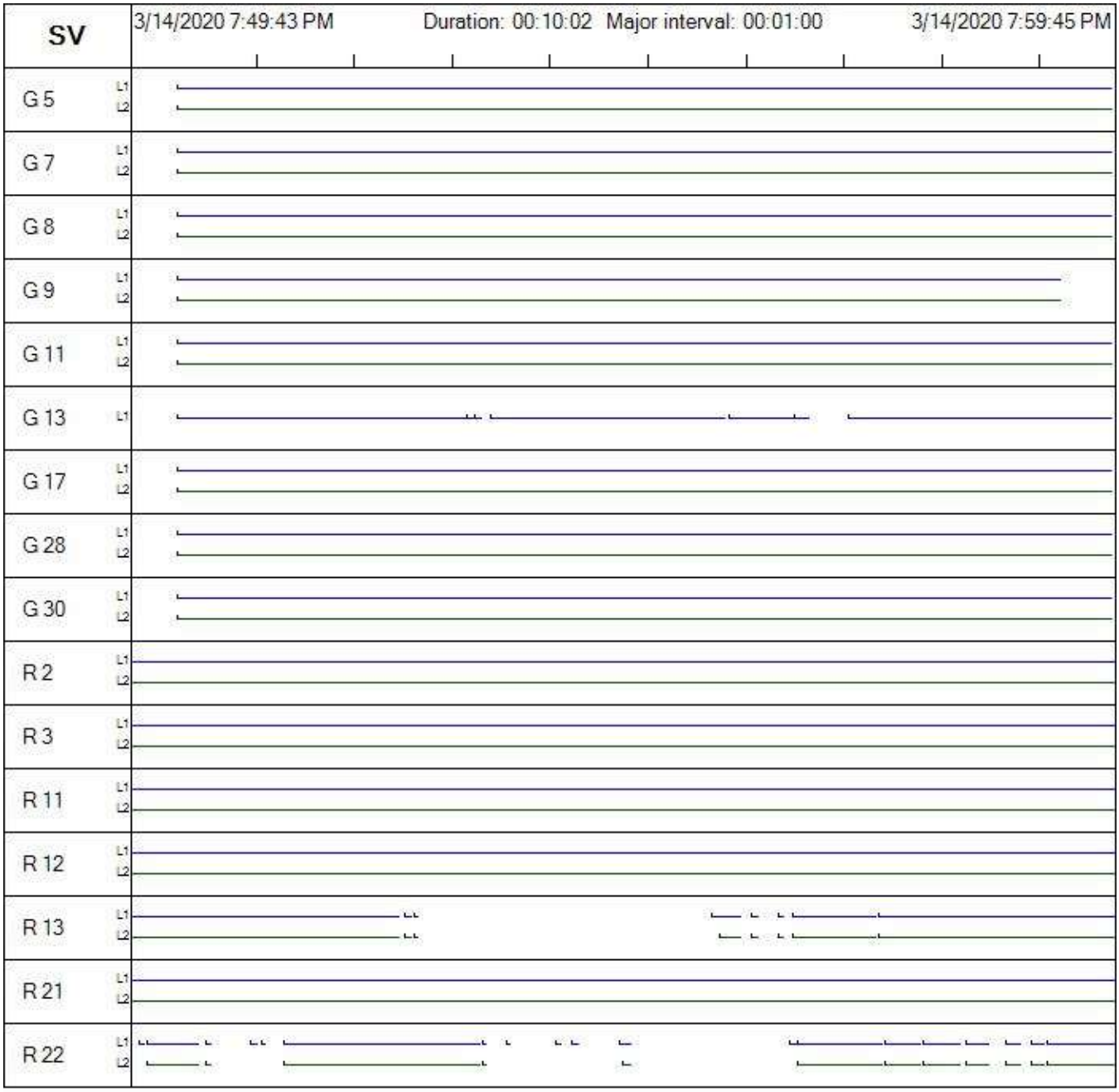
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0047711697		
Y	0.0091375861	0.0199498185	
Z	-0.0037075653	-0.0077210498	0.0037182487

Occupations

	From	To
Point ID:	MHCB	VVA016
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0740.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430747.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA002 (7:12:39 PM-7:22:42 PM) (S7)

Baseline observation:	HS2787 --- NVA002 (B7)
Processed:	5/14/2020 4:25:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.043 ft
Vertical precision:	0.088 ft
RMS:	0.053 ft
Maximum PDOP:	1.527
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 7:12:39 PM (UTC)
Processing stop time:	3/14/2020 7:22:42 PM (UTC)
Processing duration:	00:10:03
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.295 ft	**Latitude**	N37°15'23.15208"	**Latitude**	N37°15'23.15208"
Northing	1918487.235 ft	**Longitude**	W121°48'16.27775"	**Longitude**	W121°48'16.27775"
Elevation	190.707 ft	**Height**	84.122 ft	**Height**	84.122 ft

To:	NVA002				
Grid		**Local**		**Global**	
Easting	6162406.187 ft	**Latitude**	N37°17'08.30551"	**Latitude**	N37°17'08.30550"
Northing	1929403.934 ft	**Longitude**	W121°52'20.74918"	**Longitude**	W121°52'20.74918"
Elevation	249.287 ft	**Height**	142.398 ft	**Height**	142.398 ft

Vector					
ΔEasting	-19606.107 ft	**NS Fwd Azimuth**	298°18'36.7"	**ΔX**	-13414.552 ft
ΔNorthing	10916.698 ft	**Ellipsoid Dist.**	22441.255 ft	**ΔY**	15856.771 ft
ΔElevation	58.580 ft	**ΔHeight**	58.275 ft	**ΔZ**	8498.902 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.015 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.024 ft
σ ΔNorthing	0.018 ft	**σ Ellipsoid Dist.**	0.016 ft	**σ ΔY**	0.036 ft
σ ΔElevation	0.045 ft	**σ ΔHeight**	0.045 ft	**σ ΔZ**	0.026 ft

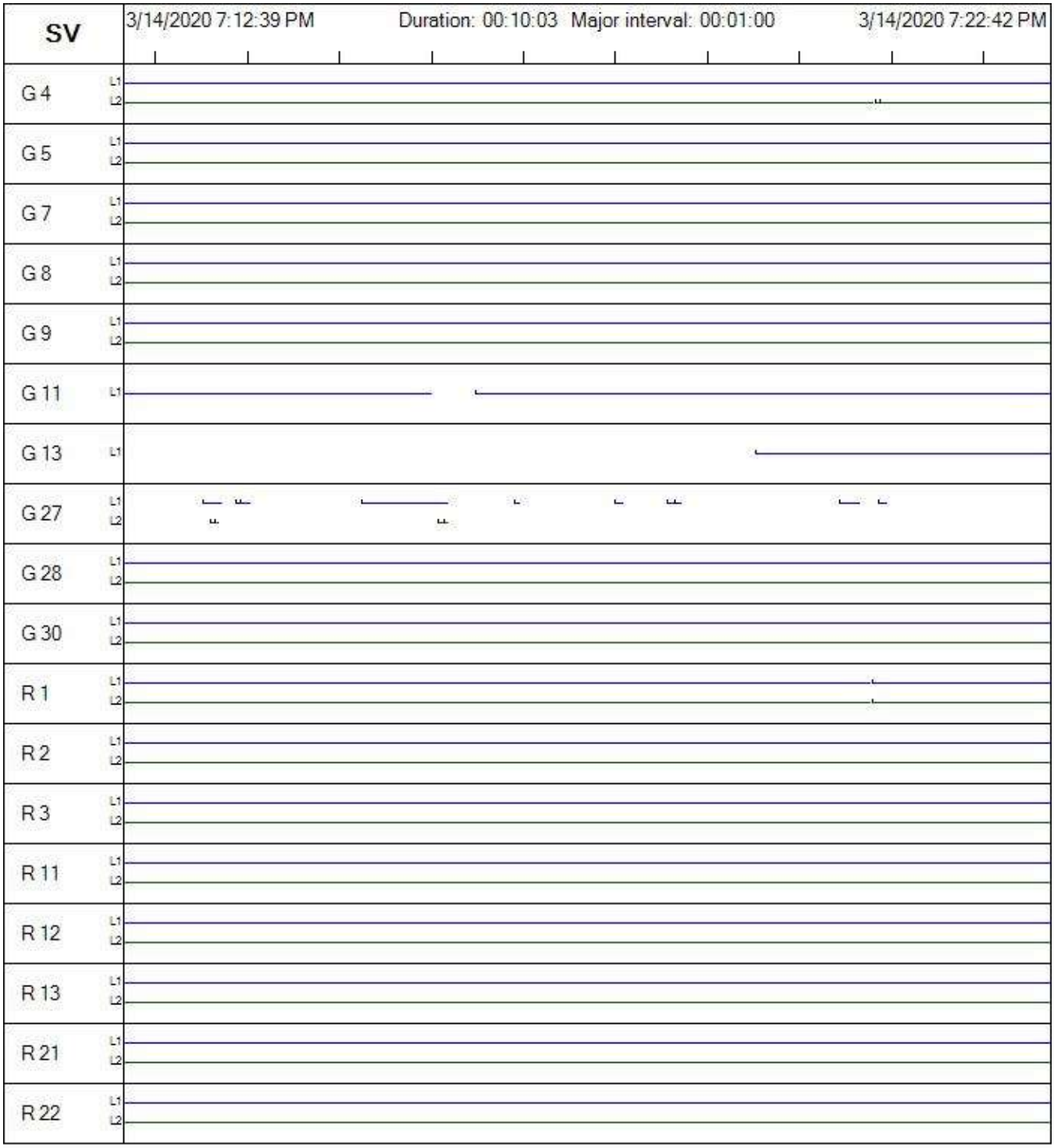
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0005696667		
Y	0.0006069078	0.0013282449	
Z	-0.0003638385	-0.0006647590	0.0006809901

Occupations

	From	To
Point ID:	HS2787	NVA002
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730740.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430746.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA057 (6:39:32 PM-6:51:45 PM) (S6)

Baseline observation:	HS2787 --- NVA057 (B6)
Processed:	5/14/2020 4:25:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.052 ft
Vertical precision:	0.099 ft
RMS:	0.037 ft
Maximum PDOP:	2.867
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 6:39:32 PM (UTC)
Processing stop time:	3/14/2020 6:51:45 PM (UTC)
Processing duration:	00:12:13
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.295 ft	**Latitude**	N37°15'23.15208"	**Latitude**	N37°15'23.15208"
Northing	1918487.235 ft	**Longitude**	W121°48'16.27775"	**Longitude**	W121°48'16.27775"
Elevation	190.707 ft	**Height**	84.122 ft	**Height**	84.122 ft

To:	NVA057				
Grid		**Local**		**Global**	
Easting	6165870.548 ft	**Latitude**	N37°15'29.85294"	**Latitude**	N37°15'29.85293"
Northing	1919394.834 ft	**Longitude**	W121°51'36.08477"	**Longitude**	W121°51'36.08477"
Elevation	176.957 ft	**Height**	70.200 ft	**Height**	70.199 ft

Vector					
ΔEasting	-16141.747 ft	**NS Fwd Azimuth**	272°25'09.5"	**ΔX**	-13501.808 ft
ΔNorthing	907.599 ft	**Ellipsoid Dist.**	16167.791 ft	**ΔY**	8877.994 ft
ΔElevation	-13.750 ft	**ΔHeight**	-13.923 ft	**ΔZ**	531.007 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.017 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.029 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.039 ft
σ ΔElevation	0.050 ft	**σ ΔHeight**	0.050 ft	**σ ΔZ**	0.029 ft

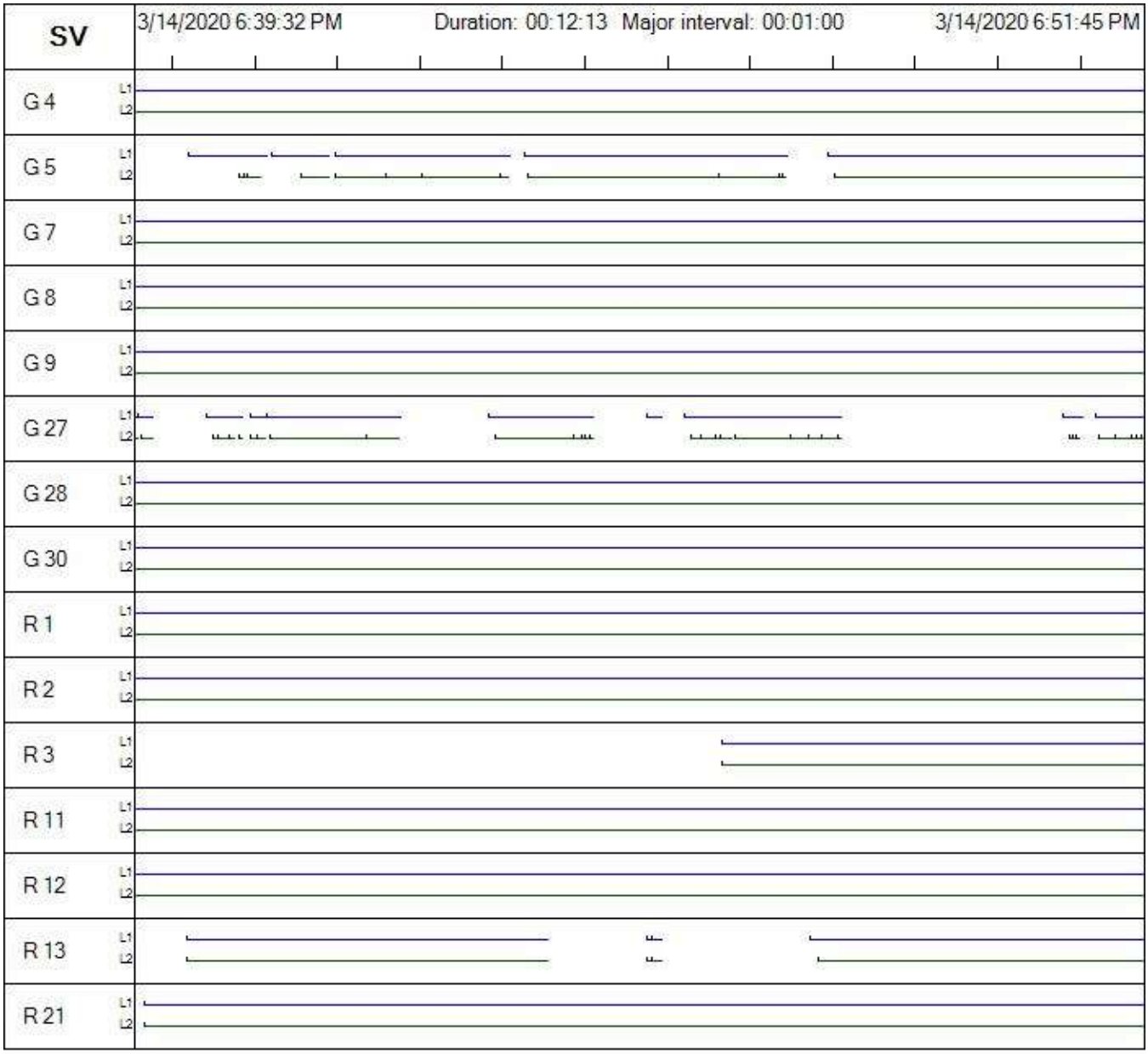
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0008557997		
Y	0.0008501979	0.0015557393	
Z	-0.0004435153	-0.0008202694	0.0008200520

Occupations

	From	To
Point ID:	HS2787	NVA057
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730740.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430745.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA001 (6:06:45 PM-6:16:46 PM) (S5)

Baseline observation:	HS2787 --- NVA001 (B5)
Processed:	5/14/2020 4:25:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.098 ft
Vertical precision:	0.123 ft
RMS:	0.071 ft
Maximum PDOP:	2.112
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 6:06:45 PM (UTC)
Processing stop time:	3/14/2020 6:16:46 PM (UTC)
Processing duration:	00:10:01
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.295 ft	**Latitude**	N37°15'23.15208"	**Latitude**	N37°15'23.15208"
Northing	1918487.235 ft	**Longitude**	W121°48'16.27775"	**Longitude**	W121°48'16.27775"
Elevation	190.707 ft	**Height**	84.122 ft	**Height**	84.122 ft

To:	NVA001				
Grid		**Local**		**Global**	
Easting	6169713.514 ft	**Latitude**	N37°12'00.11416"	**Latitude**	N37°12'00.11416"
Northing	1898124.167 ft	**Longitude**	W121°50'44.76954"	**Longitude**	W121°50'44.76954"
Elevation	395.609 ft	**Height**	289.233 ft	**Height**	289.233 ft

Vector					
ΔEasting	-12298.780 ft	**NS Fwd Azimuth**	210°19'55.6"	**ΔX**	-16841.856 ft
ΔNorthing	-20363.069 ft	**Ellipsoid Dist.**	23789.659 ft	**ΔY**	-4361.974 ft
ΔElevation	204.902 ft	**ΔHeight**	205.111 ft	**ΔZ**	-16227.294 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.027 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.041 ft
σ ΔNorthing	0.037 ft	**σ Ellipsoid Dist.**	0.040 ft	**σ ΔY**	0.049 ft
σ ΔElevation	0.063 ft	**σ ΔHeight**	0.063 ft	**σ ΔZ**	0.044 ft

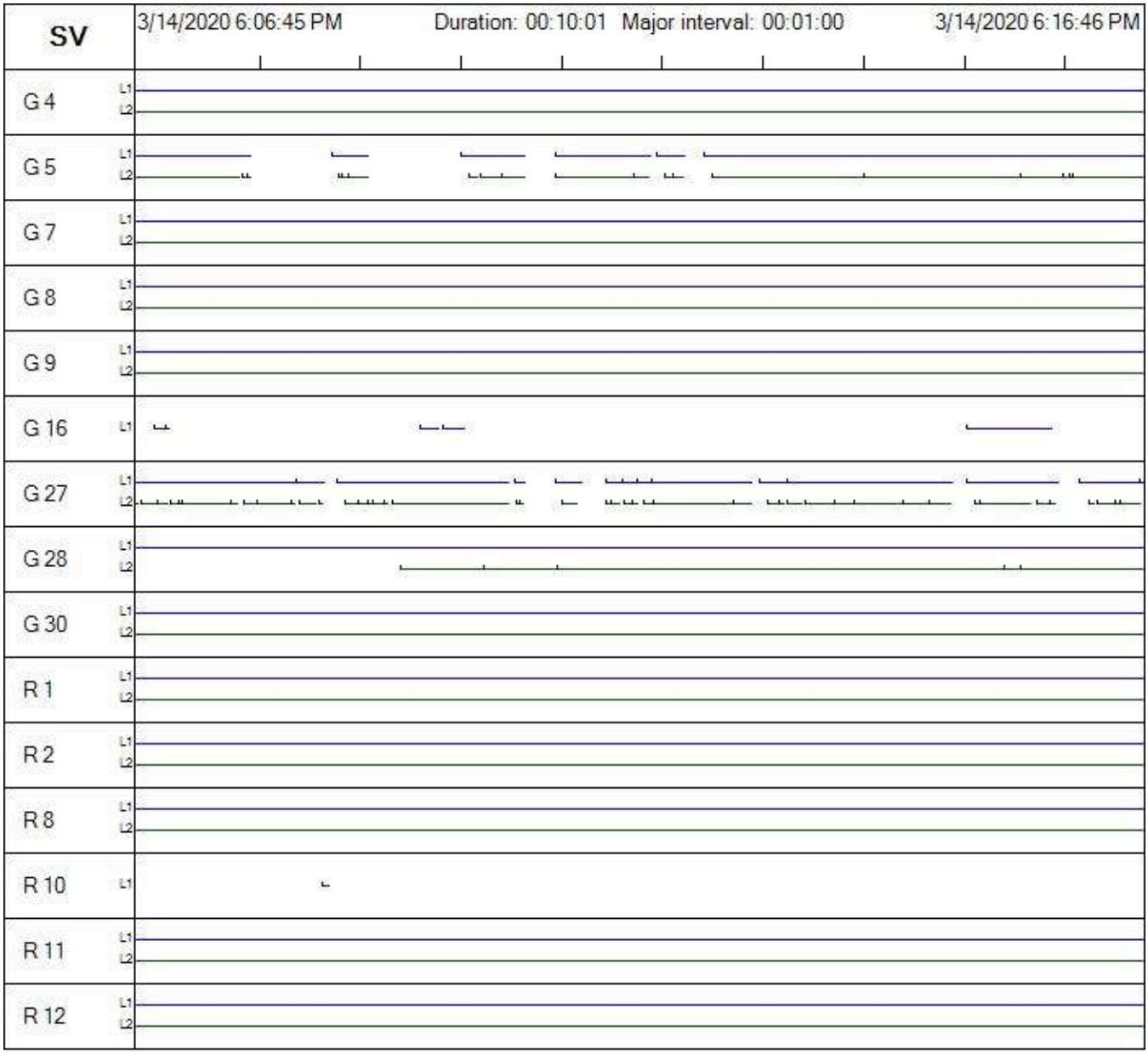
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0017168585		
Y	0.0013425788	0.0024302156	
Z	-0.0003082192	-0.0011337789	0.0019237009

Occupations

	From	To
Point ID:	HS2787	NVA001
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730740.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430744.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - VVA041 (5:41:59 PM-5:52:01 PM) (S4)

Baseline observation:	HS2787 --- VVA041 (B4)
Processed:	5/14/2020 4:25:19 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.209 ft
Vertical precision:	0.192 ft
RMS:	0.087 ft
Maximum PDOP:	1.989
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 5:41:59 PM (UTC)
Processing stop time:	3/14/2020 5:52:01 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.295 ft	**Latitude**	N37°15'23.15208"	**Latitude**	N37°15'23.15208"
Northing	1918487.235 ft	**Longitude**	W121°48'16.27775"	**Longitude**	W121°48'16.27775"
Elevation	190.707 ft	**Height**	84.122 ft	**Height**	84.122 ft

To:	VVA041				
Grid		**Local**		**Global**	
Easting	6167551.725 ft	**Latitude**	N37°13'25.08554"	**Latitude**	N37°13'25.08554"
Northing	1906750.209 ft	**Longitude**	W121°51'13.02889"	**Longitude**	W121°51'13.02889"
Elevation	243.803 ft	**Height**	137.251 ft	**Height**	137.251 ft

Vector					
ΔEasting	-14460.570 ft	**NS Fwd Azimuth**	230°08'11.0"	**ΔX**	-15977.147 ft
ΔNorthing	-11737.026 ft	**Ellipsoid Dist.**	18624.918 ft	**ΔY**	1362.124 ft
ΔElevation	53.096 ft	**ΔHeight**	53.129 ft	**ΔZ**	-9474.674 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.045 ft	**σ NS fwd Azimuth**	0°00'00.6"	**σ ΔX**	0.070 ft
σ ΔNorthing	0.082 ft	**σ Ellipsoid Dist.**	0.075 ft	**σ ΔY**	0.081 ft
σ ΔElevation	0.098 ft	**σ ΔHeight**	0.098 ft	**σ ΔZ**	0.082 ft

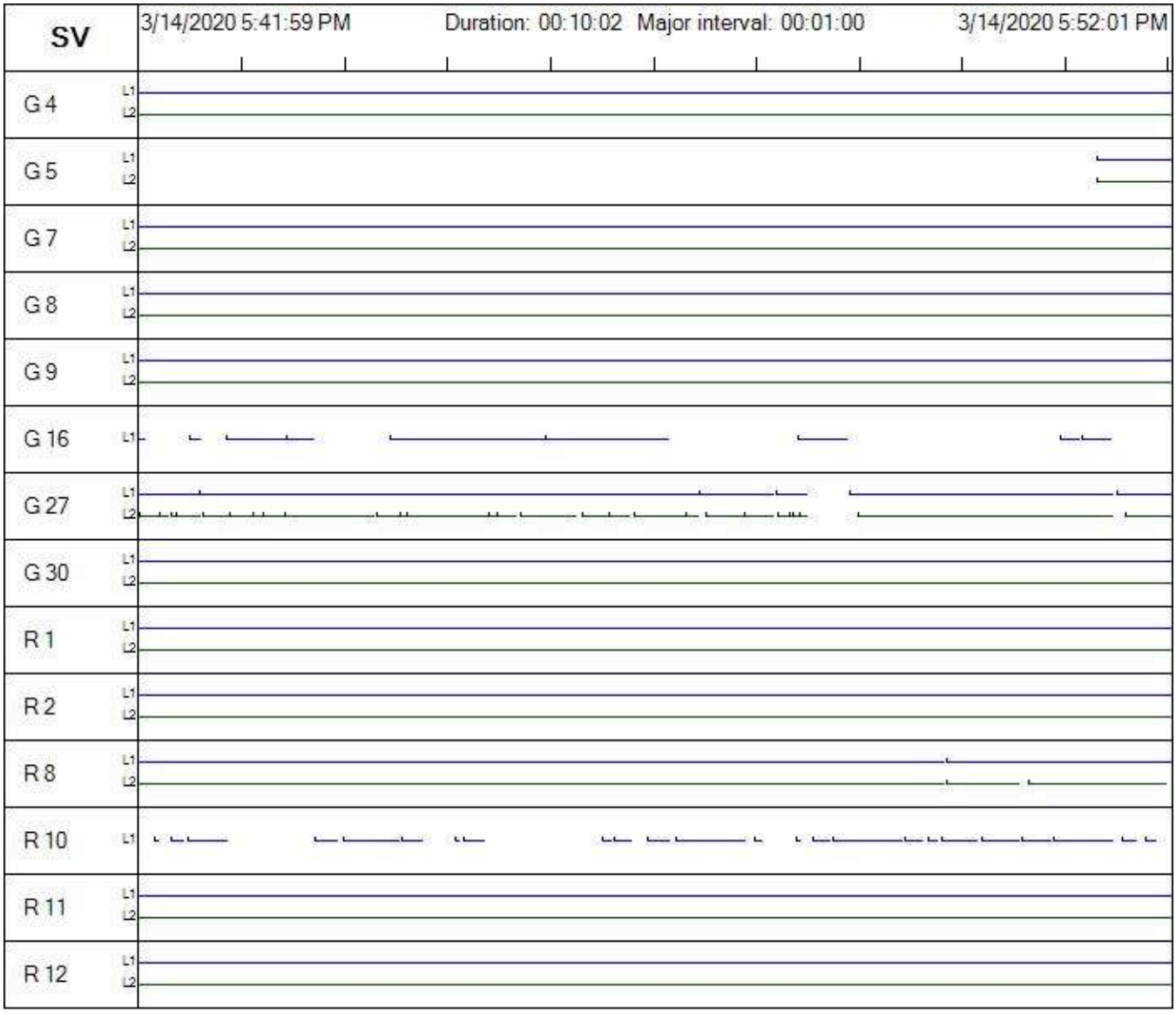
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0048611922		
Y	0.0037342098	0.0066198464	
Z	0.0007403073	-0.0018005714	0.0067618672

Occupations

	From	To
Point ID:	HS2787	VVA041
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730740.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430743.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA015 (5:09:03 PM-5:19:04 PM) (S3)

Baseline observation:	HS2787 --- NVA015 (B3)
Processed:	5/14/2020 4:25:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.077 ft
Vertical precision:	0.110 ft
RMS:	0.037 ft
Maximum PDOP:	1.974
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 5:09:03 PM (UTC)
Processing stop time:	3/14/2020 5:19:04 PM (UTC)
Processing duration:	00:10:01
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.295 ft	**Latitude**	N37°15'23.15208"	**Latitude**	N37°15'23.15208"
Northing	1918487.235 ft	**Longitude**	W121°48'16.27775"	**Longitude**	W121°48'16.27775"
Elevation	190.707 ft	**Height**	84.122 ft	**Height**	84.122 ft

To:	NVA015				
Grid		**Local**		**Global**	
Easting	6184732.052 ft	**Latitude**	N37°14'13.74066"	**Latitude**	N37°14'13.74066"
Northing	1911428.541 ft	**Longitude**	W121°47'41.43098"	**Longitude**	W121°47'41.43098"
Elevation	196.981 ft	**Height**	90.465 ft	**Height**	90.465 ft

Vector					
ΔEasting	2719.758 ft	**NS Fwd Azimuth**	158°07'45.8"	**ΔX**	152.930 ft
ΔNorthing	-7058.694 ft	**Ellipsoid Dist.**	7564.783 ft	**ΔY**	-5100.378 ft
ΔElevation	6.274 ft	**ΔHeight**	6.342 ft	**ΔZ**	-5584.731 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.020 ft	**σ NS fwd Azimuth**	0°00'00.6"	**σ ΔX**	0.031 ft
σ ΔNorthing	0.031 ft	**σ Ellipsoid Dist.**	0.031 ft	**σ ΔY**	0.047 ft
σ ΔElevation	0.056 ft	**σ ΔHeight**	0.056 ft	**σ ΔZ**	0.037 ft

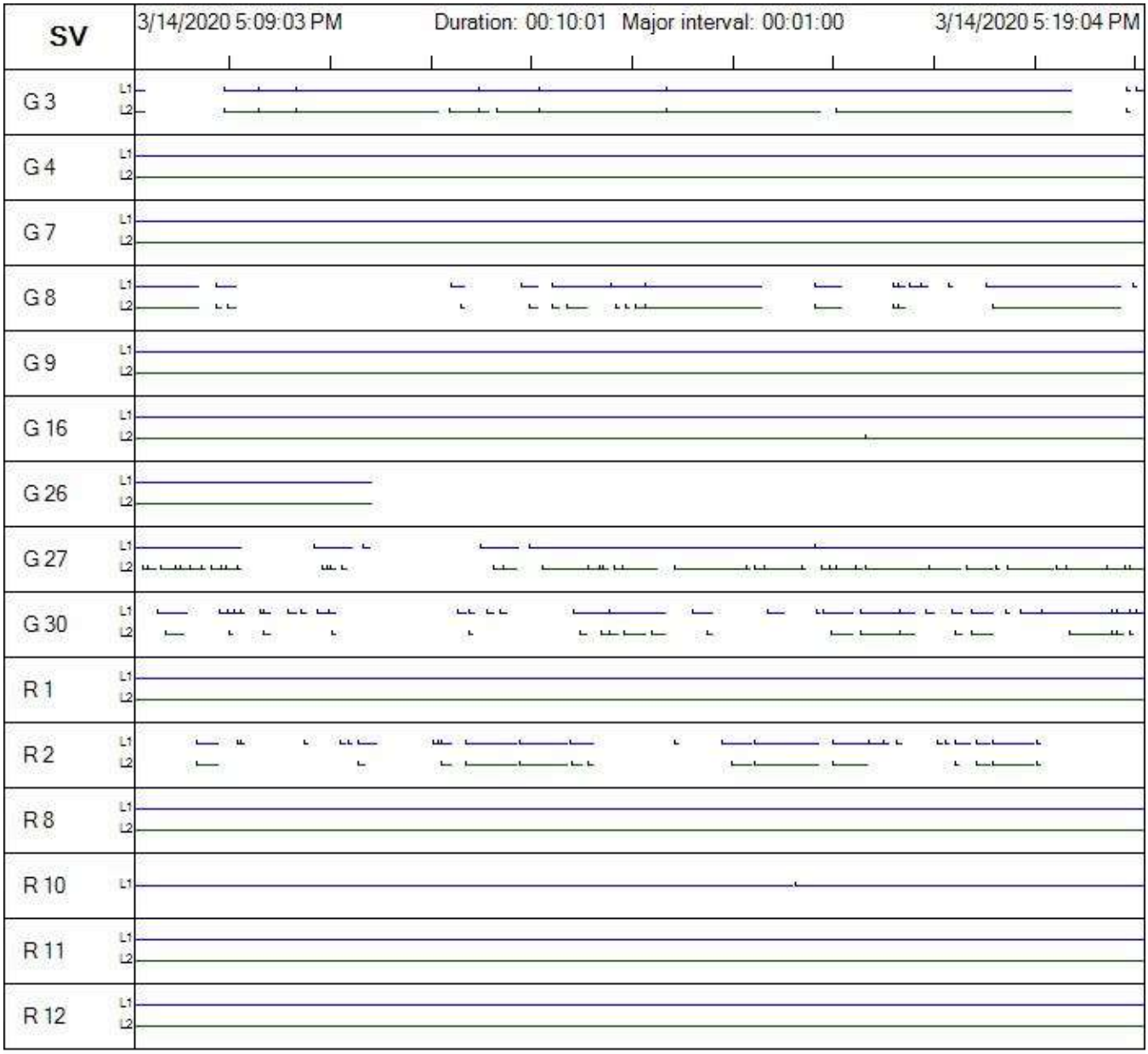
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0009336637		
Y	0.0009844645	0.0022122901	
Z	-0.0004486796	-0.0008239234	0.0013889735

Occupations

	From	To
Point ID:	HS2787	NVA015
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730740.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430742.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA018 (4:49:02 PM-4:59:04 PM) (S2)

Baseline observation:	HS2787 --- NVA018 (B2)
Processed:	5/14/2020 4:25:19 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.048 ft
Vertical precision:	0.087 ft
RMS:	0.040 ft
Maximum PDOP:	2.193
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 4:49:02 PM (UTC)
Processing stop time:	3/14/2020 4:59:04 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.295 ft	**Latitude**	N37°15'23.15208"	**Latitude**	N37°15'23.15208"
Northing	1918487.235 ft	**Longitude**	W121°48'16.27775"	**Longitude**	W121°48'16.27775"
Elevation	190.707 ft	**Height**	84.122 ft	**Height**	84.122 ft

To:	NVA018				
Grid		**Local**		**Global**	
Easting	6192584.011 ft	**Latitude**	N37°13'28.60476"	**Latitude**	N37°13'28.60476"
Northing	1906755.582 ft	**Longitude**	W121°46'03.55756"	**Longitude**	W121°46'03.55756"
Elevation	218.983 ft	**Height**	112.570 ft	**Height**	112.570 ft

Vector					
ΔEasting	10571.717 ft	**NS Fwd Azimuth**	137°10'42.9"	**ΔX**	5417.609 ft
ΔNorthing	-11731.653 ft	**Ellipsoid Dist.**	15792.673 ft	**ΔY**	-11632.177 ft
ΔElevation	28.276 ft	**ΔHeight**	28.448 ft	**ΔZ**	-9206.174 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.025 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.038 ft
σ ΔElevation	0.044 ft	**σ ΔHeight**	0.044 ft	**σ ΔZ**	0.023 ft

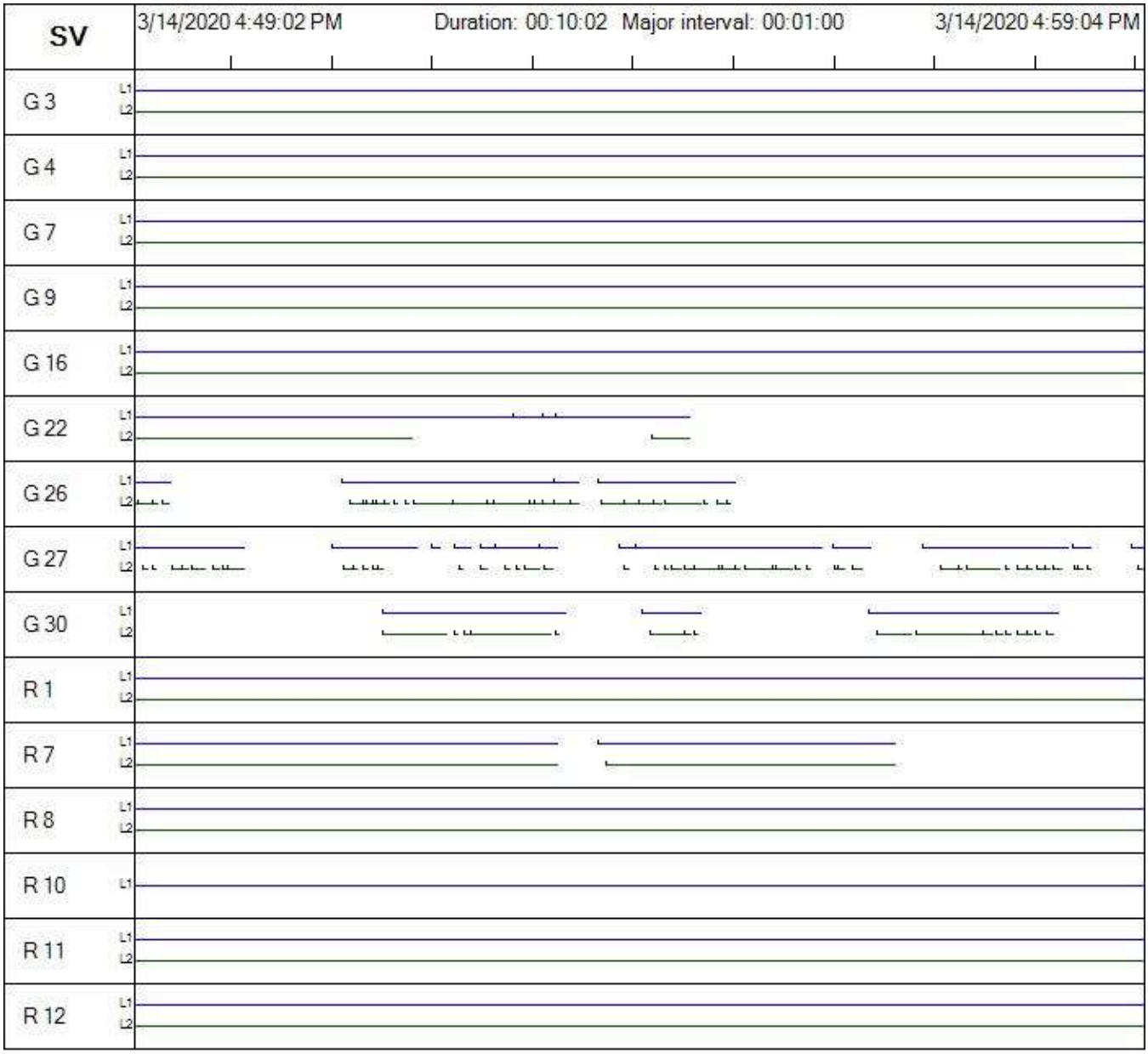
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0006067284		
Y	0.0007167428	0.0014080977	
Z	-0.0003409866	-0.0005294737	0.0005070671

Occupations

	From	To
Point ID:	HS2787	NVA018
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730740.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430741.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - VVA049 (4:25:57 PM-4:35:59 PM) (S1)

Baseline observation:	HS2787 --- VVA049 (B1)
Processed:	5/14/2020 4:25:19 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.044 ft
Vertical precision:	0.095 ft
RMS:	0.051 ft
Maximum PDOP:	2.100
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 4:25:57 PM (UTC)
Processing stop time:	3/14/2020 4:35:59 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.295 ft	**Latitude**	N37°15'23.15208"	**Latitude**	N37°15'23.15208"
Northing	1918487.235 ft	**Longitude**	W121°48'16.27775"	**Longitude**	W121°48'16.27775"
Elevation	190.707 ft	**Height**	84.122 ft	**Height**	84.122 ft

To:	VVA049				
Grid		**Local**		**Global**	
Easting	6197061.883 ft	**Latitude**	N37°13'38.96262"	**Latitude**	N37°13'38.96261"
Northing	1907742.974 ft	**Longitude**	W121°45'08.36051"	**Longitude**	W121°45'08.36051"
Elevation	241.372 ft	**Height**	135.027 ft	**Height**	135.027 ft

Vector					
ΔEasting	15049.588 ft	**NS Fwd Azimuth**	124°43'31.7"	**ΔX**	9537.633 ft
ΔNorthing	-10744.261 ft	**Ellipsoid Dist.**	18491.913 ft	**ΔY**	-13458.363 ft
ΔElevation	50.665 ft	**ΔHeight**	50.905 ft	**ΔZ**	-8358.412 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.029 ft
σ ΔNorthing	0.018 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.038 ft
σ ΔElevation	0.048 ft	**σ ΔHeight**	0.048 ft	**σ ΔZ**	0.026 ft

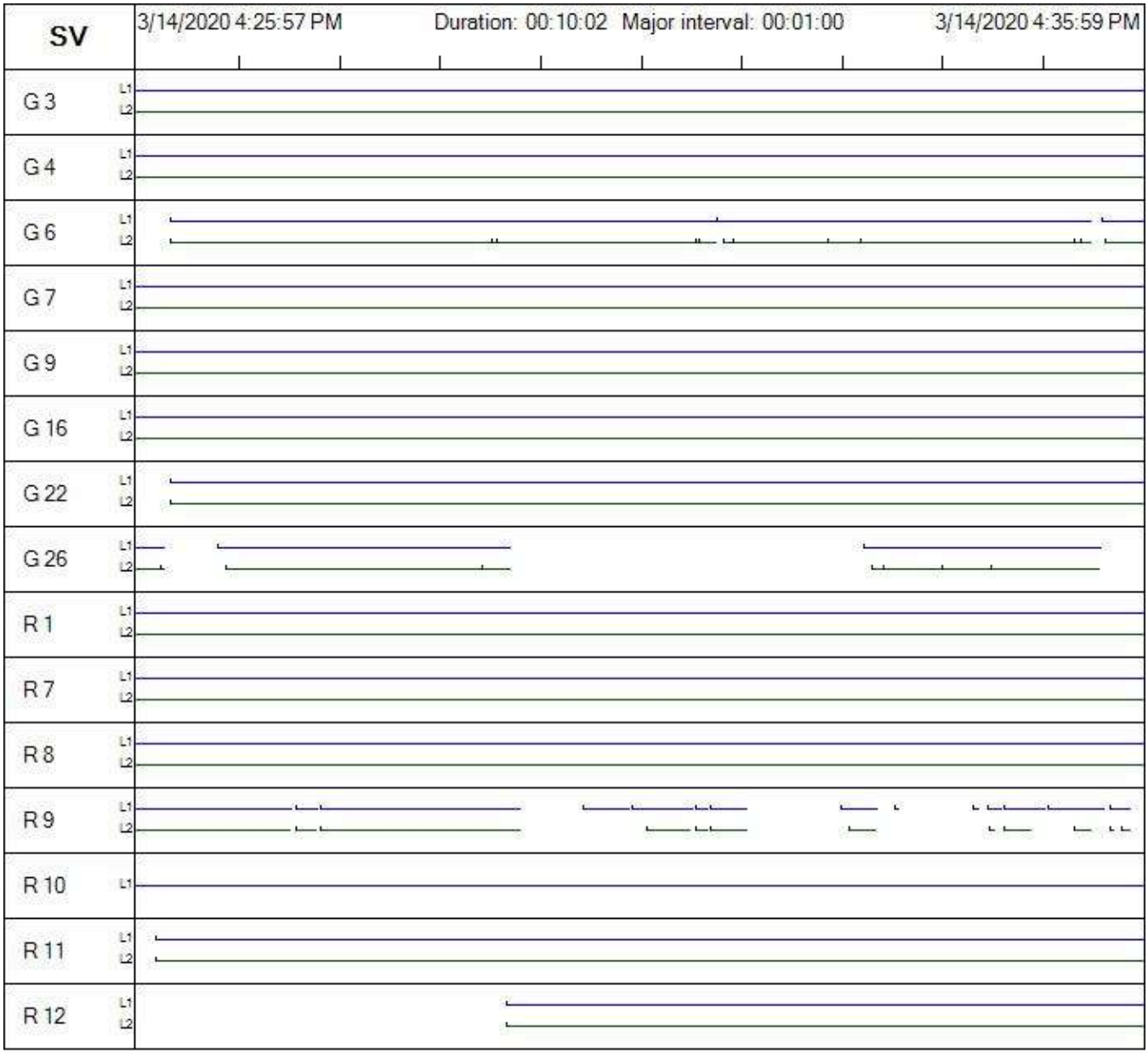
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0008280429		
Y	0.0008292787	0.0014187413	
Z	-0.0005121772	-0.0006837086	0.0006572520

Occupations

	From	To
Point ID:	HS2787	VVA049
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730740.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430740.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - HS2787 (4:10:23 PM-8:07:03 PM) (S32)

Baseline observation:	MHCB --- HS2787 (B32)
Processed:	5/14/2020 4:25:19 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.031 ft
Vertical precision:	0.114 ft
RMS:	0.052 ft
Maximum PDOP:	2.865
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 4:10:42 PM (UTC)
Processing stop time:	3/14/2020 8:06:42 PM (UTC)
Processing duration:	03:56:00
Processing interval:	1 Minute

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.295 ft	**Latitude**	N37°15'23.15208"	**Latitude**	N37°15'23.15208"
Northing	1918487.235 ft	**Longitude**	W121°48'16.27775"	**Longitude**	W121°48'16.27775"
Elevation	190.707 ft	**Height**	84.122 ft	**Height**	84.122 ft

To:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.118 ft	**Latitude**	N37°20'29.51051"	**Latitude**	N37°20'29.51050"
Northing	1948853.699 ft	**Longitude**	W121°38'33.23538"	**Longitude**	W121°38'33.23538"
Elevation	4244.970 ft	**Height**	4141.468 ft	**Height**	4141.468 ft

Vector					
ΔEasting	47509.823 ft	**NS Fwd Azimuth**	56°37'00.1"	**ΔX**	48253.247 ft
ΔNorthing	30366.463 ft	**Ellipsoid Dist.**	56387.574 ft	**ΔY**	-11546.485 ft
ΔElevation	4054.263 ft	**ΔHeight**	4057.346 ft	**ΔZ**	27110.211 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.009 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.028 ft
σ ΔNorthing	0.012 ft	**σ Ellipsoid Dist.**	0.011 ft	**σ ΔY**	0.041 ft
σ ΔElevation	0.058 ft	**σ ΔHeight**	0.058 ft	**σ ΔZ**	0.034 ft

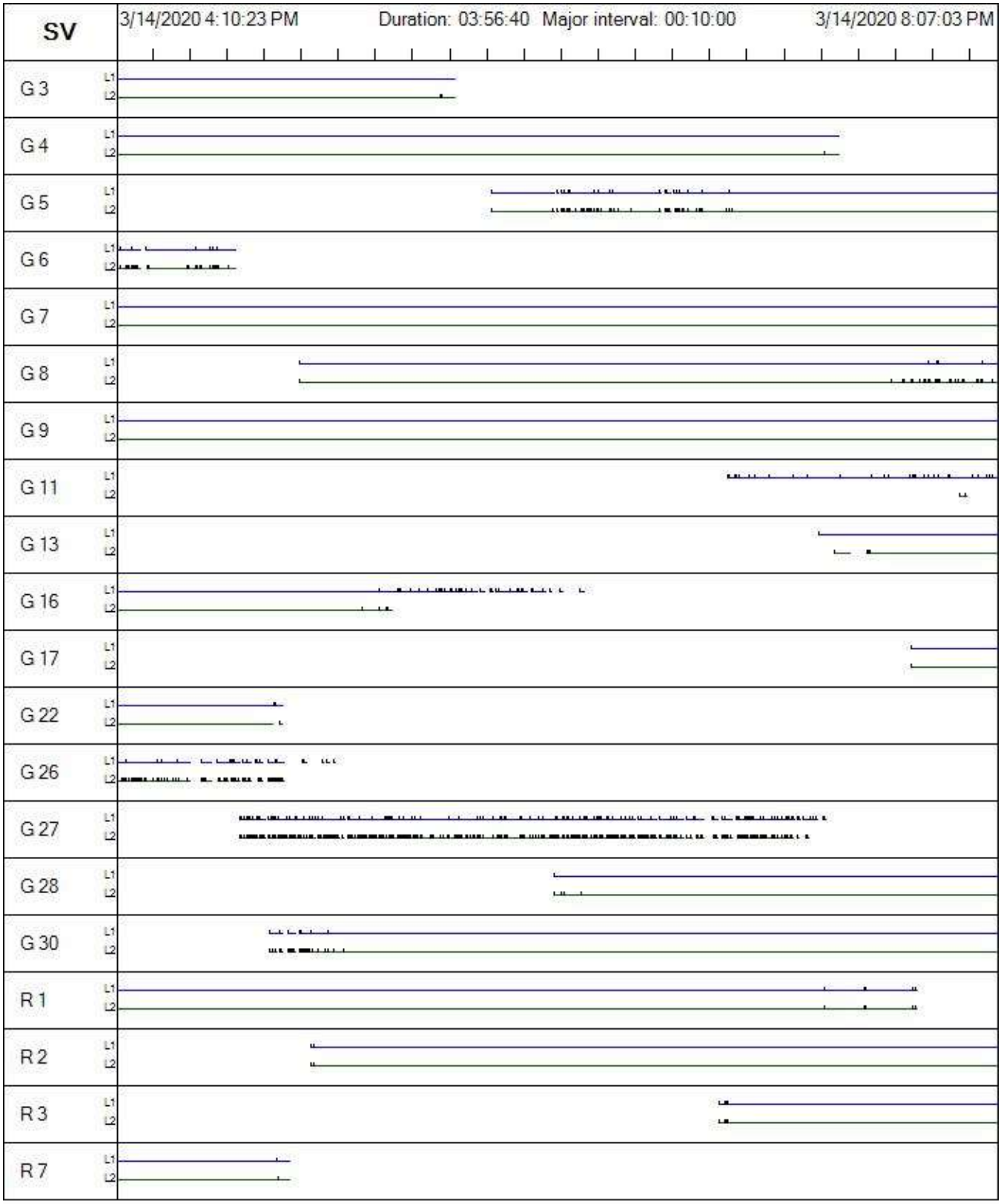
Aposteriori Covariance Matrix (US survey foot²)

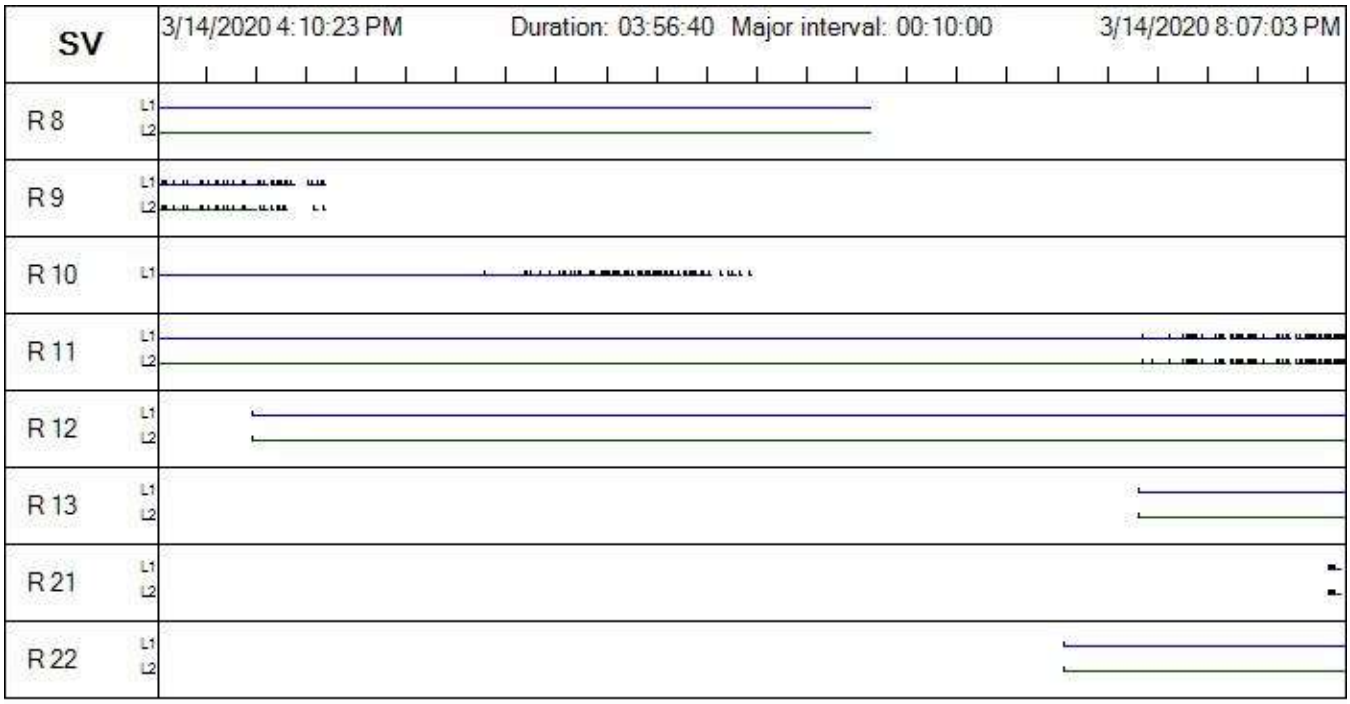
	X	Y	Z
X	0.0007632946		
Y	0.0010609579	0.0017092621	
Z	-0.0008027034	-0.0012854872	0.0011602257

Occupations

	From	To
Point ID:	HS2787	MHCB
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730740.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0740.20o
Receiver type:	R8 Model 2	PolaRx5
Receiver serial number:	4720132973	4502928
Antenna type:	R8 GNSS/SPS88x Internal	700936 D/M Choke w/SCIS Dome
Antenna serial number:	--------	12756
Antenna height (measured):	6.562 ft	0.225 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
3/14/2020 4:10:23 PM
Duration: 03:56:40 Major interval: 00:10:00
3/14/2020 8:07:03 PM
R 8
R 9
R 10
R 11
R 12
R 13
R 21
R 22
L1
L2

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA015 (5:09:03 PM-5:19:04 PM) (S29)

Baseline observation:	MHCB --- NVA015 (B29)
Processed:	5/14/2020 4:25:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.183 ft
Vertical precision:	0.205 ft
RMS:	0.039 ft
Maximum PDOP:	2.071
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 5:09:12 PM (UTC)
Processing stop time:	3/14/2020 5:18:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.118 ft	**Latitude**	N37°20'29.51051"	**Latitude**	N37°20'29.51050"
Northing	1948853.699 ft	**Longitude**	W121°38'33.23538"	**Longitude**	W121°38'33.23538"
Elevation	4244.970 ft	**Height**	4141.468 ft	**Height**	4141.468 ft

To:	NVA015				
Grid		**Local**		**Global**	
Easting	6184732.030 ft	**Latitude**	N37°14'13.74026"	**Latitude**	N37°14'13.74026"
Northing	1911428.501 ft	**Longitude**	W121°47'41.43125"	**Longitude**	W121°47'41.43125"
Elevation	197.061 ft	**Height**	90.544 ft	**Height**	90.544 ft

Vector					
ΔEasting	-44790.087 ft	**NS Fwd Azimuth**	229°25'08.2"	**ΔX**	-48100.382 ft
ΔNorthing	-37425.197 ft	**Ellipsoid Dist.**	58370.019 ft	**ΔY**	6446.045 ft
ΔElevation	-4047.910 ft	**ΔHeight**	-4050.924 ft	**ΔZ**	-32694.926 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.037 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.052 ft
σ ΔNorthing	0.075 ft	**σ Ellipsoid Dist.**	0.055 ft	**σ ΔY**	0.090 ft
σ ΔElevation	0.105 ft	**σ ΔHeight**	0.105 ft	**σ ΔZ**	0.085 ft

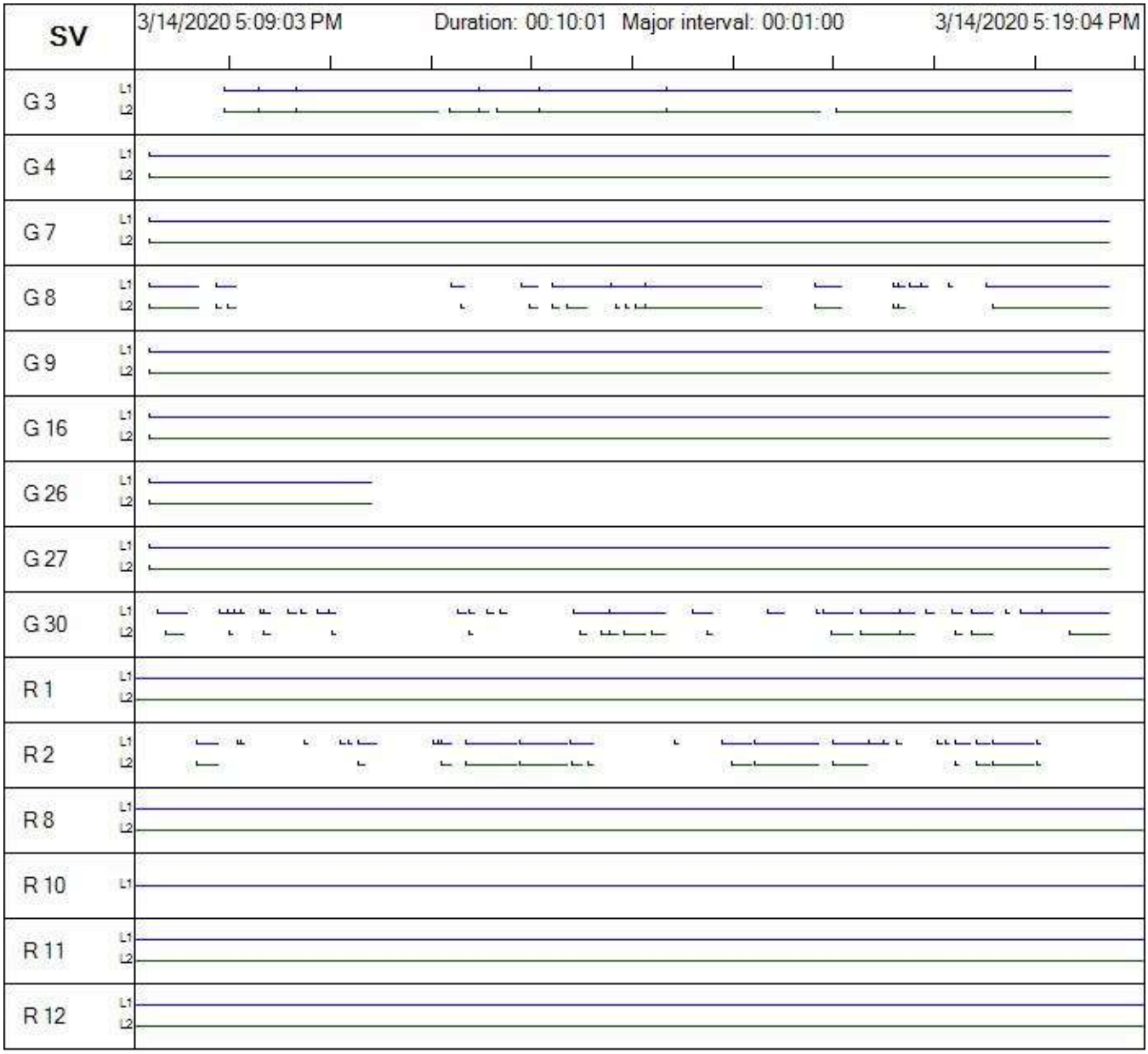
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0026523649		
Y	0.0031014729	0.0080776310	
Z	-0.0007073063	-0.0024616422	0.0071872675

Occupations

	From	To
Point ID:	MHCB	NVA015
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0740.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430742.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA041 (5:41:59 PM-5:52:01 PM) (S28)

Baseline observation:	MHCB --- VVA041 (B28)
Processed:	5/14/2020 4:25:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.317 ft
Vertical precision:	0.201 ft
RMS:	0.046 ft
Maximum PDOP:	2.282
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 5:42:12 PM (UTC)
Processing stop time:	3/14/2020 5:51:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.118 ft	**Latitude**	N37°20'29.51051"	**Latitude**	N37°20'29.51050"
Northing	1948853.699 ft	**Longitude**	W121°38'33.23538"	**Longitude**	W121°38'33.23538"
Elevation	4244.970 ft	**Height**	4141.468 ft	**Height**	4141.468 ft

To:	VVA041				
Grid		**Local**		**Global**	
Easting	6167552.006 ft	**Latitude**	N37°13'25.09253"	**Latitude**	N37°13'25.09253"
Northing	1906750.912 ft	**Longitude**	W121°51'13.02555"	**Longitude**	W121°51'13.02555"
Elevation	243.258 ft	**Height**	136.706 ft	**Height**	136.706 ft

Vector					
ΔEasting	-61970.112 ft	**NS Fwd Azimuth**	235°06'26.8"	**ΔX**	-64229.710 ft
ΔNorthing	-42102.787 ft	**Ellipsoid Dist.**	74922.358 ft	**ΔY**	12909.198 ft
ΔElevation	-4001.712 ft	**ΔHeight**	-4004.762 ft	**ΔZ**	-36584.651 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.047 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.087 ft
σ ΔNorthing	0.126 ft	**σ Ellipsoid Dist.**	0.100 ft	**σ ΔY**	0.093 ft
σ ΔElevation	0.102 ft	**σ ΔHeight**	0.102 ft	**σ ΔZ**	0.111 ft

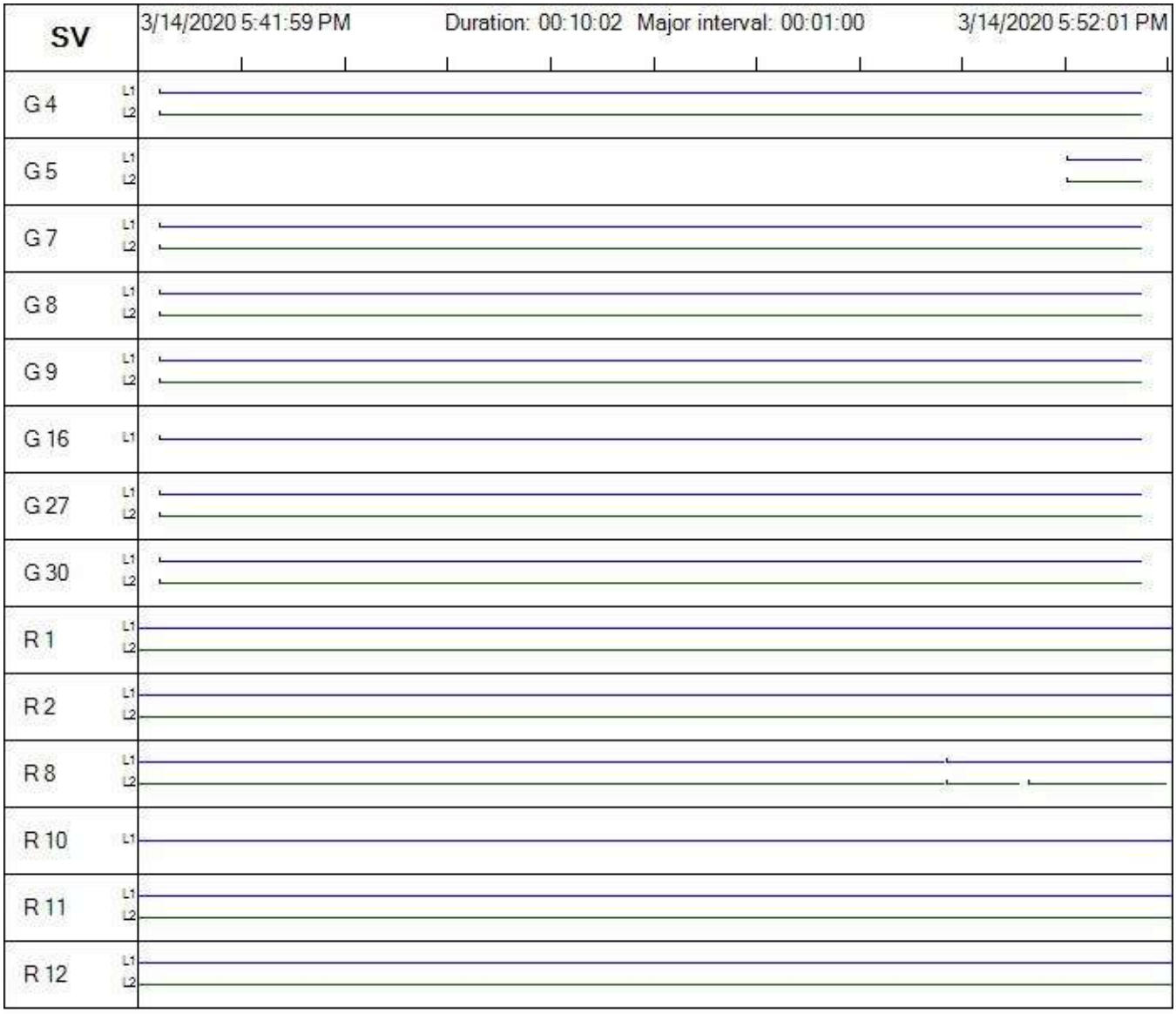
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0075992799		
Y	0.0063688139	0.0086036491	
Z	0.0039409143	0.0011148767	0.0122840357

Occupations

	From	To
Point ID:	MHCB	VVA041
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0740.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430743.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA001 (6:06:45 PM-6:16:46 PM) (S27)

Baseline observation:	MHCB --- NVA001 (B27)
Processed:	5/14/2020 4:25:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.157 ft
Vertical precision:	0.134 ft
RMS:	0.045 ft
Maximum PDOP:	2.359
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 6:07:12 PM (UTC)
Processing stop time:	3/14/2020 6:16:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.118 ft	**Latitude**	N37°20'29.51051"	**Latitude**	N37°20'29.51050"
Northing	1948853.699 ft	**Longitude**	W121°38'33.23538"	**Longitude**	W121°38'33.23538"
Elevation	4244.970 ft	**Height**	4141.468 ft	**Height**	4141.468 ft

To:	NVA001				
Grid		**Local**		**Global**	
Easting	6169713.450 ft	**Latitude**	N37°12'00.11353"	**Latitude**	N37°12'00.11352"
Northing	1898124.104 ft	**Longitude**	W121°50'44.77032"	**Longitude**	W121°50'44.77032"
Elevation	395.476 ft	**Height**	289.100 ft	**Height**	289.100 ft

Vector					
ΔEasting	-59808.667 ft	**NS Fwd Azimuth**	228°59'43.1"	**ΔX**	-65095.121 ft
ΔNorthing	-50729.595 ft	**Ellipsoid Dist.**	78428.358 ft	**ΔY**	7184.602 ft
ΔElevation	-3849.494 ft	**ΔHeight**	-3852.368 ft	**ΔZ**	-43337.636 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.034 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.045 ft
σ ΔNorthing	0.059 ft	**σ Ellipsoid Dist.**	0.059 ft	**σ ΔY**	0.050 ft
σ ΔElevation	0.068 ft	**σ ΔHeight**	0.068 ft	**σ ΔZ**	0.069 ft

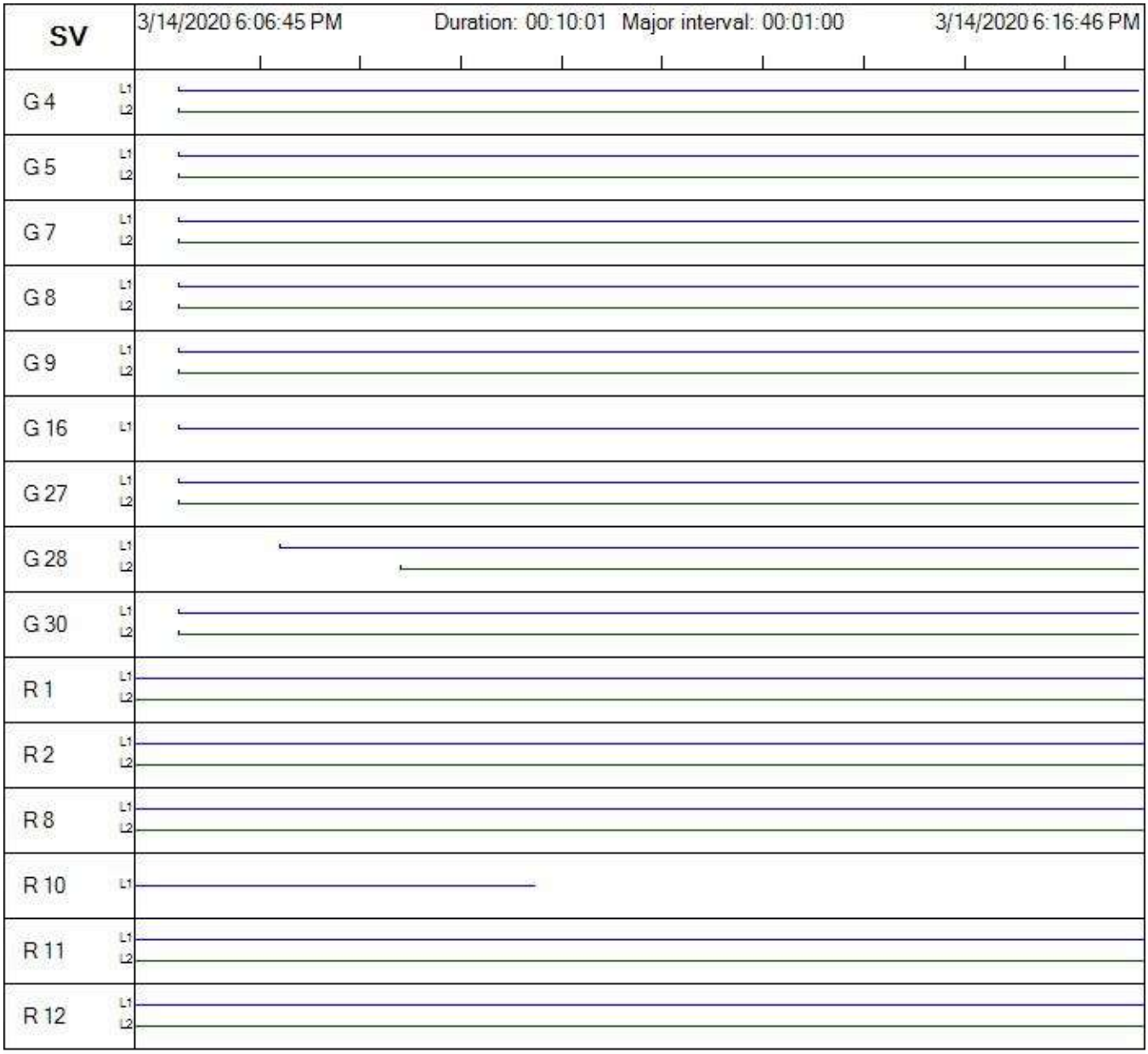
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0020685757		
Y	0.0011318262	0.0025135235	
Z	0.0008235847	-0.0014288117	0.0047905188

Occupations

	From	To
Point ID:	MHCB	NVA001
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0740.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430744.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA057 (6:39:32 PM-6:51:45 PM) (S26)

Baseline observation:	MHCB --- NVA057 (B26)
Processed:	5/14/2020 4:25:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.085 ft
Vertical precision:	0.137 ft
RMS:	0.040 ft
Maximum PDOP:	1.965
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/14/2020 6:39:42 PM (UTC)
Processing stop time:	3/14/2020 6:51:42 PM (UTC)
Processing duration:	00:12:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.118 ft	**Latitude**	N37°20'29.51051"	**Latitude**	N37°20'29.51050"
Northing	1948853.699 ft	**Longitude**	W121°38'33.23538"	**Longitude**	W121°38'33.23538"
Elevation	4244.970 ft	**Height**	4141.468 ft	**Height**	4141.468 ft

To:	NVA057				
Grid		**Local**		**Global**	
Easting	6165870.556 ft	**Latitude**	N37°15'29.85282"	**Latitude**	N37°15'29.85282"
Northing	1919394.823 ft	**Longitude**	W121°51'36.08467"	**Longitude**	W121°51'36.08467"
Elevation	176.978 ft	**Height**	70.220 ft	**Height**	70.219 ft

Vector					
ΔEasting	-63651.561 ft	**NS Fwd Azimuth**	244°27'52.0"	**ΔX**	-61755.061 ft
ΔNorthing	-29458.876 ft	**Ellipsoid Dist.**	70140.855 ft	**ΔY**	20424.455 ft
ΔElevation	-4067.993 ft	**ΔHeight**	-4071.249 ft	**ΔZ**	-26579.201 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.027 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.041 ft
σ ΔNorthing	0.033 ft	**σ Ellipsoid Dist.**	0.031 ft	**σ ΔY**	0.053 ft
σ ΔElevation	0.070 ft	**σ ΔHeight**	0.070 ft	**σ ΔZ**	0.046 ft

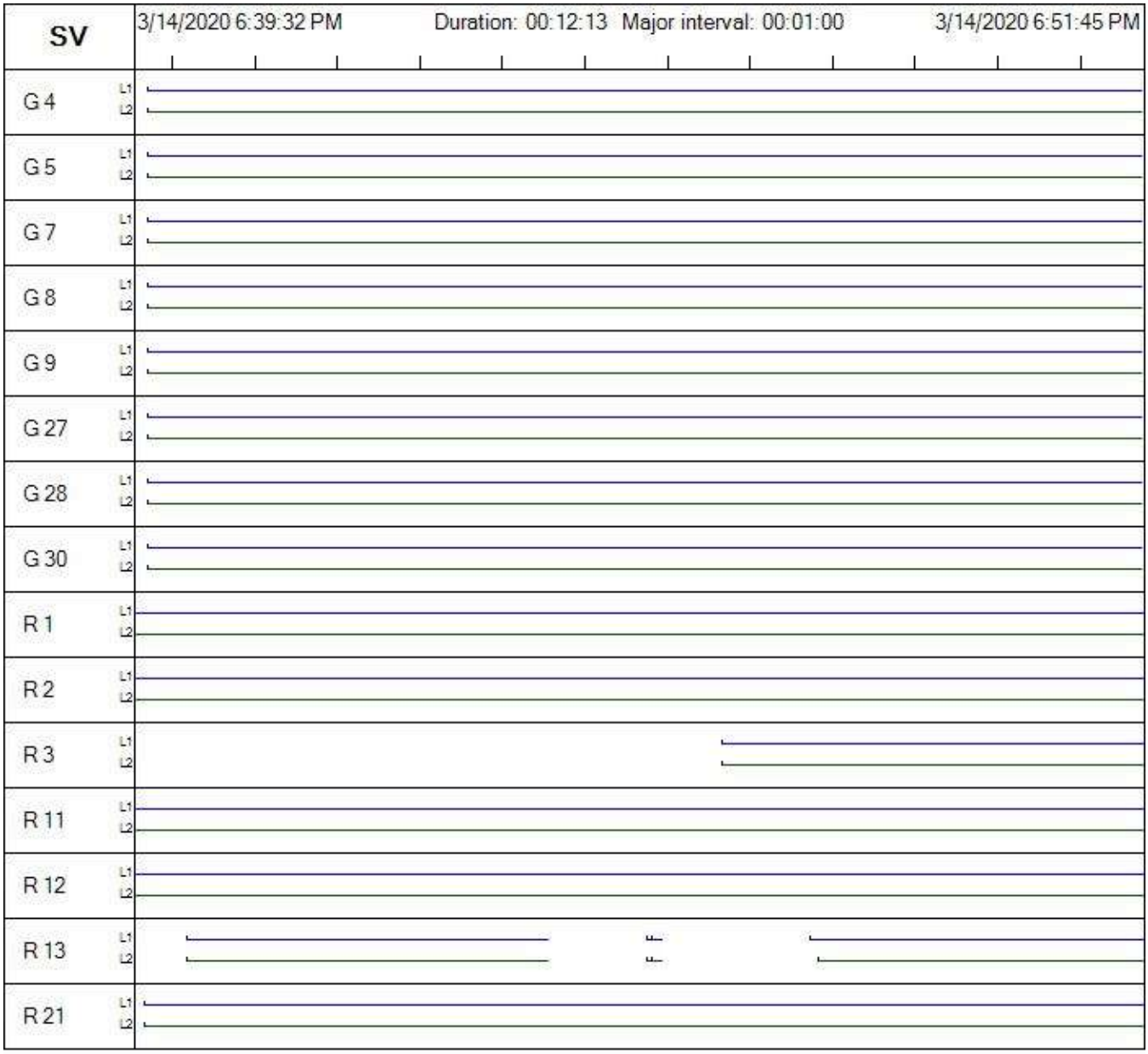
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0017033685		
Y	0.0014419981	0.0028556698	
Z	-0.0007674912	-0.0015763141	0.0021585700

Occupations

	From	To
Point ID:	MHCB	NVA057
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0740.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430745.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - AA1872 (3:51:27 PM-9:48:13 PM) (S25)

Baseline observation:	SLAC --- AA1872 (B25)
Processed:	5/13/2020 3:06:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.022 ft
Vertical precision:	0.102 ft
RMS:	0.087 ft
Maximum PDOP:	1.761
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 3:51:42 PM (UTC)
Processing stop time:	3/15/2020 9:48:12 PM (UTC)
Processing duration:	05:56:30
Processing interval:	2 Minutes

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.636 ft	**Latitude**	N37°21'14.04863"	**Latitude**	N37°21'14.04863"
Northing	1954404.882 ft	**Longitude**	W121°54'25.20154"	**Longitude**	W121°54'25.20154"
Elevation	60.404 ft	**Height**	-46.673 ft	**Height**	-46.673 ft

Vector					
ΔEasting	85971.812 ft	**NS Fwd Azimuth**	104°41'50.8"	**ΔX**	65960.539 ft
ΔNorthing	-24230.531 ft	**Ellipsoid Dist.**	89325.680 ft	**ΔY**	-57398.044 ft
ΔElevation	-257.083 ft	**ΔHeight**	-257.260 ft	**ΔZ**	-18271.987 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.007 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.023 ft
σ ΔNorthing	0.009 ft	**σ Ellipsoid Dist.**	0.007 ft	**σ ΔY**	0.037 ft
σ ΔElevation	0.052 ft	**σ ΔHeight**	0.052 ft	**σ ΔZ**	0.031 ft

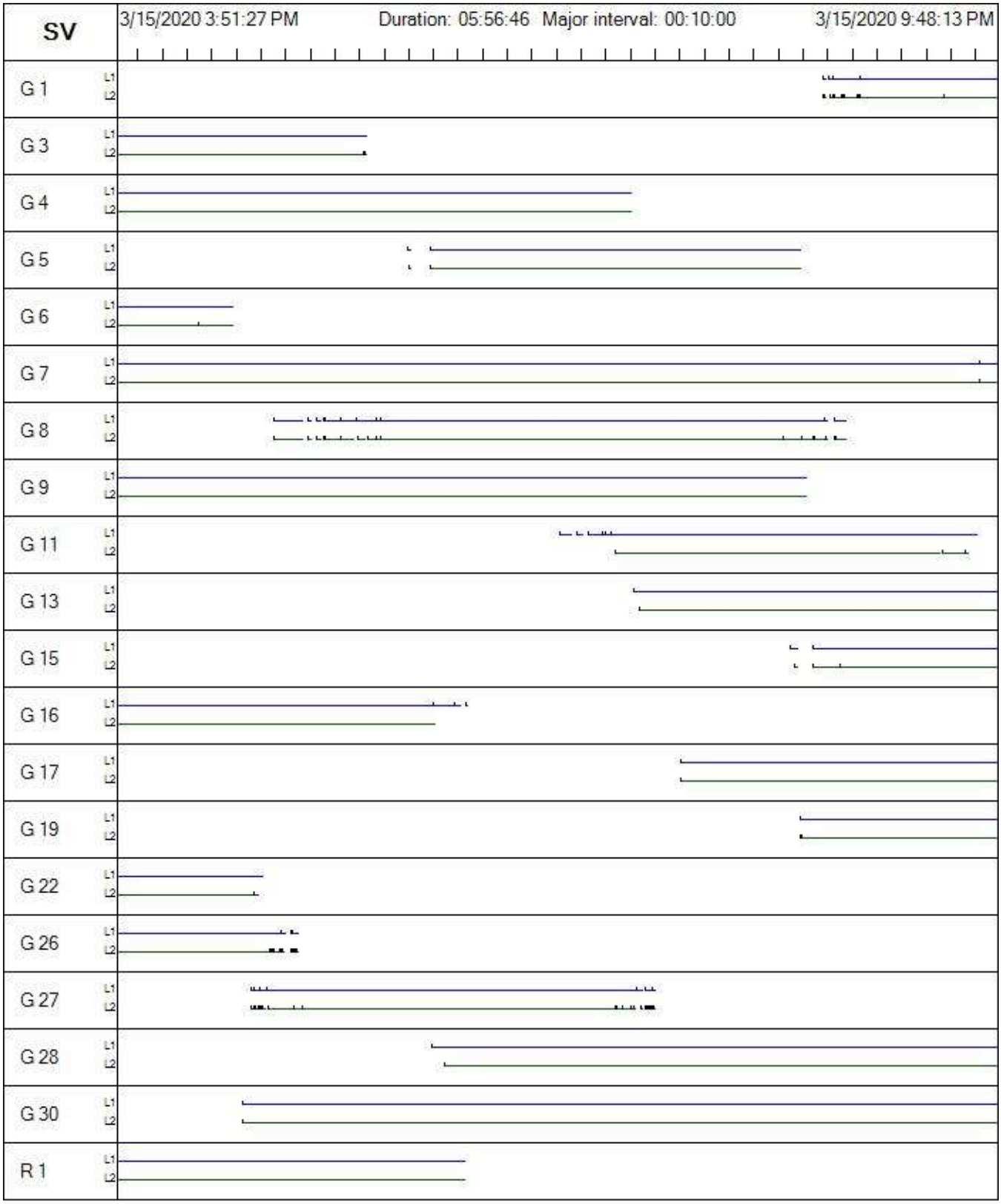
Aposteriori Covariance Matrix (US survey foot²)

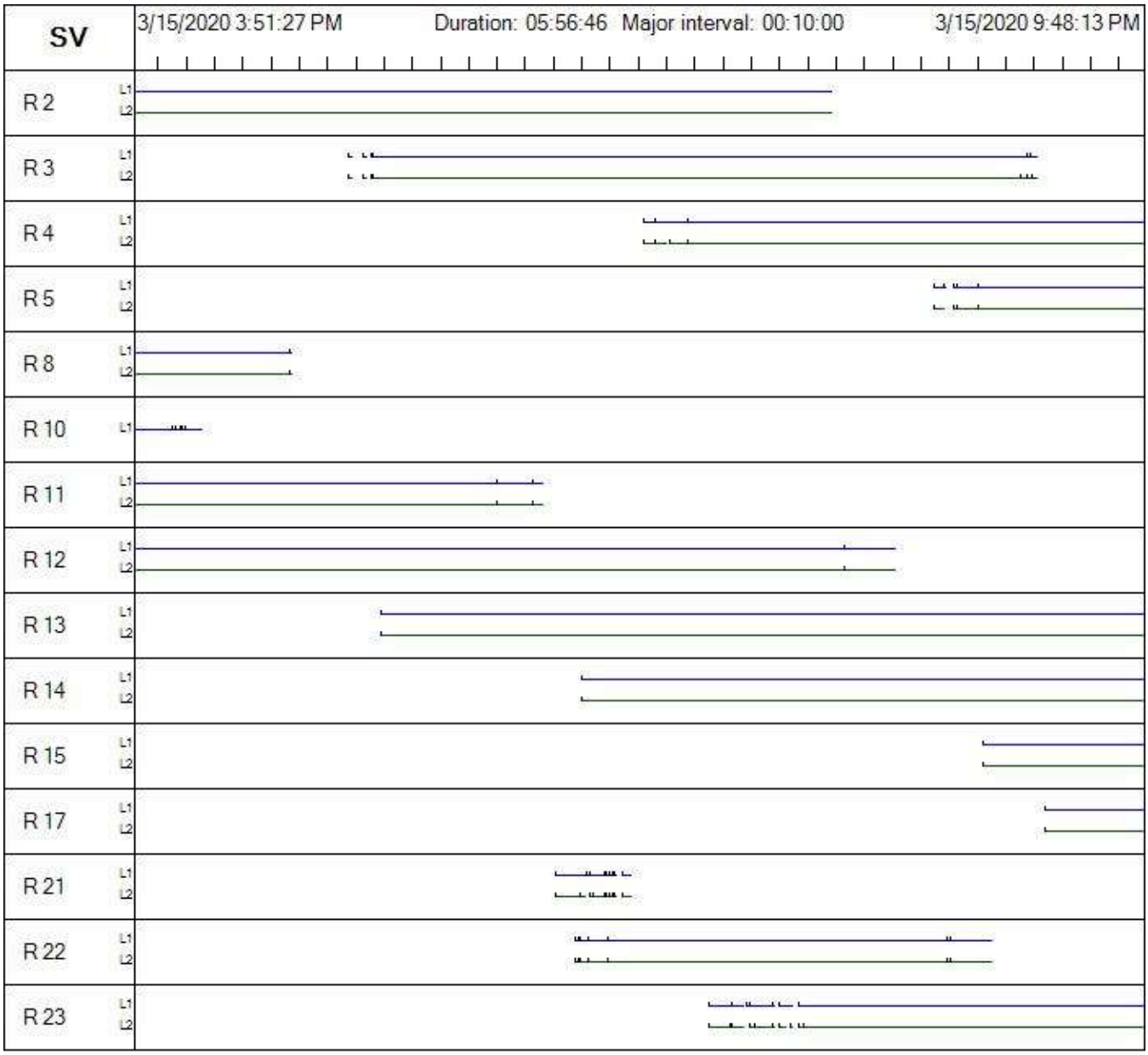
	X	Y	Z
X	0.0005469792		
Y	0.0007932531	0.0013324140	
Z	-0.0006519194	-0.0010583196	0.0009670862

Occupations

	From	To
Point ID:	SLAC	AA1872
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5302K56635	4720132973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
3/15/2020 3:51:27 PM
Duration: 05:56:46 Major interval: 00:10:00
3/15/2020 9:48:13 PM
R 2
R 3
R 4
R 5
R 8
R 10
R 11
R 12
R 13
R 14
R 15
R 17
R 21
R 22
R 23

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA004 (4:04:40 PM-4:14:42 PM) (S24)

Baseline observation:	SLAC --- VVA004 (B24)
Processed:	5/13/2020 3:06:18 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.092 ft
Vertical precision:	0.199 ft
RMS:	0.057 ft
Maximum PDOP:	2.314
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 4:04:42 PM (UTC)
Processing stop time:	3/15/2020 4:14:42 PM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	VVA004				
Grid		**Local**		**Global**	
Easting	6151601.430 ft	**Latitude**	N37°20'38.36024"	**Latitude**	N37°20'38.36024"
Northing	1950811.846 ft	**Longitude**	W121°54'38.42838"	**Longitude**	W121°54'38.42838"
Elevation	67.846 ft	**Height**	-39.248 ft	**Height**	-39.248 ft

Vector					
ΔEasting	84849.606 ft	**NS Fwd Azimuth**	107°06'45.0"	**ΔX**	63893.270 ft
ΔNorthing	-27823.567 ft	**Ellipsoid Dist.**	89299.513 ft	**ΔY**	-58697.488 ft
ΔElevation	-249.641 ft	**ΔHeight**	-249.835 ft	**ΔZ**	-21137.019 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.036 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.059 ft
σ ΔNorthing	0.038 ft	**σ Ellipsoid Dist.**	0.036 ft	**σ ΔY**	0.077 ft
σ ΔElevation	0.101 ft	**σ ΔHeight**	0.101 ft	**σ ΔZ**	0.059 ft

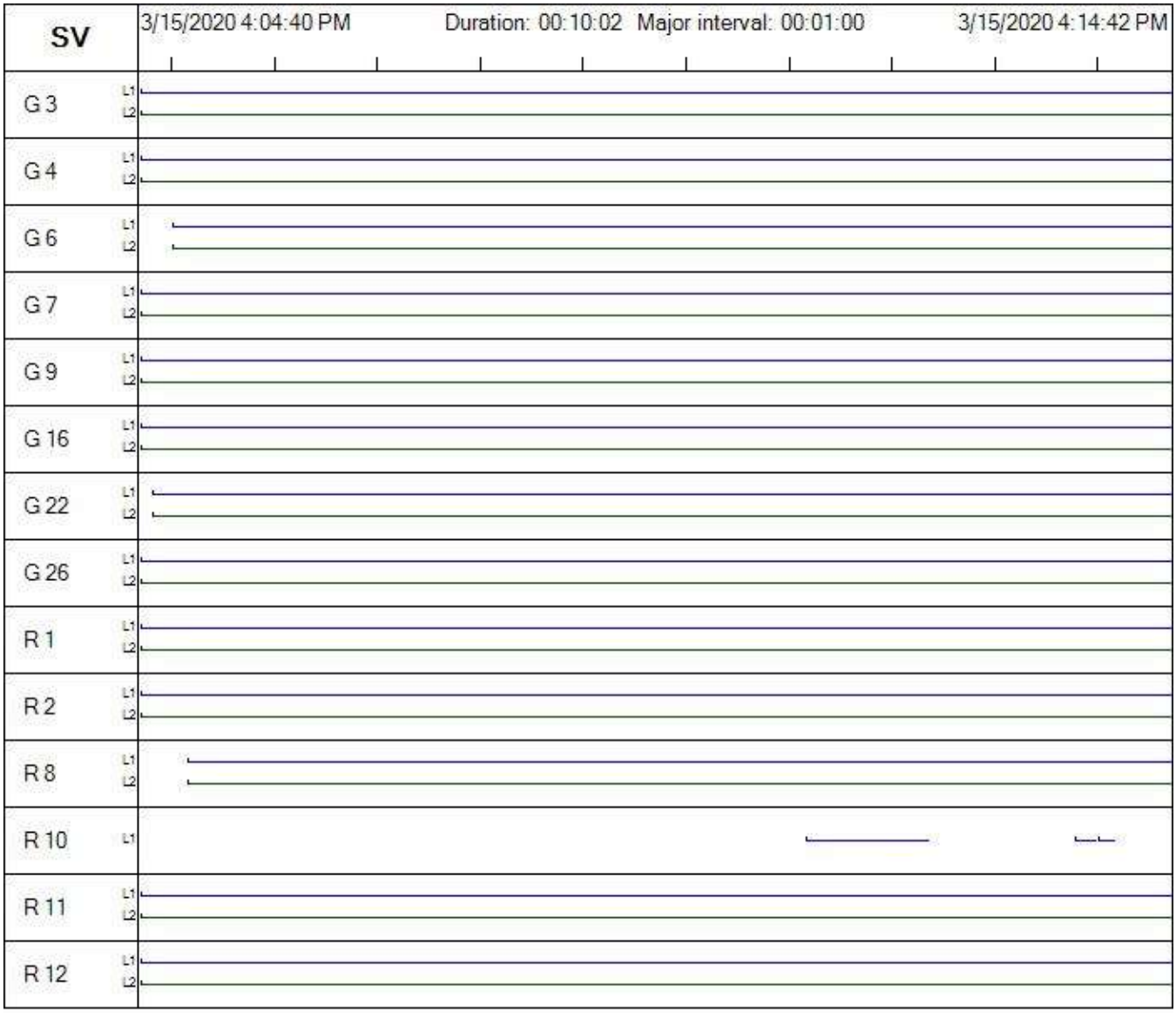
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0035205426		
Y	0.0032729492	0.0059737181	
Z	-0.0023397695	-0.0031992895	0.0034764743

Occupations

	From	To
Point ID:	SLAC	VVA004
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430750.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA047 (4:31:03 PM-4:41:05 PM) (S23)

Baseline observation:	SLAC --- NVA047 (B23)
Processed:	5/13/2020 3:06:18 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.105 ft
Vertical precision:	0.234 ft
RMS:	0.047 ft
Maximum PDOP:	2.201
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 4:31:12 PM (UTC)
Processing stop time:	3/15/2020 4:40:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	NVA047				
Grid		**Local**		**Global**	
Easting	6151914.664 ft	**Latitude**	N37°18'12.14383"	**Latitude**	N37°18'12.14382"
Northing	1936017.147 ft	**Longitude**	W121°54'31.79169"	**Longitude**	W121°54'31.79169"
Elevation	144.197 ft	**Height**	37.128 ft	**Height**	37.128 ft

Vector					
ΔEasting	85162.840 ft	**NS Fwd Azimuth**	115°32'32.1"	**ΔX**	59576.543 ft
ΔNorthing	-42618.266 ft	**Ellipsoid Dist.**	95235.958 ft	**ΔY**	-66644.150 ft
ΔElevation	-173.290 ft	**ΔHeight**	-173.459 ft	**ΔZ**	-32851.215 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.034 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.068 ft
σ ΔNorthing	0.043 ft	**σ Ellipsoid Dist.**	0.036 ft	**σ ΔY**	0.095 ft
σ ΔElevation	0.119 ft	**σ ΔHeight**	0.119 ft	**σ ΔZ**	0.060 ft

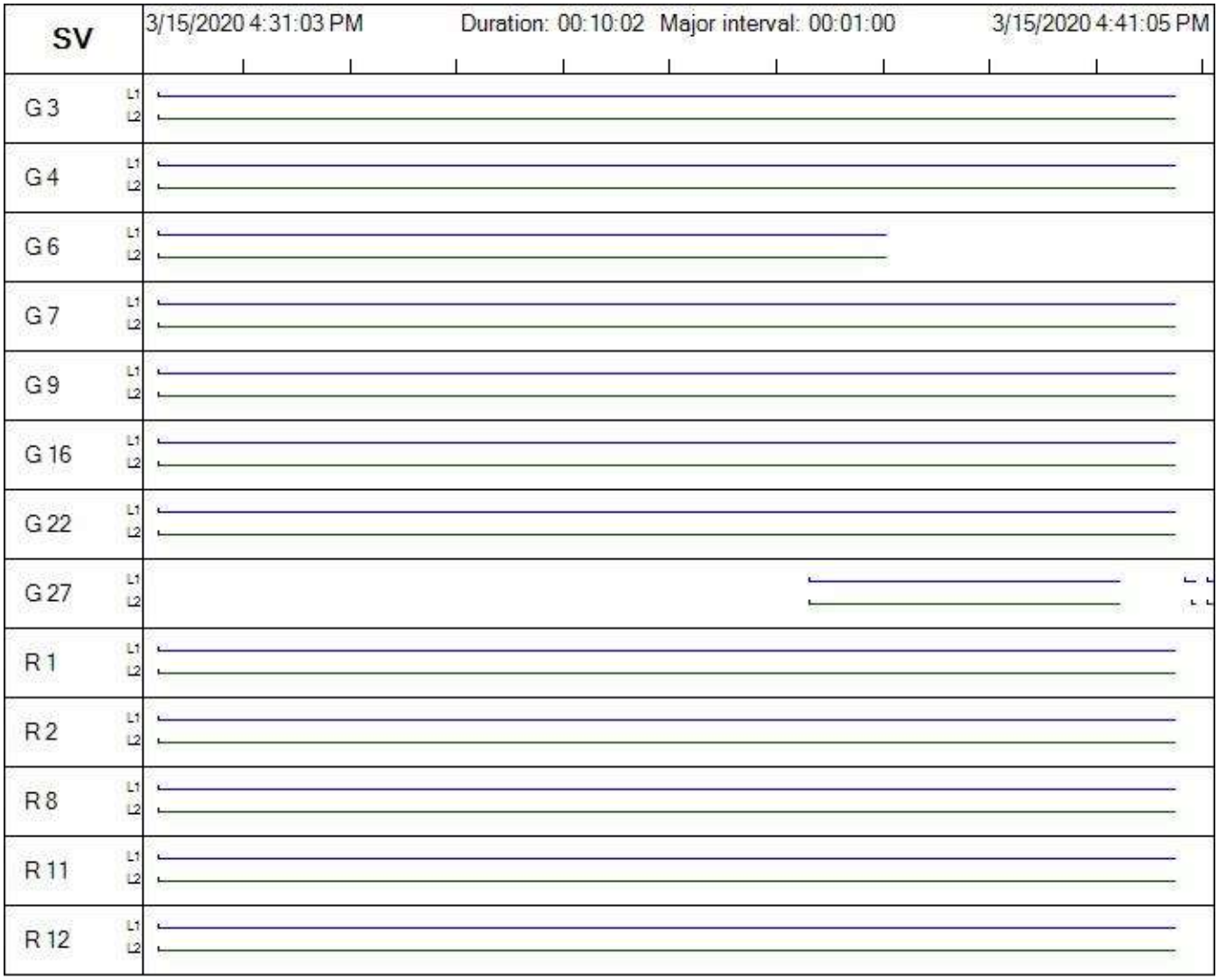
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0046065486		
Y	0.0052290028	0.0090179966	
Z	-0.0029507415	-0.0042883255	0.0035941347

Occupations

	From	To
Point ID:	SLAC	NVA047
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430751.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA011 (5:02:09 PM-5:12:13 PM) (S22)

Baseline observation:	SLAC --- NVA011 (B22)
Processed:	5/13/2020 3:06:18 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.146 ft
Vertical precision:	0.196 ft
RMS:	0.079 ft
Maximum PDOP:	1.642
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 5:02:12 PM (UTC)
Processing stop time:	3/15/2020 5:12:12 PM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	NVA011				
Grid		**Local**		**Global**	
Easting	6128149.675 ft	**Latitude**	N37°19'00.64389"	**Latitude**	N37°19'00.64389"
Northing	1941291.218 ft	**Longitude**	W121°59'26.93930"	**Longitude**	W121°59'26.93930"
Elevation	172.776 ft	**Height**	65.502 ft	**Height**	65.502 ft

Vector					
ΔEasting	61397.851 ft	**NS Fwd Azimuth**	120°15'59.4"	**ΔX**	40905.369 ft
ΔNorthing	-37344.195 ft	**Ellipsoid Dist.**	71866.433 ft	**ΔY**	-51522.214 ft
ΔElevation	-144.711 ft	**ΔHeight**	-145.086 ft	**ΔZ**	-28932.345 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.040 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.057 ft
σ ΔNorthing	0.059 ft	**σ Ellipsoid Dist.**	0.049 ft	**σ ΔY**	0.090 ft
σ ΔElevation	0.100 ft	**σ ΔHeight**	0.100 ft	**σ ΔZ**	0.061 ft

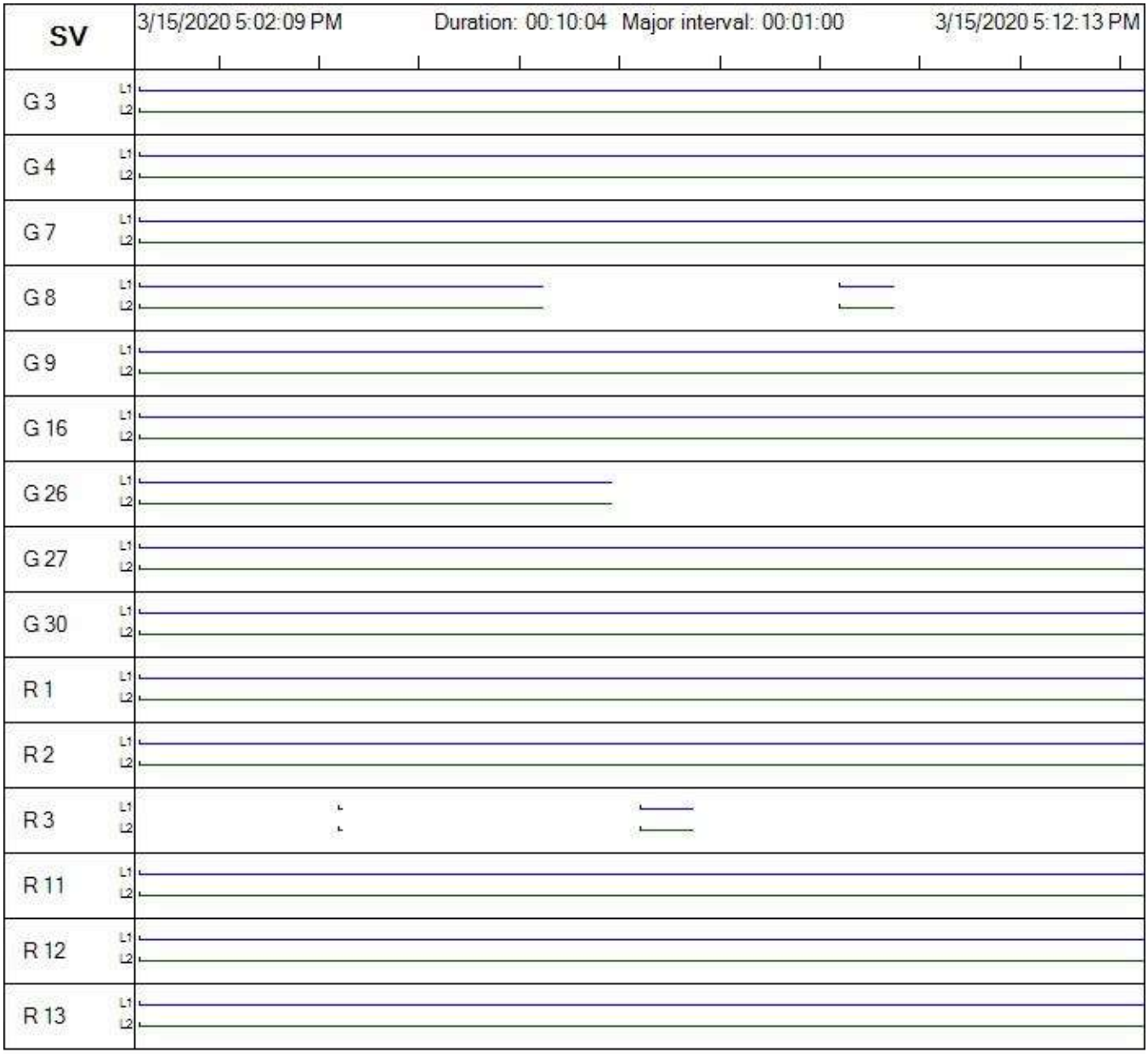
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0033018039		
Y	0.0034073924	0.0080295547	
Z	-0.0012438498	-0.0022069728	0.0037009772

Occupations

	From	To
Point ID:	SLAC	NVA011
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430752.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA014 (5:43:57 PM-5:53:59 PM) (S21)

Baseline observation:	SLAC --- VVA014 (B21)
Processed:	5/13/2020 3:06:19 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.259 ft
Vertical precision:	0.239 ft
RMS:	0.091 ft
Maximum PDOP:	2.111
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 5:44:12 PM (UTC)
Processing stop time:	3/15/2020 5:53:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	VVA014				
Grid		**Local**		**Global**	
Easting	6128743.513 ft	**Latitude**	N37°19'48.77896"	**Latitude**	N37°19'48.77896"
Northing	1946150.752 ft	**Longitude**	W121°59'20.54598"	**Longitude**	W121°59'20.54598"
Elevation	137.797 ft	**Height**	30.506 ft	**Height**	30.506 ft

Vector					
ΔEasting	61991.689 ft	**NS Fwd Azimuth**	116°36'44.7"	**ΔX**	42921.941 ft
ΔNorthing	-32484.661 ft	**Ellipsoid Dist.**	69990.743 ft	**ΔY**	-49268.567 ft
ΔElevation	-179.690 ft	**ΔHeight**	-180.081 ft	**ΔZ**	-25081.939 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.064 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.079 ft
σ ΔNorthing	0.097 ft	**σ Ellipsoid Dist.**	0.048 ft	**σ ΔY**	0.098 ft
σ ΔElevation	0.122 ft	**σ ΔHeight**	0.122 ft	**σ ΔZ**	0.112 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0061911129		
Y	0.0034105511	0.0096104612	
Z	0.0022836912	-0.0048586312	0.0125779292

Occupations

	From	To
Point ID:	SLAC	VVA014
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430753.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA055 (6:18:46 PM-6:28:47 PM) (S20)

Baseline observation:	SLAC --- VVA055 (B20)
Processed:	5/13/2020 3:06:18 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.175 ft
Vertical precision:	0.281 ft
RMS:	0.088 ft
Maximum PDOP:	1.960
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 6:19:12 PM (UTC)
Processing stop time:	3/15/2020 6:28:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	VVA055				
Grid		**Local**		**Global**	
Easting	6132704.020 ft	**Latitude**	N37°22'08.12403"	**Latitude**	N37°22'08.12403"
Northing	1960183.124 ft	**Longitude**	W121°58'34.25479"	**Longitude**	W121°58'34.25479"
Elevation	52.663 ft	**Height**	-54.552 ft	**Height**	-54.553 ft

Vector					
ΔEasting	65952.196 ft	**NS Fwd Azimuth**	104°35'16.3"	**ΔX**	50657.133 ft
ΔNorthing	-18452.289 ft	**Ellipsoid Dist.**	68488.400 ft	**ΔY**	-43938.422 ft
ΔElevation	-264.824 ft	**ΔHeight**	-265.140 ft	**ΔZ**	-13929.534 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.055 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.078 ft
σ ΔNorthing	0.069 ft	**σ Ellipsoid Dist.**	0.052 ft	**σ ΔY**	0.112 ft
σ ΔElevation	0.143 ft	**σ ΔHeight**	0.143 ft	**σ ΔZ**	0.098 ft

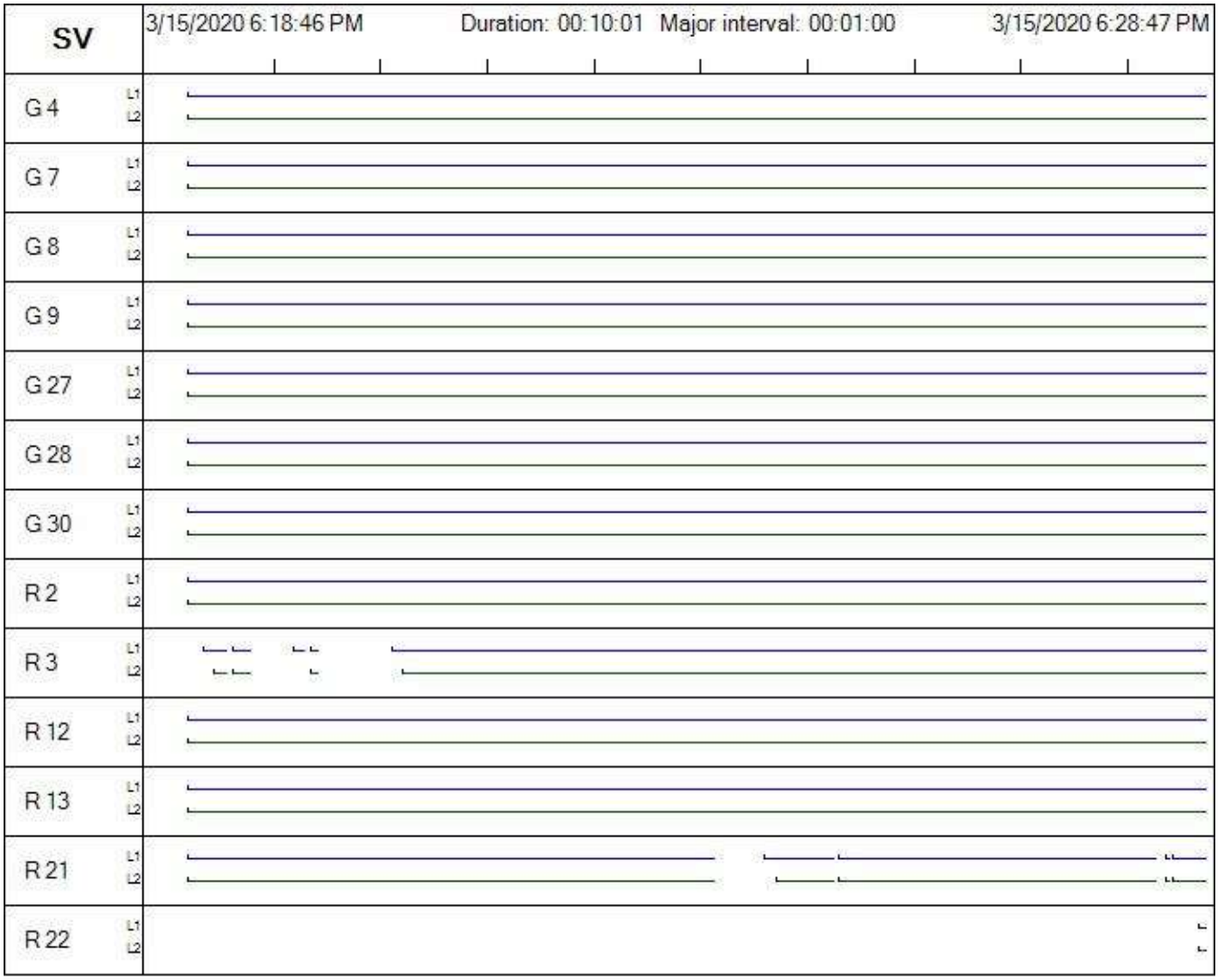
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0060269871		
Y	0.0053909950	0.0126519861	
Z	-0.0026009809	-0.0070758751	0.0096685727

Occupations

	From	To
Point ID:	SLAC	VVA055
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430754.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA061 (6:40:44 PM-6:53:06 PM) (S19)

Baseline observation:	SLAC --- NVA061 (B19)
Processed:	5/13/2020 3:06:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.078 ft
Vertical precision:	0.142 ft
RMS:	0.068 ft
Maximum PDOP:	1.333
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 6:41:12 PM (UTC)
Processing stop time:	3/15/2020 6:52:42 PM (UTC)
Processing duration:	00:11:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	NVA061				
Grid		**Local**		**Global**	
Easting	6132631.958 ft	**Latitude**	N37°23'24.56801"	**Latitude**	N37°23'24.56800"
Northing	1967916.775 ft	**Longitude**	W121°58'36.65921"	**Longitude**	W121°58'36.65921"
Elevation	22.070 ft	**Height**	-85.081 ft	**Height**	-85.081 ft

Vector					
ΔEasting	65880.134 ft	**NS Fwd Azimuth**	98°11'53.3"	**ΔX**	52991.155 ft
ΔNorthing	-10718.638 ft	**Ellipsoid Dist.**	66749.900 ft	**ΔY**	-39833.326 ft
ΔElevation	-295.417 ft	**ΔHeight**	-295.668 ft	**ΔZ**	-7804.048 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.027 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.040 ft
σ ΔNorthing	0.031 ft	**σ Ellipsoid Dist.**	0.027 ft	**σ ΔY**	0.056 ft
σ ΔElevation	0.073 ft	**σ ΔHeight**	0.073 ft	**σ ΔZ**	0.048 ft

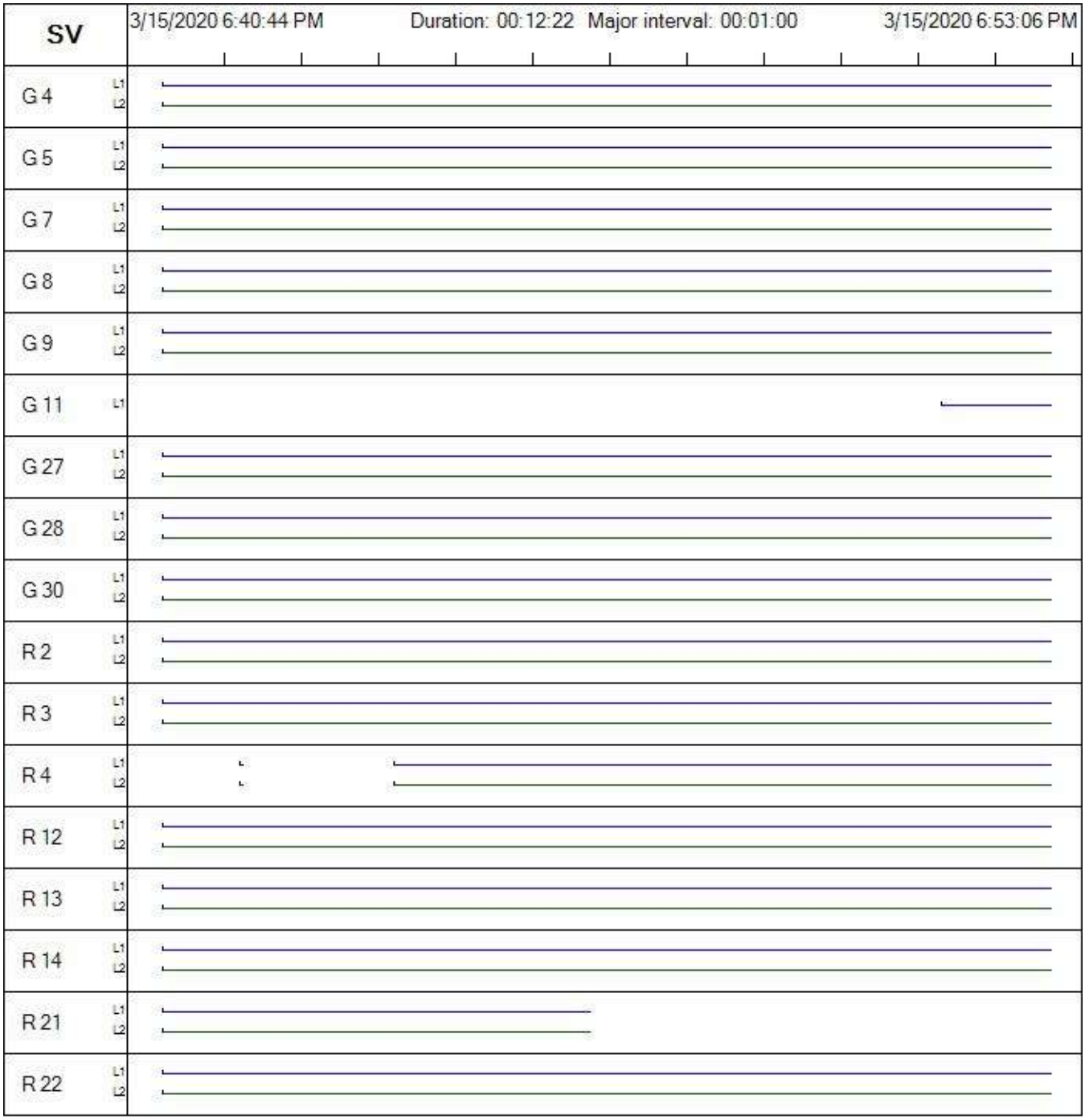
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0016010562		
Y	0.0014189496	0.0031194423	
Z	-0.0009023490	-0.0018031891	0.0022745699

Occupations

	From	To
Point ID:	SLAC	NVA061
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430755.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Antenna Phase Center

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA039 (7:05:58 PM-7:16:00 PM) (S18)

Baseline observation:	SLAC --- VVA039 (B18)
Processed:	5/13/2020 3:06:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.094 ft
Vertical precision:	0.186 ft
RMS:	0.072 ft
Maximum PDOP:	1.412
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 7:06:12 PM (UTC)
Processing stop time:	3/15/2020 7:15:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	VVA039				
Grid		**Local**		**Global**	
Easting	6138235.151 ft	**Latitude**	N37°24'26.10441"	**Latitude**	N37°24'26.10441"
Northing	1974053.482 ft	**Longitude**	W121°57'28.41954"	**Longitude**	W121°57'28.41954"
Elevation	11.513 ft	**Height**	-95.566 ft	**Height**	-95.567 ft

Vector					
ΔEasting	71483.327 ft	**NS Fwd Azimuth**	92°37'28.9"	**ΔX**	59668.450 ft
ΔNorthing	-4581.931 ft	**Ellipsoid Dist.**	71633.848 ft	**ΔY**	-39534.647 ft
ΔElevation	-305.974 ft	**ΔHeight**	-306.154 ft	**ΔZ**	-2865.813 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.034 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.049 ft
σ ΔNorthing	0.038 ft	**σ Ellipsoid Dist.**	0.035 ft	**σ ΔY**	0.076 ft
σ ΔElevation	0.095 ft	**σ ΔHeight**	0.095 ft	**σ ΔZ**	0.059 ft

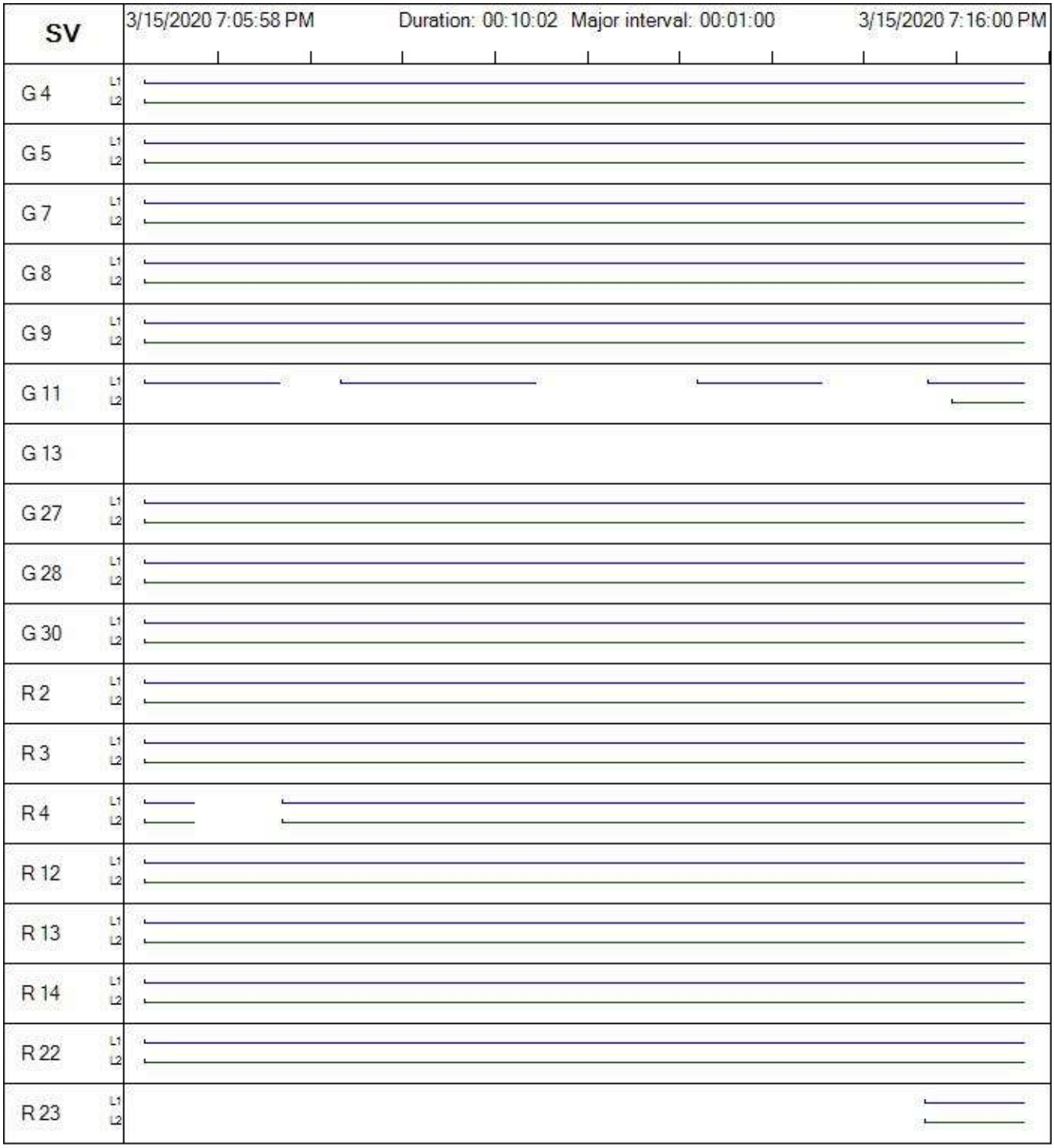
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0024306191		
Y	0.0024379805	0.0058017988	
Z	-0.0016561992	-0.0030481437	0.0034364638

Occupations

	From	To
Point ID:	SLAC	VVA039
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430756.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA033 (7:30:24 PM-7:40:27 PM) (S17)

Baseline observation:	SLAC --- VVA033 (B17)
Processed:	5/13/2020 3:06:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.100 ft
Vertical precision:	0.171 ft
RMS:	0.060 ft
Maximum PDOP:	1.419
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 7:30:42 PM (UTC)
Processing stop time:	3/15/2020 7:40:12 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	VVA033				
Grid		**Local**		**Global**	
Easting	6147948.366 ft	**Latitude**	N37°25'32.79455"	**Latitude**	N37°25'32.79455"
Northing	1980649.736 ft	**Longitude**	W121°55'29.28806"	**Longitude**	W121°55'29.28806"
Elevation	24.815 ft	**Height**	-82.136 ft	**Height**	-82.136 ft

Vector					
ΔEasting	81196.542 ft	**NS Fwd Azimuth**	87°32'10.1"	**ΔX**	69986.899 ft
ΔNorthing	2014.323 ft	**Ellipsoid Dist.**	81225.938 ft	**ΔY**	-41150.404 ft
ΔElevation	-292.672 ft	**ΔHeight**	-292.723 ft	**ΔZ**	2499.809 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.032 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.044 ft
σ ΔNorthing	0.039 ft	**σ Ellipsoid Dist.**	0.032 ft	**σ ΔY**	0.075 ft
σ ΔElevation	0.087 ft	**σ ΔHeight**	0.087 ft	**σ ΔZ**	0.052 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0019062262		
Y	0.0021403473	0.0055861376	
Z	-0.0012740794	-0.0023281432	0.0026712244

Occupations

	From	To
Point ID:	SLAC	VVA033
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430757.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA060 (7:58:53 PM-8:09:13 PM) (S16)

Baseline observation:	SLAC --- NVA060 (B16)
Processed:	5/13/2020 3:06:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.142 ft
Vertical precision:	0.210 ft
RMS:	0.112 ft
Maximum PDOP:	1.395
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 7:59:12 PM (UTC)
Processing stop time:	3/15/2020 8:09:12 PM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	NVA060				
Grid		**Local**		**Global**	
Easting	6156967.166 ft	**Latitude**	N37°24'47.93070"	**Latitude**	N37°24'47.93070"
Northing	1975975.865 ft	**Longitude**	W121°53'36.62672"	**Longitude**	W121°53'36.62672"
Elevation	32.574 ft	**Height**	-74.266 ft	**Height**	-74.266 ft

Vector					
ΔEasting	90215.342 ft	**NS Fwd Azimuth**	90°38'45.3"	**ΔX**	76241.330 ft
ΔNorthing	-2659.548 ft	**Ellipsoid Dist.**	90259.384 ft	**ΔY**	-48300.404 ft
ΔElevation	-284.913 ft	**ΔHeight**	-284.853 ft	**ΔZ**	-1099.343 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.045 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.058 ft
σ ΔNorthing	0.058 ft	**σ Ellipsoid Dist.**	0.045 ft	**σ ΔY**	0.092 ft
σ ΔElevation	0.107 ft	**σ ΔHeight**	0.107 ft	**σ ΔZ**	0.071 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0034041071		
Y	0.0031282508	0.0084952609	
Z	-0.0016339525	-0.0032198559	0.0049756115

Occupations

	From	To
Point ID:	SLAC	NVA060
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430758.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA005 (8:25:44 PM-8:42:55 PM) (S15)

Baseline observation:	SLAC --- VVA005 (B15)
Processed:	5/13/2020 3:06:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.196 ft
Vertical precision:	0.272 ft
RMS:	0.140 ft
Maximum PDOP:	1.941
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 8:26:12 PM (UTC)
Processing stop time:	3/15/2020 8:42:42 PM (UTC)
Processing duration:	00:16:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	VVA005				
Grid		**Local**		**Global**	
Easting	6160011.845 ft	**Latitude**	N37°22'53.16738"	**Latitude**	N37°22'53.16738"
Northing	1964322.243 ft	**Longitude**	W121°52'56.75684"	**Longitude**	W121°52'56.75684"
Elevation	75.698 ft	**Height**	-31.225 ft	**Height**	-31.225 ft

Vector					
ΔEasting	93260.022 ft	**NS Fwd Azimuth**	97°40'58.1"	**ΔX**	75230.894 ft
ΔNorthing	-14313.170 ft	**Ellipsoid Dist.**	94356.903 ft	**ΔY**	-56014.930 ft
ΔElevation	-241.789 ft	**ΔHeight**	-241.812 ft	**ΔZ**	-10294.898 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.053 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.081 ft
σ ΔNorthing	0.078 ft	**σ Ellipsoid Dist.**	0.050 ft	**σ ΔY**	0.106 ft
σ ΔElevation	0.139 ft	**σ ΔHeight**	0.139 ft	**σ ΔZ**	0.101 ft

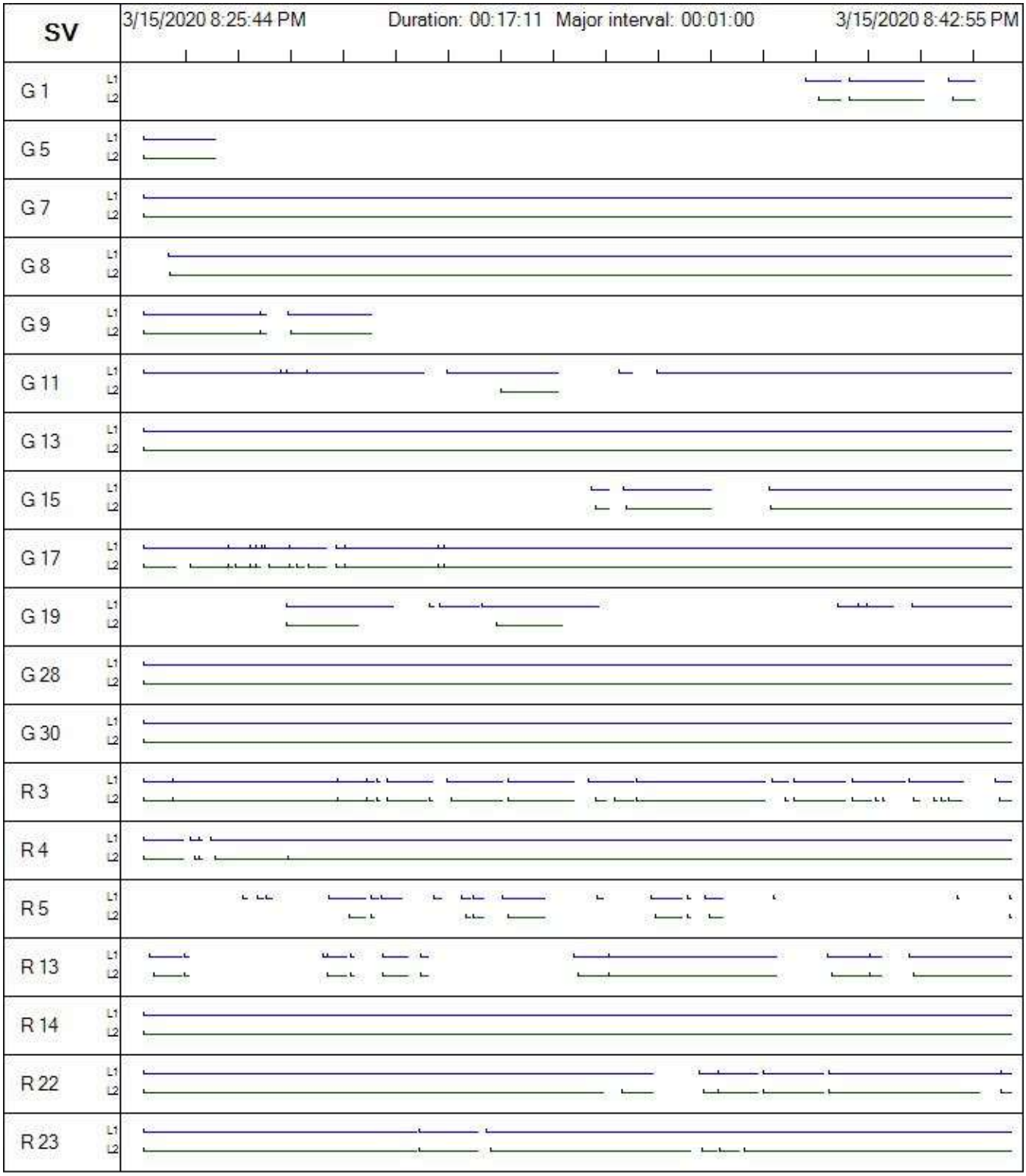
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0065687433		
Y	0.0056461219	0.0112348063	
Z	-0.0023237255	-0.0058364527	0.0102436064

Occupations

	From	To
Point ID:	SLAC	VVA005
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430759.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA014 (9:30:43 PM-9:40:45 PM) (S13)

Baseline observation:	SLAC --- NVA014 (B13)
Processed:	5/13/2020 3:06:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.097 ft
Vertical precision:	0.173 ft
RMS:	0.061 ft
Maximum PDOP:	1.303
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 9:31:12 PM (UTC)
Processing stop time:	3/15/2020 9:40:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	NVA014				
Grid		**Local**		**Global**	
Easting	6155509.855 ft	**Latitude**	N37°22'08.05921"	**Latitude**	N37°22'08.05921"
Northing	1959826.371 ft	**Longitude**	W121°53'51.69917"	**Longitude**	W121°53'51.69917"
Elevation	56.701 ft	**Height**	-50.335 ft	**Height**	-50.336 ft

Vector					
ΔEasting	88758.032 ft	**NS Fwd Azimuth**	100°55'19.6"	**ΔX**	70010.251 ft
ΔNorthing	-18809.042 ft	**Ellipsoid Dist.**	90733.752 ft	**ΔY**	-56010.633 ft
ΔElevation	-260.786 ft	**ΔHeight**	-260.923 ft	**ΔZ**	-13932.185 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.034 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.050 ft
σ ΔNorthing	0.039 ft	**σ Ellipsoid Dist.**	0.033 ft	**σ ΔY**	0.066 ft
σ ΔElevation	0.088 ft	**σ ΔHeight**	0.088 ft	**σ ΔZ**	0.060 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0024706746		
Y	0.0020985882	0.0043874481	
Z	-0.0015201604	-0.0025314375	0.0036333532

Occupations

	From	To
Point ID:	SLAC	NVA014
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8843075B.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - VVA015 (9:04:07 PM-9:14:09 PM) (S11)

Baseline observation:	AA1872 --- VVA015 (B11)
Processed:	5/13/2020 3:06:25 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.063 ft
Vertical precision:	0.105 ft
RMS:	0.059 ft
Maximum PDOP:	1.907
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 9:04:07 PM (UTC)
Processing stop time:	3/15/2020 9:14:09 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	VVA015				
Grid		**Local**		**Global**	
Easting	6167539.838 ft	**Latitude**	N37°21'52.46186"	**Latitude**	N37°21'52.46186"
Northing	1958071.670 ft	**Longitude**	W121°51'22.37115"	**Longitude**	W121°51'22.37115"
Elevation	97.934 ft	**Height**	-8.879 ft	**Height**	-8.879 ft

Vector					
ΔEasting	14816.190 ft	**NS Fwd Azimuth**	75°14'17.2"	**ΔX**	13763.663 ft
ΔNorthing	3666.804 ft	**Ellipsoid Dist.**	15263.915 ft	**ΔY**	-5819.825 ft
ΔElevation	37.484 ft	**ΔHeight**	37.748 ft	**ΔZ**	3111.131 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.033 ft
σ ΔNorthing	0.025 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.041 ft
σ ΔElevation	0.053 ft	**σ ΔHeight**	0.053 ft	**σ ΔZ**	0.033 ft

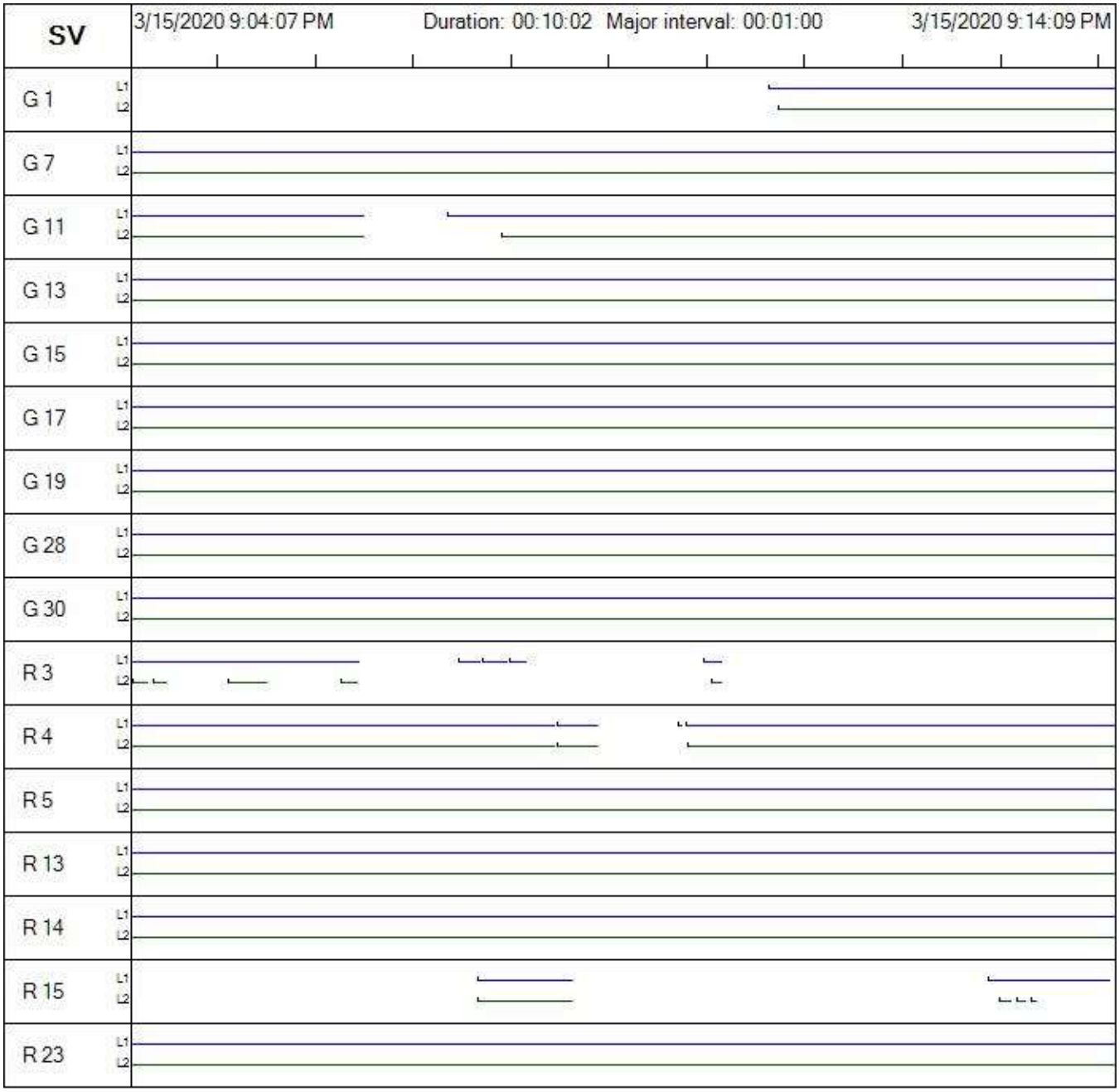
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0010837680		
Y	0.0009180614	0.0016726909	
Z	-0.0004935985	-0.0008644876	0.0011183138

Occupations

	From	To
Point ID:	AA1872	VVA015
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8843075A.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - VVA004 (4:04:40 PM-4:14:42 PM) (S1)

Baseline observation:	AA1872 --- VVA004 (B1)
Processed:	5/13/2020 3:06:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.013 ft
Vertical precision:	0.028 ft
RMS:	0.024 ft
Maximum PDOP:	2.315
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 4:04:40 PM (UTC)
Processing stop time:	3/15/2020 4:14:42 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	VVA004				
Grid		**Local**		**Global**	
Easting	6151601.383 ft	**Latitude**	N37°20'38.36021"	**Latitude**	N37°20'38.36020"
Northing	1950811.844 ft	**Longitude**	W121°54'38.42896"	**Longitude**	W121°54'38.42896"
Elevation	67.781 ft	**Height**	-39.314 ft	**Height**	-39.314 ft

Vector					
ΔEasting	-1122.265 ft	**NS Fwd Azimuth**	196°29'04.4"	**ΔX**	-2067.268 ft
ΔNorthing	-3593.022 ft	**Ellipsoid Dist.**	3764.386 ft	**ΔY**	-1299.331 ft
ΔElevation	7.331 ft	**ΔHeight**	7.314 ft	**ΔZ**	-2865.089 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.005 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.009 ft
σ ΔNorthing	0.005 ft	**σ Ellipsoid Dist.**	0.005 ft	**σ ΔY**	0.011 ft
σ ΔElevation	0.014 ft	**σ ΔHeight**	0.014 ft	**σ ΔZ**	0.009 ft

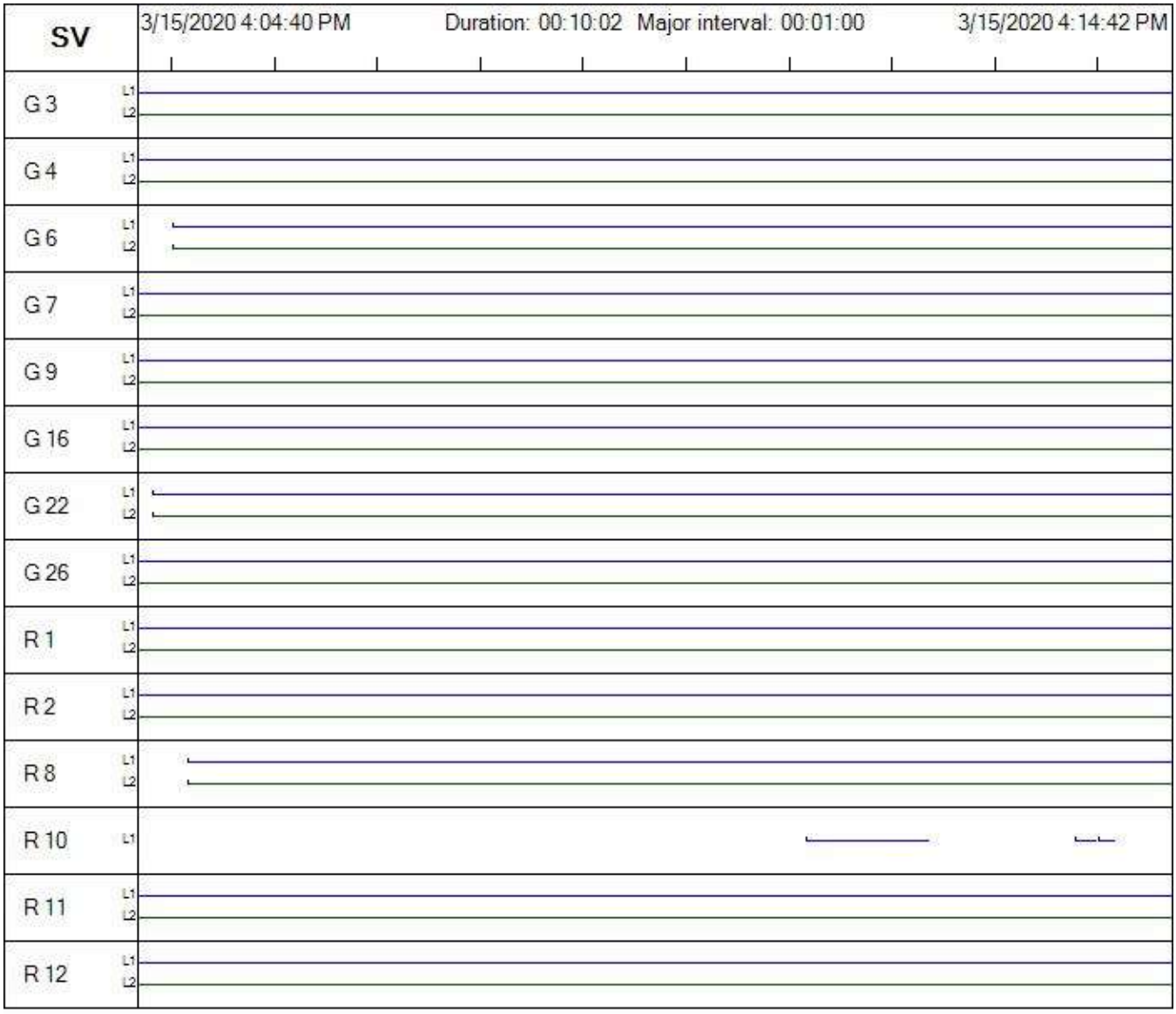
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0000725662		
Y	0.0000634210	0.0001121078	
Z	-0.0000481488	-0.0000640128	0.0000726378

Occupations

	From	To
Point ID:	AA1872	VVA004
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430750.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - NVA047 (4:31:03 PM-4:41:05 PM) (S2)

Baseline observation:	AA1872 --- NVA047 (B2)
Processed:	5/13/2020 3:06:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.041 ft
Vertical precision:	0.091 ft
RMS:	0.036 ft
Maximum PDOP:	2.202
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 4:31:03 PM (UTC)
Processing stop time:	3/15/2020 4:41:05 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	NVA047				
Grid		**Local**		**Global**	
Easting	6151914.672 ft	**Latitude**	N37°18'12.14349"	**Latitude**	N37°18'12.14349"
Northing	1936017.113 ft	**Longitude**	W121°54'31.79158"	**Longitude**	W121°54'31.79158"
Elevation	144.085 ft	**Height**	37.016 ft	**Height**	37.016 ft

Vector					
ΔEasting	-808.976 ft	**NS Fwd Azimuth**	181°39'27.7"	**ΔX**	-6383.938 ft
ΔNorthing	-18387.753 ft	**Ellipsoid Dist.**	18406.346 ft	**ΔY**	-9246.006 ft
ΔElevation	83.635 ft	**ΔHeight**	83.643 ft	**ΔZ**	-14579.338 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.027 ft
σ ΔNorthing	0.017 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.037 ft
σ ΔElevation	0.046 ft	**σ ΔHeight**	0.046 ft	**σ ΔZ**	0.024 ft

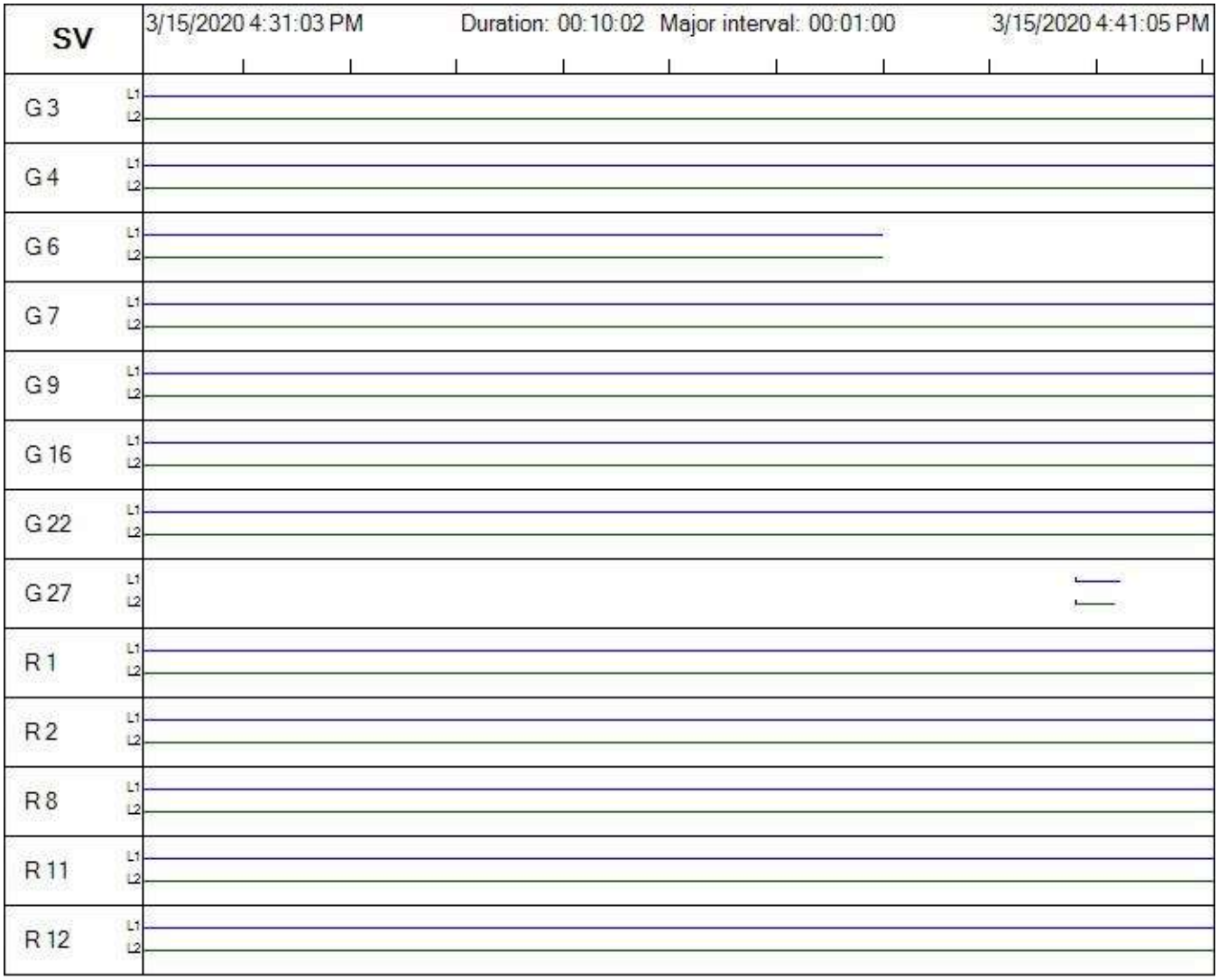
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0007237312		
Y	0.0007904154	0.0013368495	
Z	-0.0004532530	-0.0006381187	0.0005523158

Occupations

	From	To
Point ID:	AA1872	NVA047
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430751.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - NVA011 (5:02:09 PM-5:12:13 PM) (S3)

Baseline observation:	AA1872 --- NVA011 (B3)
Processed:	5/13/2020 3:06:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.064 ft
Vertical precision:	0.090 ft
RMS:	0.053 ft
Maximum PDOP:	1.726
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 5:02:09 PM (UTC)
Processing stop time:	3/15/2020 5:12:13 PM (UTC)
Processing duration:	00:10:04
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	NVA011				
Grid		**Local**		**Global**	
Easting	6128149.685 ft	**Latitude**	N37°19'00.64361"	**Latitude**	N37°19'00.64361"
Northing	1941291.190 ft	**Longitude**	W121°59'26.93917"	**Longitude**	W121°59'26.93917"
Elevation	172.758 ft	**Height**	65.483 ft	**Height**	65.483 ft

Vector					
ΔEasting	-24573.963 ft	**NS Fwd Azimuth**	241°03'07.7"	**ΔX**	-25055.148 ft
ΔNorthing	-13113.676 ft	**Ellipsoid Dist.**	27855.294 ft	**ΔY**	5875.869 ft
ΔElevation	112.308 ft	**ΔHeight**	112.110 ft	**ΔZ**	-10660.408 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.026 ft
σ ΔNorthing	0.026 ft	**σ Ellipsoid Dist.**	0.020 ft	**σ ΔY**	0.042 ft
σ ΔElevation	0.046 ft	**σ ΔHeight**	0.046 ft	**σ ΔZ**	0.027 ft

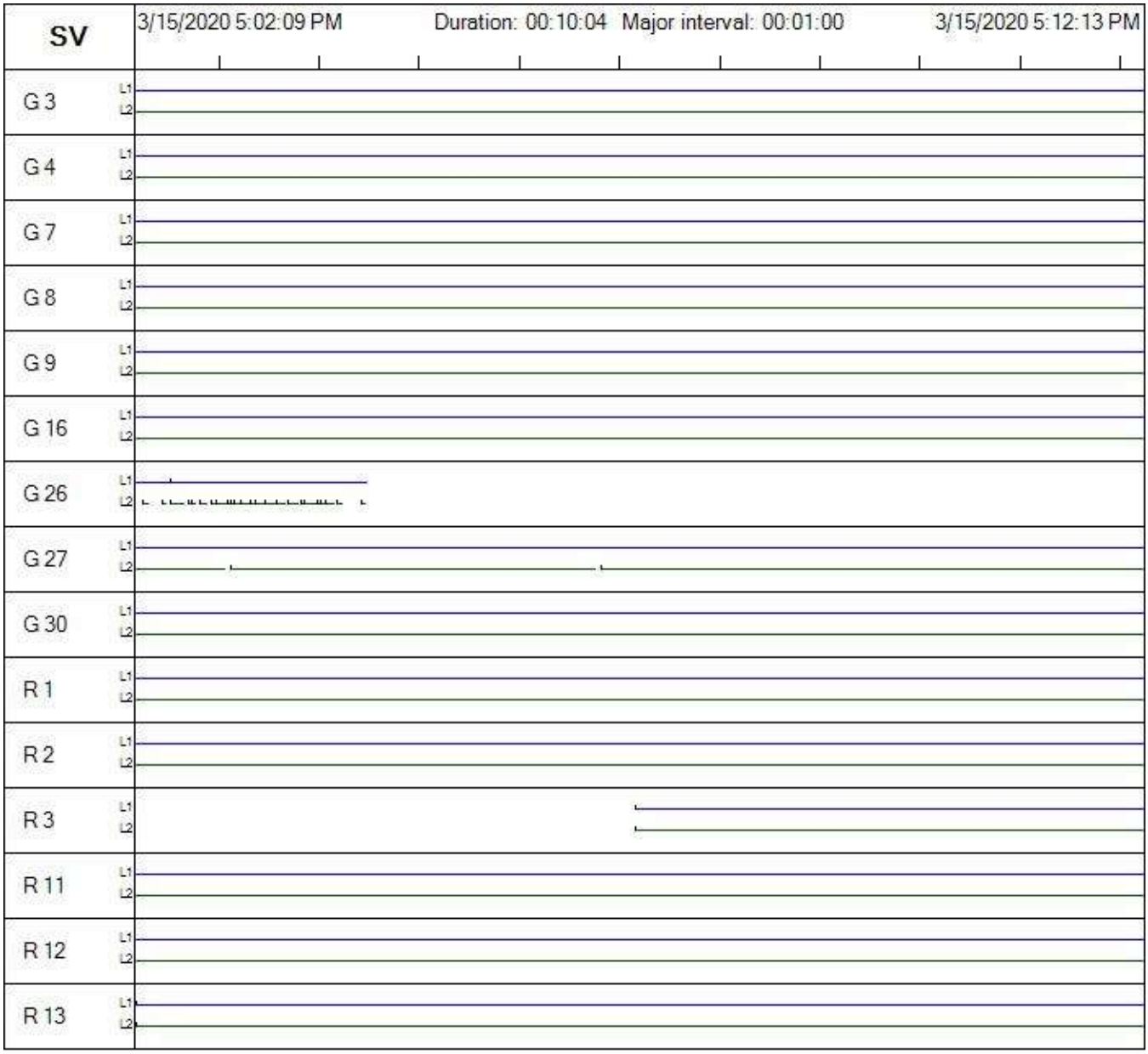
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0006683845		
Y	0.0006959318	0.0017225037	
Z	-0.0002261039	-0.0005155268	0.0007341932

Occupations

	From	To
Point ID:	AA1872	NVA011
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430752.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - VVA014 (5:43:57 PM-5:53:59 PM) (S4)

Baseline observation:	AA1872 --- VVA014 (B4)
Processed:	5/13/2020 3:06:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.185 ft
Vertical precision:	0.180 ft
RMS:	0.091 ft
Maximum PDOP:	2.497
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 5:43:57 PM (UTC)
Processing stop time:	3/15/2020 5:53:59 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	VVA014				
Grid		**Local**		**Global**	
Easting	6128743.543 ft	**Latitude**	N37°19'48.77983"	**Latitude**	N37°19'48.77983"
Northing	1946150.840 ft	**Longitude**	W121°59'20.54563"	**Longitude**	W121°59'20.54563"
Elevation	137.725 ft	**Height**	30.434 ft	**Height**	30.434 ft

Vector					
ΔEasting	-23980.105 ft	**NS Fwd Azimuth**	250°08'41.1"	**ΔX**	-23038.502 ft
ΔNorthing	-8254.026 ft	**Ellipsoid Dist.**	25362.037 ft	**ΔY**	8129.602 ft
ΔElevation	77.276 ft	**ΔHeight**	77.062 ft	**ΔZ**	-6809.940 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.052 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.051 ft
σ ΔNorthing	0.066 ft	**σ Ellipsoid Dist.**	0.064 ft	**σ ΔY**	0.075 ft
σ ΔElevation	0.092 ft	**σ ΔHeight**	0.092 ft	**σ ΔZ**	0.085 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0026417977		
Y	0.0008498063	0.0055920227	
Z	0.0015314201	-0.0036639920	0.0072796884

Occupations

	From	To
Point ID:	AA1872	VVA014
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430753.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - VVA055 (6:18:46 PM-6:28:47 PM) (S5)

Baseline observation:	AA1872 --- VVA055 (B5)
Processed:	5/13/2020 3:06:25 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.067 ft
Vertical precision:	0.109 ft
RMS:	0.048 ft
Maximum PDOP:	2.016
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 6:18:46 PM (UTC)
Processing stop time:	3/15/2020 6:28:47 PM (UTC)
Processing duration:	00:10:01
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	VVA055				
Grid		**Local**		**Global**	
Easting	6132703.977 ft	**Latitude**	N37°22'08.12408"	**Latitude**	N37°22'08.12407"
Northing	1960183.129 ft	**Longitude**	W121°58'34.25532"	**Longitude**	W121°58'34.25532"
Elevation	52.632 ft	**Height**	-54.584 ft	**Height**	-54.584 ft

Vector					
ΔEasting	-20019.671 ft	**NS Fwd Azimuth**	285°14'17.1"	**ΔX**	-15303.414 ft
ΔNorthing	5778.264 ft	**Ellipsoid Dist.**	20837.876 ft	**ΔY**	13459.714 ft
ΔElevation	-7.818 ft	**ΔHeight**	-7.956 ft	**ΔZ**	4342.423 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.030 ft
σ ΔNorthing	0.027 ft	**σ Ellipsoid Dist.**	0.020 ft	**σ ΔY**	0.044 ft
σ ΔElevation	0.056 ft	**σ ΔHeight**	0.056 ft	**σ ΔZ**	0.038 ft

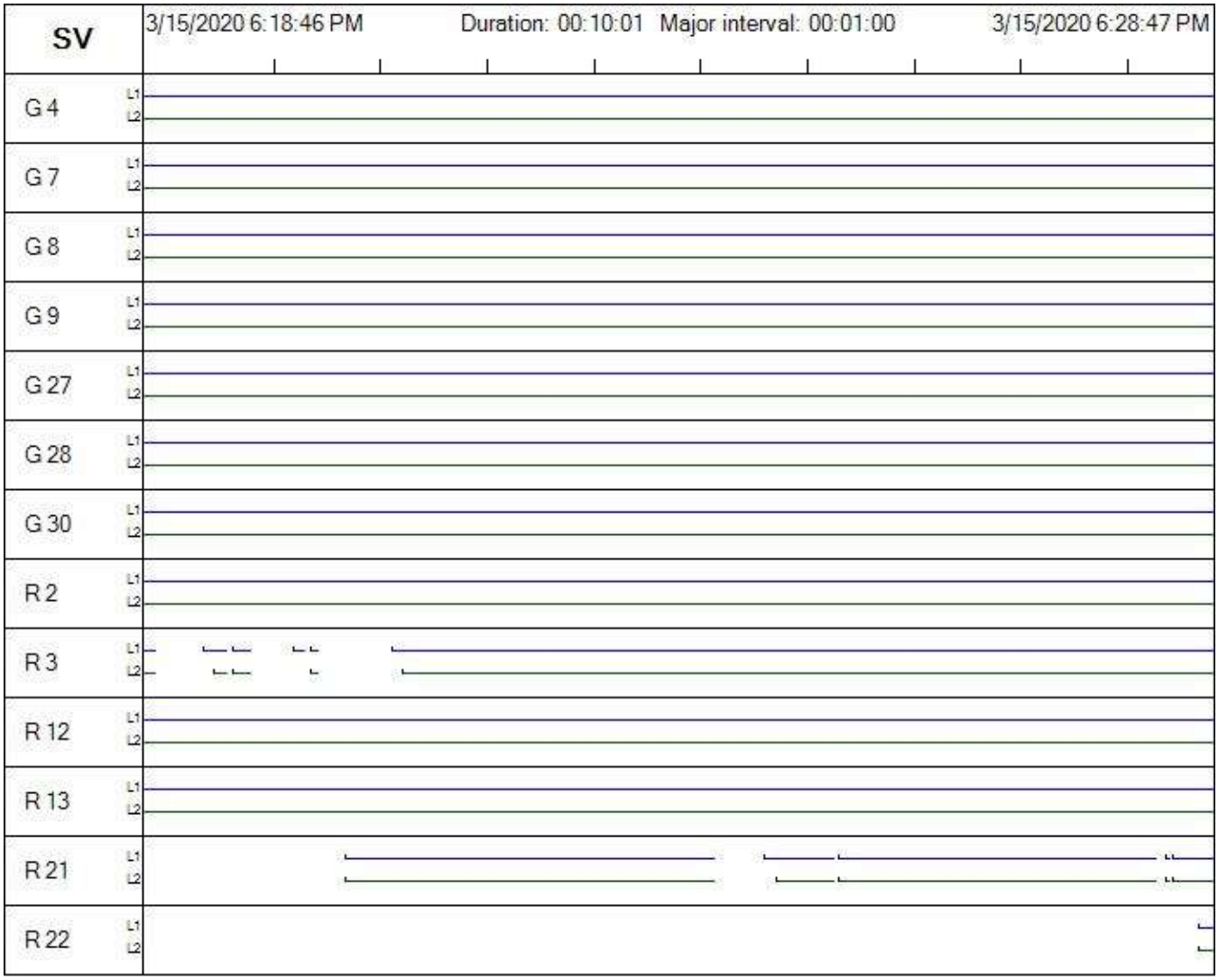
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0008886947		
Y	0.0008041975	0.0019116495	
Z	-0.0003990205	-0.0010656294	0.0014636175

Occupations

	From	To
Point ID:	AA1872	VVA055
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430754.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - NVA061 (6:40:44 PM-6:53:06 PM) (S6)

Baseline observation:	AA1872 --- NVA061 (B6)
Processed:	5/13/2020 3:06:27 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.033 ft
Vertical precision:	0.062 ft
RMS:	0.041 ft
Maximum PDOP:	1.444
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 6:40:44 PM (UTC)
Processing stop time:	3/15/2020 6:53:06 PM (UTC)
Processing duration:	00:12:22
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	NVA061				
Grid		**Local**		**Global**	
Easting	6132631.931 ft	**Latitude**	N37°23'24.56807"	**Latitude**	N37°23'24.56807"
Northing	1967916.782 ft	**Longitude**	W121°58'36.65955"	**Longitude**	W121°58'36.65955"
Elevation	22.011 ft	**Height**	-85.140 ft	**Height**	-85.140 ft

Vector					
ΔEasting	-20091.717 ft	**NS Fwd Azimuth**	303°03'34.9"	**ΔX**	-12969.366 ft
ΔNorthing	13511.916 ft	**Ellipsoid Dist.**	24213.766 ft	**ΔY**	17564.821 ft
ΔElevation	-38.439 ft	**ΔHeight**	-38.513 ft	**ΔZ**	10467.894 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.012 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.017 ft
σ ΔNorthing	0.013 ft	**σ Ellipsoid Dist.**	0.012 ft	**σ ΔY**	0.024 ft
σ ΔElevation	0.032 ft	**σ ΔHeight**	0.032 ft	**σ ΔZ**	0.021 ft

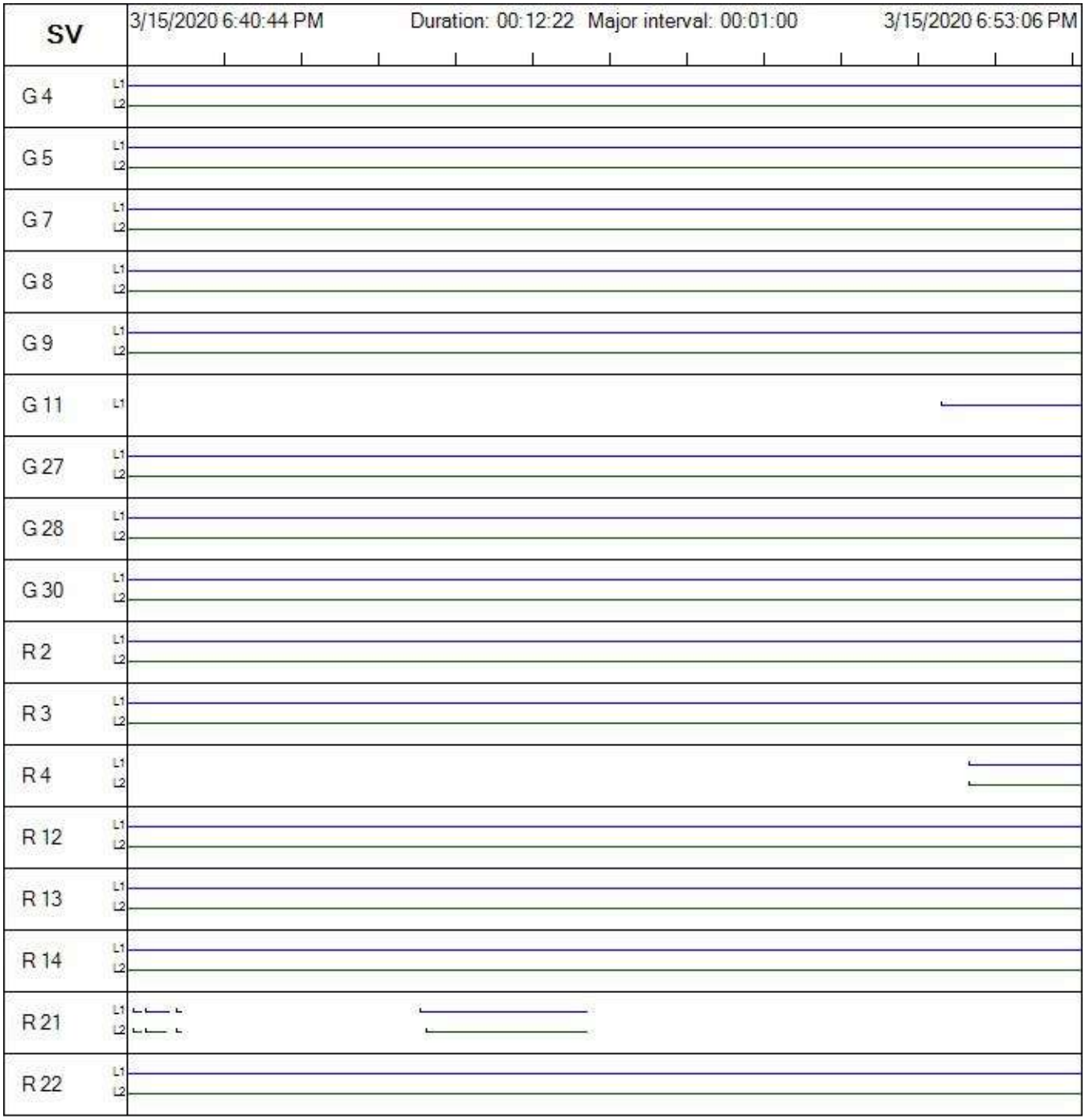
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0002902717		
Y	0.0002658863	0.0005919757	
Z	-0.0001697189	-0.0003403230	0.0004258634

Occupations

	From	To
Point ID:	AA1872	NVA061
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430755.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Antenna Phase Center

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - VVA039 (7:05:58 PM-7:16:00 PM) (S7)

Baseline observation:	AA1872 --- VVA039 (B7)
Processed:	5/13/2020 3:06:28 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.036 ft
Vertical precision:	0.070 ft
RMS:	0.042 ft
Maximum PDOP:	1.419
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 7:05:58 PM (UTC)
Processing stop time:	3/15/2020 7:16:00 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	VVA039				
Grid		**Local**		**Global**	
Easting	6138235.142 ft	**Latitude**	N37°24'26.10485"	**Latitude**	N37°24'26.10484"
Northing	1974053.527 ft	**Longitude**	W121°57'28.41965"	**Longitude**	W121°57'28.41965"
Elevation	11.370 ft	**Height**	-95.709 ft	**Height**	-95.709 ft

Vector					
ΔEasting	-14488.506 ft	**NS Fwd Azimuth**	322°44'03.0"	**ΔX**	-6292.009 ft
ΔNorthing	19648.661 ft	**Ellipsoid Dist.**	24414.059 ft	**ΔY**	17863.567 ft
ΔElevation	-49.079 ft	**ΔHeight**	-49.082 ft	**ΔZ**	15406.108 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.013 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.018 ft
σ ΔNorthing	0.014 ft	**σ Ellipsoid Dist.**	0.014 ft	**σ ΔY**	0.029 ft
σ ΔElevation	0.036 ft	**σ ΔHeight**	0.036 ft	**σ ΔZ**	0.022 ft

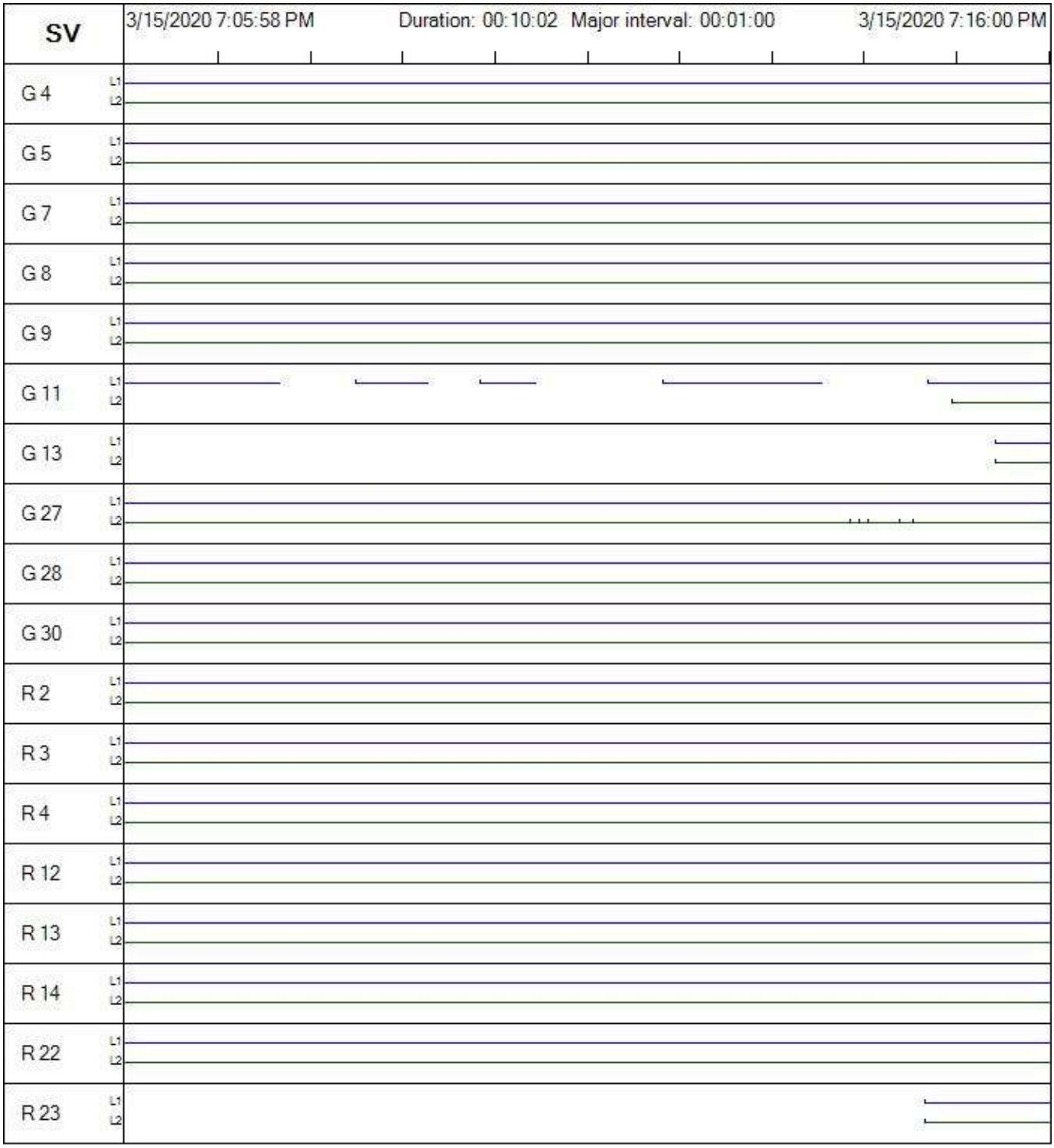
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003355275		
Y	0.0003313734	0.0008132862	
Z	-0.0002256022	-0.0004269437	0.0004972171

Occupations

	From	To
Point ID:	AA1872	VVA039
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430756.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - VVA033 (7:30:24 PM-7:40:27 PM) (S8)

Baseline observation:	AA1872 --- VVA033 (B8)
Processed:	5/13/2020 3:06:33 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.042 ft
Vertical precision:	0.072 ft
RMS:	0.033 ft
Maximum PDOP:	1.390
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 7:30:24 PM (UTC)
Processing stop time:	3/15/2020 7:40:27 PM (UTC)
Processing duration:	00:10:03
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	VVA033				
Grid		**Local**		**Global**	
Easting	6147948.371 ft	**Latitude**	N37°25'32.79483"	**Latitude**	N37°25'32.79482"
Northing	1980649.763 ft	**Longitude**	W121°55'29.28799"	**Longitude**	W121°55'29.28799"
Elevation	24.796 ft	**Height**	-82.155 ft	**Height**	-82.155 ft

Vector					
ΔEasting	-4775.277 ft	**NS Fwd Azimuth**	348°49'34.9"	**ΔX**	4026.396 ft
ΔNorthing	26244.898 ft	**Ellipsoid Dist.**	26677.153 ft	**ΔY**	16247.711 ft
ΔElevation	-35.654 ft	**ΔHeight**	-35.528 ft	**ΔZ**	20771.791 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.019 ft
σ ΔNorthing	0.017 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.030 ft
σ ΔElevation	0.037 ft	**σ ΔHeight**	0.037 ft	**σ ΔZ**	0.023 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003577930		
Y	0.0003543307	0.0009214852	
Z	-0.0002246390	-0.0004157048	0.0005423147

Occupations

	From	To
Point ID:	AA1872	VVA033
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430757.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - NVA060 (7:58:53 PM-8:09:13 PM) (S9)

Baseline observation:	AA1872 --- NVA060 (B9)
Processed:	5/13/2020 3:06:29 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.039 ft
Vertical precision:	0.058 ft
RMS:	0.055 ft
Maximum PDOP:	1.463
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 7:58:53 PM (UTC)
Processing stop time:	3/15/2020 8:09:13 PM (UTC)
Processing duration:	00:10:20
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	NVA060				
Grid		**Local**		**Global**	
Easting	6156967.169 ft	**Latitude**	N37°24'47.93043"	**Latitude**	N37°24'47.93043"
Northing	1975975.838 ft	**Longitude**	W121°53'36.62668"	**Longitude**	W121°53'36.62668"
Elevation	32.517 ft	**Height**	-74.323 ft	**Height**	-74.323 ft

Vector					
ΔEasting	4243.521 ft	**NS Fwd Azimuth**	10°16'04.6"	**ΔX**	10280.823 ft
ΔNorthing	21570.972 ft	**Ellipsoid Dist.**	21985.517 ft	**ΔY**	9097.709 ft
ΔElevation	-27.933 ft	**ΔHeight**	-27.696 ft	**ΔZ**	17172.573 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.012 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.016 ft
σ ΔNorthing	0.016 ft	**σ Ellipsoid Dist.**	0.015 ft	**σ ΔY**	0.025 ft
σ ΔElevation	0.029 ft	**σ ΔHeight**	0.029 ft	**σ ΔZ**	0.019 ft

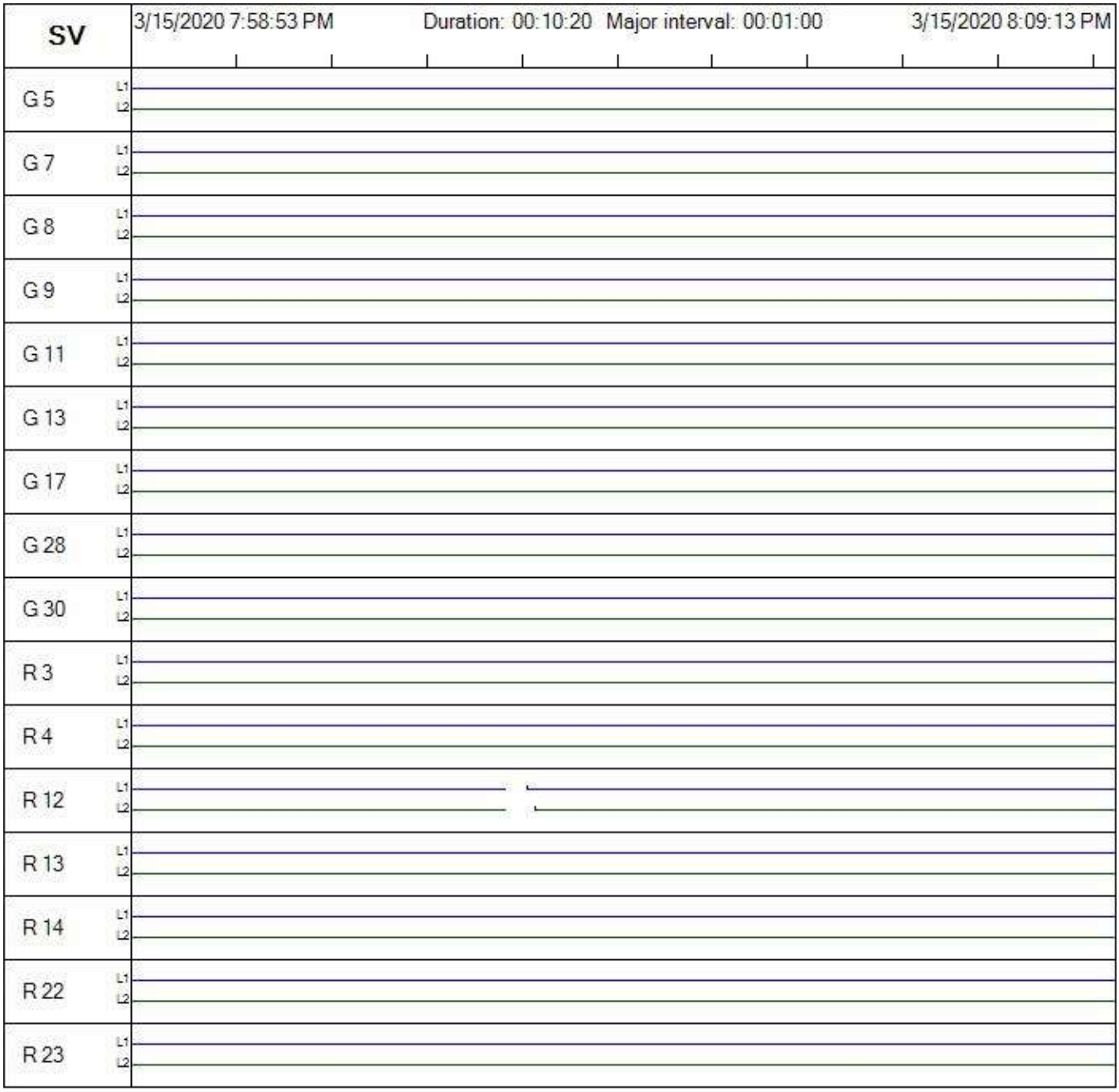
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0002572143		
Y	0.0002339715	0.0006365428	
Z	-0.0001231477	-0.0002441927	0.0003726471

Occupations

	From	To
Point ID:	AA1872	NVA060
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430758.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - VVA005 (8:25:44 PM-8:42:55 PM) (S10)

Baseline observation:	AA1872 --- VVA005 (B10)
Processed:	5/13/2020 3:06:31 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.109 ft
Vertical precision:	0.117 ft
RMS:	0.089 ft
Maximum PDOP:	3.089
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 8:25:44 PM (UTC)
Processing stop time:	3/15/2020 8:42:55 PM (UTC)
Processing duration:	00:17:11
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	VVA005				
Grid		**Local**		**Global**	
Easting	6160011.874 ft	**Latitude**	N37°22'53.16696"	**Latitude**	N37°22'53.16696"
Northing	1964322.200 ft	**Longitude**	W121°52'56.75648"	**Longitude**	W121°52'56.75648"
Elevation	75.607 ft	**Height**	-31.316 ft	**Height**	-31.316 ft

Vector					
ΔEasting	7288.226 ft	**NS Fwd Azimuth**	35°27'02.6"	**ΔX**	9270.418 ft
ΔNorthing	9917.334 ft	**Ellipsoid Dist.**	12307.984 ft	**ΔY**	1383.184 ft
ΔElevation	15.158 ft	**ΔHeight**	15.311 ft	**ΔZ**	7976.984 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.023 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.035 ft
σ ΔNorthing	0.043 ft	**σ Ellipsoid Dist.**	0.042 ft	**σ ΔY**	0.044 ft
σ ΔElevation	0.060 ft	**σ ΔHeight**	0.060 ft	**σ ΔZ**	0.053 ft

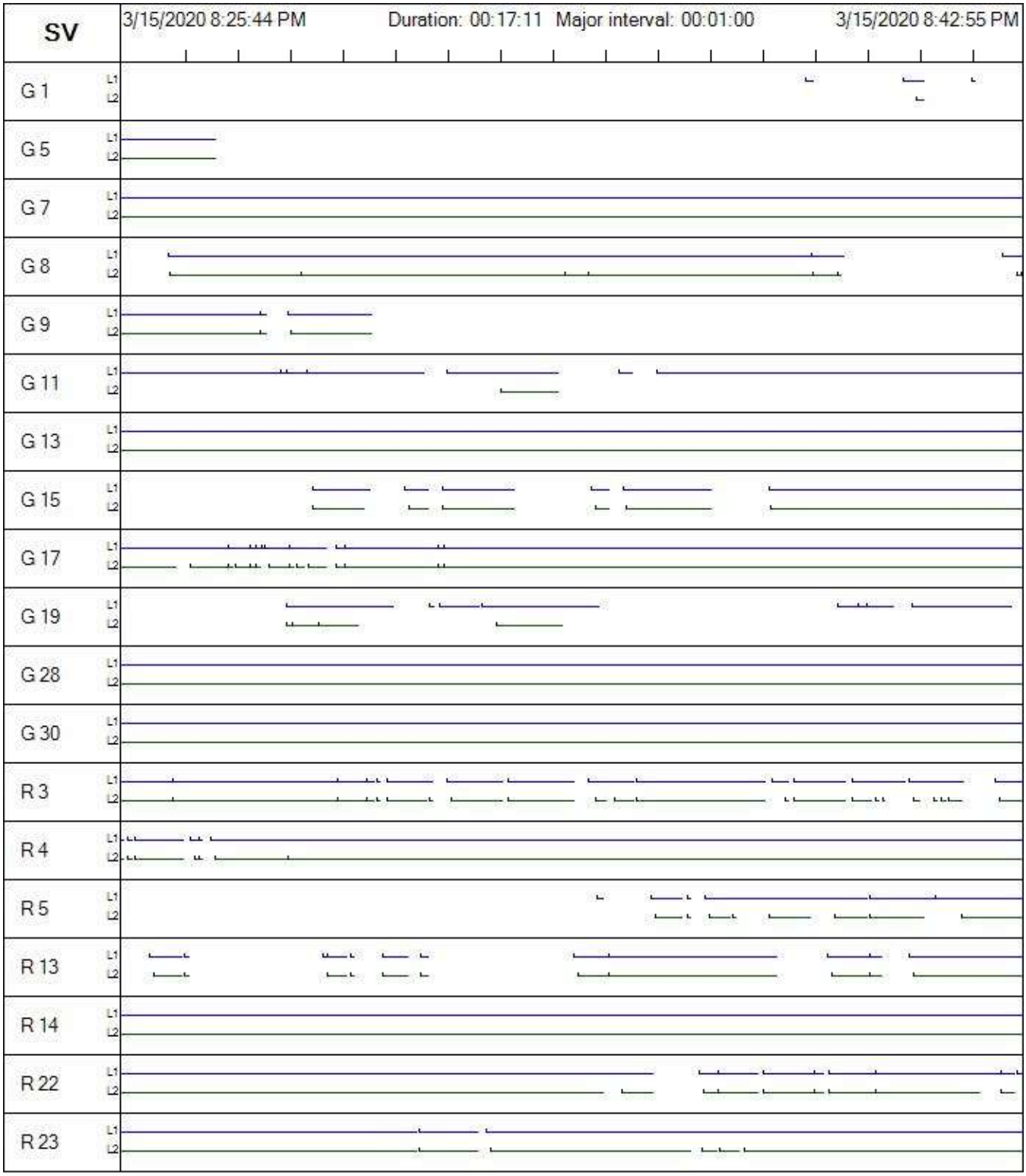
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0012313277		
Y	0.0010222351	0.0019657963	
Z	-0.0001175676	-0.0009763332	0.0027920958

Occupations

	From	To
Point ID:	AA1872	VVA005
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430759.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1872 - NVA014 (9:30:43 PM-9:40:45 PM) (S12)

Baseline observation:	AA1872 --- NVA014 (B12)
Processed:	5/13/2020 3:06:29 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.016 ft
Vertical precision:	0.029 ft
RMS:	0.034 ft
Maximum PDOP:	1.424
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 9:30:43 PM (UTC)
Processing stop time:	3/15/2020 9:40:45 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1872				
Grid		**Local**		**Global**	
Easting	6152723.648 ft	**Latitude**	N37°21'14.04847"	**Latitude**	N37°21'14.04847"
Northing	1954404.866 ft	**Longitude**	W121°54'25.20138"	**Longitude**	W121°54'25.20138"
Elevation	60.450 ft	**Height**	-46.627 ft	**Height**	-46.627 ft

To:	NVA014				
Grid		**Local**		**Global**	
Easting	6155509.857 ft	**Latitude**	N37°22'08.05928"	**Latitude**	N37°22'08.05928"
Northing	1959826.378 ft	**Longitude**	W121°53'51.69915"	**Longitude**	W121°53'51.69915"
Elevation	56.674 ft	**Height**	-50.362 ft	**Height**	-50.362 ft

Vector					
ΔEasting	2786.209 ft	**NS Fwd Azimuth**	26°20'16.9"	**ΔX**	4049.741 ft
ΔNorthing	5421.513 ft	**Ellipsoid Dist.**	6095.844 ft	**ΔY**	1387.478 ft
ΔElevation	-3.776 ft	**ΔHeight**	-3.735 ft	**ΔZ**	4339.777 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.006 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.009 ft
σ ΔNorthing	0.007 ft	**σ Ellipsoid Dist.**	0.007 ft	**σ ΔY**	0.011 ft
σ ΔElevation	0.015 ft	**σ ΔHeight**	0.015 ft	**σ ΔZ**	0.010 ft

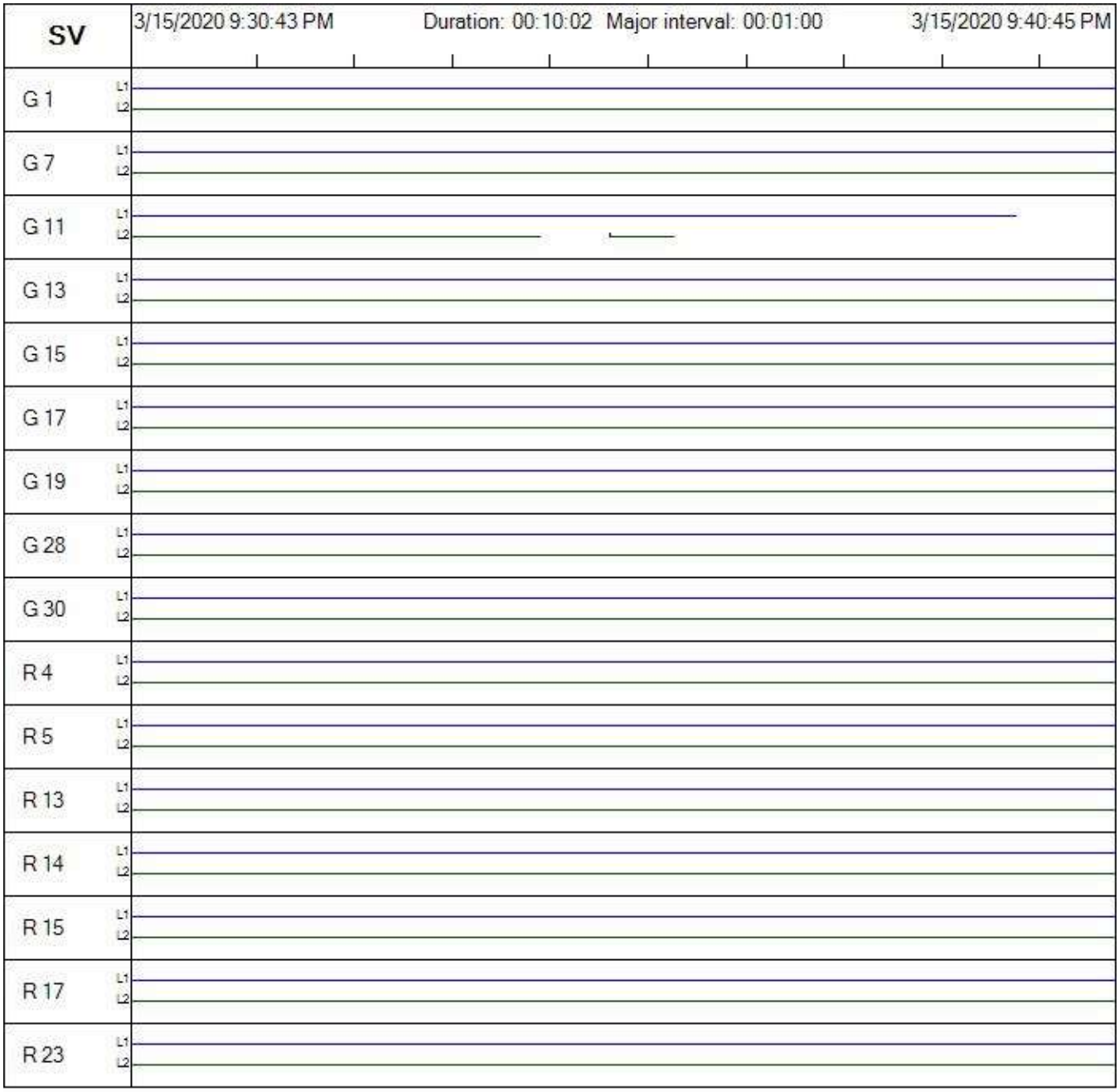
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0000724419		
Y	0.0000631658	0.0001285065	
Z	-0.0000433372	-0.0000726821	0.0001005569

Occupations

	From	To
Point ID:	AA1872	NVA014
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730750.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8843075B.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA015 (9:04:07 PM-9:14:09 PM) (S14)

Baseline observation:	SLAC --- VVA015 (B14)
Processed:	5/13/2020 3:06:29 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.160 ft
Vertical precision:	0.268 ft
RMS:	0.080 ft
Maximum PDOP:	1.907
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/15/2020 9:04:12 PM (UTC)
Processing stop time:	3/15/2020 9:13:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.824 ft	**Latitude**	N37°24'59.46067"	**Latitude**	N37°24'59.46067"
Northing	1978635.413 ft	**Longitude**	W122°12'15.30542"	**Longitude**	W122°12'15.30542"
Elevation	317.487 ft	**Height**	210.587 ft	**Height**	210.587 ft

To:	VVA015				
Grid		**Local**		**Global**	
Easting	6167539.795 ft	**Latitude**	N37°21'52.46207"	**Latitude**	N37°21'52.46207"
Northing	1958071.691 ft	**Longitude**	W121°51'22.37169"	**Longitude**	W121°51'22.37169"
Elevation	97.996 ft	**Height**	-8.817 ft	**Height**	-8.817 ft

Vector					
ΔEasting	100787.972 ft	**NS Fwd Azimuth**	100°29'21.1"	**ΔX**	79724.132 ft
ΔNorthing	-20563.722 ft	**Ellipsoid Dist.**	102869.644 ft	**ΔY**	-63217.923 ft
ΔElevation	-219.491 ft	**ΔHeight**	-219.404 ft	**ΔZ**	-15160.787 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.050 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.090 ft
σ ΔNorthing	0.060 ft	**σ Ellipsoid Dist.**	0.046 ft	**σ ΔY**	0.104 ft
σ ΔElevation	0.137 ft	**σ ΔHeight**	0.137 ft	**σ ΔZ**	0.077 ft

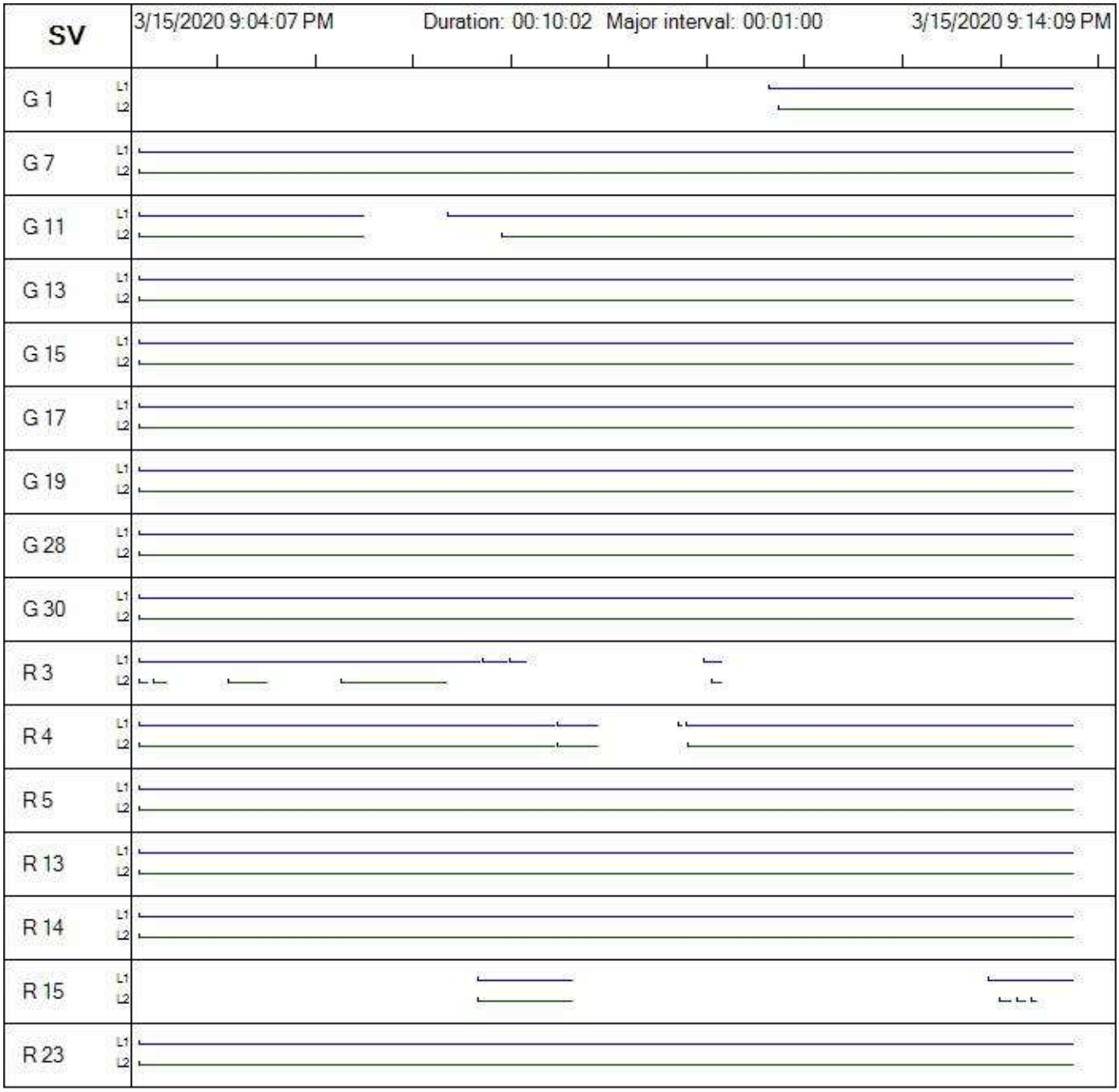
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0081102423		
Y	0.0070936061	0.0107708964	
Z	-0.0034784131	-0.0053564977	0.0059046596

Occupations

	From	To
Point ID:	SLAC	VVA015
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0750.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8843075A.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - DG6887 (5:06:27 PM-9:49:30 PM) (S23)

Baseline observation:	SLAC --- DG6887 (B23)
Processed:	5/13/2020 3:28:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.015 ft
Vertical precision:	0.065 ft
RMS:	0.068 ft
Maximum PDOP:	2.152
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 5:06:42 PM (UTC)
Processing stop time:	3/16/2020 9:49:12 PM (UTC)
Processing duration:	04:42:30
Processing interval:	2 Minutes

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.141 ft	**Latitude**	N37°24'07.30913"	**Latitude**	N37°24'07.30912"
Northing	1972516.980 ft	**Longitude**	W122°02'10.61324"	**Longitude**	W122°02'10.61324"
Elevation	35.978 ft	**Height**	-71.155 ft	**Height**	-71.155 ft

Vector					
ΔEasting	48687.301 ft	**NS Fwd Azimuth**	96°07'11.0"	**ΔX**	39735.928 ft
ΔNorthing	-6118.456 ft	**Ellipsoid Dist.**	49072.850 ft	**ΔY**	-28465.336 ft
ΔElevation	-281.532 ft	**ΔHeight**	-281.765 ft	**ΔZ**	-4361.147 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.005 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.015 ft
σ ΔNorthing	0.006 ft	**σ Ellipsoid Dist.**	0.005 ft	**σ ΔY**	0.023 ft
σ ΔElevation	0.033 ft	**σ ΔHeight**	0.033 ft	**σ ΔZ**	0.020 ft

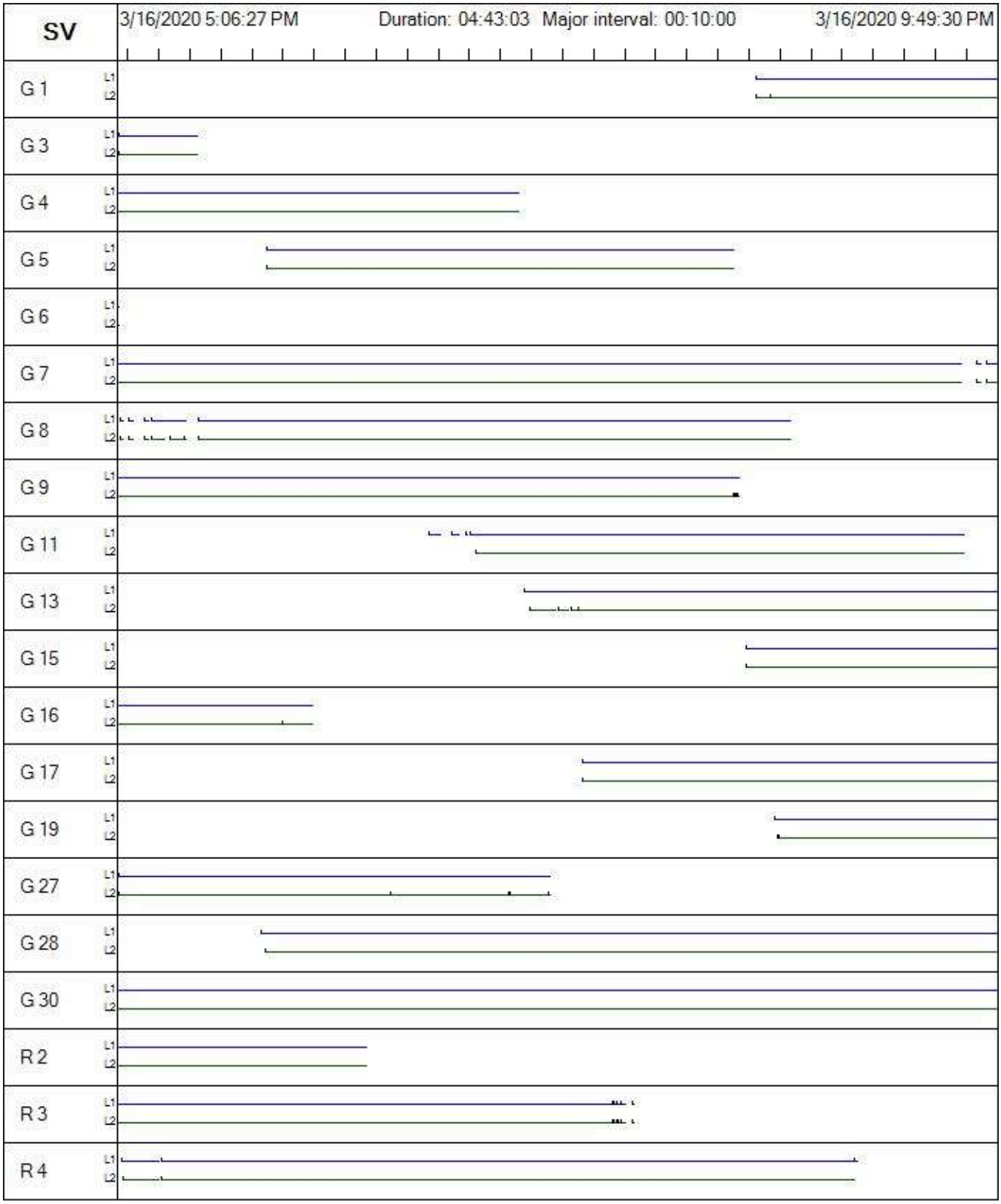
Aposteriori Covariance Matrix (US survey foot²)

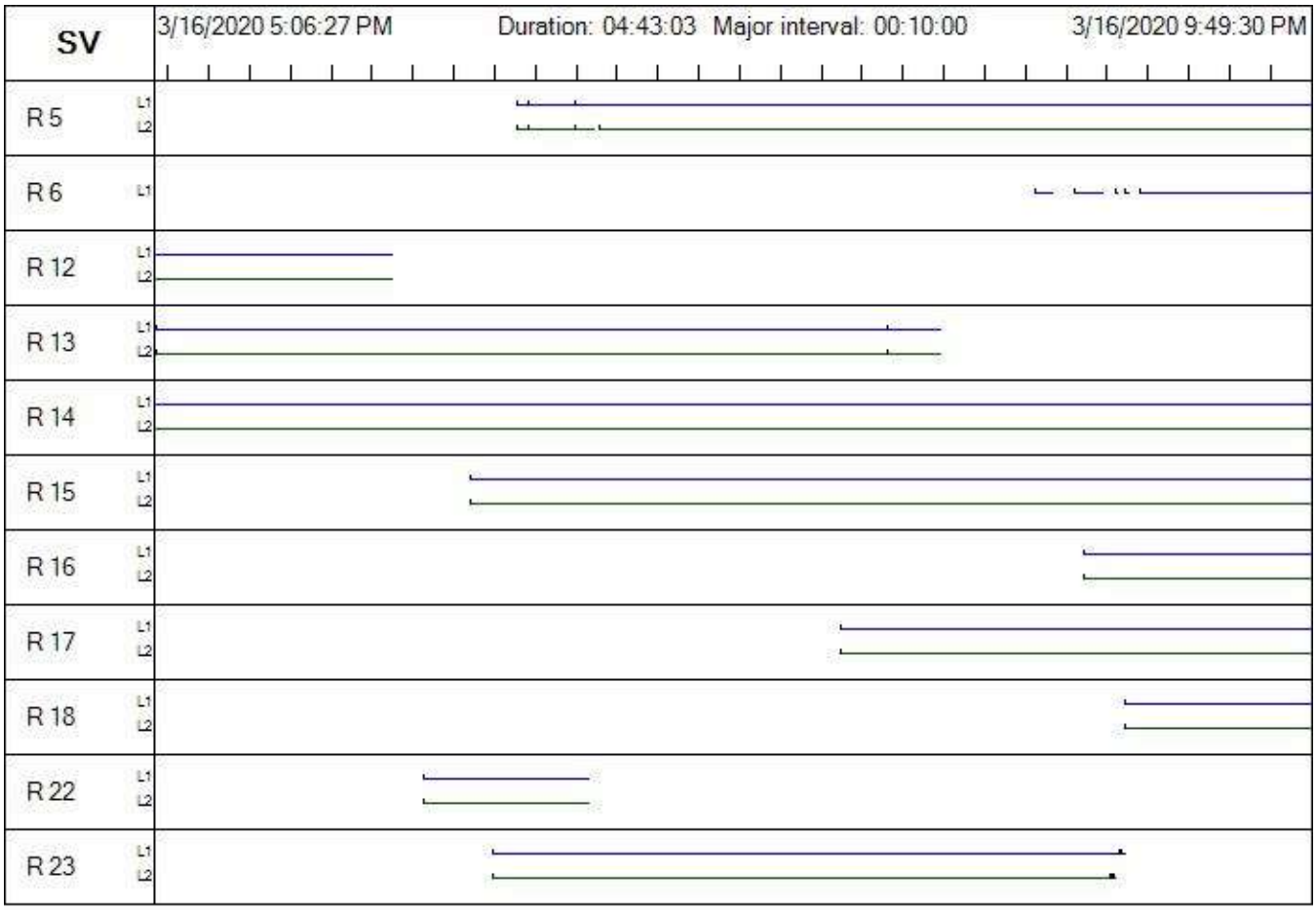
	X	Y	Z
X	0.0002307784		
Y	0.0003253690	0.0005397295	
Z	-0.0002643101	-0.0004218869	0.0003869165

Occupations

	From	To
Point ID:	SLAC	DG6887
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5302K56635	4720132973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
3/16/2020 5:06:27 PM
Duration: 04:43:03 Major interval: 00:10:00
3/16/2020 9:49:30 PM
R 5
R 6
R 12
R 13
R 14
R 15
R 16
R 17
R 18
R 22
R 23
L1
L2

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA049 (5:15:08 PM-5:25:09 PM) (S22)

Baseline observation:	SLAC --- NVA049 (B22)
Processed:	5/13/2020 3:28:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.085 ft
Vertical precision:	0.102 ft
RMS:	0.052 ft
Maximum PDOP:	1.475
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 5:15:12 PM (UTC)
Processing stop time:	3/16/2020 5:24:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	NVA049				
Grid		**Local**		**Global**	
Easting	6115172.919 ft	**Latitude**	N37°24'06.10552"	**Latitude**	N37°24'06.10551"
Northing	1972399.602 ft	**Longitude**	W122°02'13.88836"	**Longitude**	W122°02'13.88836"
Elevation	36.230 ft	**Height**	-70.904 ft	**Height**	-70.904 ft

Vector					
ΔEasting	48421.078 ft	**NS Fwd Azimuth**	96°17'43.3"	**ΔX**	39472.572 ft
ΔNorthing	-6235.834 ft	**Ellipsoid Dist.**	48823.556 ft	**ΔY**	-28388.002 ft
ΔElevation	-281.280 ft	**ΔHeight**	-281.514 ft	**ΔZ**	-4457.704 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.023 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.031 ft
σ ΔNorthing	0.035 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.045 ft
σ ΔElevation	0.052 ft	**σ ΔHeight**	0.052 ft	**σ ΔZ**	0.038 ft

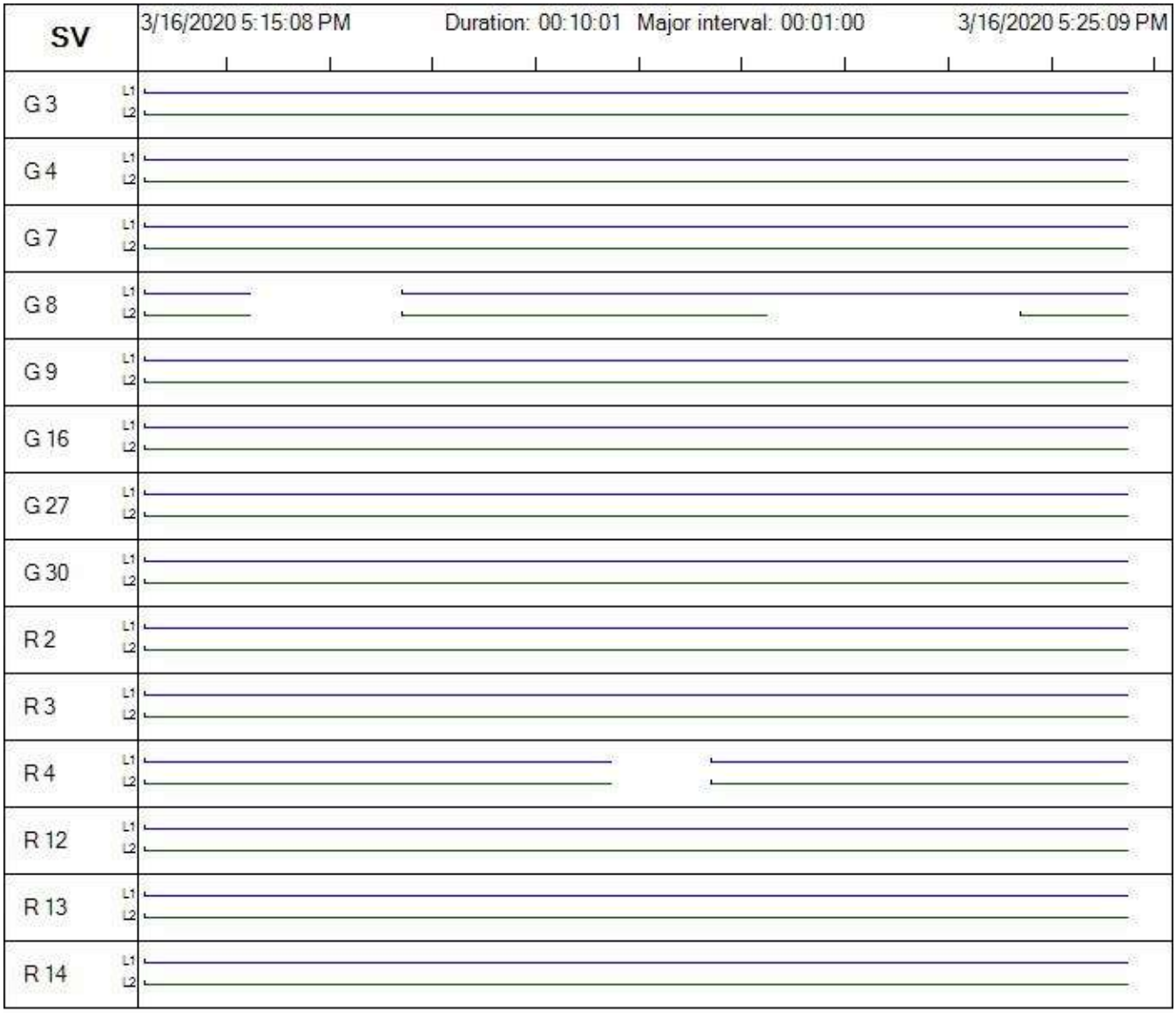
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0009821850		
Y	0.0008276388	0.0019824772	
Z	-0.0002578886	-0.0005990531	0.0014749281

Occupations

	From	To
Point ID:	SLAC	NVA049
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430760.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA066 (5:39:08 PM-5:49:12 PM) (S21)

Baseline observation:	SLAC --- NVA066 (B21)
Processed:	5/13/2020 3:28:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.127 ft
Vertical precision:	0.134 ft
RMS:	0.049 ft
Maximum PDOP:	1.610
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 5:39:12 PM (UTC)
Processing stop time:	3/16/2020 5:49:12 PM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	NVA066				
Grid		**Local**		**Global**	
Easting	6104605.807 ft	**Latitude**	N37°22'46.43135"	**Latitude**	N37°22'46.43135"
Northing	1964515.847 ft	**Longitude**	W122°04'23.19149"	**Longitude**	W122°04'23.19149"
Elevation	126.238 ft	**Height**	19.078 ft	**Height**	19.078 ft

Vector					
ΔEasting	37853.966 ft	**NS Fwd Azimuth**	109°24'45.0"	**ΔX**	27993.228 ft
ΔNorthing	-14119.590 ft	**Ellipsoid Dist.**	40403.652 ft	**ΔY**	-27057.781 ft
ΔElevation	-191.271 ft	**ΔHeight**	-191.532 ft	**ΔZ**	-10805.780 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.032 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.041 ft
σ ΔNorthing	0.050 ft	**σ Ellipsoid Dist.**	0.030 ft	**σ ΔY**	0.054 ft
σ ΔElevation	0.068 ft	**σ ΔHeight**	0.068 ft	**σ ΔZ**	0.060 ft

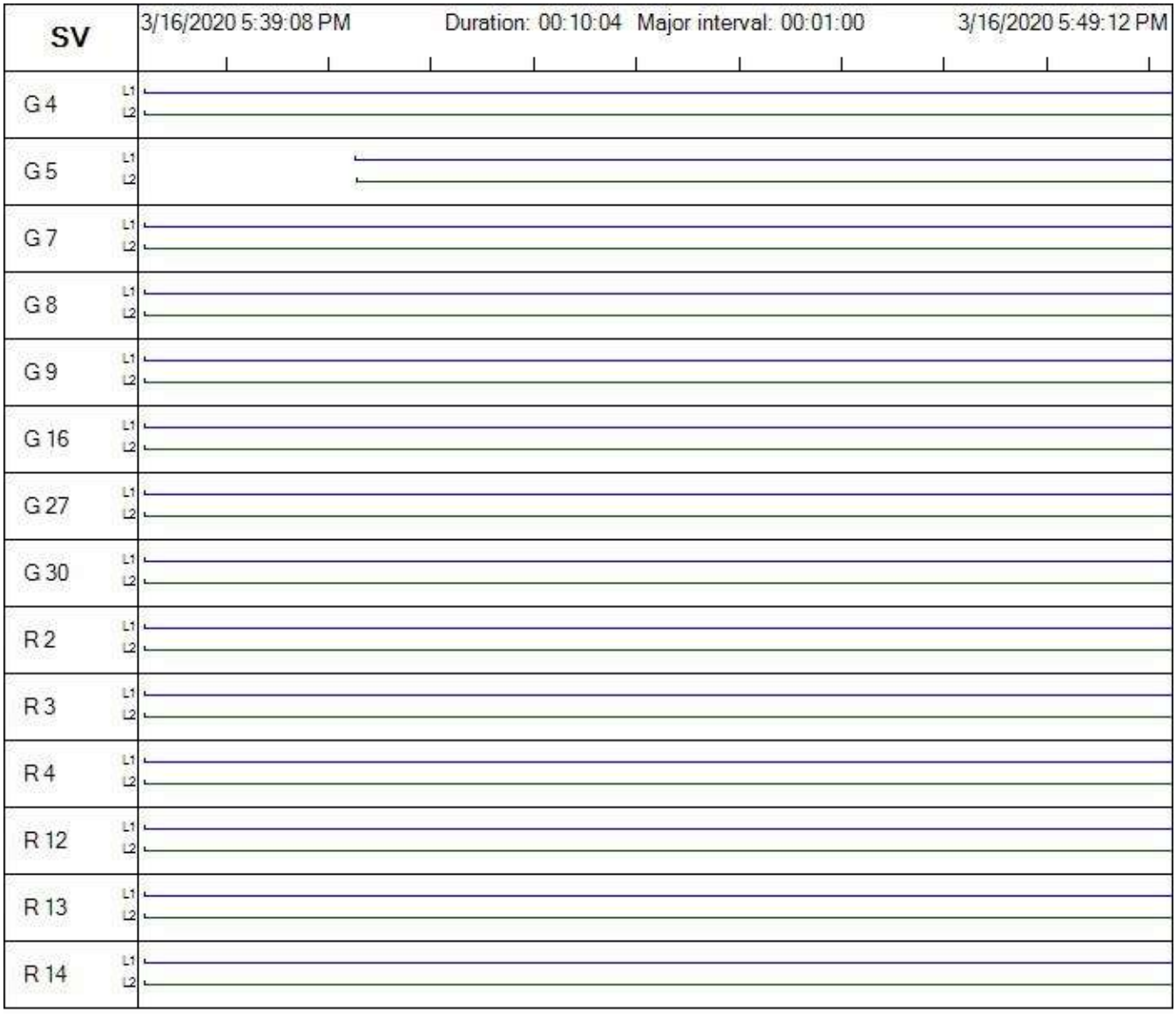
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0016499156		
Y	0.0010920092	0.0029326906	
Z	0.0000138579	-0.0013468927	0.0036385360

Occupations

	From	To
Point ID:	SLAC	NVA066
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430761.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA003 (6:02:15 PM-6:12:17 PM) (S20)

Baseline observation:	SLAC --- VVA003 (B20)
Processed:	5/13/2020 3:28:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.223 ft
Vertical precision:	0.262 ft
RMS:	0.073 ft
Maximum PDOP:	1.598
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 6:02:42 PM (UTC)
Processing stop time:	3/16/2020 6:12:12 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	VVA003				
Grid		**Local**		**Global**	
Easting	6115066.619 ft	**Latitude**	N37°22'22.05979"	**Latitude**	N37°22'22.05978"
Northing	1961876.729 ft	**Longitude**	W122°02'13.06386"	**Longitude**	W122°02'13.06386"
Elevation	114.566 ft	**Height**	7.356 ft	**Height**	7.356 ft

Vector					
ΔEasting	48314.779 ft	**NS Fwd Azimuth**	108°05'12.8"	**ΔX**	36106.309 ft
ΔNorthing	-16758.708 ft	**Ellipsoid Dist.**	51141.391 ft	**ΔY**	-33892.840 ft
ΔElevation	-202.944 ft	**ΔHeight**	-203.254 ft	**ΔZ**	-12771.803 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.058 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.087 ft
σ ΔNorthing	0.082 ft	**σ Ellipsoid Dist.**	0.045 ft	**σ ΔY**	0.098 ft
σ ΔElevation	0.134 ft	**σ ΔHeight**	0.134 ft	**σ ΔZ**	0.104 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0075587247		
Y	0.0053008603	0.0096042202	
Z	-0.0008166533	-0.0058185343	0.0108168731

Occupations

	From	To
Point ID:	SLAC	VVA003
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430762.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA012 (6:21:13 PM-6:33:29 PM) (S19)

Baseline observation:	SLAC --- NVA012 (B19)
Processed:	5/13/2020 3:28:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.082 ft
Vertical precision:	0.131 ft
RMS:	0.086 ft
Maximum PDOP:	1.327
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 6:21:42 PM (UTC)
Processing stop time:	3/16/2020 6:33:12 PM (UTC)
Processing duration:	00:11:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	NVA012				
Grid		**Local**		**Global**	
Easting	6117178.817 ft	**Latitude**	N37°21'57.23900"	**Latitude**	N37°21'57.23899"
Northing	1959331.408 ft	**Longitude**	W122°01'46.38452"	**Longitude**	W122°01'46.38452"
Elevation	118.898 ft	**Height**	11.667 ft	**Height**	11.667 ft

Vector					
ΔEasting	50426.976 ft	**NS Fwd Azimuth**	109°54'16.0"	**ΔX**	37122.073 ft
ΔNorthing	-19304.029 ft	**Ellipsoid Dist.**	53998.370 ft	**ΔY**	-36329.845 ft
ΔElevation	-198.612 ft	**ΔHeight**	-198.943 ft	**ΔZ**	-14764.379 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.027 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.038 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.025 ft	**σ ΔY**	0.051 ft
σ ΔElevation	0.067 ft	**σ ΔHeight**	0.067 ft	**σ ΔZ**	0.047 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0014661259		
Y	0.0011900162	0.0025873409	
Z	-0.0006606906	-0.0015040837	0.0021637247

Occupations

	From	To
Point ID:	SLAC	NVA012
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430763.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA010 (6:56:47 PM-7:06:49 PM) (S18)

Baseline observation:	SLAC --- NVA010 (B18)
Processed:	5/13/2020 3:28:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.087 ft
Vertical precision:	0.219 ft
RMS:	0.081 ft
Maximum PDOP:	1.382
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 6:57:12 PM (UTC)
Processing stop time:	3/16/2020 7:06:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	NVA010				
Grid		**Local**		**Global**	
Easting	6116768.469 ft	**Latitude**	N37°19'25.84884"	**Latitude**	N37°19'25.84883"
Northing	1944024.482 ft	**Longitude**	W122°01'48.36702"	**Longitude**	W122°01'48.36702"
Elevation	227.622 ft	**Height**	120.406 ft	**Height**	120.406 ft

Vector					
ΔEasting	50016.628 ft	**NS Fwd Azimuth**	123°38'23.5"	**ΔX**	32014.176 ft
ΔNorthing	-34610.955 ft	**Ellipsoid Dist.**	60827.149 ft	**ΔY**	-44192.874 ft
ΔElevation	-89.888 ft	**ΔHeight**	-90.205 ft	**ΔZ**	-26871.705 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.031 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.051 ft
σ ΔNorthing	0.034 ft	**σ Ellipsoid Dist.**	0.035 ft	**σ ΔY**	0.091 ft
σ ΔElevation	0.112 ft	**σ ΔHeight**	0.112 ft	**σ ΔZ**	0.061 ft

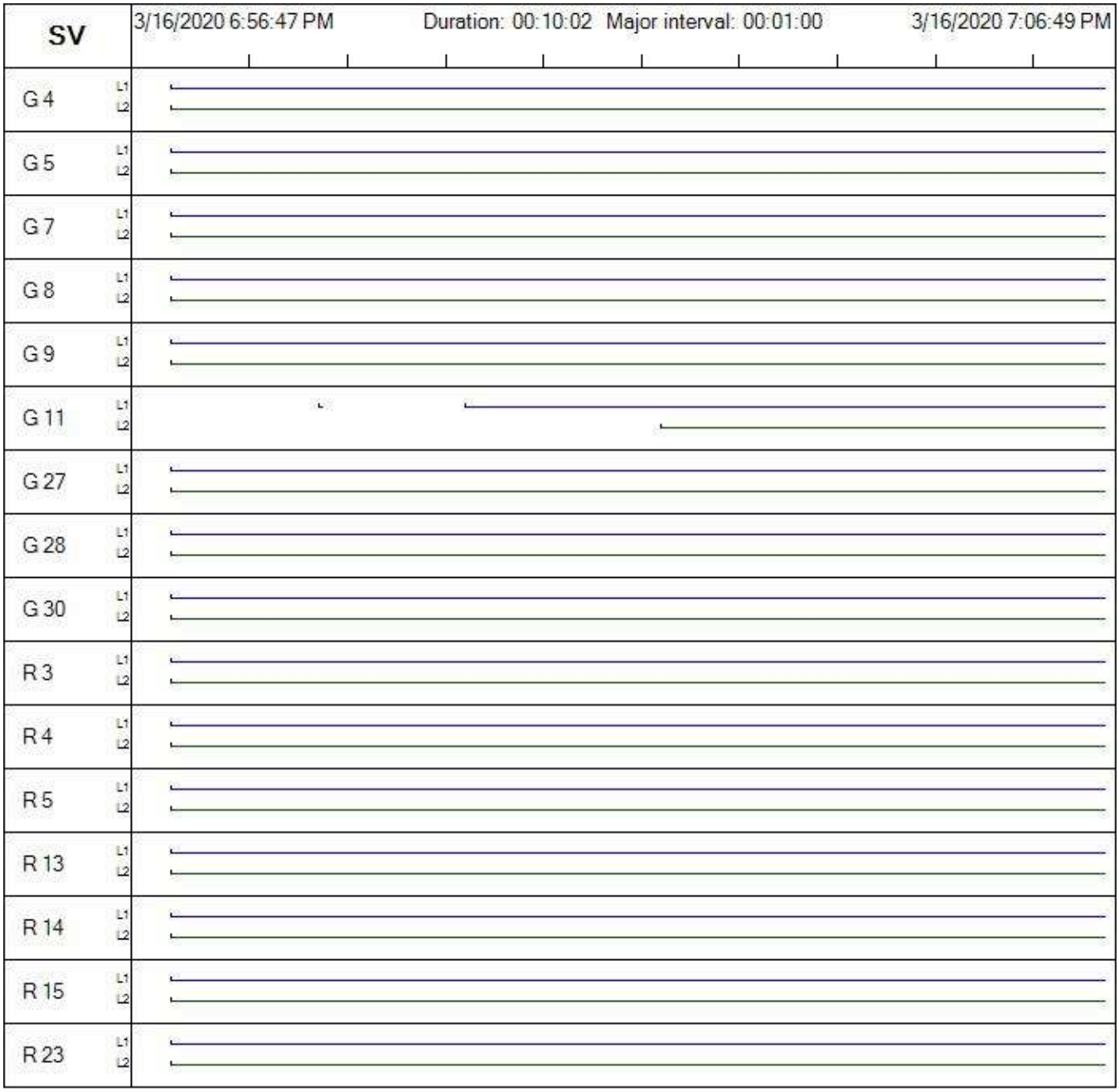
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0026105409		
Y	0.0036071260	0.0083075591	
Z	-0.0022414963	-0.0045540935	0.0037063539

Occupations

	From	To
Point ID:	SLAC	NVA010
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430764.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA062 (7:21:23 PM-7:31:26 PM) (S17)

Baseline observation:	SLAC --- NVA062 (B17)
Processed:	5/13/2020 3:28:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.094 ft
Vertical precision:	0.164 ft
RMS:	0.060 ft
Maximum PDOP:	1.500
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 7:21:42 PM (UTC)
Processing stop time:	3/16/2020 7:31:12 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	NVA062				
Grid		**Local**		**Global**	
Easting	6098168.760 ft	**Latitude**	N37°20'36.55053"	**Latitude**	N37°20'36.55052"
Northing	1951486.768 ft	**Longitude**	W122°05'40.18381"	**Longitude**	W122°05'40.18381"
Elevation	341.965 ft	**Height**	235.002 ft	**Height**	235.002 ft

Vector					
ΔEasting	31416.920 ft	**NS Fwd Azimuth**	129°47'18.7"	**ΔX**	18401.052 ft
ΔNorthing	-27148.669 ft	**Ellipsoid Dist.**	41524.031 ft	**ΔY**	-30655.974 ft
ΔElevation	24.455 ft	**ΔHeight**	24.392 ft	**ΔZ**	-21116.214 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.032 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.045 ft
σ ΔNorthing	0.037 ft	**σ Ellipsoid Dist.**	0.037 ft	**σ ΔY**	0.068 ft
σ ΔElevation	0.084 ft	**σ ΔHeight**	0.084 ft	**σ ΔZ**	0.052 ft

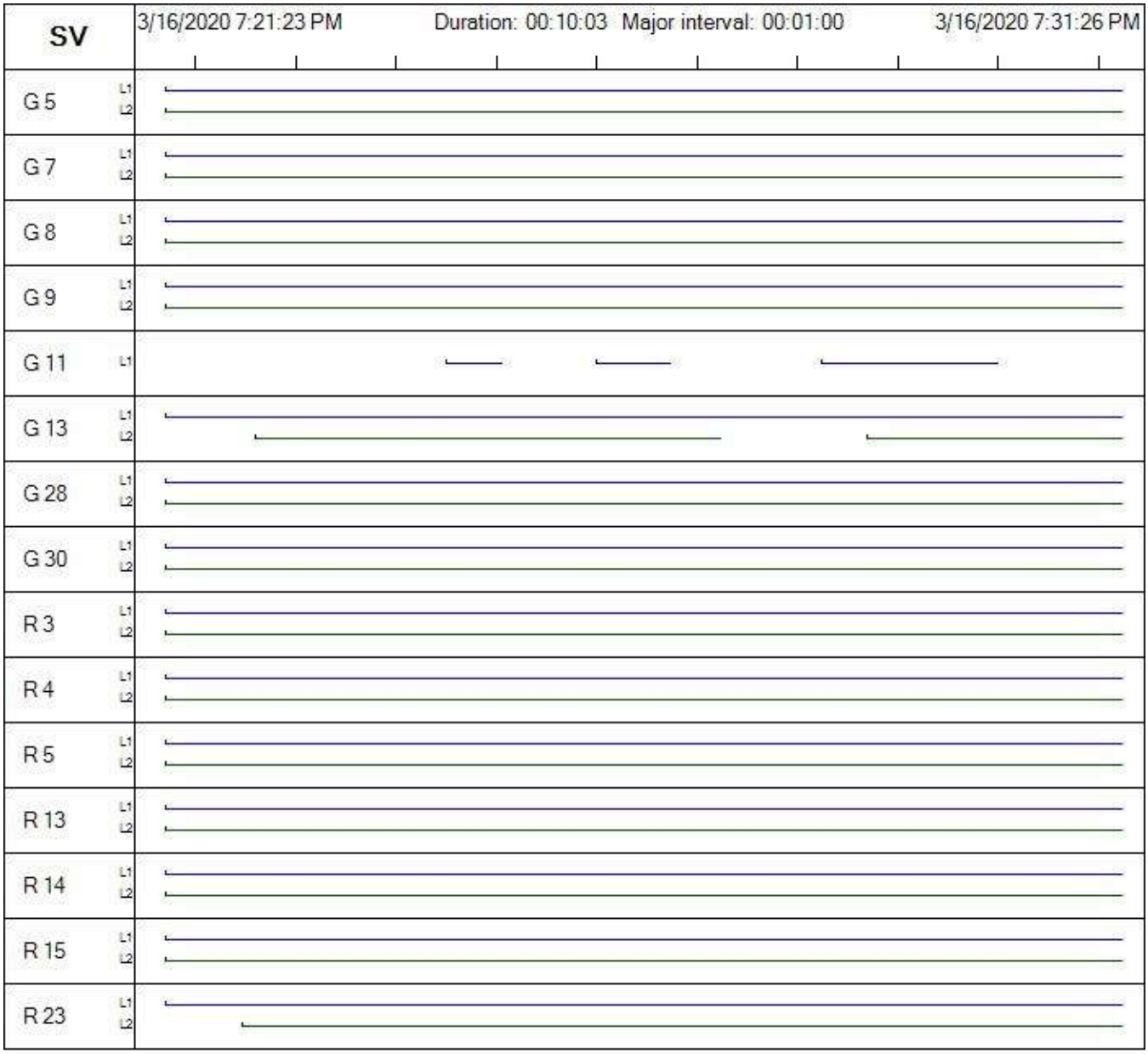
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0020622521		
Y	0.0019670109	0.0046430806	
Z	-0.0013422057	-0.0021330120	0.0027349231

Occupations

	From	To
Point ID:	SLAC	NVA062
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430765.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA035 (7:39:11 PM-7:49:16 PM) (S16)

Baseline observation:	SLAC --- VVA035 (B16)
Processed:	5/13/2020 3:28:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.146 ft
Vertical precision:	0.220 ft
RMS:	0.096 ft
Maximum PDOP:	1.535
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 7:39:12 PM (UTC)
Processing stop time:	3/16/2020 7:49:12 PM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	VVA035				
Grid		**Local**		**Global**	
Easting	6094101.208 ft	**Latitude**	N37°21'11.15063"	**Latitude**	N37°21'11.15063"
Northing	1955056.350 ft	**Longitude**	W122°06'31.30831"	**Longitude**	W122°06'31.30831"
Elevation	293.875 ft	**Height**	186.927 ft	**Height**	186.927 ft

Vector					
ΔEasting	27349.368 ft	**NS Fwd Azimuth**	129°43'22.4"	**ΔX**	16052.529 ft
ΔNorthing	-23579.086 ft	**Ellipsoid Dist.**	36112.226 ft	**ΔY**	-26631.255 ft
ΔElevation	-23.635 ft	**ΔHeight**	-23.683 ft	**ΔZ**	-18363.290 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.045 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.058 ft
σ ΔNorthing	0.058 ft	**σ Ellipsoid Dist.**	0.056 ft	**σ ΔY**	0.094 ft
σ ΔElevation	0.112 ft	**σ ΔHeight**	0.112 ft	**σ ΔZ**	0.076 ft

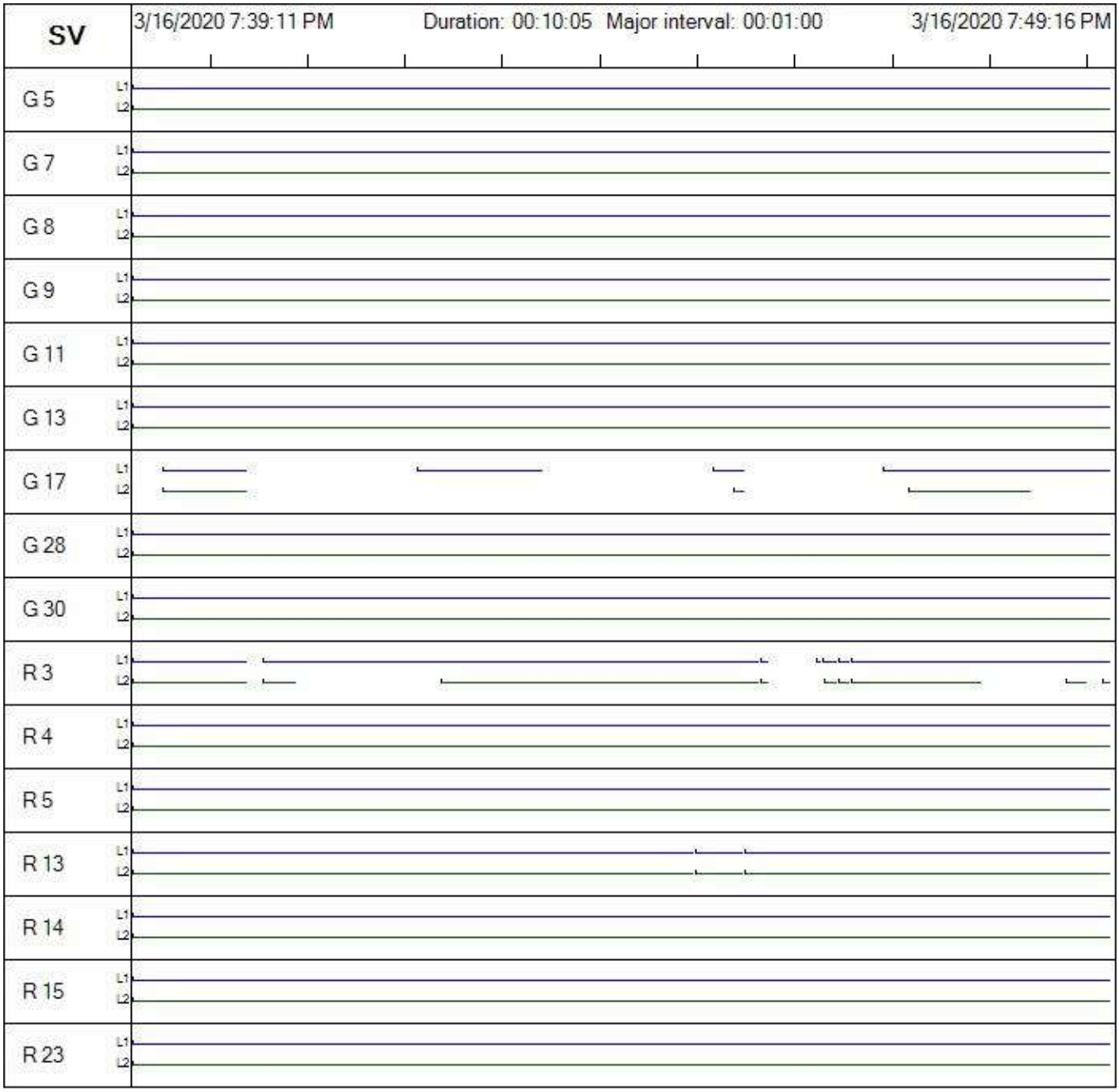
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0033606707		
Y	0.0032045853	0.0088927006	
Z	-0.0020441301	-0.0036393367	0.0058131673

Occupations

	From	To
Point ID:	SLAC	VVA035
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430766.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA009 (8:03:25 PM-8:13:32 PM) (S15)

Baseline observation:	SLAC --- NVA009 (B15)
Processed:	5/13/2020 3:28:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.065 ft
Vertical precision:	0.096 ft
RMS:	0.064 ft
Maximum PDOP:	1.449
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 8:03:42 PM (UTC)
Processing stop time:	3/16/2020 8:13:12 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	NVA009				
Grid		**Local**		**Global**	
Easting	6093321.572 ft	**Latitude**	N37°22'46.86254"	**Latitude**	N37°22'46.86253"
Northing	1964751.505 ft	**Longitude**	W122°06'43.03125"	**Longitude**	W122°06'43.03125"
Elevation	176.665 ft	**Height**	69.598 ft	**Height**	69.598 ft

Vector					
ΔEasting	26569.731 ft	**NS Fwd Azimuth**	116°32'45.6"	**ΔX**	18423.551 ft
ΔNorthing	-13883.932 ft	**Ellipsoid Dist.**	29980.119 ft	**ΔY**	-21072.605 ft
ΔElevation	-140.845 ft	**ΔHeight**	-141.012 ft	**ΔZ**	-10740.455 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.027 ft
σ ΔNorthing	0.026 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.042 ft
σ ΔElevation	0.049 ft	**σ ΔHeight**	0.049 ft	**σ ΔZ**	0.032 ft

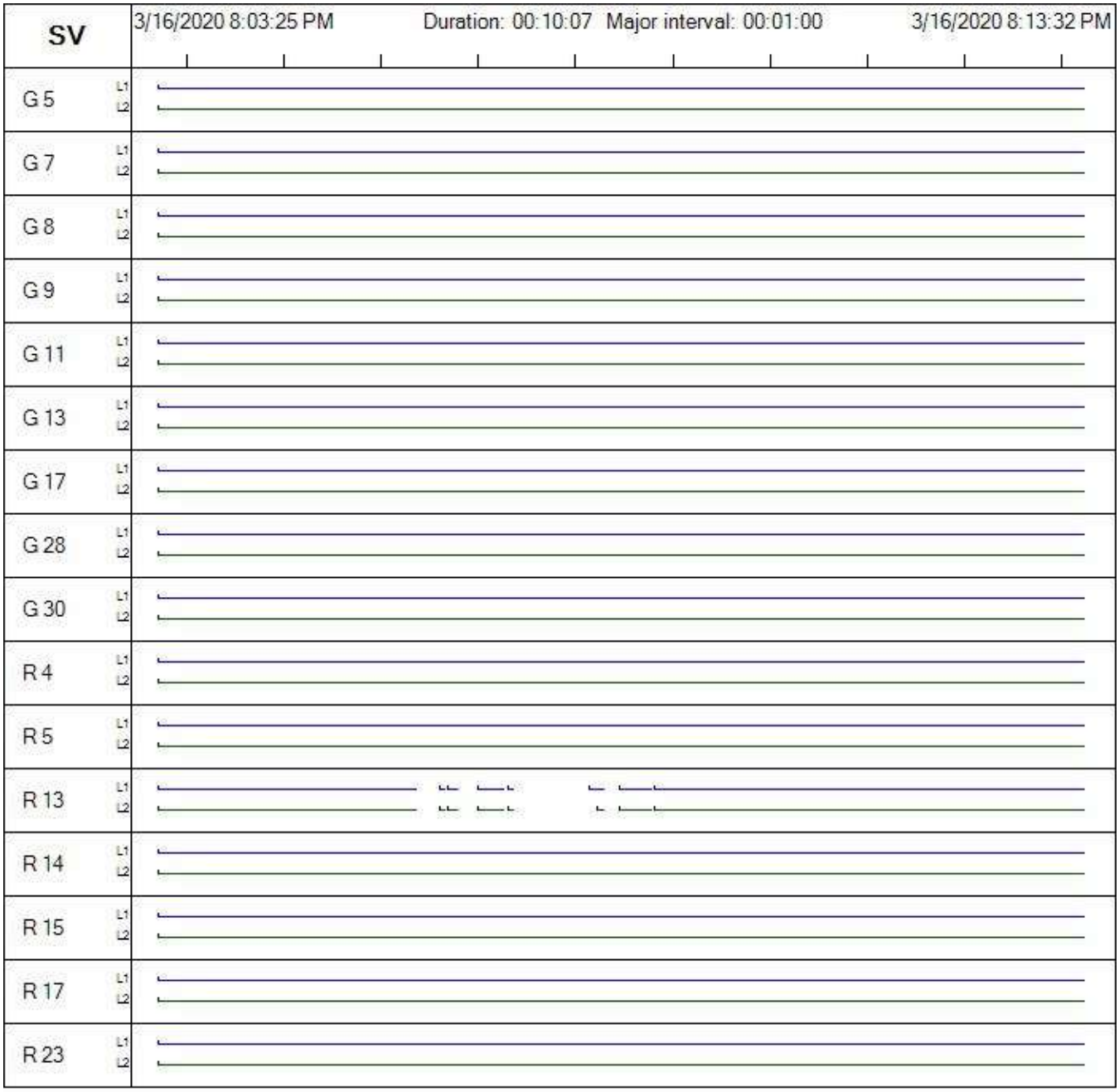
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0007299564		
Y	0.0006548669	0.0017920159	
Z	-0.0003389827	-0.0006639079	0.0009933274

Occupations

	From	To
Point ID:	SLAC	NVA009
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430767.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA038 (8:31:50 PM-8:41:53 PM) (S14)

Baseline observation:	SLAC --- VVA038 (B14)
Processed:	5/13/2020 3:28:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.054 ft
Vertical precision:	0.087 ft
RMS:	0.051 ft
Maximum PDOP:	1.338
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 8:32:12 PM (UTC)
Processing stop time:	3/16/2020 8:41:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	VVA038				
Grid		**Local**		**Global**	
Easting	6092960.251 ft	**Latitude**	N37°22'53.22069"	**Latitude**	N37°22'53.22068"
Northing	1965400.891 ft	**Longitude**	W122°06'47.64599"	**Longitude**	W122°06'47.64599"
Elevation	172.480 ft	**Height**	65.411 ft	**Height**	65.411 ft

Vector					
ΔEasting	26208.411 ft	**NS Fwd Azimuth**	115°44'57.7"	**ΔX**	18317.377 ft
ΔNorthing	-13234.546 ft	**Ellipsoid Dist.**	29361.943 ft	**ΔY**	-20541.090 ft
ΔElevation	-145.030 ft	**ΔHeight**	-145.199 ft	**ΔZ**	-10231.978 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.019 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.025 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.019 ft	**σ ΔY**	0.036 ft
σ ΔElevation	0.045 ft	**σ ΔHeight**	0.045 ft	**σ ΔZ**	0.030 ft

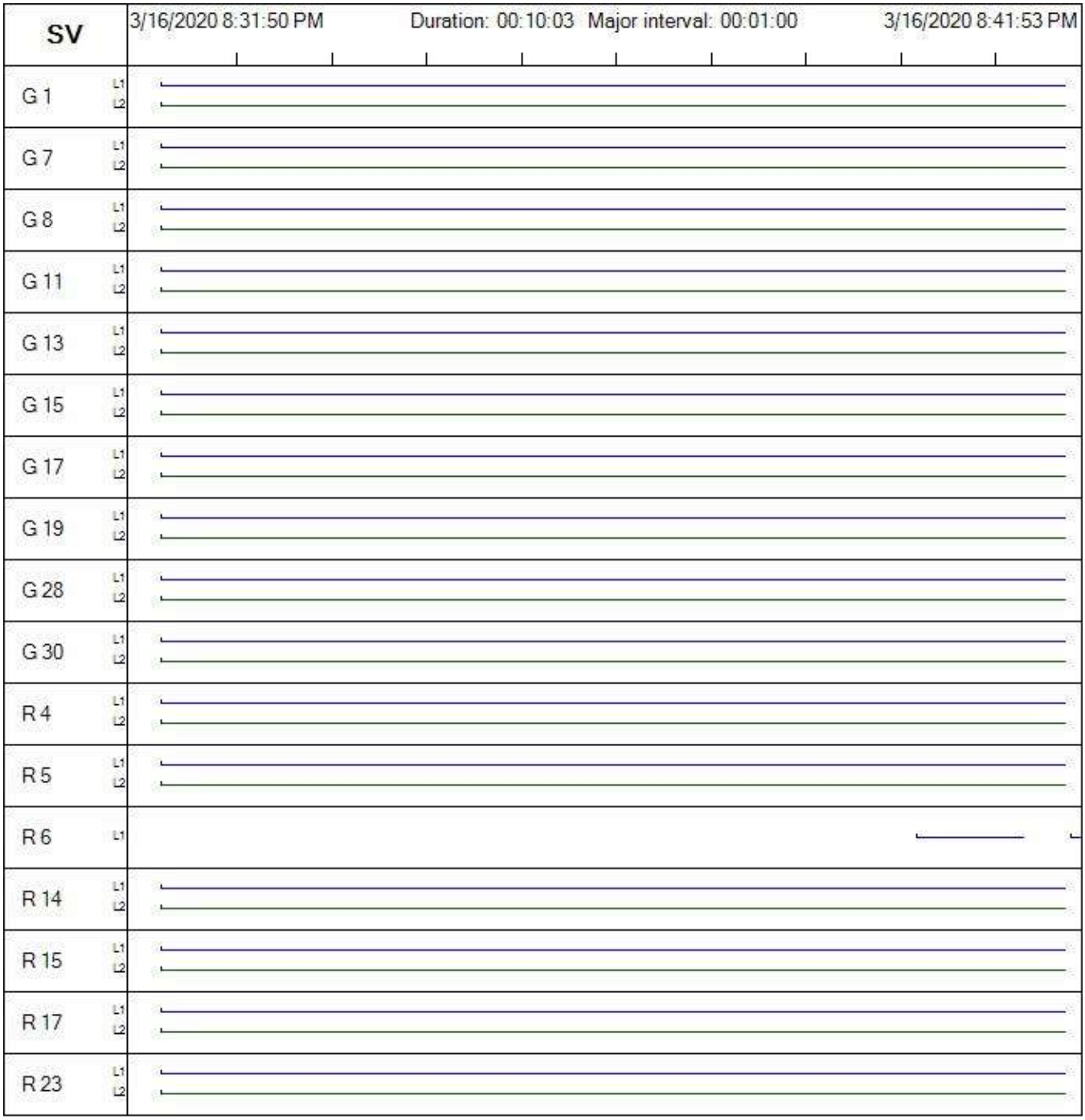
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0006336019		
Y	0.0005149500	0.0013260404	
Z	-0.0002726308	-0.0006385319	0.0008763380

Occupations

	From	To
Point ID:	SLAC	VVA038
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430768.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA050 (9:02:01 PM-9:12:43 PM) (S13)

Baseline observation:	SLAC --- NVA050 (B13)
Processed:	5/13/2020 3:28:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.056 ft
Vertical precision:	0.083 ft
RMS:	0.049 ft
Maximum PDOP:	1.518
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 9:02:12 PM (UTC)
Processing stop time:	3/16/2020 9:12:42 PM (UTC)
Processing duration:	00:10:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	NVA050				
Grid		**Local**		**Global**	
Easting	6093989.207 ft	**Latitude**	N37°25'15.53219"	**Latitude**	N37°25'15.53218"
Northing	1979778.720 ft	**Longitude**	W122°06'37.96454"	**Longitude**	W122°06'37.96454"
Elevation	15.199 ft	**Height**	-91.877 ft	**Height**	-91.877 ft

Vector					
ΔEasting	27237.366 ft	**NS Fwd Azimuth**	86°33'11.7"	**ΔX**	23693.001 ft
ΔNorthing	1143.283 ft	**Ellipsoid Dist.**	27262.825 ft	**ΔY**	-13445.184 ft
ΔElevation	-302.311 ft	**ΔHeight**	-302.488 ft	**ΔZ**	1107.233 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.017 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.023 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.031 ft
σ ΔElevation	0.042 ft	**σ ΔHeight**	0.042 ft	**σ ΔZ**	0.032 ft

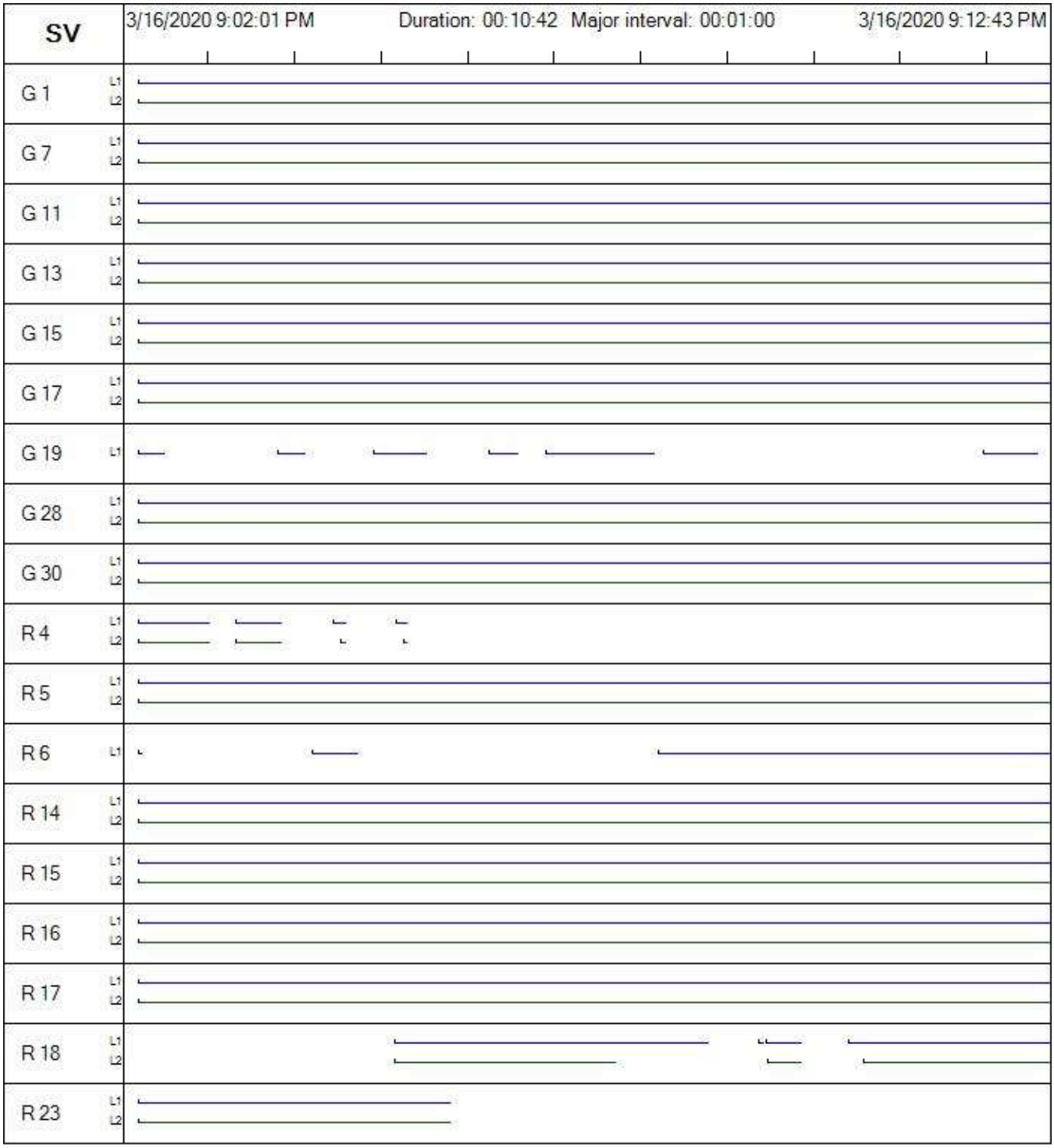
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0005262198		
Y	0.0004112417	0.0009678571	
Z	-0.0002212976	-0.0006391678	0.0010391692

Occupations

	From	To
Point ID:	SLAC	NVA050
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430769.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA034 (9:28:05 PM-9:38:17 PM) (S12)

Baseline observation:	SLAC --- VVA034 (B12)
Processed:	5/13/2020 3:28:23 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.063 ft
Vertical precision:	0.110 ft
RMS:	0.052 ft
Maximum PDOP:	1.464
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 9:28:12 PM (UTC)
Processing stop time:	3/16/2020 9:38:12 PM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.841 ft	**Latitude**	N37°24'59.46091"	**Latitude**	N37°24'59.46090"
Northing	1978635.437 ft	**Longitude**	W122°12'15.30521"	**Longitude**	W122°12'15.30521"
Elevation	317.510 ft	**Height**	210.610 ft	**Height**	210.610 ft

To:	VVA034				
Grid		**Local**		**Global**	
Easting	6103201.792 ft	**Latitude**	N37°25'43.20651"	**Latitude**	N37°25'43.20650"
Northing	1982421.113 ft	**Longitude**	W122°04'44.32738"	**Longitude**	W122°04'44.32738"
Elevation	11.194 ft	**Height**	-95.866 ft	**Height**	-95.866 ft

Vector					
ΔEasting	36449.951 ft	**NS Fwd Azimuth**	83°01'38.8"	**ΔX**	32364.250 ft
ΔNorthing	3785.676 ft	**Ellipsoid Dist.**	36648.010 ft	**ΔY**	-16871.840 ft
ΔElevation	-306.316 ft	**ΔHeight**	-306.476 ft	**ΔZ**	3327.744 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.022 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.032 ft
σ ΔNorthing	0.025 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.041 ft
σ ΔElevation	0.056 ft	**σ ΔHeight**	0.056 ft	**σ ΔZ**	0.040 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0010071691		
Y	0.0007985836	0.0016933844	
Z	-0.0006169068	-0.0010364571	0.0015761863

Occupations

	From	To
Point ID:	SLAC	VVA034
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0760.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8843076A.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6887 - NVA049 (5:15:08 PM-5:25:09 PM) (S1)

Baseline observation:	DG6887 --- NVA049 (B1)
Processed:	5/13/2020 3:28:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.018 ft
Vertical precision:	0.021 ft
RMS:	0.026 ft
Maximum PDOP:	1.334
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 5:15:08 PM (UTC)
Processing stop time:	3/16/2020 5:25:09 PM (UTC)
Processing duration:	00:10:01
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.136 ft	**Latitude**	N37°24'07.30908"	**Latitude**	N37°24'07.30907"
Northing	1972516.975 ft	**Longitude**	W122°02'10.61331"	**Longitude**	W122°02'10.61331"
Elevation	36.014 ft	**Height**	-71.119 ft	**Height**	-71.120 ft

To:	NVA049				
Grid		**Local**		**Global**	
Easting	6115172.866 ft	**Latitude**	N37°24'06.10541"	**Latitude**	N37°24'06.10540"
Northing	1972399.592 ft	**Longitude**	W122°02'13.88901"	**Longitude**	W122°02'13.88901"
Elevation	36.186 ft	**Height**	-70.949 ft	**Height**	-70.949 ft

Vector					
ΔEasting	-266.269 ft	**NS Fwd Azimuth**	245°16'09.9"	**ΔX**	-263.364 ft
ΔNorthing	-117.383 ft	**Ellipsoid Dist.**	291.010 ft	**ΔY**	77.410 ft
ΔElevation	0.172 ft	**ΔHeight**	0.171 ft	**ΔZ**	-96.610 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.005 ft	**σ NS fwd Azimuth**	0°00'04.9"	**σ ΔX**	0.007 ft
σ ΔNorthing	0.007 ft	**σ Ellipsoid Dist.**	0.005 ft	**σ ΔY**	0.009 ft
σ ΔElevation	0.011 ft	**σ ΔHeight**	0.011 ft	**σ ΔZ**	0.008 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0000427294		
Y	0.0000368908	0.0000875947	
Z	-0.0000065448	-0.0000241609	0.0000600671

Occupations

	From	To
Point ID:	DG6887	NVA049
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430760.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6887 - NVA066 (5:39:08 PM-5:49:12 PM) (S2)

Baseline observation:	DG6887 --- NVA066 (B2)
Processed:	5/13/2020 3:28:25 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.047 ft
Vertical precision:	0.049 ft
RMS:	0.029 ft
Maximum PDOP:	1.602
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 5:39:08 PM (UTC)
Processing stop time:	3/16/2020 5:49:12 PM (UTC)
Processing duration:	00:10:04
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.136 ft	**Latitude**	N37°24'07.30908"	**Latitude**	N37°24'07.30907"
Northing	1972516.975 ft	**Longitude**	W122°02'10.61331"	**Longitude**	W122°02'10.61331"
Elevation	36.014 ft	**Height**	-71.119 ft	**Height**	-71.120 ft

To:	NVA066				
Grid		**Local**		**Global**	
Easting	6104605.768 ft	**Latitude**	N37°22'46.43143"	**Latitude**	N37°22'46.43142"
Northing	1964515.855 ft	**Longitude**	W122°04'23.19197"	**Longitude**	W122°04'23.19197"
Elevation	126.159 ft	**Height**	18.999 ft	**Height**	18.998 ft

Vector					
ΔEasting	-10833.368 ft	**NS Fwd Azimuth**	232°36'40.2"	**ΔX**	-11742.676 ft
ΔNorthing	-8001.120 ft	**Ellipsoid Dist.**	13468.420 ft	**ΔY**	1407.657 ft
ΔElevation	90.145 ft	**ΔHeight**	90.118 ft	**ΔZ**	-6444.693 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.012 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.015 ft
σ ΔNorthing	0.019 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.020 ft
σ ΔElevation	0.025 ft	**σ ΔHeight**	0.025 ft	**σ ΔZ**	0.022 ft

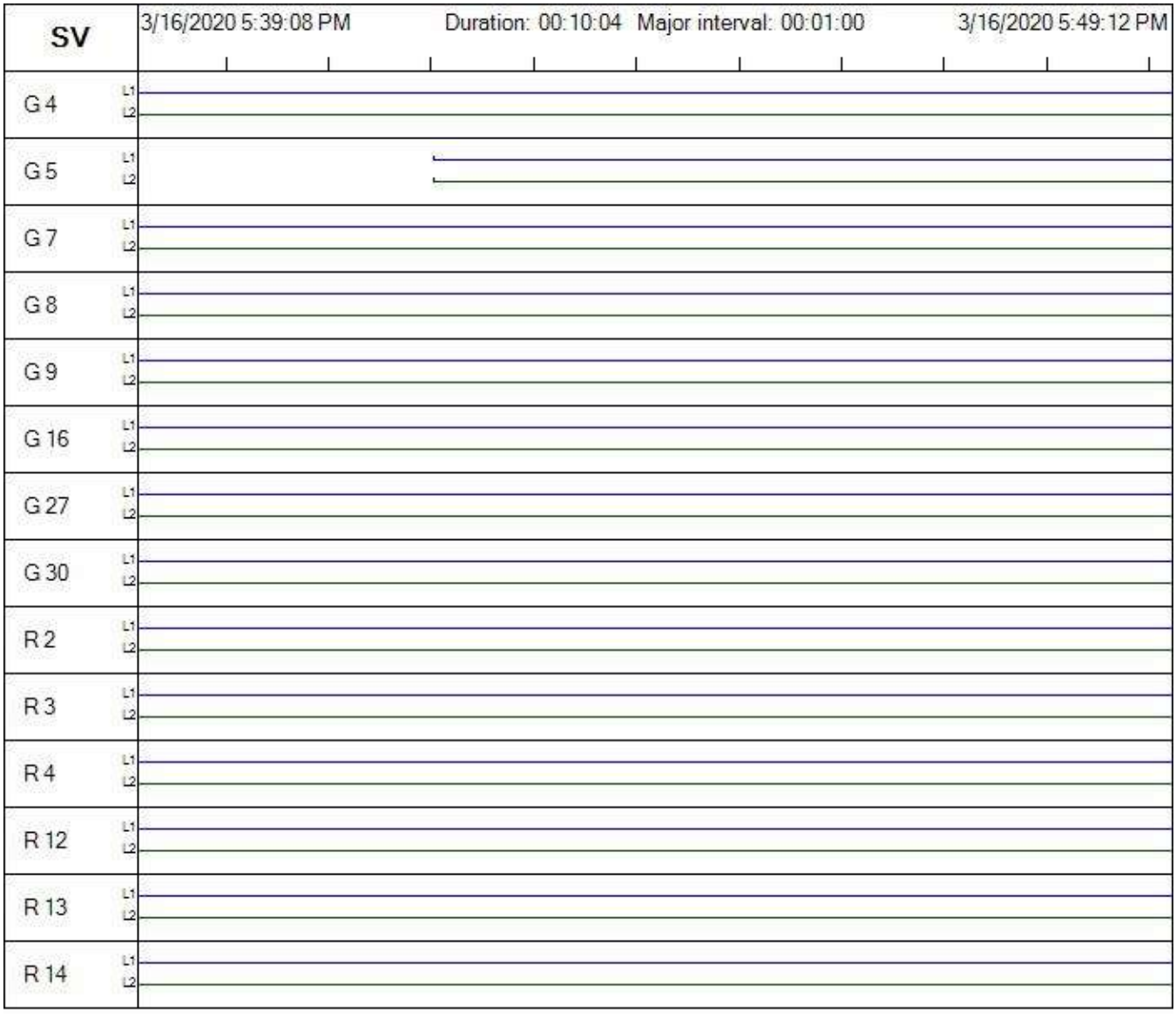
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0002241108		
Y	0.0001462042	0.0003818742	
Z	0.0000109799	-0.0001868614	0.0005060492

Occupations

	From	To
Point ID:	DG6887	NVA066
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430761.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6887 - VVA003 (6:02:15 PM-6:12:17 PM) (S3)

Baseline observation:	DG6887 --- VVA003 (B3)
Processed:	5/13/2020 3:28:25 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.080 ft
Vertical precision:	0.091 ft
RMS:	0.045 ft
Maximum PDOP:	1.979
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 6:02:15 PM (UTC)
Processing stop time:	3/16/2020 6:12:17 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.136 ft	**Latitude**	N37°24'07.30908"	**Latitude**	N37°24'07.30907"
Northing	1972516.975 ft	**Longitude**	W122°02'10.61331"	**Longitude**	W122°02'10.61331"
Elevation	36.014 ft	**Height**	-71.119 ft	**Height**	-71.120 ft

To:	VVA003				
Grid		**Local**		**Global**	
Easting	6115066.595 ft	**Latitude**	N37°22'22.05968"	**Latitude**	N37°22'22.05968"
Northing	1961876.719 ft	**Longitude**	W122°02'13.06416"	**Longitude**	W122°02'13.06416"
Elevation	114.566 ft	**Height**	7.357 ft	**Height**	7.356 ft

Vector					
ΔEasting	-372.541 ft	**NS Fwd Azimuth**	181°03'52.8"	**ΔX**	-3629.622 ft
ΔNorthing	-10640.257 ft	**Ellipsoid Dist.**	10647.317 ft	**ΔY**	-5427.473 ft
ΔElevation	78.552 ft	**ΔHeight**	78.476 ft	**ΔZ**	-8410.681 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.027 ft
σ ΔNorthing	0.030 ft	**σ Ellipsoid Dist.**	0.030 ft	**σ ΔY**	0.034 ft
σ ΔElevation	0.046 ft	**σ ΔHeight**	0.046 ft	**σ ΔZ**	0.040 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0007490236		
Y	0.0004656249	0.0011592824	
Z	-0.0000103010	-0.0007825412	0.0015967664

Occupations

	From	To
Point ID:	DG6887	VVA003
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430762.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6887 - NVA012 (6:21:13 PM-6:33:29 PM) (S4)

Baseline observation:	DG6887 --- NVA012 (B4)
Processed:	5/13/2020 3:28:26 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.031 ft
Vertical precision:	0.049 ft
RMS:	0.042 ft
Maximum PDOP:	1.329
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 6:21:13 PM (UTC)
Processing stop time:	3/16/2020 6:33:29 PM (UTC)
Processing duration:	00:12:16
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.136 ft	**Latitude**	N37°24'07.30908"	**Latitude**	N37°24'07.30907"
Northing	1972516.975 ft	**Longitude**	W122°02'10.61331"	**Longitude**	W122°02'10.61331"
Elevation	36.014 ft	**Height**	-71.119 ft	**Height**	-71.120 ft

To:	NVA012				
Grid		**Local**		**Global**	
Easting	6117178.830 ft	**Latitude**	N37°21'57.23907"	**Latitude**	N37°21'57.23907"
Northing	1959331.415 ft	**Longitude**	W122°01'46.38435"	**Longitude**	W122°01'46.38435"
Elevation	118.885 ft	**Height**	11.654 ft	**Height**	11.654 ft

Vector					
ΔEasting	1739.695 ft	**NS Fwd Azimuth**	171°32'35.9"	**ΔX**	-2613.815 ft
ΔNorthing	-13185.560 ft	**Ellipsoid Dist.**	13300.503 ft	**ΔY**	-7864.480 ft
ΔElevation	82.871 ft	**ΔHeight**	82.773 ft	**ΔZ**	-10403.251 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.010 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.014 ft
σ ΔNorthing	0.012 ft	**σ Ellipsoid Dist.**	0.012 ft	**σ ΔY**	0.019 ft
σ ΔElevation	0.025 ft	**σ ΔHeight**	0.025 ft	**σ ΔZ**	0.017 ft

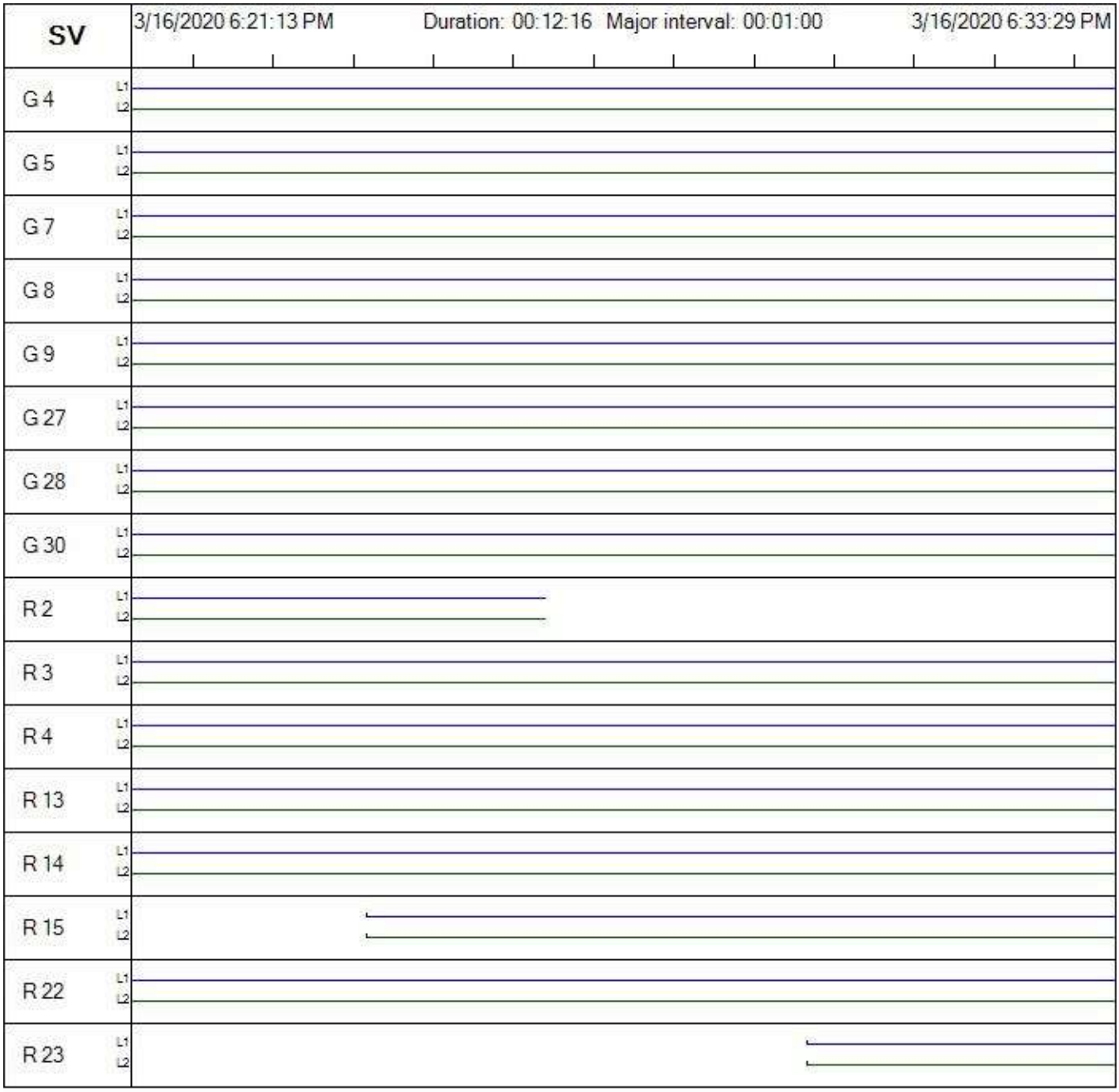
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0002058061		
Y	0.0001648774	0.0003538379	
Z	-0.0000881175	-0.0002067879	0.0002987649

Occupations

	From	To
Point ID:	DG6887	NVA012
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430763.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6887 - NVA010 (6:56:47 PM-7:06:49 PM) (S5)

Baseline observation:	DG6887 --- NVA010 (B5)
Processed:	5/13/2020 3:28:32 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.162 ft
Vertical precision:	0.280 ft
RMS:	0.153 ft
Maximum PDOP:	1.346
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 6:56:47 PM (UTC)
Processing stop time:	3/16/2020 7:06:49 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.136 ft	**Latitude**	N37°24'07.30908"	**Latitude**	N37°24'07.30907"
Northing	1972516.975 ft	**Longitude**	W122°02'10.61331"	**Longitude**	W122°02'10.61331"
Elevation	36.014 ft	**Height**	-71.119 ft	**Height**	-71.120 ft

To:	NVA010				
Grid		**Local**		**Global**	
Easting	6116768.355 ft	**Latitude**	N37°19'25.84201"	**Latitude**	N37°19'25.84201"
Northing	1944023.793 ft	**Longitude**	W122°01'48.36828"	**Longitude**	W122°01'48.36828"
Elevation	228.884 ft	**Height**	121.668 ft	**Height**	121.668 ft

Vector					
ΔEasting	1329.220 ft	**NS Fwd Azimuth**	176°23'18.7"	**ΔX**	-7722.571 ft
ΔNorthing	-28493.182 ft	**Ellipsoid Dist.**	28525.537 ft	**ΔY**	-15728.665 ft
ΔElevation	192.870 ft	**ΔHeight**	192.787 ft	**ΔZ**	-22510.359 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.052 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.082 ft
σ ΔNorthing	0.066 ft	**σ Ellipsoid Dist.**	0.066 ft	**σ ΔY**	0.118 ft
σ ΔElevation	0.143 ft	**σ ΔHeight**	0.143 ft	**σ ΔZ**	0.083 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0067351077		
Y	0.0067469393	0.0139009238	
Z	-0.0032120380	-0.0060162965	0.0068362199

Occupations

	From	To
Point ID:	DG6887	NVA010
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430764.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6887 - NVA062 (7:21:23 PM-7:31:26 PM) (S6)

Baseline observation:	DG6887 --- NVA062 (B6)
Processed:	5/13/2020 3:28:28 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.050 ft
Vertical precision:	0.092 ft
RMS:	0.047 ft
Maximum PDOP:	1.558
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 7:21:23 PM (UTC)
Processing stop time:	3/16/2020 7:31:26 PM (UTC)
Processing duration:	00:10:03
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.136 ft	**Latitude**	N37°24'07.30908"	**Latitude**	N37°24'07.30907"
Northing	1972516.975 ft	**Longitude**	W122°02'10.61331"	**Longitude**	W122°02'10.61331"
Elevation	36.014 ft	**Height**	-71.119 ft	**Height**	-71.120 ft

To:	NVA062				
Grid		**Local**		**Global**	
Easting	6098168.765 ft	**Latitude**	N37°20'36.55021"	**Latitude**	N37°20'36.55021"
Northing	1951486.735 ft	**Longitude**	W122°05'40.18374"	**Longitude**	W122°05'40.18374"
Elevation	341.970 ft	**Height**	235.008 ft	**Height**	235.008 ft

Vector					
ΔEasting	-17270.370 ft	**NS Fwd Azimuth**	218°27'09.6"	**ΔX**	-21334.863 ft
ΔNorthing	-21030.240 ft	**Ellipsoid Dist.**	27214.140 ft	**ΔY**	-2190.637 ft
ΔElevation	305.956 ft	**ΔHeight**	306.127 ft	**ΔZ**	-16755.106 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.017 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.025 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.036 ft
σ ΔElevation	0.047 ft	**σ ΔHeight**	0.047 ft	**σ ΔZ**	0.030 ft

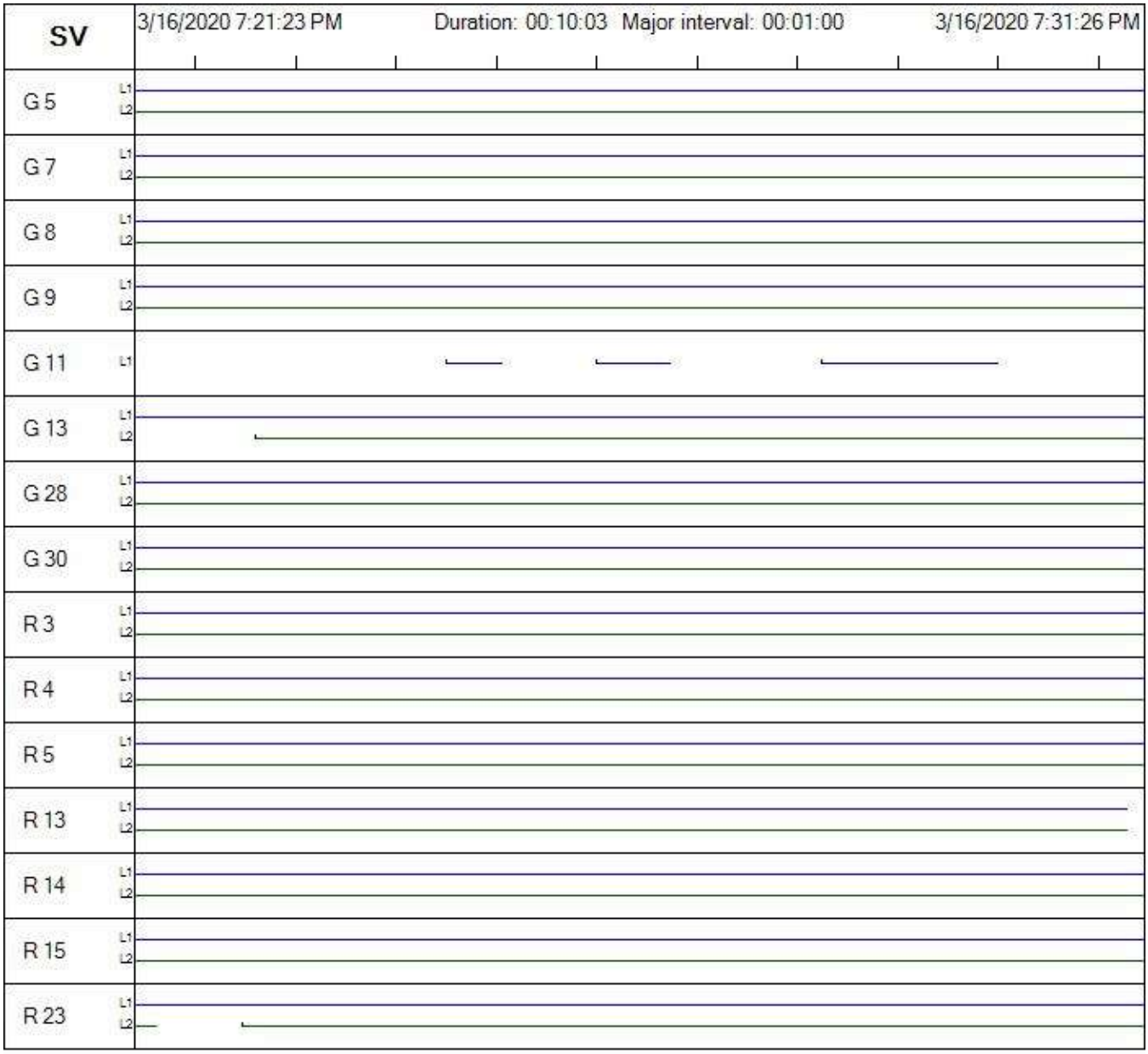
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0006465580		
Y	0.0005935729	0.0013134329	
Z	-0.0004599377	-0.0006921807	0.0009253012

Occupations

	From	To
Point ID:	DG6887	NVA062
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430765.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6887 - VVA035 (7:39:11 PM-7:49:16 PM) (S7)

Baseline observation:	DG6887 --- VVA035 (B7)
Processed:	5/13/2020 3:28:28 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.051 ft
Vertical precision:	0.079 ft
RMS:	0.055 ft
Maximum PDOP:	1.545
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 7:39:11 PM (UTC)
Processing stop time:	3/16/2020 7:49:16 PM (UTC)
Processing duration:	00:10:05
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.136 ft	**Latitude**	N37°24'07.30908"	**Latitude**	N37°24'07.30907"
Northing	1972516.975 ft	**Longitude**	W122°02'10.61331"	**Longitude**	W122°02'10.61331"
Elevation	36.014 ft	**Height**	-71.119 ft	**Height**	-71.120 ft

To:	VVA035				
Grid		**Local**		**Global**	
Easting	6094101.216 ft	**Latitude**	N37°21'11.15005"	**Latitude**	N37°21'11.15005"
Northing	1955056.292 ft	**Longitude**	W122°06'31.30821"	**Longitude**	W122°06'31.30821"
Elevation	293.980 ft	**Height**	187.032 ft	**Height**	187.032 ft

Vector					
ΔEasting	-21337.920 ft	**NS Fwd Azimuth**	229°45'57.6"	**ΔX**	-23683.433 ft
ΔNorthing	-17460.684 ft	**Ellipsoid Dist.**	27572.773 ft	**ΔY**	1833.999 ft
ΔElevation	257.967 ft	**ΔHeight**	258.151 ft	**ΔZ**	-14002.142 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.021 ft
σ ΔNorthing	0.021 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.033 ft
σ ΔElevation	0.040 ft	**σ ΔHeight**	0.040 ft	**σ ΔZ**	0.028 ft

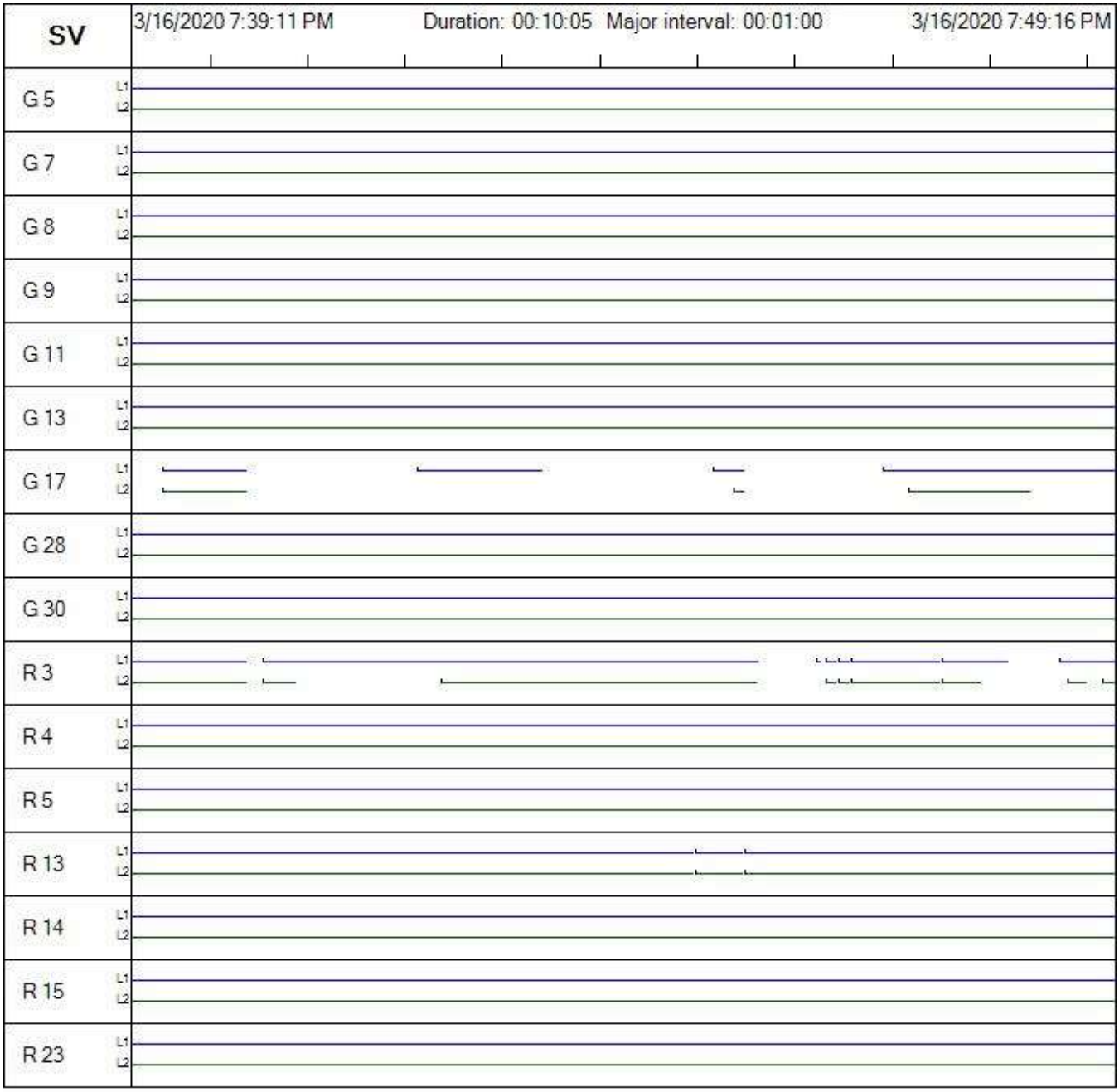
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0004416458		
Y	0.0004067857	0.0011054909	
Z	-0.0002644236	-0.0004799686	0.0007651668

Occupations

	From	To
Point ID:	DG6887	VVA035
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430766.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6887 - NVA009 (8:03:25 PM-8:13:32 PM) (S8)

Baseline observation:	DG6887 --- NVA009 (B8)
Processed:	5/13/2020 3:28:29 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.049 ft
Vertical precision:	0.072 ft
RMS:	0.050 ft
Maximum PDOP:	1.454
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 8:03:25 PM (UTC)
Processing stop time:	3/16/2020 8:13:32 PM (UTC)
Processing duration:	00:10:07
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.136 ft	**Latitude**	N37°24'07.30908"	**Latitude**	N37°24'07.30907"
Northing	1972516.975 ft	**Longitude**	W122°02'10.61331"	**Longitude**	W122°02'10.61331"
Elevation	36.014 ft	**Height**	-71.119 ft	**Height**	-71.120 ft

To:	NVA009				
Grid		**Local**		**Global**	
Easting	6093321.570 ft	**Latitude**	N37°22'46.86223"	**Latitude**	N37°22'46.86222"
Northing	1964751.473 ft	**Longitude**	W122°06'43.03127"	**Longitude**	W122°06'43.03127"
Elevation	176.649 ft	**Height**	69.582 ft	**Height**	69.582 ft

Vector					
ΔEasting	-22117.566 ft	**NS Fwd Azimuth**	249°42'46.9"	**ΔX**	-21312.360 ft
ΔNorthing	-7765.502 ft	**Ellipsoid Dist.**	23442.397 ft	**ΔY**	7392.750 ft
ΔElevation	140.635 ft	**ΔHeight**	140.701 ft	**ΔZ**	-6379.360 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.020 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.015 ft	**σ ΔY**	0.032 ft
σ ΔElevation	0.037 ft	**σ ΔHeight**	0.037 ft	**σ ΔZ**	0.024 ft

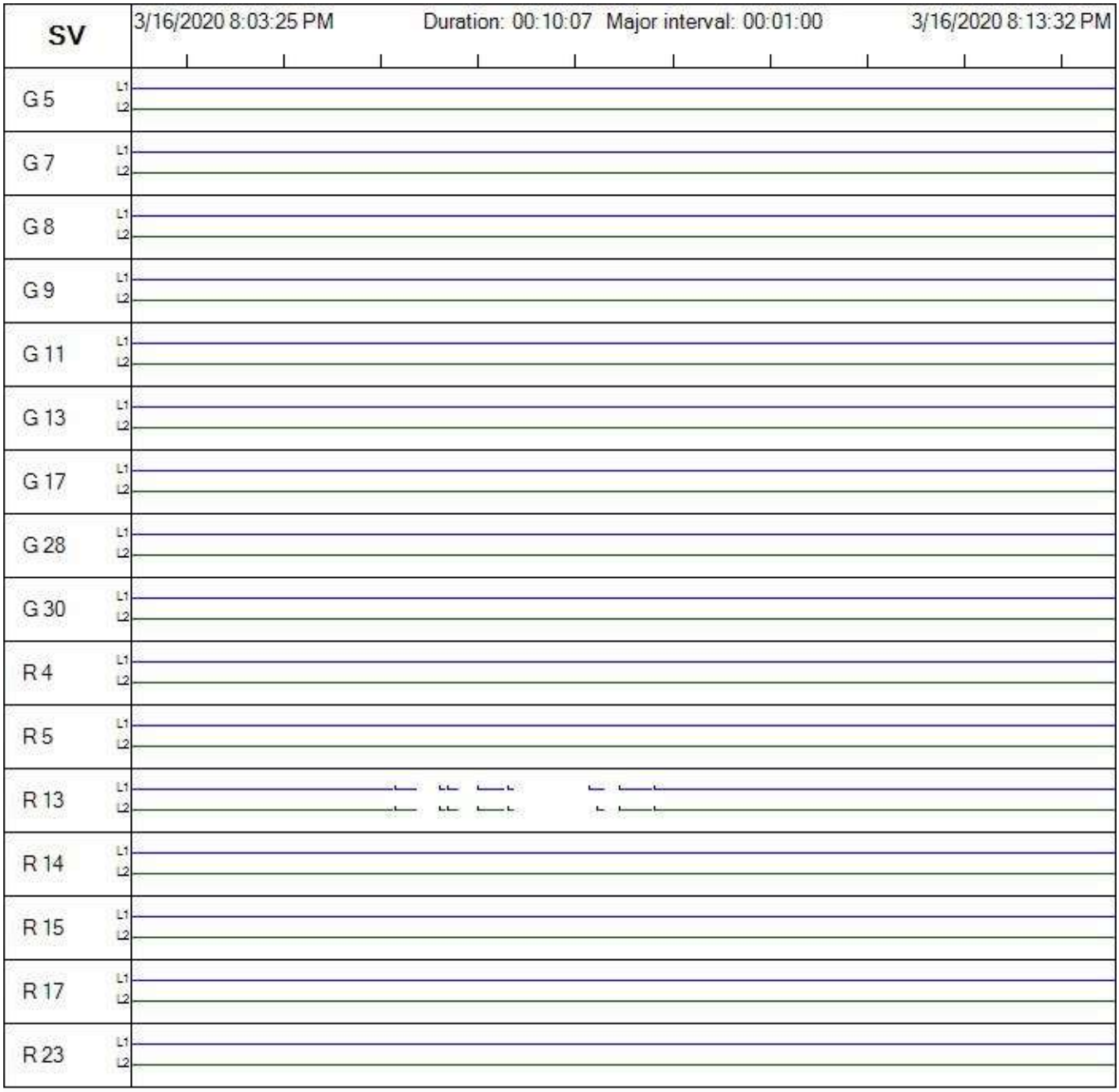
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0004048646		
Y	0.0003611809	0.0010076570	
Z	-0.0001873053	-0.0003701237	0.0005577141

Occupations

	From	To
Point ID:	DG6887	NVA009
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430767.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6887 - VVA038 (8:31:50 PM-8:41:53 PM) (S9)

Baseline observation:	DG6887 --- VVA038 (B9)
Processed:	5/13/2020 3:28:30 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.043 ft
Vertical precision:	0.068 ft
RMS:	0.047 ft
Maximum PDOP:	1.339
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 8:31:50 PM (UTC)
Processing stop time:	3/16/2020 8:41:53 PM (UTC)
Processing duration:	00:10:03
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.136 ft	**Latitude**	N37°24'07.30908"	**Latitude**	N37°24'07.30907"
Northing	1972516.975 ft	**Longitude**	W122°02'10.61331"	**Longitude**	W122°02'10.61331"
Elevation	36.014 ft	**Height**	-71.119 ft	**Height**	-71.120 ft

To:	VVA038				
Grid		**Local**		**Global**	
Easting	6092960.250 ft	**Latitude**	N37°22'53.22032"	**Latitude**	N37°22'53.22031"
Northing	1965400.853 ft	**Longitude**	W122°06'47.64600"	**Longitude**	W122°06'47.64600"
Elevation	172.556 ft	**Height**	65.488 ft	**Height**	65.488 ft

Vector					
ΔEasting	-22478.886 ft	**NS Fwd Azimuth**	251°29'35.0"	**ΔX**	-21418.575 ft
ΔNorthing	-7116.122 ft	**Ellipsoid Dist.**	23579.578 ft	**ΔY**	7924.200 ft
ΔElevation	136.542 ft	**ΔHeight**	136.607 ft	**ΔZ**	-5870.831 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.019 ft
σ ΔNorthing	0.017 ft	**σ Ellipsoid Dist.**	0.015 ft	**σ ΔY**	0.028 ft
σ ΔElevation	0.035 ft	**σ ΔHeight**	0.035 ft	**σ ΔZ**	0.024 ft

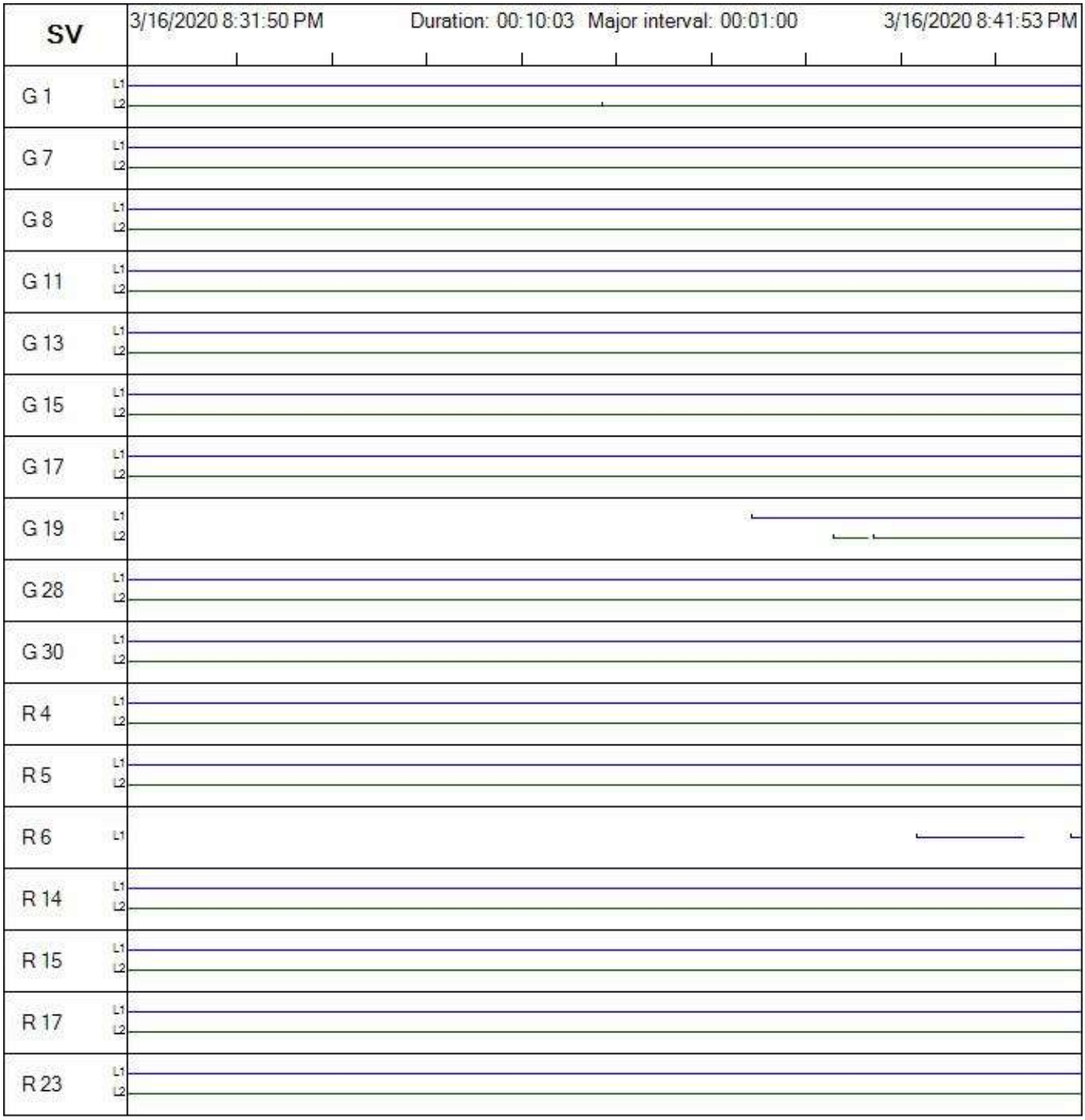
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003532956		
Y	0.0002886673	0.0007619171	
Z	-0.0001519041	-0.0004009875	0.0005776870

Occupations

	From	To
Point ID:	DG6887	VVA038
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430768.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6887 - NVA050 (9:02:01 PM-9:12:43 PM) (S10)

Baseline observation:	DG6887 --- NVA050 (B10)
Processed:	5/13/2020 3:28:30 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.046 ft
Vertical precision:	0.068 ft
RMS:	0.056 ft
Maximum PDOP:	1.519
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 9:02:01 PM (UTC)
Processing stop time:	3/16/2020 9:12:43 PM (UTC)
Processing duration:	00:10:42
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.136 ft	**Latitude**	N37°24'07.30908"	**Latitude**	N37°24'07.30907"
Northing	1972516.975 ft	**Longitude**	W122°02'10.61331"	**Longitude**	W122°02'10.61331"
Elevation	36.014 ft	**Height**	-71.119 ft	**Height**	-71.120 ft

To:	NVA050				
Grid		**Local**		**Global**	
Easting	6093989.152 ft	**Latitude**	N37°25'15.53206"	**Latitude**	N37°25'15.53205"
Northing	1979778.708 ft	**Longitude**	W122°06'37.96521"	**Longitude**	W122°06'37.96521"
Elevation	15.219 ft	**Height**	-91.856 ft	**Height**	-91.857 ft

Vector					
ΔEasting	-21449.983 ft	**NS Fwd Azimuth**	287°45'44.7"	**ΔX**	-16042.965 ft
ΔNorthing	7261.732 ft	**Ellipsoid Dist.**	22647.059 ft	**ΔY**	15020.184 ft
ΔElevation	-20.794 ft	**ΔHeight**	-20.737 ft	**ΔZ**	5468.365 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.019 ft
σ ΔNorthing	0.018 ft	**σ Ellipsoid Dist.**	0.013 ft	**σ ΔY**	0.026 ft
σ ΔElevation	0.035 ft	**σ ΔHeight**	0.035 ft	**σ ΔZ**	0.026 ft

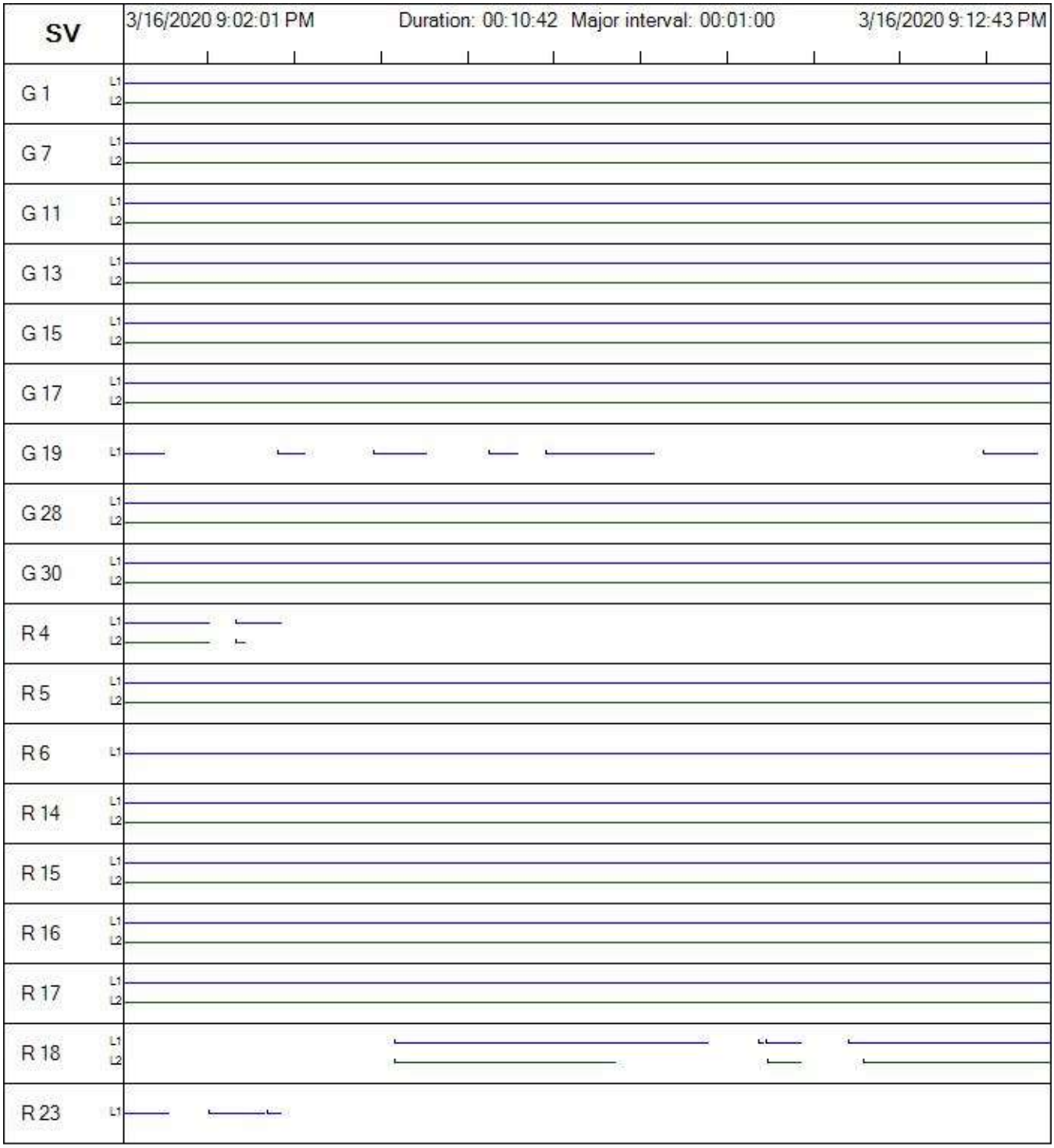
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003604478		
Y	0.0002815915	0.0006562519	
Z	-0.0001466023	-0.0004268245	0.0006847000

Occupations

	From	To
Point ID:	DG6887	NVA050
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430769.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6887 - VVA034 (9:28:05 PM-9:38:17 PM) (S11)

Baseline observation:	DG6887 --- VVA034 (B11)
Processed:	5/13/2020 3:28:31 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.037 ft
Vertical precision:	0.064 ft
RMS:	0.035 ft
Maximum PDOP:	1.378
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/16/2020 9:28:05 PM (UTC)
Processing stop time:	3/16/2020 9:38:17 PM (UTC)
Processing duration:	00:10:12
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6887				
Grid		**Local**		**Global**	
Easting	6115439.136 ft	**Latitude**	N37°24'07.30908"	**Latitude**	N37°24'07.30907"
Northing	1972516.975 ft	**Longitude**	W122°02'10.61331"	**Longitude**	W122°02'10.61331"
Elevation	36.014 ft	**Height**	-71.119 ft	**Height**	-71.120 ft

To:	VVA034				
Grid		**Local**		**Global**	
Easting	6103201.695 ft	**Latitude**	N37°25'43.20670"	**Latitude**	N37°25'43.20670"
Northing	1982421.135 ft	**Longitude**	W122°04'44.32859"	**Longitude**	W122°04'44.32859"
Elevation	11.301 ft	**Height**	-95.760 ft	**Height**	-95.760 ft

Vector					
ΔEasting	-12237.441 ft	**NS Fwd Azimuth**	308°02'37.4"	**ΔX**	-7371.778 ft
ΔNorthing	9904.159 ft	**Ellipsoid Dist.**	15744.014 ft	**ΔY**	11593.510 ft
ΔElevation	-24.713 ft	**ΔHeight**	-24.640 ft	**ΔZ**	7688.954 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.013 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.019 ft
σ ΔNorthing	0.015 ft	**σ Ellipsoid Dist.**	0.013 ft	**σ ΔY**	0.024 ft
σ ΔElevation	0.033 ft	**σ ΔHeight**	0.033 ft	**σ ΔZ**	0.023 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003486490		
Y	0.0002795430	0.0005845687	
Z	-0.0002041332	-0.0003498369	0.0005154722

Occupations

	From	To
Point ID:	DG6887	VVA034
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730760.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8843076A.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - DG6890 (4:05:32 PM-7:44:56 PM) (S23)

Baseline observation:	SLAC --- DG6890 (B23)
Processed:	5/13/2020 3:56:13 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.010 ft
Vertical precision:	0.042 ft
RMS:	0.039 ft
Maximum PDOP:	1.620
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 4:05:42 PM (UTC)
Processing stop time:	3/17/2020 7:44:42 PM (UTC)
Processing duration:	03:39:00
Processing interval:	1 Minute

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.839 ft	**Latitude**	N37°24'59.46098"	**Latitude**	N37°24'59.46097"
Northing	1978635.444 ft	**Longitude**	W122°12'15.30523"	**Longitude**	W122°12'15.30523"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	DG6890				
Grid		**Local**		**Global**	
Easting	6082995.541 ft	**Latitude**	N37°28'54.55222"	**Latitude**	N37°28'54.55222"
Northing	2002125.415 ft	**Longitude**	W122°08'59.11232"	**Longitude**	W122°08'59.11232"
Elevation	9.105 ft	**Height**	-97.855 ft	**Height**	-97.855 ft

Vector					
ΔEasting	16243.702 ft	**NS Fwd Azimuth**	33°37'16.4"	**ΔX**	21221.373 ft
ΔNorthing	23489.971 ft	**Ellipsoid Dist.**	28560.979 ft	**ΔY**	4019.987 ft
ΔElevation	-308.421 ft	**ΔHeight**	-308.482 ft	**ΔZ**	18690.157 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.003 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.010 ft
σ ΔNorthing	0.004 ft	**σ Ellipsoid Dist.**	0.004 ft	**σ ΔY**	0.015 ft
σ ΔElevation	0.022 ft	**σ ΔHeight**	0.022 ft	**σ ΔZ**	0.013 ft

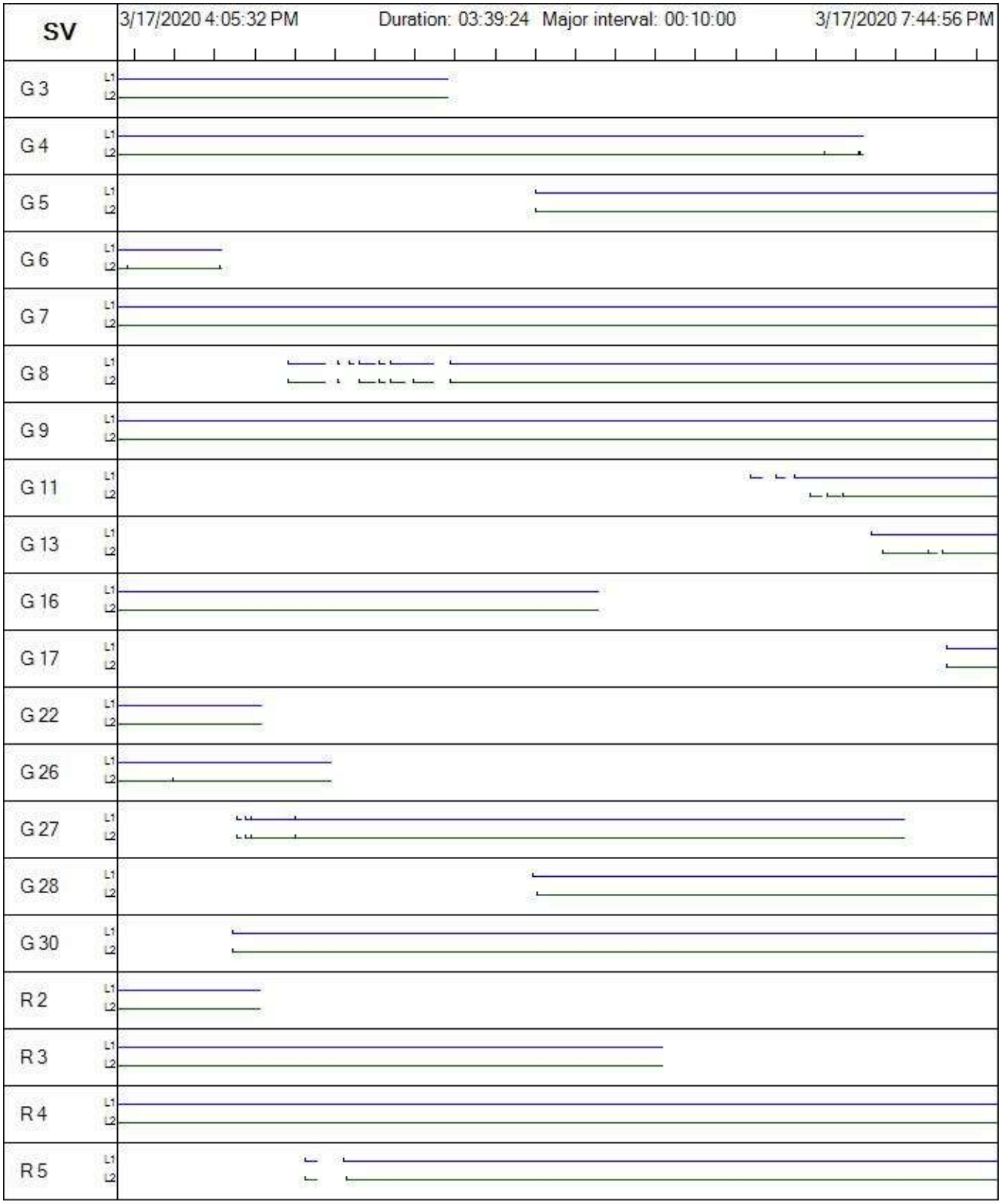
Aposteriori Covariance Matrix (US survey foot²)

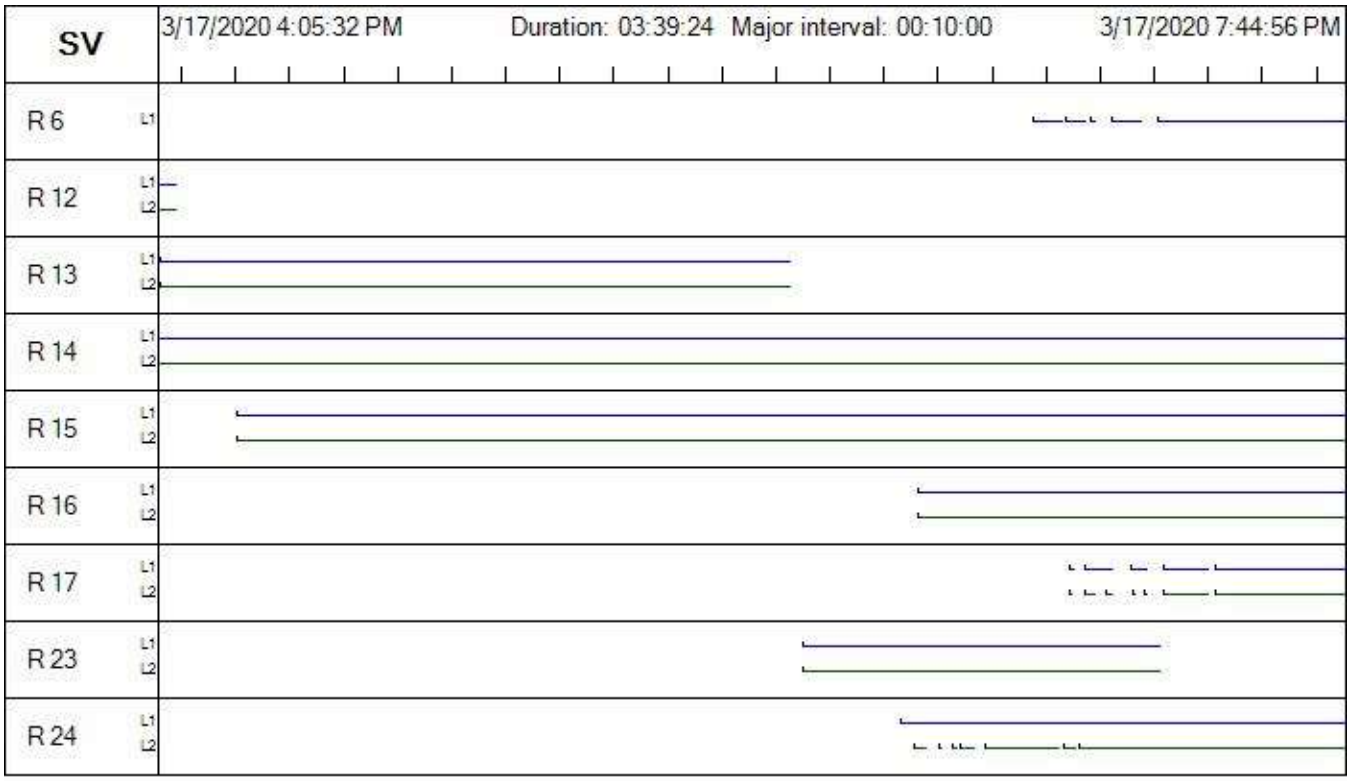
	X	Y	Z
X	0.0000954002		
Y	0.0001360913	0.0002314802	
Z	-0.0001115861	-0.0001809823	0.0001686146

Occupations

	From	To
Point ID:	SLAC	DG6890
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0770.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730770.T01
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5302K56635	4720132973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
3/17/2020 4:05:32 PM
Duration: 03:39:24 Major interval: 00:10:00
3/17/2020 7:44:56 PM
R 6
R 12
R 13
R 14
R 15
R 16
R 17
R 23
R 24

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA005 (4:22:27 PM-4:32:28 PM) (S22)

Baseline observation:	SLAC --- NVA005 (B22)
Processed:	5/13/2020 3:56:11 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.064 ft
Vertical precision:	0.119 ft
RMS:	0.067 ft
Maximum PDOP:	1.604
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 4:22:42 PM (UTC)
Processing stop time:	3/17/2020 4:32:12 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.839 ft	**Latitude**	N37°24'59.46098"	**Latitude**	N37°24'59.46097"
Northing	1978635.444 ft	**Longitude**	W122°12'15.30523"	**Longitude**	W122°12'15.30523"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	NVA005				
Grid		**Local**		**Global**	
Easting	6076808.018 ft	**Latitude**	N37°29'03.19990"	**Latitude**	N37°29'03.19990"
Northing	2003109.981 ft	**Longitude**	W122°10'16.08591"	**Longitude**	W122°10'16.08591"
Elevation	6.439 ft	**Height**	-100.521 ft	**Height**	-100.521 ft

Vector					
ΔEasting	10056.179 ft	**NS Fwd Azimuth**	21°17'37.0"	**ΔX**	16253.453 ft
ΔNorthing	24474.537 ft	**Ellipsoid Dist.**	26461.474 ft	**ΔY**	7774.905 ft
ΔElevation	-311.088 ft	**ΔHeight**	-311.148 ft	**ΔZ**	19382.625 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.023 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.034 ft
σ ΔNorthing	0.025 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.048 ft
σ ΔElevation	0.061 ft	**σ ΔHeight**	0.061 ft	**σ ΔZ**	0.037 ft

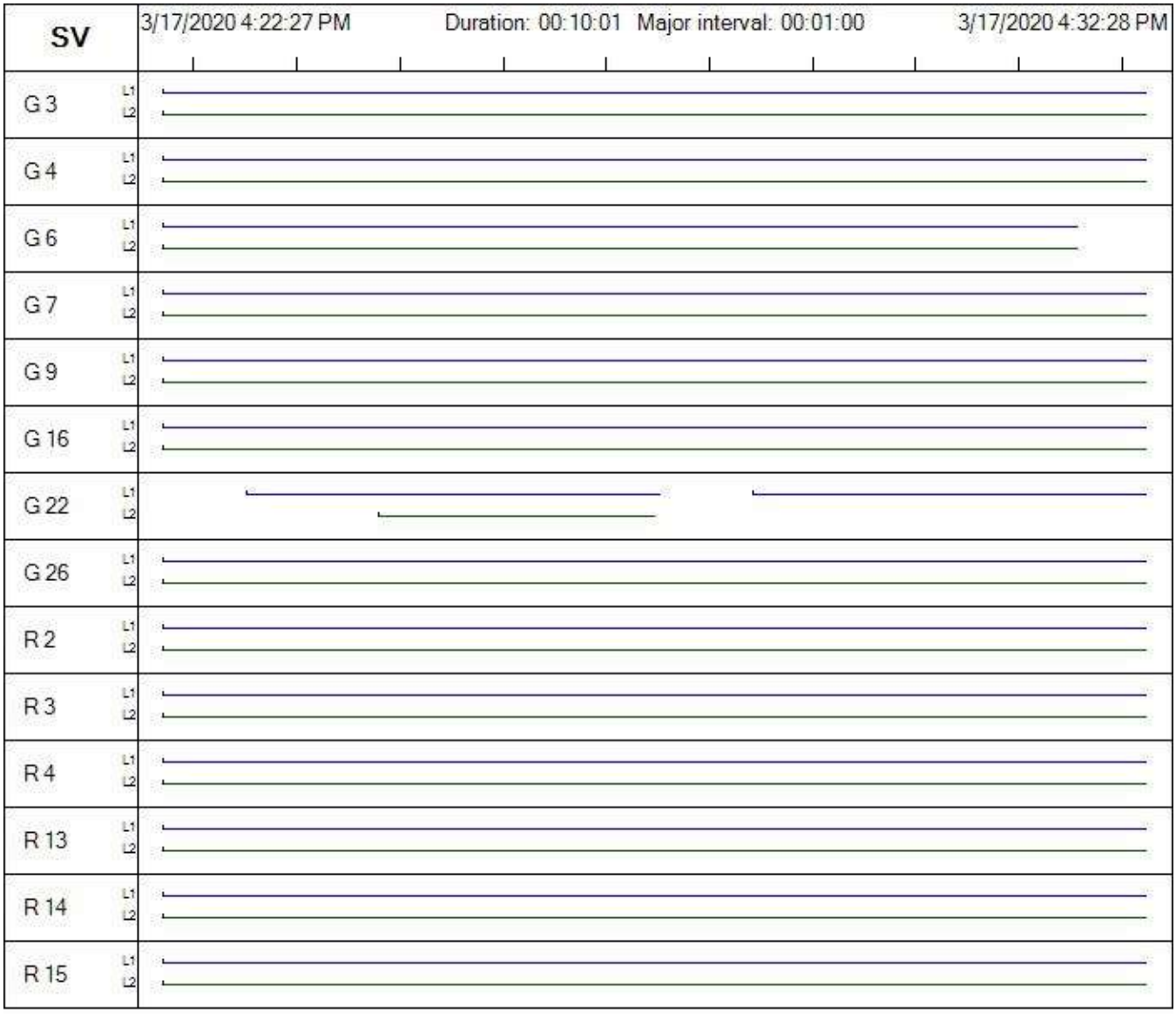
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0011399199		
Y	0.0010658530	0.0023132263	
Z	-0.0007874658	-0.0011098076	0.0013586883

Occupations

	From	To
Point ID:	SLAC	NVA005
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0770.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430770.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA053 (4:48:26 PM-4:58:28 PM) (S21)

Baseline observation:	SLAC --- NVA053 (B21)
Processed:	5/13/2020 3:56:11 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.046 ft
Vertical precision:	0.064 ft
RMS:	0.047 ft
Maximum PDOP:	1.350
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 4:48:42 PM (UTC)
Processing stop time:	3/17/2020 4:58:12 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.839 ft	**Latitude**	N37°24'59.46098"	**Latitude**	N37°24'59.46097"
Northing	1978635.444 ft	**Longitude**	W122°12'15.30523"	**Longitude**	W122°12'15.30523"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	NVA053				
Grid		**Local**		**Global**	
Easting	6067871.616 ft	**Latitude**	N37°28'08.87428"	**Latitude**	N37°28'08.87428"
Northing	1997775.599 ft	**Longitude**	W122°12'05.74050"	**Longitude**	W122°12'05.74050"
Elevation	40.157 ft	**Height**	-66.790 ft	**Height**	-66.790 ft

Vector					
ΔEasting	1119.777 ft	**NS Fwd Azimuth**	2°18'17.4"	**ΔX**	6977.421 ft
ΔNorthing	19140.155 ft	**Ellipsoid Dist.**	19173.964 ft	**ΔY**	9631.256 ft
ΔElevation	-277.369 ft	**ΔHeight**	-277.416 ft	**ΔZ**	15042.436 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.013 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.019 ft
σ ΔNorthing	0.018 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.029 ft
σ ΔElevation	0.033 ft	**σ ΔHeight**	0.033 ft	**σ ΔZ**	0.020 ft

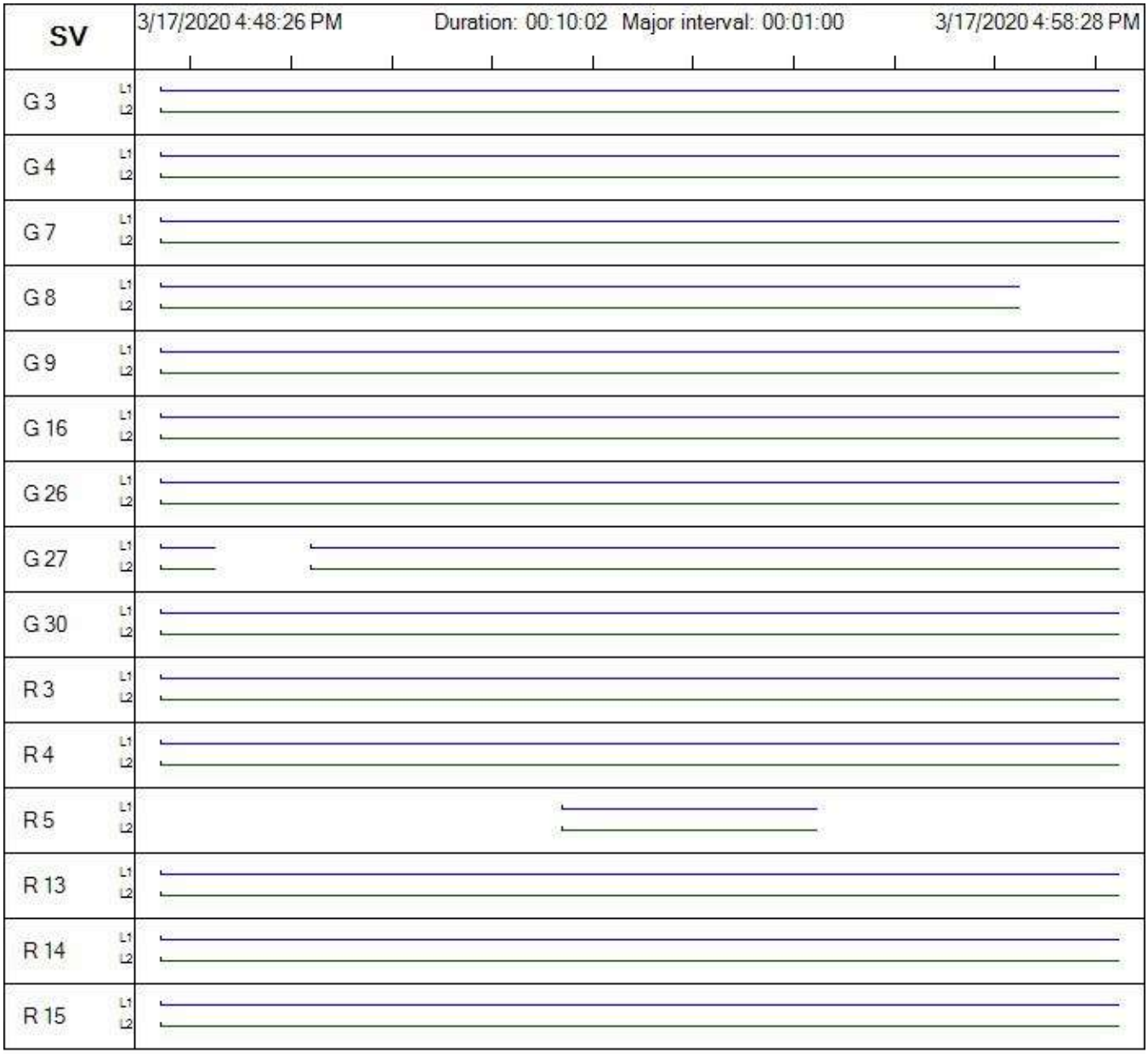
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003453482		
Y	0.0003373832	0.0008298091	
Z	-0.0001522582	-0.0002546174	0.0004101420

Occupations

	From	To
Point ID:	SLAC	NVA053
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0770.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430771.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA007 (5:11:14 PM-5:21:16 PM) (S20)

Baseline observation:	SLAC --- NVA007 (B20)
Processed:	5/13/2020 3:56:11 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.061 ft
Vertical precision:	0.067 ft
RMS:	0.036 ft
Maximum PDOP:	1.467
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 5:11:42 PM (UTC)
Processing stop time:	3/17/2020 5:21:12 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.839 ft	**Latitude**	N37°24'59.46098"	**Latitude**	N37°24'59.46097"
Northing	1978635.444 ft	**Longitude**	W122°12'15.30523"	**Longitude**	W122°12'15.30523"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	NVA007				
Grid		**Local**		**Global**	
Easting	6073528.069 ft	**Latitude**	N37°26'51.81829"	**Latitude**	N37°26'51.81829"
Northing	1989878.578 ft	**Longitude**	W122°10'53.82481"	**Longitude**	W122°10'53.82481"
Elevation	74.171 ft	**Height**	-32.807 ft	**Height**	-32.807 ft

Vector					
ΔEasting	6776.230 ft	**NS Fwd Azimuth**	30°02'02.4"	**ΔX**	9344.899 ft
ΔNorthing	11243.134 ft	**Ellipsoid Dist.**	13128.002 ft	**ΔY**	2507.762 ft
ΔElevation	-243.355 ft	**ΔHeight**	-243.434 ft	**ΔZ**	8876.326 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.020 ft
σ ΔNorthing	0.025 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.028 ft
σ ΔElevation	0.034 ft	**σ ΔHeight**	0.034 ft	**σ ΔZ**	0.028 ft

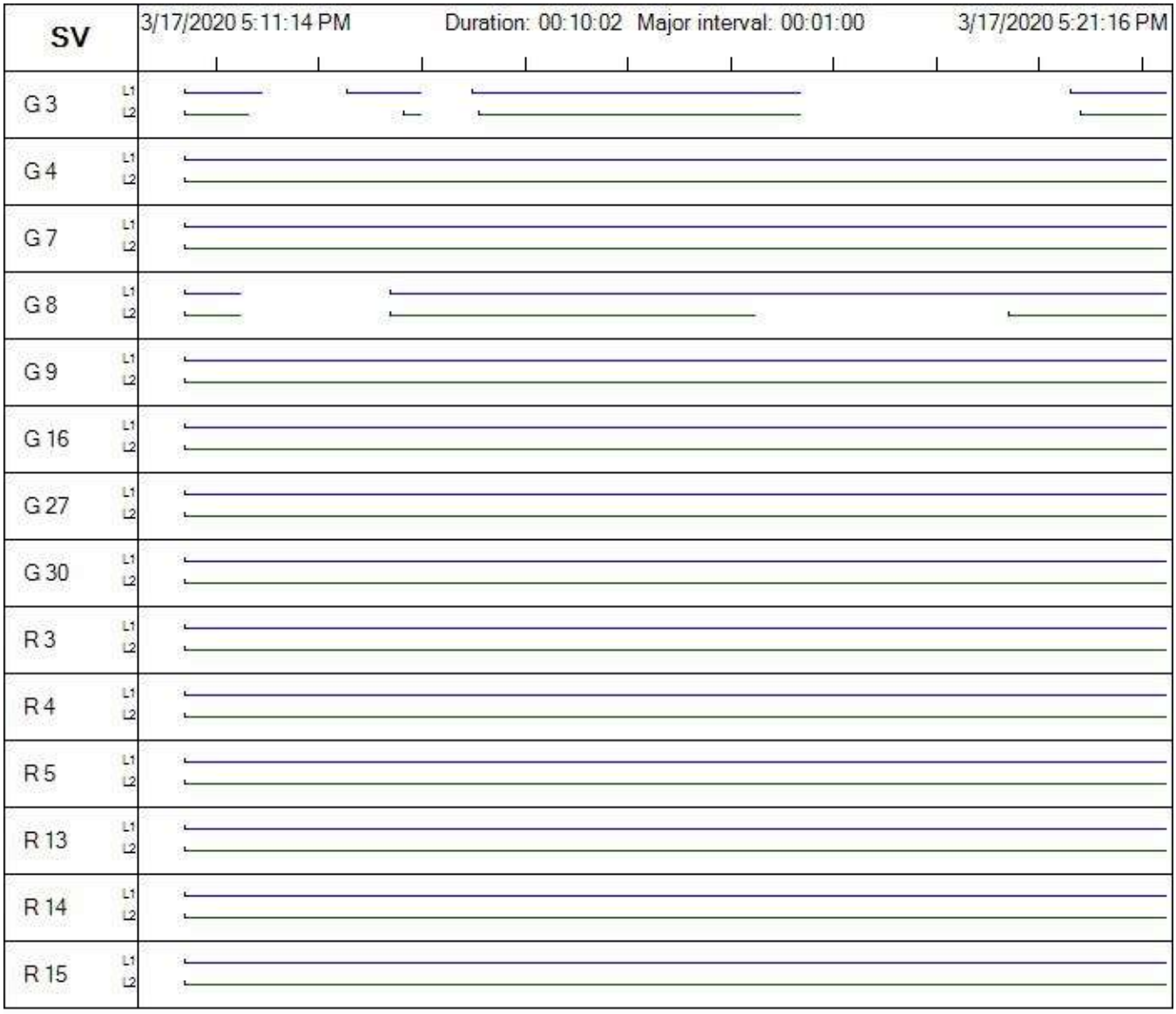
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0004013221		
Y	0.0003401696	0.0008080226	
Z	-0.0000748595	-0.0002505927	0.0007833022

Occupations

	From	To
Point ID:	SLAC	NVA007
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0770.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430772.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA052 (5:42:25 PM-5:53:04 PM) (S19)

Baseline observation:	SLAC --- NVA052 (B19)
Processed:	5/13/2020 3:56:11 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.057 ft
Vertical precision:	0.058 ft
RMS:	0.026 ft
Maximum PDOP:	1.761
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 5:42:42 PM (UTC)
Processing stop time:	3/17/2020 5:52:42 PM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.839 ft	**Latitude**	N37°24'59.46098"	**Latitude**	N37°24'59.46097"
Northing	1978635.444 ft	**Longitude**	W122°12'15.30523"	**Longitude**	W122°12'15.30523"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	NVA052				
Grid		**Local**		**Global**	
Easting	6073345.081 ft	**Latitude**	N37°25'25.78168"	**Latitude**	N37°25'25.78167"
Northing	1981178.678 ft	**Longitude**	W122°10'54.15507"	**Longitude**	W122°10'54.15507"
Elevation	137.398 ft	**Height**	30.426 ft	**Height**	30.426 ft

Vector					
ΔEasting	6593.242 ft	**NS Fwd Azimuth**	67°51'48.1"	**ΔX**	6478.202 ft
ΔNorthing	2543.234 ft	**Ellipsoid Dist.**	7067.127 ft	**ΔY**	-1997.694 ft
ΔElevation	-180.128 ft	**ΔHeight**	-180.201 ft	**ΔZ**	2004.857 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.013 ft	**σ NS fwd Azimuth**	0°00'00.6"	**σ ΔX**	0.020 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.024 ft
σ ΔElevation	0.030 ft	**σ ΔHeight**	0.030 ft	**σ ΔZ**	0.024 ft

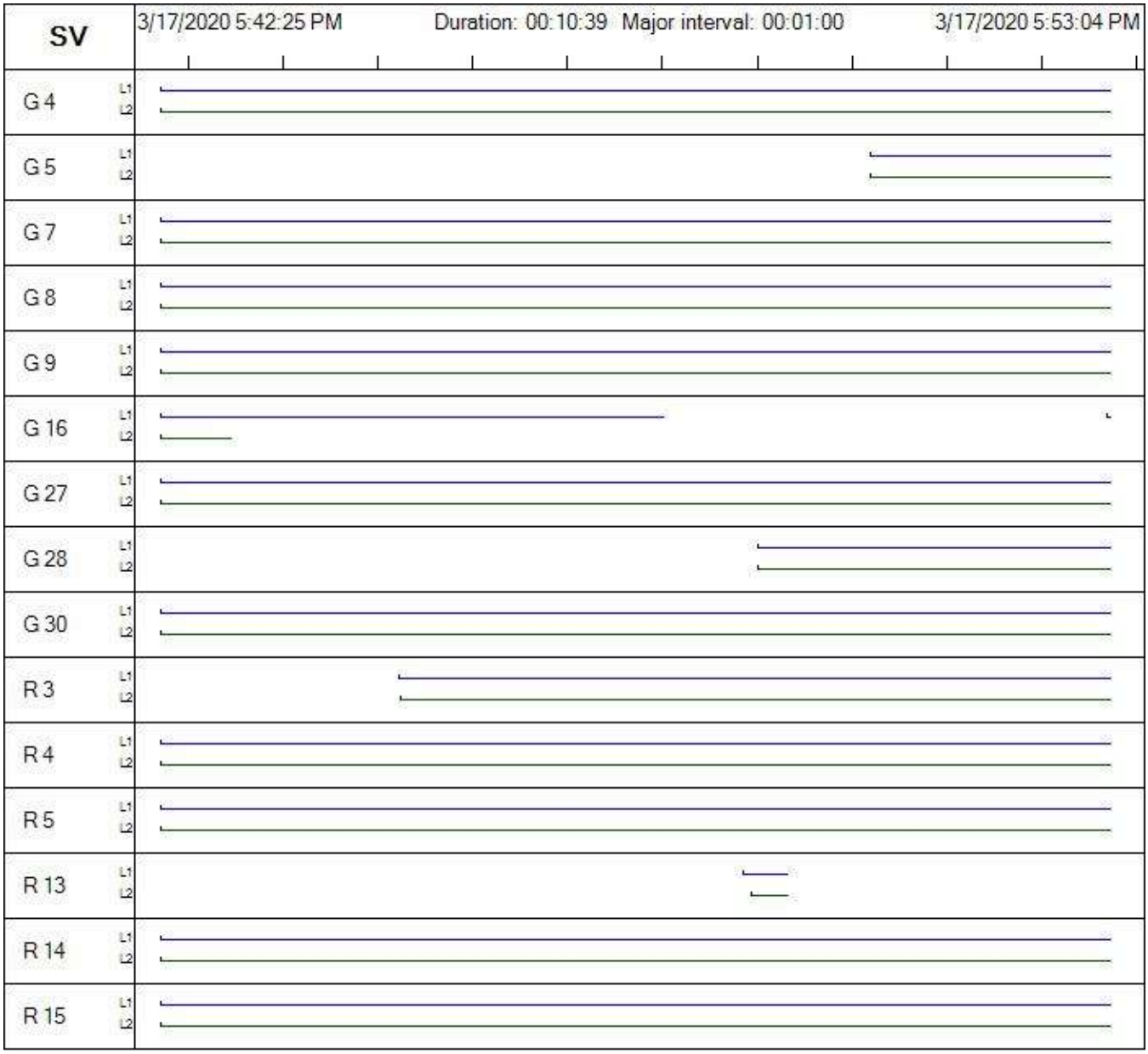
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003836652		
Y	0.0002925662	0.0005788676	
Z	0.0000208714	-0.0002243245	0.0005943777

Occupations

	From	To
Point ID:	SLAC	NVA052
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0770.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430773.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA037 (5:58:39 PM-6:08:43 PM) (S18)

Baseline observation:	SLAC --- VVA037 (B18)
Processed:	5/13/2020 3:56:11 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.114 ft
Vertical precision:	0.137 ft
RMS:	0.037 ft
Maximum PDOP:	1.467
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 5:58:42 PM (UTC)
Processing stop time:	3/17/2020 6:08:42 PM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.839 ft	**Latitude**	N37°24'59.46098"	**Latitude**	N37°24'59.46097"
Northing	1978635.444 ft	**Longitude**	W122°12'15.30523"	**Longitude**	W122°12'15.30523"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	VVA037				
Grid		**Local**		**Global**	
Easting	6073329.273 ft	**Latitude**	N37°25'20.43585"	**Latitude**	N37°25'20.43585"
Northing	1980638.195 ft	**Longitude**	W122°10'54.23061"	**Longitude**	W122°10'54.23061"
Elevation	149.453 ft	**Height**	42.483 ft	**Height**	42.483 ft

Vector					
ΔEasting	6577.434 ft	**NS Fwd Azimuth**	72°01'18.4"	**ΔX**	6292.937 ft
ΔNorthing	2002.752 ft	**Ellipsoid Dist.**	6875.956 ft	**ΔY**	-2280.657 ft
ΔElevation	-168.073 ft	**ΔHeight**	-168.144 ft	**ΔZ**	1582.769 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.035 ft	**σ NS fwd Azimuth**	0°00'01.1"	**σ ΔX**	0.047 ft
σ ΔNorthing	0.043 ft	**σ Ellipsoid Dist.**	0.040 ft	**σ ΔY**	0.050 ft
σ ΔElevation	0.070 ft	**σ ΔHeight**	0.070 ft	**σ ΔZ**	0.057 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0022421634		
Y	0.0011822100	0.0024947459	
Z	-0.0004807533	-0.0015570701	0.0032326164

Occupations

	From	To
Point ID:	SLAC	VVA037
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0770.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430774.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA055 (6:20:19 PM-6:30:22 PM) (S17)

Baseline observation:	SLAC --- NVA055 (B17)
Processed:	5/13/2020 3:56:12 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.020 ft
Vertical precision:	0.035 ft
RMS:	0.029 ft
Maximum PDOP:	1.746
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 6:20:42 PM (UTC)
Processing stop time:	3/17/2020 6:30:12 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.839 ft	**Latitude**	N37°24'59.46098"	**Latitude**	N37°24'59.46097"
Northing	1978635.444 ft	**Longitude**	W122°12'15.30523"	**Longitude**	W122°12'15.30523"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	NVA055				
Grid		**Local**		**Global**	
Easting	6068595.057 ft	**Latitude**	N37°25'16.82069"	**Latitude**	N37°25'16.82068"
Northing	1980357.992 ft	**Longitude**	W122°11'52.84786"	**Longitude**	W122°11'52.84786"
Elevation	209.061 ft	**Height**	102.131 ft	**Height**	102.131 ft

Vector					
ΔEasting	1843.218 ft	**NS Fwd Azimuth**	45°53'41.4"	**ΔX**	2147.524 ft
ΔNorthing	1722.549 ft	**Ellipsoid Dist.**	2522.958 ft	**ΔY**	10.288 ft
ΔElevation	-108.465 ft	**ΔHeight**	-108.496 ft	**ΔZ**	1328.614 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.007 ft	**σ NS fwd Azimuth**	0°00'00.5"	**σ ΔX**	0.009 ft
σ ΔNorthing	0.008 ft	**σ Ellipsoid Dist.**	0.008 ft	**σ ΔY**	0.014 ft
σ ΔElevation	0.018 ft	**σ ΔHeight**	0.018 ft	**σ ΔZ**	0.012 ft

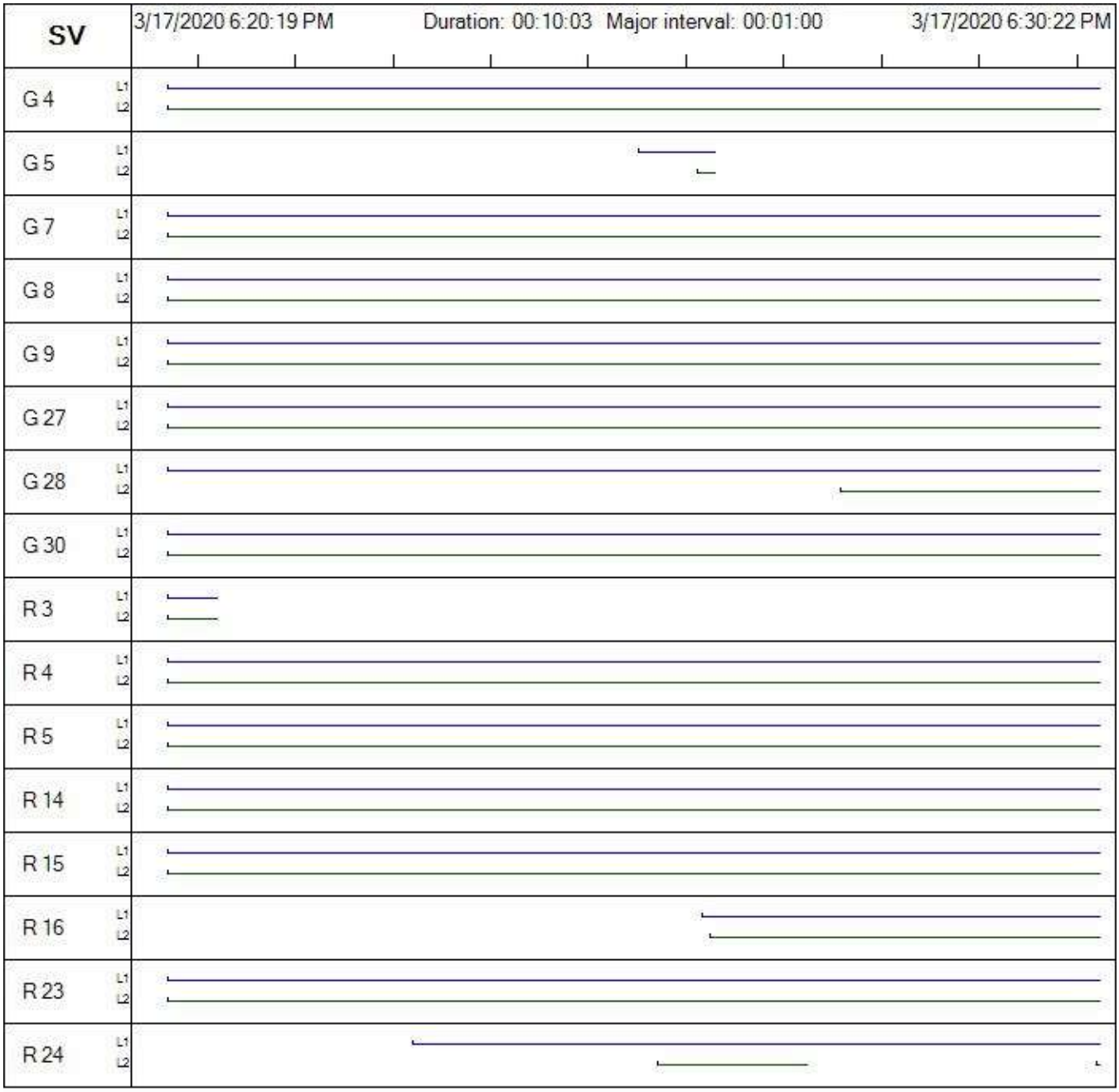
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0000820953		
Y	0.0000780203	0.0002010544	
Z	-0.0000414966	-0.0001200006	0.0001440512

Occupations

	From	To
Point ID:	SLAC	NVA055
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0770.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430775.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA004 (6:40:30 PM-6:50:33 PM) (S16)

Baseline observation:	SLAC --- NVA004 (B16)
Processed:	5/13/2020 3:56:13 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.055 ft
Vertical precision:	0.118 ft
RMS:	0.049 ft
Maximum PDOP:	1.769
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 6:40:42 PM (UTC)
Processing stop time:	3/17/2020 6:50:12 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.839 ft	**Latitude**	N37°24'59.46098"	**Latitude**	N37°24'59.46097"
Northing	1978635.444 ft	**Longitude**	W122°12'15.30523"	**Longitude**	W122°12'15.30523"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	NVA004				
Grid		**Local**		**Global**	
Easting	6069938.074 ft	**Latitude**	N37°23'52.16547"	**Latitude**	N37°23'52.16547"
Northing	1971770.201 ft	**Longitude**	W122°11'34.27580"	**Longitude**	W122°11'34.27580"
Elevation	271.562 ft	**Height**	164.698 ft	**Height**	164.698 ft

Vector					
ΔEasting	3186.235 ft	**NS Fwd Azimuth**	154°03'36.3"	**ΔX**	617.512 ft
ΔNorthing	-6865.243 ft	**Ellipsoid Dist.**	7568.997 ft	**ΔY**	-5232.135 ft
ΔElevation	-45.964 ft	**ΔHeight**	-45.929 ft	**ΔZ**	-5434.730 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.6"	**σ ΔX**	0.034 ft
σ ΔNorthing	0.023 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.045 ft
σ ΔElevation	0.060 ft	**σ ΔHeight**	0.060 ft	**σ ΔZ**	0.038 ft

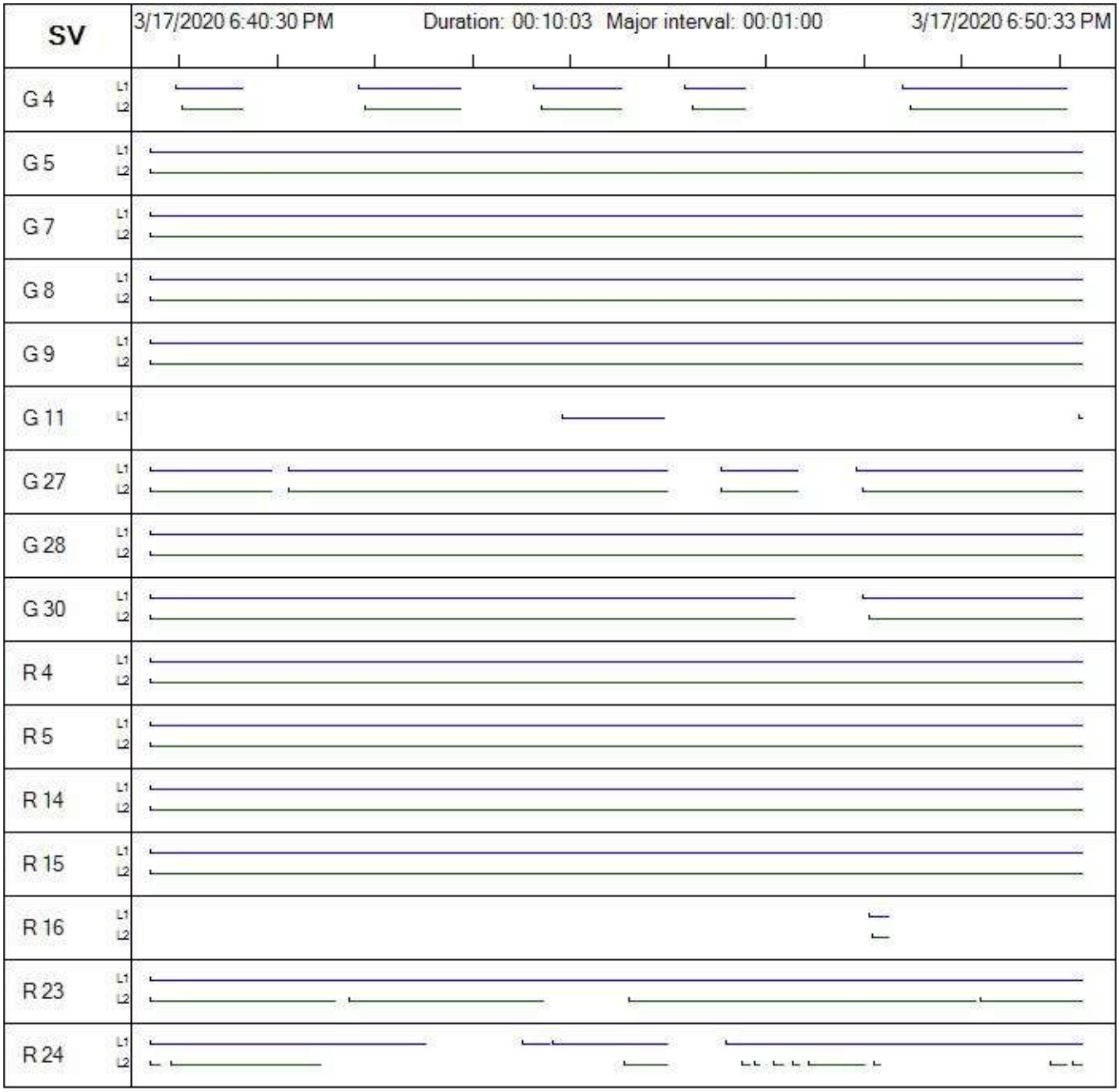
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0011231414		
Y	0.0010564420	0.0020201726	
Z	-0.0007790454	-0.0012069883	0.0014143101

Occupations

	From	To
Point ID:	SLAC	NVA004
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0770.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430776.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA056 (7:02:55 PM-7:23:00 PM) (S15)

Baseline observation:	SLAC --- NVA056 (B15)
Processed:	5/13/2020 3:56:13 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.035 ft
Vertical precision:	0.065 ft
RMS:	0.053 ft
Maximum PDOP:	1.488
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 7:03:12 PM (UTC)
Processing stop time:	3/17/2020 7:22:42 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.839 ft	**Latitude**	N37°24'59.46098"	**Latitude**	N37°24'59.46097"
Northing	1978635.444 ft	**Longitude**	W122°12'15.30523"	**Longitude**	W122°12'15.30523"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	NVA056				
Grid		**Local**		**Global**	
Easting	6058655.681 ft	**Latitude**	N37°22'54.66919"	**Latitude**	N37°22'54.66919"
Northing	1966160.473 ft	**Longitude**	W122°13'52.78739"	**Longitude**	W122°13'52.78739"
Elevation	452.074 ft	**Height**	345.366 ft	**Height**	345.366 ft

Vector					
ΔEasting	-8096.158 ft	**NS Fwd Azimuth**	211°56'23.3"	**ΔX**	-10799.428 ft
ΔNorthing	-12474.970 ft	**Ellipsoid Dist.**	14872.649 ft	**ΔY**	-2382.637 ft
ΔElevation	134.547 ft	**ΔHeight**	134.739 ft	**ΔZ**	-9945.608 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.012 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.017 ft
σ ΔNorthing	0.014 ft	**σ Ellipsoid Dist.**	0.012 ft	**σ ΔY**	0.027 ft
σ ΔElevation	0.033 ft	**σ ΔHeight**	0.033 ft	**σ ΔZ**	0.020 ft

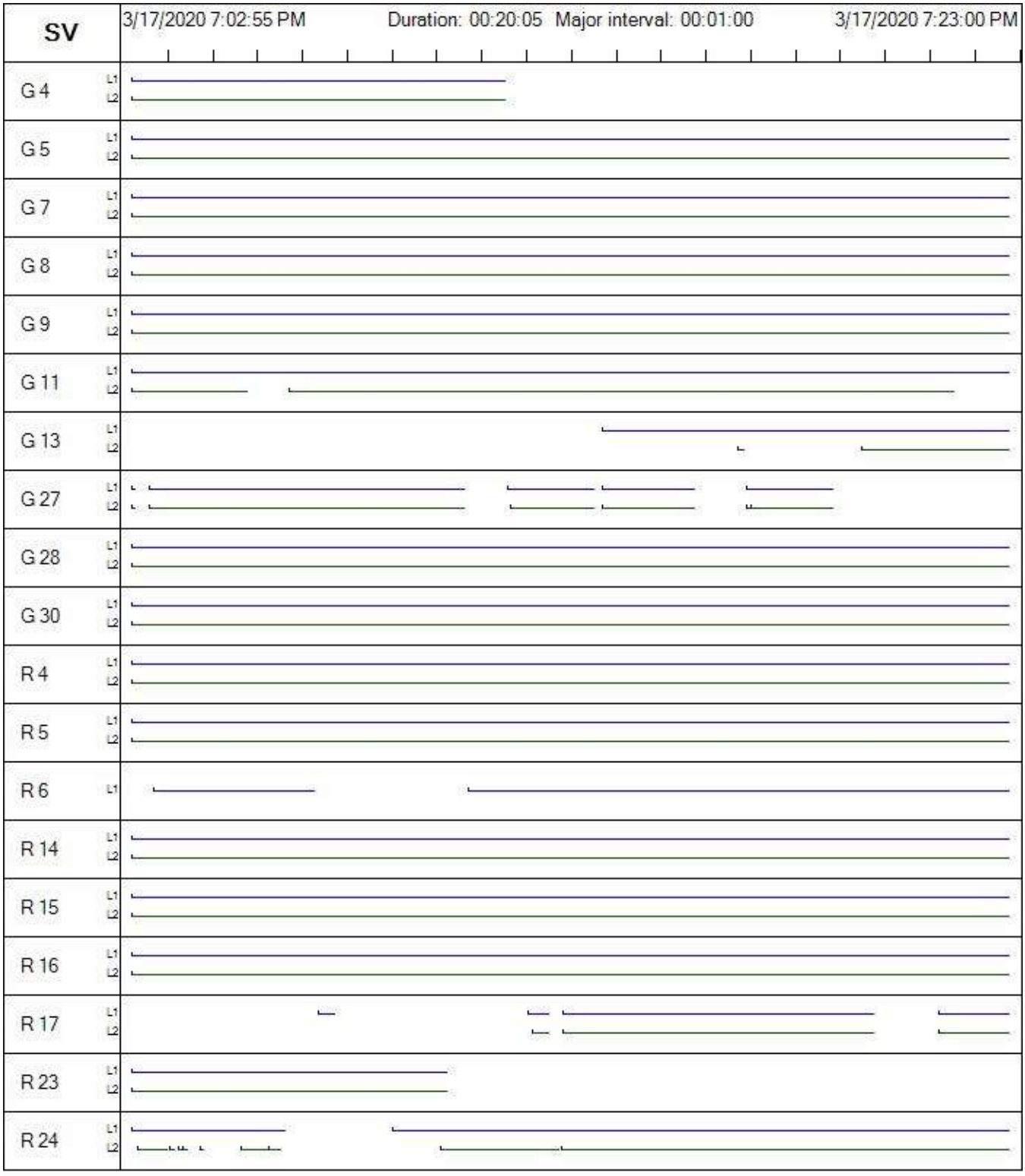
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0002855505		
Y	0.0003063729	0.0007529336	
Z	-0.0001892043	-0.0003571055	0.0003956604

Occupations

	From	To
Point ID:	SLAC	NVA056
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0770.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430777.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA021 (7:35:29 PM-7:55:58 PM) (S14)

Baseline observation:	SLAC --- VVA021 (B14)
Processed:	5/13/2020 3:56:13 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.028 ft
Vertical precision:	0.044 ft
RMS:	0.041 ft
Maximum PDOP:	1.546
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 7:35:42 PM (UTC)
Processing stop time:	3/17/2020 7:55:42 PM (UTC)
Processing duration:	00:20:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.839 ft	**Latitude**	N37°24'59.46098"	**Latitude**	N37°24'59.46097"
Northing	1978635.444 ft	**Longitude**	W122°12'15.30523"	**Longitude**	W122°12'15.30523"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	VVA021				
Grid		**Local**		**Global**	
Easting	6063716.039 ft	**Latitude**	N37°22'04.24531"	**Latitude**	N37°22'04.24531"
Northing	1960966.587 ft	**Longitude**	W122°12'48.92051"	**Longitude**	W122°12'48.92051"
Elevation	667.692 ft	**Height**	561.048 ft	**Height**	561.048 ft

Vector					
ΔEasting	-3035.800 ft	**NS Fwd Azimuth**	188°42'20.7"	**ΔX**	-8180.186 ft
ΔNorthing	-17668.857 ft	**Ellipsoid Dist.**	17928.679 ft	**ΔY**	-7895.720 ft
ΔElevation	350.166 ft	**ΔHeight**	350.422 ft	**ΔZ**	-13867.745 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.009 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.012 ft
σ ΔNorthing	0.011 ft	**σ Ellipsoid Dist.**	0.011 ft	**σ ΔY**	0.019 ft
σ ΔElevation	0.022 ft	**σ ΔHeight**	0.022 ft	**σ ΔZ**	0.015 ft

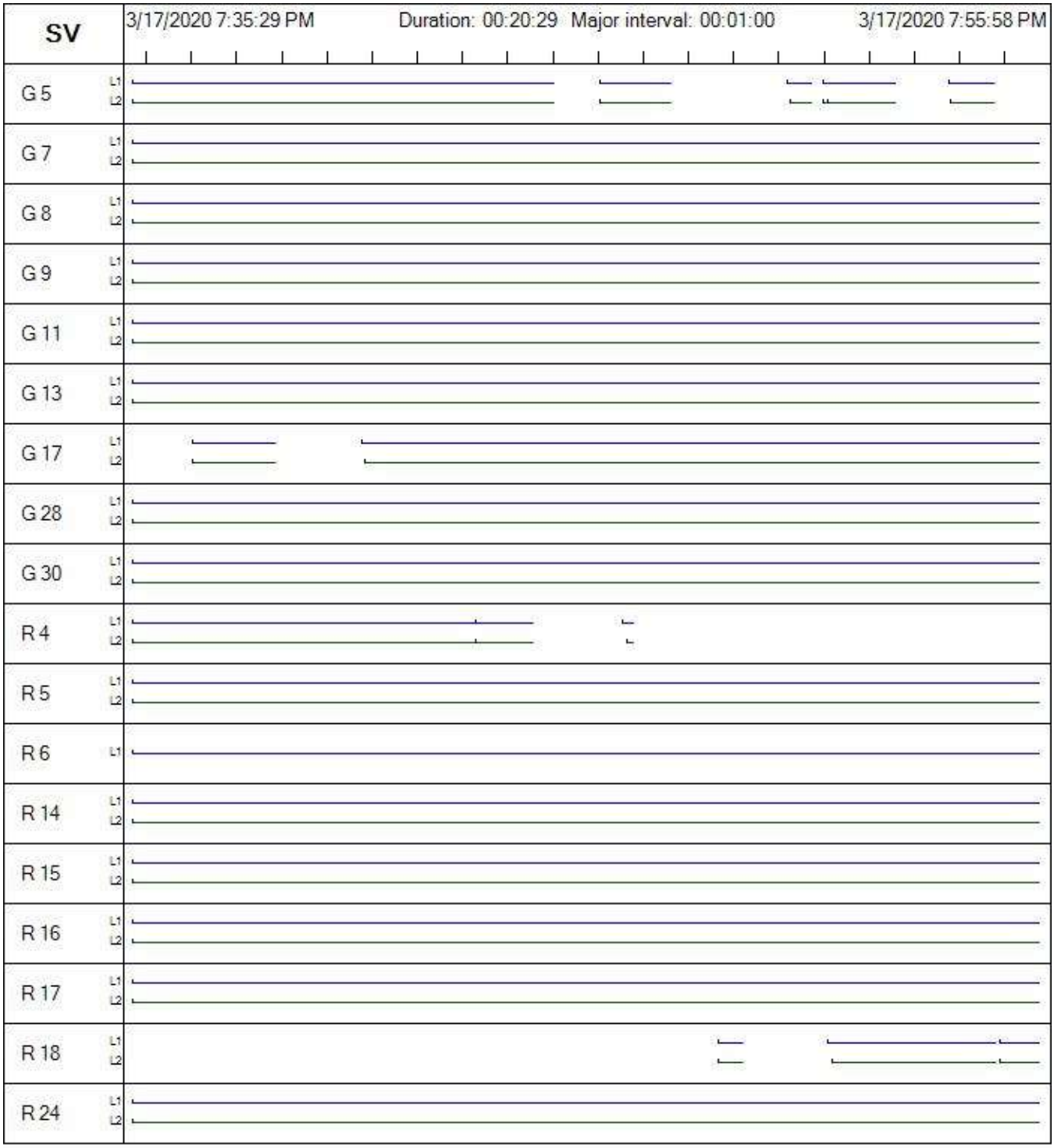
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0001323790		
Y	0.0001270149	0.0003726648	
Z	-0.0000721709	-0.0001518650	0.0002111415

Occupations

	From	To
Point ID:	SLAC	VVA021
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0770.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430778.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5018426973
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6890 - NVA005 (4:22:27 PM-4:32:28 PM) (S1)

Baseline observation:	DG6890 --- NVA005 (B1)
Processed:	5/13/2020 3:56:15 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.016 ft
Vertical precision:	0.030 ft
RMS:	0.028 ft
Maximum PDOP:	1.604
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 4:22:27 PM (UTC)
Processing stop time:	3/17/2020 4:32:28 PM (UTC)
Processing duration:	00:10:01
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6890				
Grid		**Local**		**Global**	
Easting	6082995.564 ft	**Latitude**	N37°28'54.55203"	**Latitude**	N37°28'54.55203"
Northing	2002125.395 ft	**Longitude**	W122°08'59.11202"	**Longitude**	W122°08'59.11202"
Elevation	9.104 ft	**Height**	-97.856 ft	**Height**	-97.857 ft

To:	NVA005				
Grid		**Local**		**Global**	
Easting	6076808.049 ft	**Latitude**	N37°29'03.19953"	**Latitude**	N37°29'03.19953"
Northing	2003109.942 ft	**Longitude**	W122°10'16.08552"	**Longitude**	W122°10'16.08552"
Elevation	6.543 ft	**Height**	-100.417 ft	**Height**	-100.417 ft

Vector					
ΔEasting	-6187.515 ft	**NS Fwd Azimuth**	278°01'51.4"	**ΔX**	-4967.964 ft
ΔNorthing	984.547 ft	**Ellipsoid Dist.**	6265.731 ft	**ΔY**	3754.834 ft
ΔElevation	-2.561 ft	**ΔHeight**	-2.561 ft	**ΔZ**	692.517 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.006 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.009 ft
σ ΔNorthing	0.006 ft	**σ Ellipsoid Dist.**	0.006 ft	**σ ΔY**	0.012 ft
σ ΔElevation	0.015 ft	**σ ΔHeight**	0.015 ft	**σ ΔZ**	0.009 ft

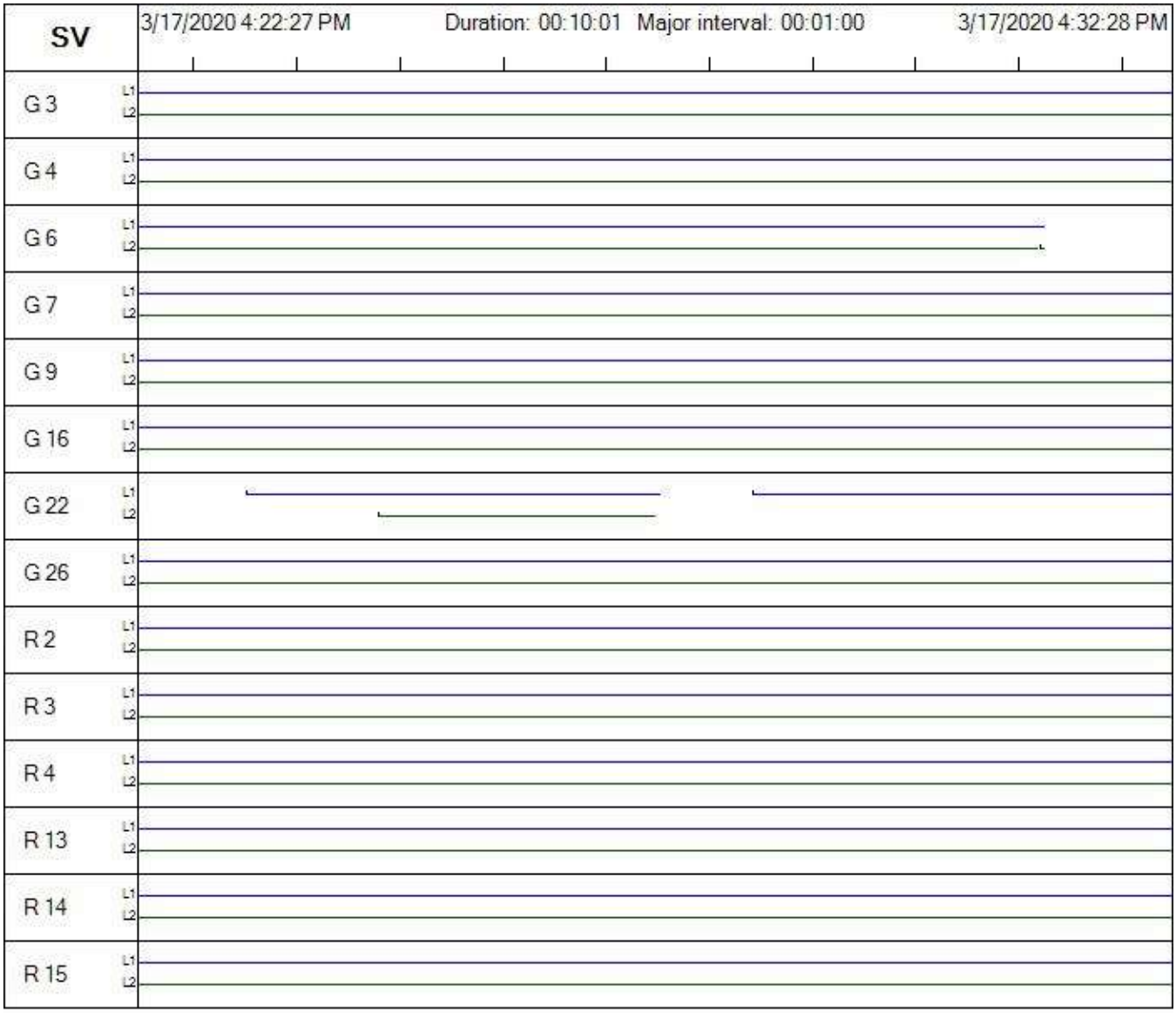
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0000748624		
Y	0.0000717656	0.0001482798	
Z	-0.0000501698	-0.0000696273	0.0000838597

Occupations

	From	To
Point ID:	DG6890	NVA005
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730770.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430770.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6890 - NVA053 (4:48:26 PM-4:58:28 PM) (S2)

Baseline observation:	DG6890 --- NVA053 (B2)
Processed:	5/13/2020 3:56:17 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.036 ft
Vertical precision:	0.050 ft
RMS:	0.040 ft
Maximum PDOP:	1.272
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 4:48:26 PM (UTC)
Processing stop time:	3/17/2020 4:58:28 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6890				
Grid		**Local**		**Global**	
Easting	6082995.564 ft	**Latitude**	N37°28'54.55203"	**Latitude**	N37°28'54.55203"
Northing	2002125.395 ft	**Longitude**	W122°08'59.11202"	**Longitude**	W122°08'59.11202"
Elevation	9.104 ft	**Height**	-97.856 ft	**Height**	-97.857 ft

To:	NVA053				
Grid		**Local**		**Global**	
Easting	6067871.631 ft	**Latitude**	N37°28'08.87386"	**Latitude**	N37°28'08.87386"
Northing	1997775.556 ft	**Longitude**	W122°12'05.74030"	**Longitude**	W122°12'05.74030"
Elevation	40.237 ft	**Height**	-66.710 ft	**Height**	-66.710 ft

Vector					
ΔEasting	-15123.933 ft	**NS Fwd Azimuth**	252°56'38.2"	**ΔX**	-14244.000 ft
ΔNorthing	-4349.838 ft	**Ellipsoid Dist.**	15737.974 ft	**ΔY**	5611.207 ft
ΔElevation	31.133 ft	**ΔHeight**	31.147 ft	**ΔZ**	-3647.690 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.011 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.015 ft
σ ΔNorthing	0.015 ft	**σ Ellipsoid Dist.**	0.011 ft	**σ ΔY**	0.023 ft
σ ΔElevation	0.026 ft	**σ ΔHeight**	0.026 ft	**σ ΔZ**	0.016 ft

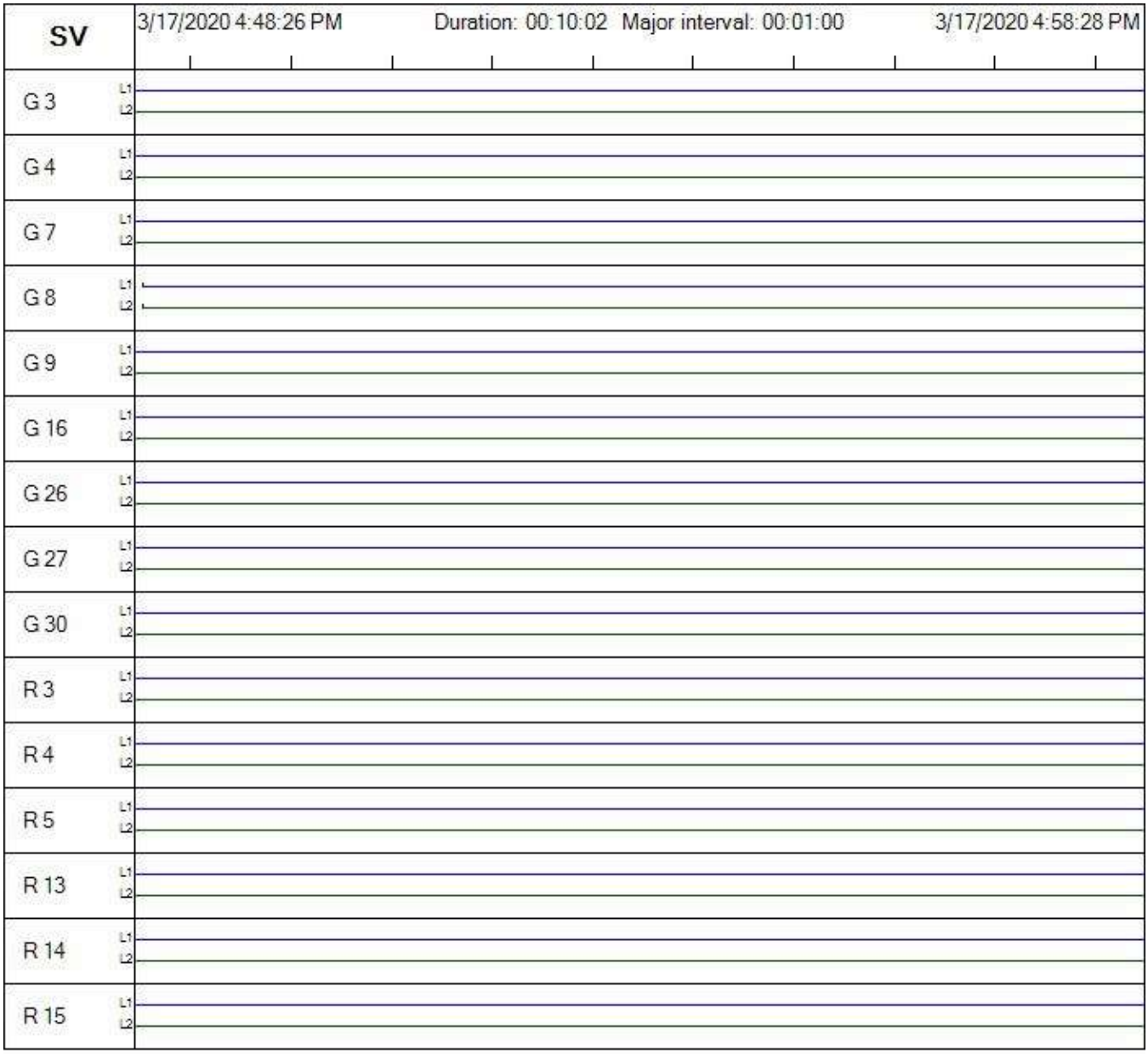
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0002162971		
Y	0.0002059644	0.0005124264	
Z	-0.0000883482	-0.0001561925	0.0002608051

Occupations

	From	To
Point ID:	DG6890	NVA053
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730770.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430771.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6890 - NVA007 (5:11:14 PM-5:21:16 PM) (S3)

Baseline observation:	DG6890 --- NVA007 (B3)
Processed:	5/13/2020 3:56:17 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.045 ft
Vertical precision:	0.050 ft
RMS:	0.031 ft
Maximum PDOP:	1.475
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 5:11:14 PM (UTC)
Processing stop time:	3/17/2020 5:21:16 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6890				
Grid		**Local**		**Global**	
Easting	6082995.564 ft	**Latitude**	N37°28'54.55203"	**Latitude**	N37°28'54.55203"
Northing	2002125.395 ft	**Longitude**	W122°08'59.11202"	**Longitude**	W122°08'59.11202"
Elevation	9.104 ft	**Height**	-97.856 ft	**Height**	-97.857 ft

To:	NVA007				
Grid		**Local**		**Global**	
Easting	6073528.094 ft	**Latitude**	N37°26'51.81790"	**Latitude**	N37°26'51.81790"
Northing	1989878.538 ft	**Longitude**	W122°10'53.82449"	**Longitude**	W122°10'53.82449"
Elevation	74.246 ft	**Height**	-32.732 ft	**Height**	-32.732 ft

Vector					
ΔEasting	-9467.470 ft	**NS Fwd Azimuth**	216°41'45.0"	**ΔX**	-11876.511 ft
ΔNorthing	-12246.857 ft	**Ellipsoid Dist.**	15480.519 ft	**ΔY**	-1512.287 ft
ΔElevation	65.142 ft	**ΔHeight**	65.124 ft	**ΔZ**	-9813.800 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.011 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.015 ft
σ ΔNorthing	0.018 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.022 ft
σ ΔElevation	0.026 ft	**σ ΔHeight**	0.026 ft	**σ ΔZ**	0.020 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0002330884		
Y	0.0001994744	0.0004832674	
Z	-0.0000331886	-0.0001428969	0.0004032852

Occupations

	From	To
Point ID:	DG6890	NVA007
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730770.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430772.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6890 - NVA052 (5:42:25 PM-5:53:04 PM) (S4)

Baseline observation:	DG6890 --- NVA052 (B4)
Processed:	5/13/2020 3:56:17 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.073 ft
Vertical precision:	0.076 ft
RMS:	0.046 ft
Maximum PDOP:	1.913
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 5:42:25 PM (UTC)
Processing stop time:	3/17/2020 5:53:04 PM (UTC)
Processing duration:	00:10:39
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6890				
Grid		**Local**		**Global**	
Easting	6082995.564 ft	**Latitude**	N37°28'54.55203"	**Latitude**	N37°28'54.55203"
Northing	2002125.395 ft	**Longitude**	W122°08'59.11202"	**Longitude**	W122°08'59.11202"
Elevation	9.104 ft	**Height**	-97.856 ft	**Height**	-97.857 ft

To:	NVA052				
Grid		**Local**		**Global**	
Easting	6073345.082 ft	**Latitude**	N37°25'25.78118"	**Latitude**	N37°25'25.78118"
Northing	1981178.628 ft	**Longitude**	W122°10'54.15504"	**Longitude**	W122°10'54.15504"
Elevation	137.414 ft	**Height**	30.441 ft	**Height**	30.441 ft

Vector					
ΔEasting	-9650.483 ft	**NS Fwd Azimuth**	203°43'34.0"	**ΔX**	-14743.206 ft
ΔNorthing	-20946.767 ft	**Ellipsoid Dist.**	23064.254 ft	**ΔY**	-6017.696 ft
ΔElevation	128.310 ft	**ΔHeight**	128.297 ft	**ΔZ**	-16685.315 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.025 ft
σ ΔNorthing	0.028 ft	**σ Ellipsoid Dist.**	0.030 ft	**σ ΔY**	0.030 ft
σ ΔElevation	0.039 ft	**σ ΔHeight**	0.039 ft	**σ ΔZ**	0.033 ft

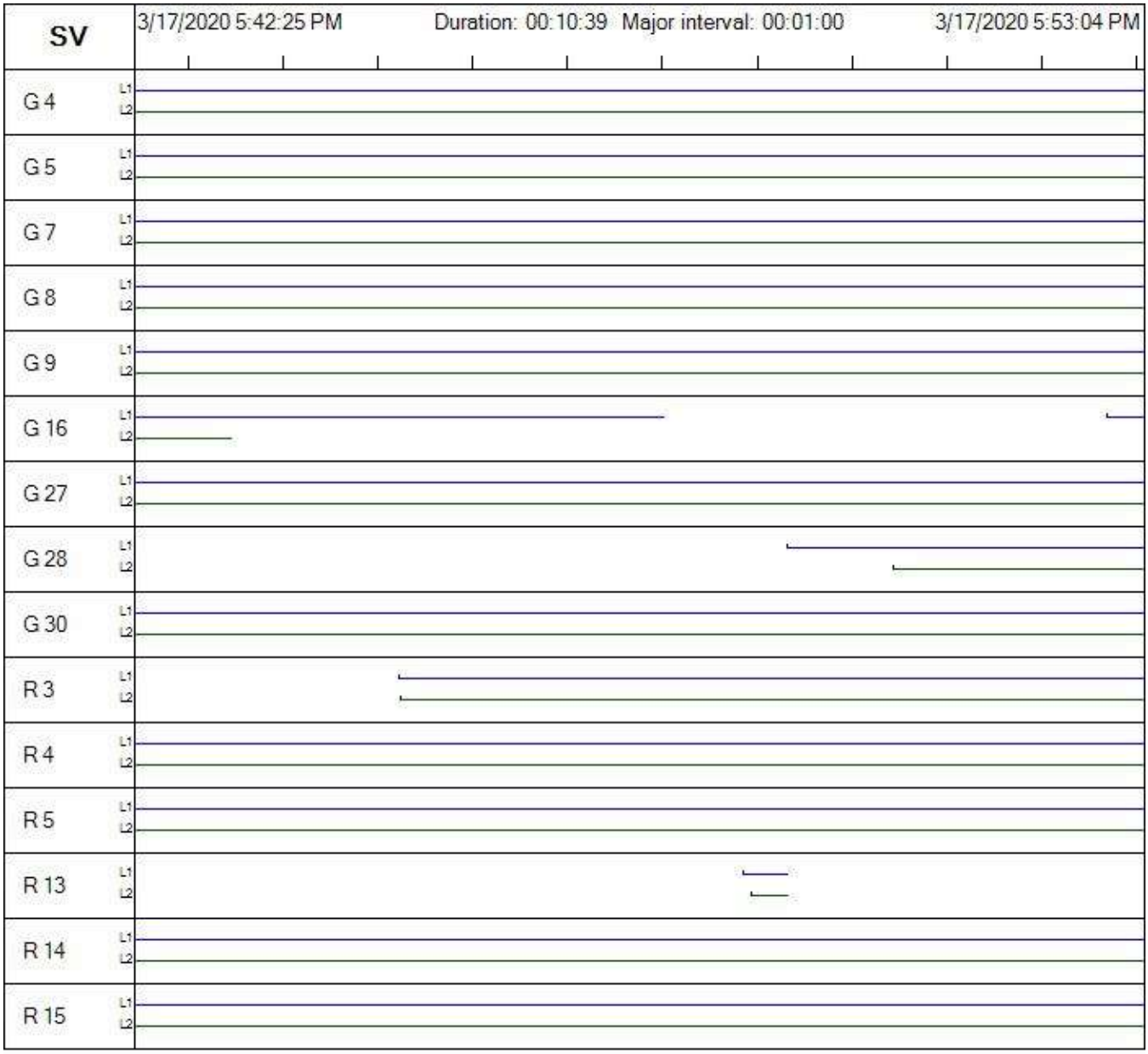
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0006145565		
Y	0.0004186720	0.0008735308	
Z	0.0000176746	-0.0004181634	0.0011164614

Occupations

	From	To
Point ID:	DG6890	NVA052
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730770.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430773.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6890 - VVA037 (5:58:39 PM-6:08:43 PM) (S5)

Baseline observation:	DG6890 --- VVA037 (B5)
Processed:	5/13/2020 3:56:19 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.047 ft
Vertical precision:	0.057 ft
RMS:	0.025 ft
Maximum PDOP:	1.467
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 5:58:39 PM (UTC)
Processing stop time:	3/17/2020 6:08:43 PM (UTC)
Processing duration:	00:10:04
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6890				
Grid		**Local**		**Global**	
Easting	6082995.564 ft	**Latitude**	N37°28'54.55203"	**Latitude**	N37°28'54.55203"
Northing	2002125.395 ft	**Longitude**	W122°08'59.11202"	**Longitude**	W122°08'59.11202"
Elevation	9.104 ft	**Height**	-97.856 ft	**Height**	-97.857 ft

To:	VVA037				
Grid		**Local**		**Global**	
Easting	6073329.305 ft	**Latitude**	N37°25'20.43566"	**Latitude**	N37°25'20.43566"
Northing	1980638.176 ft	**Longitude**	W122°10'54.23020"	**Longitude**	W122°10'54.23020"
Elevation	149.534 ft	**Height**	42.564 ft	**Height**	42.564 ft

Vector					
ΔEasting	-9666.259 ft	**NS Fwd Azimuth**	203°12'39.7"	**ΔX**	-14928.462 ft
ΔNorthing	-21487.219 ft	**Ellipsoid Dist.**	23562.697 ft	**ΔY**	-6300.703 ft
ΔElevation	140.430 ft	**ΔHeight**	140.420 ft	**ΔZ**	-17107.338 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.013 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.019 ft
σ ΔNorthing	0.018 ft	**σ Ellipsoid Dist.**	0.019 ft	**σ ΔY**	0.022 ft
σ ΔElevation	0.029 ft	**σ ΔHeight**	0.029 ft	**σ ΔZ**	0.022 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003452058		
Y	0.0002367933	0.0004869837	
Z	-0.0000578555	-0.0002612638	0.0005052575

Occupations

	From	To
Point ID:	DG6890	VVA037
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730770.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430774.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6890 - NVA055 (6:20:19 PM-6:30:22 PM) (S6)

Baseline observation:	DG6890 --- NVA055 (B6)
Processed:	5/13/2020 3:56:18 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.043 ft
Vertical precision:	0.079 ft
RMS:	0.049 ft
Maximum PDOP:	1.752
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 6:20:19 PM (UTC)
Processing stop time:	3/17/2020 6:30:22 PM (UTC)
Processing duration:	00:10:03
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6890				
Grid		**Local**		**Global**	
Easting	6082995.564 ft	**Latitude**	N37°28'54.55203"	**Latitude**	N37°28'54.55203"
Northing	2002125.395 ft	**Longitude**	W122°08'59.11202"	**Longitude**	W122°08'59.11202"
Elevation	9.104 ft	**Height**	-97.856 ft	**Height**	-97.857 ft

To:	NVA055				
Grid		**Local**		**Global**	
Easting	6068595.081 ft	**Latitude**	N37°25'16.82078"	**Latitude**	N37°25'16.82078"
Northing	1980358.001 ft	**Longitude**	W122°11'52.84756"	**Longitude**	W122°11'52.84756"
Elevation	209.114 ft	**Height**	102.184 ft	**Height**	102.184 ft

Vector					
ΔEasting	-14400.483 ft	**NS Fwd Azimuth**	212°28'37.1"	**ΔX**	-19073.862 ft
ΔNorthing	-21767.394 ft	**Ellipsoid Dist.**	26101.174 ft	**ΔY**	-4009.721 ft
ΔElevation	200.011 ft	**ΔHeight**	200.040 ft	**ΔZ**	-17361.487 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.015 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.019 ft
σ ΔNorthing	0.017 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.032 ft
σ ΔElevation	0.040 ft	**σ ΔHeight**	0.040 ft	**σ ΔZ**	0.027 ft

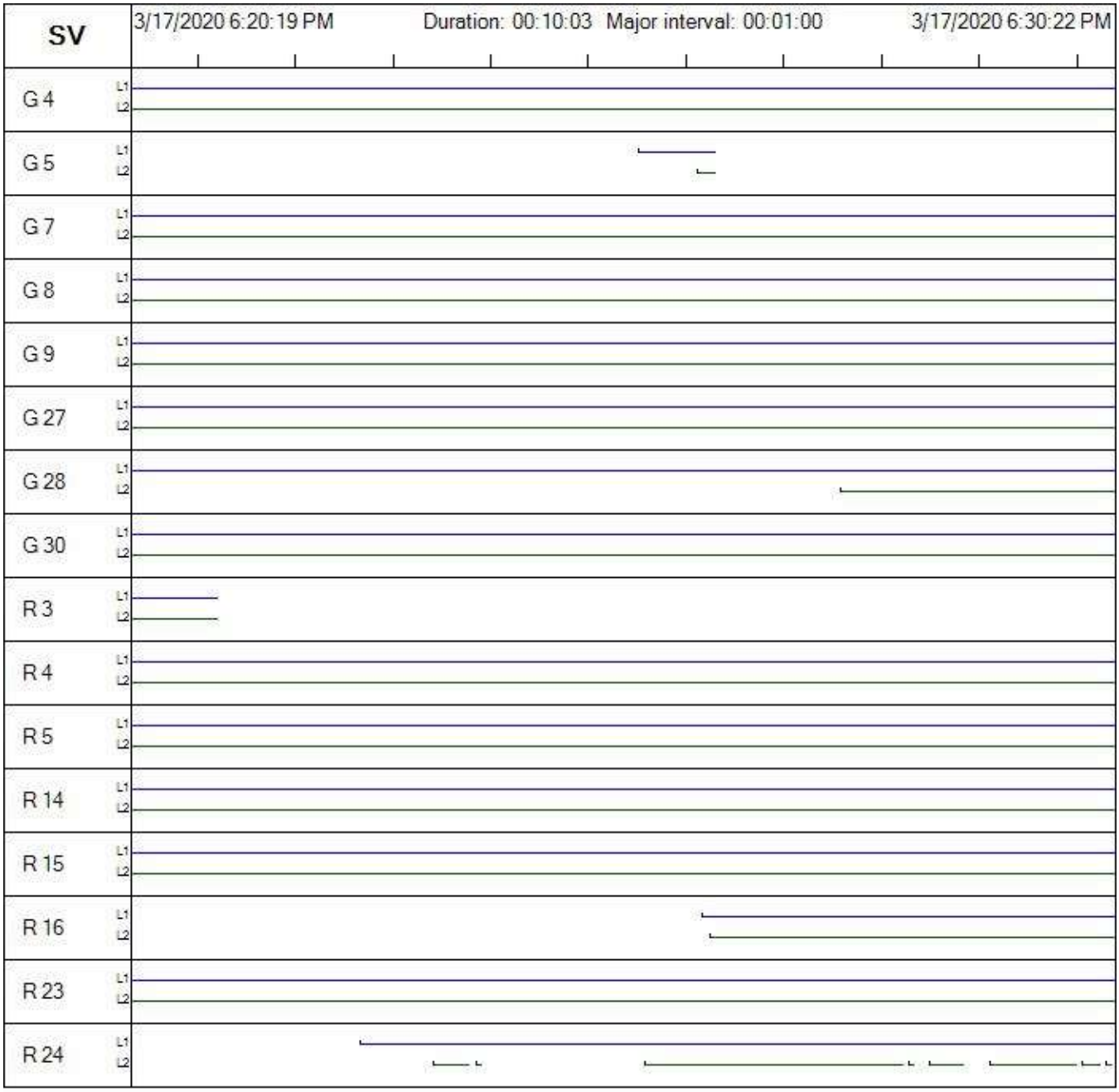
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003558989		
Y	0.0003572211	0.0010107391	
Z	-0.0001989821	-0.0006239468	0.0007407835

Occupations

	From	To
Point ID:	DG6890	NVA055
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730770.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430775.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6890 - NVA004 (6:40:30 PM-6:50:33 PM) (S7)

Baseline observation:	DG6890 --- NVA004 (B7)
Processed:	5/13/2020 3:56:19 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.073 ft
Vertical precision:	0.151 ft
RMS:	0.053 ft
Maximum PDOP:	1.769
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 6:40:30 PM (UTC)
Processing stop time:	3/17/2020 6:50:33 PM (UTC)
Processing duration:	00:10:03
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6890				
Grid		**Local**		**Global**	
Easting	6082995.564 ft	**Latitude**	N37°28'54.55203"	**Latitude**	N37°28'54.55203"
Northing	2002125.395 ft	**Longitude**	W122°08'59.11202"	**Longitude**	W122°08'59.11202"
Elevation	9.104 ft	**Height**	-97.856 ft	**Height**	-97.857 ft

To:	NVA004				
Grid		**Local**		**Global**	
Easting	6069938.100 ft	**Latitude**	N37°23'52.16515"	**Latitude**	N37°23'52.16515"
Northing	1971770.168 ft	**Longitude**	W122°11'34.27547"	**Longitude**	W122°11'34.27547"
Elevation	271.663 ft	**Height**	164.798 ft	**Height**	164.798 ft

Vector					
ΔEasting	-13057.464 ft	**NS Fwd Azimuth**	202°15'54.4"	**ΔX**	-20603.906 ft
ΔNorthing	-30355.227 ft	**Ellipsoid Dist.**	33046.325 ft	**ΔY**	-9252.198 ft
ΔElevation	262.559 ft	**ΔHeight**	262.655 ft	**ΔZ**	-24124.837 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.027 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.041 ft
σ ΔNorthing	0.030 ft	**σ Ellipsoid Dist.**	0.029 ft	**σ ΔY**	0.058 ft
σ ΔElevation	0.077 ft	**σ ΔHeight**	0.077 ft	**σ ΔZ**	0.050 ft

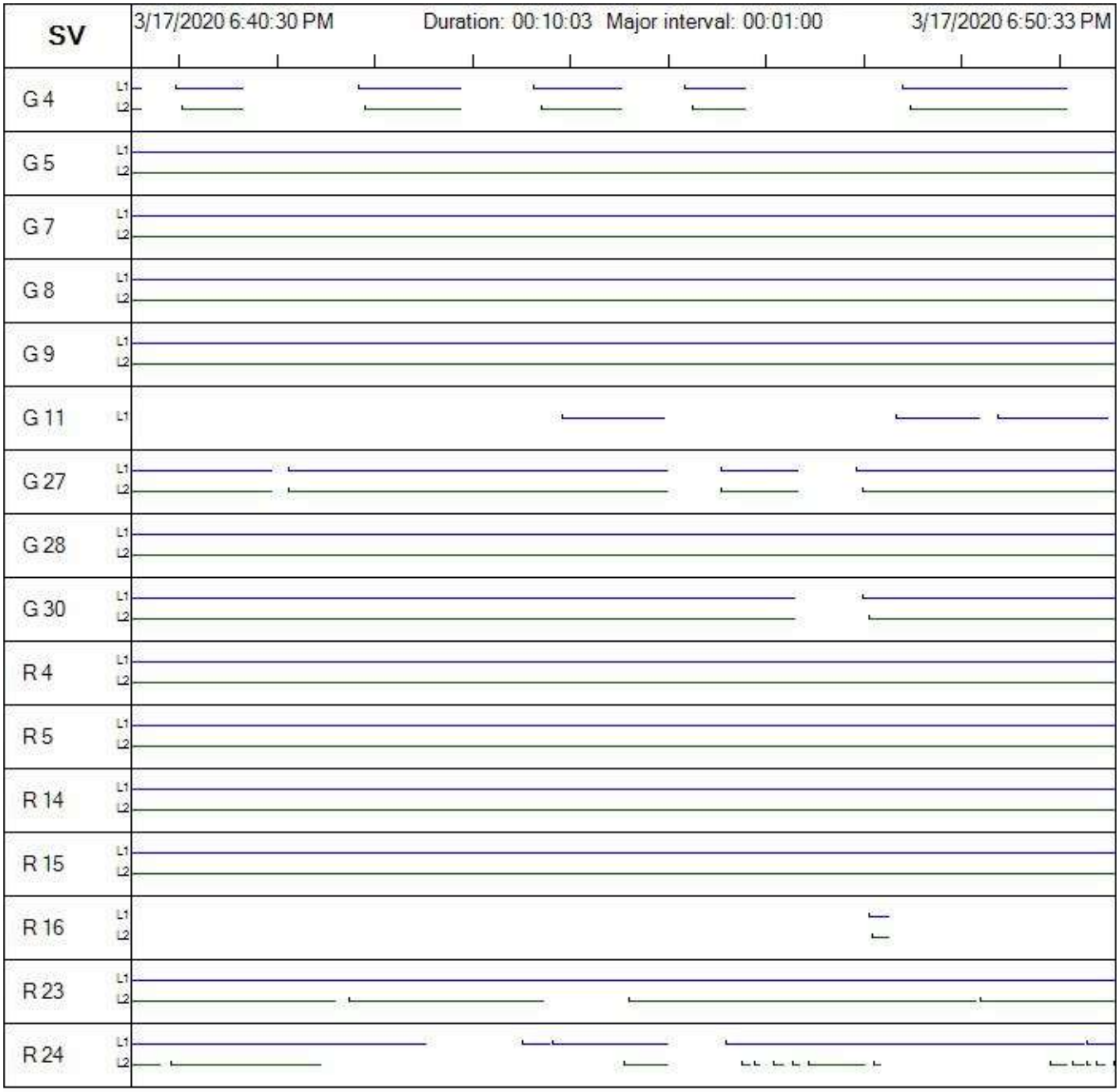
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0017146486		
Y	0.0015804593	0.0033256058	
Z	-0.0012578837	-0.0019963970	0.0024878419

Occupations

	From	To
Point ID:	DG6890	NVA004
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730770.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430776.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6890 - NVA056 (7:02:55 PM-7:23:00 PM) (S8)

Baseline observation:	DG6890 --- NVA056 (B8)
Processed:	5/13/2020 3:56:18 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.056 ft
Vertical precision:	0.104 ft
RMS:	0.053 ft
Maximum PDOP:	1.489
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 7:03:02 PM (UTC)
Processing stop time:	3/17/2020 7:22:52 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	DG6890				
Grid		**Local**		**Global**	
Easting	6082995.564 ft	**Latitude**	N37°28'54.55203"	**Latitude**	N37°28'54.55203"
Northing	2002125.395 ft	**Longitude**	W122°08'59.11202"	**Longitude**	W122°08'59.11202"
Elevation	9.104 ft	**Height**	-97.856 ft	**Height**	-97.857 ft

To:	NVA056				
Grid		**Local**		**Global**	
Easting	6058655.697 ft	**Latitude**	N37°22'54.66882"	**Latitude**	N37°22'54.66882"
Northing	1966160.436 ft	**Longitude**	W122°13'52.78718"	**Longitude**	W122°13'52.78718"
Elevation	452.221 ft	**Height**	345.513 ft	**Height**	345.513 ft

Vector					
ΔEasting	-24339.868 ft	**NS Fwd Azimuth**	213°04'43.0"	**ΔX**	-32020.876 ft
ΔNorthing	-35964.959 ft	**Ellipsoid Dist.**	43429.436 ft	**ΔY**	-6402.729 ft
ΔElevation	443.117 ft	**ΔHeight**	443.370 ft	**ΔZ**	-28635.689 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.019 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.026 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.019 ft	**σ ΔY**	0.044 ft
σ ΔElevation	0.053 ft	**σ ΔHeight**	0.053 ft	**σ ΔZ**	0.032 ft

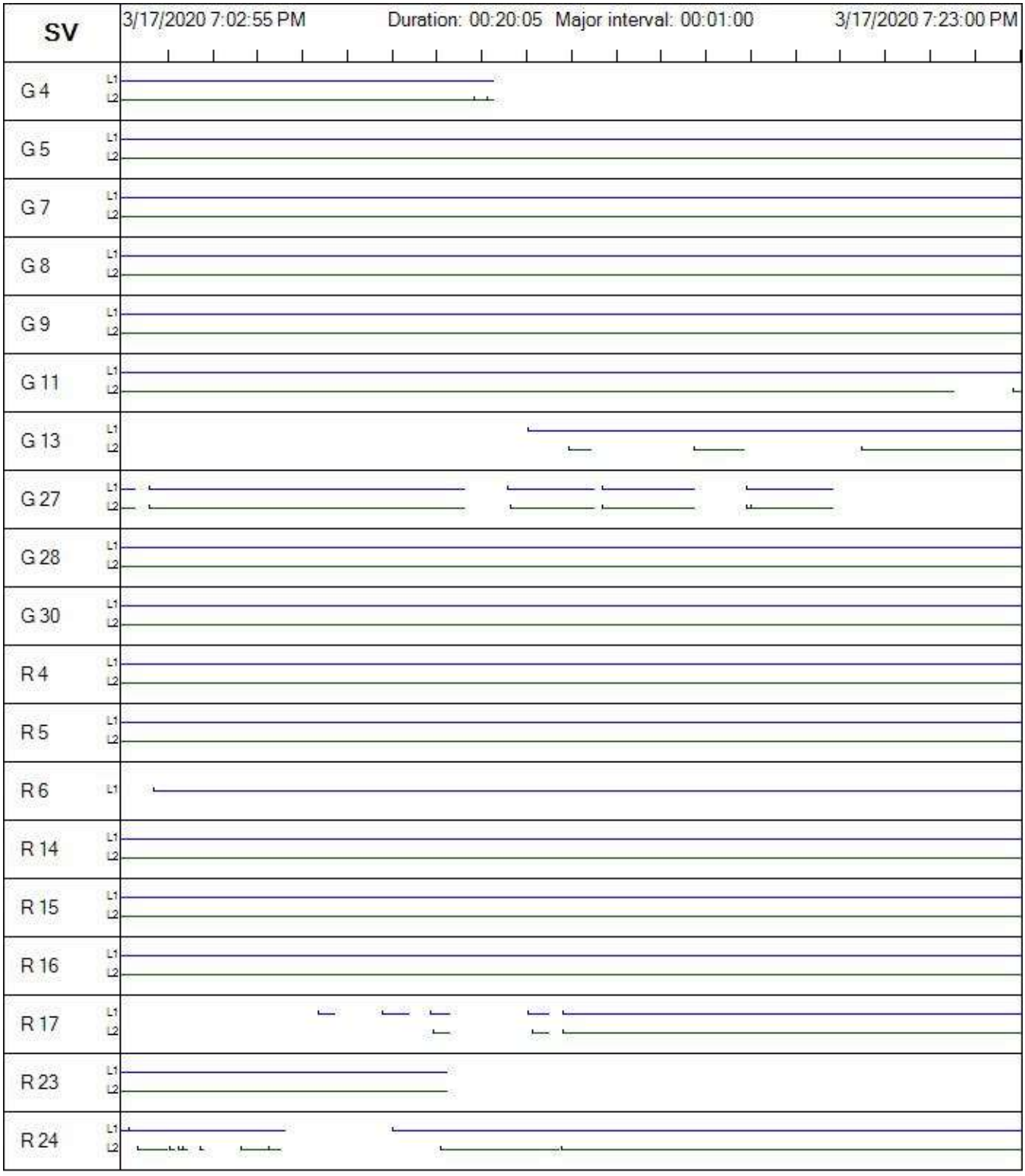
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0006883603		
Y	0.0007665266	0.0019494638	
Z	-0.0004784170	-0.0009230715	0.0010208224

Occupations

	From	To
Point ID:	DG6890	NVA056
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730770.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430777.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

DG6890 - VVA021 (7:35:29 PM-7:44:56 PM) (S9)

Baseline observation:	DG6890 --- VVA021 (B9)
Processed:	5/13/2020 3:56:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.065 ft
Vertical precision:	0.102 ft
RMS:	0.061 ft
Maximum PDOP:	1.520
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/17/2020 7:35:29 PM (UTC)
Processing stop time:	3/17/2020 7:44:56 PM (UTC)
Processing duration:	00:09:27
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	DG6890				
Grid		**Local**		**Global**	
Easting	6082995.564 ft	**Latitude**	N37°28'54.55203"	**Latitude**	N37°28'54.55203"
Northing	2002125.395 ft	**Longitude**	W122°08'59.11202"	**Longitude**	W122°08'59.11202"
Elevation	9.104 ft	**Height**	-97.856 ft	**Height**	-97.857 ft

To:	VVA021				
Grid		**Local**		**Global**	
Easting	6063716.074 ft	**Latitude**	N37°22'04.24481"	**Latitude**	N37°22'04.24481"
Northing	1960966.536 ft	**Longitude**	W122°12'48.92007"	**Longitude**	W122°12'48.92007"
Elevation	667.900 ft	**Height**	561.256 ft	**Height**	561.256 ft

Vector					
ΔEasting	-19279.490 ft	**NS Fwd Azimuth**	204°05'20.4"	**ΔX**	-29401.648 ft
ΔNorthing	-41158.859 ft	**Ellipsoid Dist.**	45453.006 ft	**ΔY**	-11915.870 ft
ΔElevation	658.796 ft	**ΔHeight**	659.113 ft	**ΔZ**	-32557.801 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.020 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.027 ft
σ ΔNorthing	0.026 ft	**σ Ellipsoid Dist.**	0.024 ft	**σ ΔY**	0.043 ft
σ ΔElevation	0.052 ft	**σ ΔHeight**	0.052 ft	**σ ΔZ**	0.034 ft

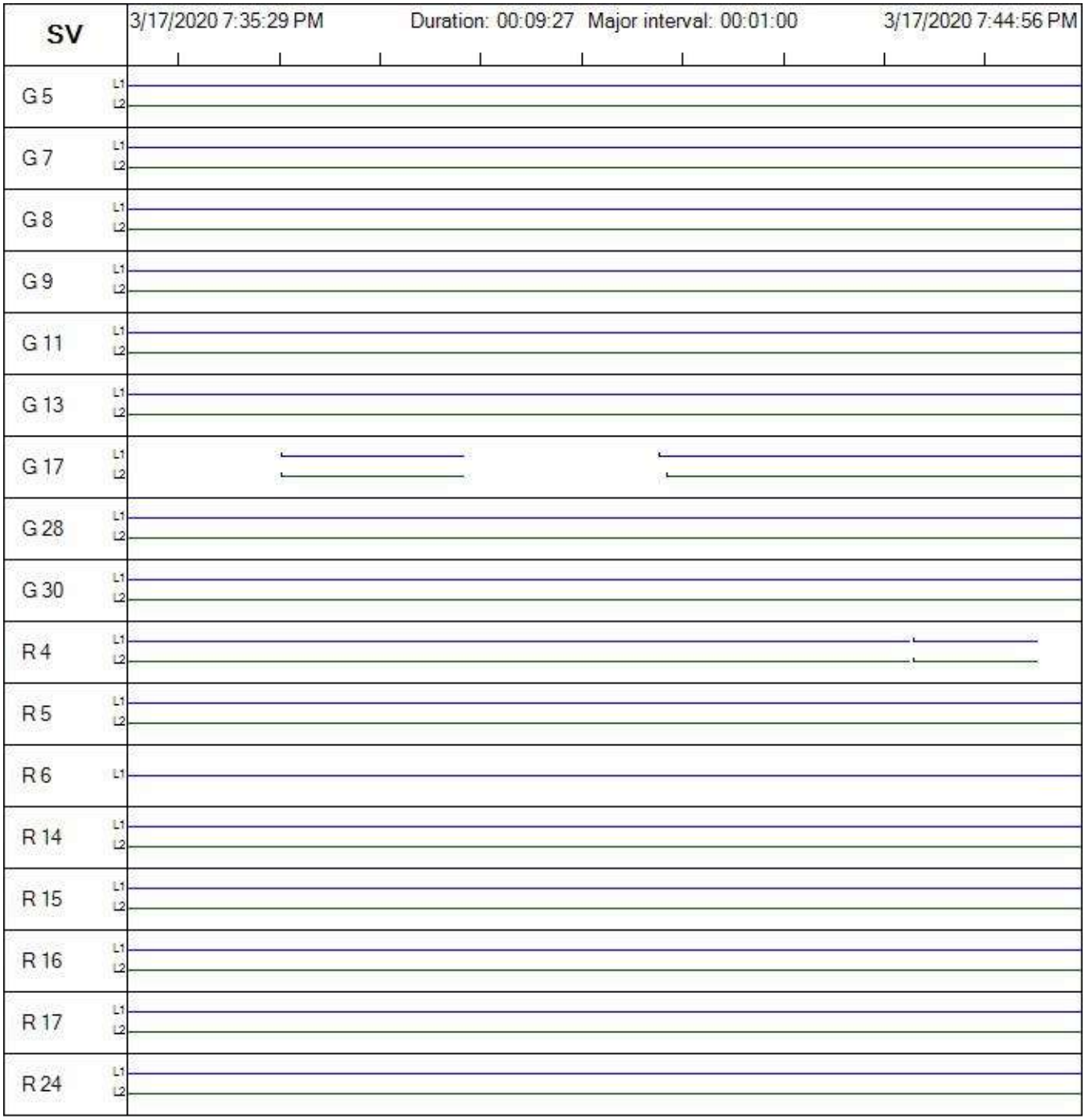
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0007247793		
Y	0.0007084065	0.0018911042	
Z	-0.0004269148	-0.0007981896	0.0011583015

Occupations

	From	To
Point ID:	DG6890	VVA021
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730770.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430778.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA025 (10:29:10 PM-10:51:03 PM) (S30)

Baseline observation:	MHCB --- VVA025 (B30)
Processed:	5/14/2020 4:38:23 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.255 ft
Vertical precision:	0.242 ft
RMS:	0.118 ft
Maximum PDOP:	7.272
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 10:29:12 PM (UTC)
Processing stop time:	3/18/2020 10:50:42 PM (UTC)
Processing duration:	00:21:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	VVA025				
Grid		**Local**		**Global**	
Easting	6129675.608 ft	**Latitude**	N37°09'12.98590"	**Latitude**	N37°09'12.98590"
Northing	1881823.973 ft	**Longitude**	W121°58'56.39137"	**Longitude**	W121°58'56.39137"
Elevation	1309.701 ft	**Height**	1203.369 ft	**Height**	1203.369 ft

Vector					
ΔEasting	-99846.496 ft	**NS Fwd Azimuth**	235°25'29.4"	**ΔX**	-104655.010 ft
ΔNorthing	-67029.706 ft	**Ellipsoid Dist.**	120263.173 ft	**ΔY**	18929.917 ft
ΔElevation	-2935.227 ft	**ΔHeight**	-2938.056 ft	**ΔZ**	-56253.936 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.077 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.041 ft
σ ΔNorthing	0.083 ft	**σ Ellipsoid Dist.**	0.046 ft	**σ ΔY**	0.125 ft
σ ΔElevation	0.124 ft	**σ ΔHeight**	0.124 ft	**σ ΔZ**	0.104 ft

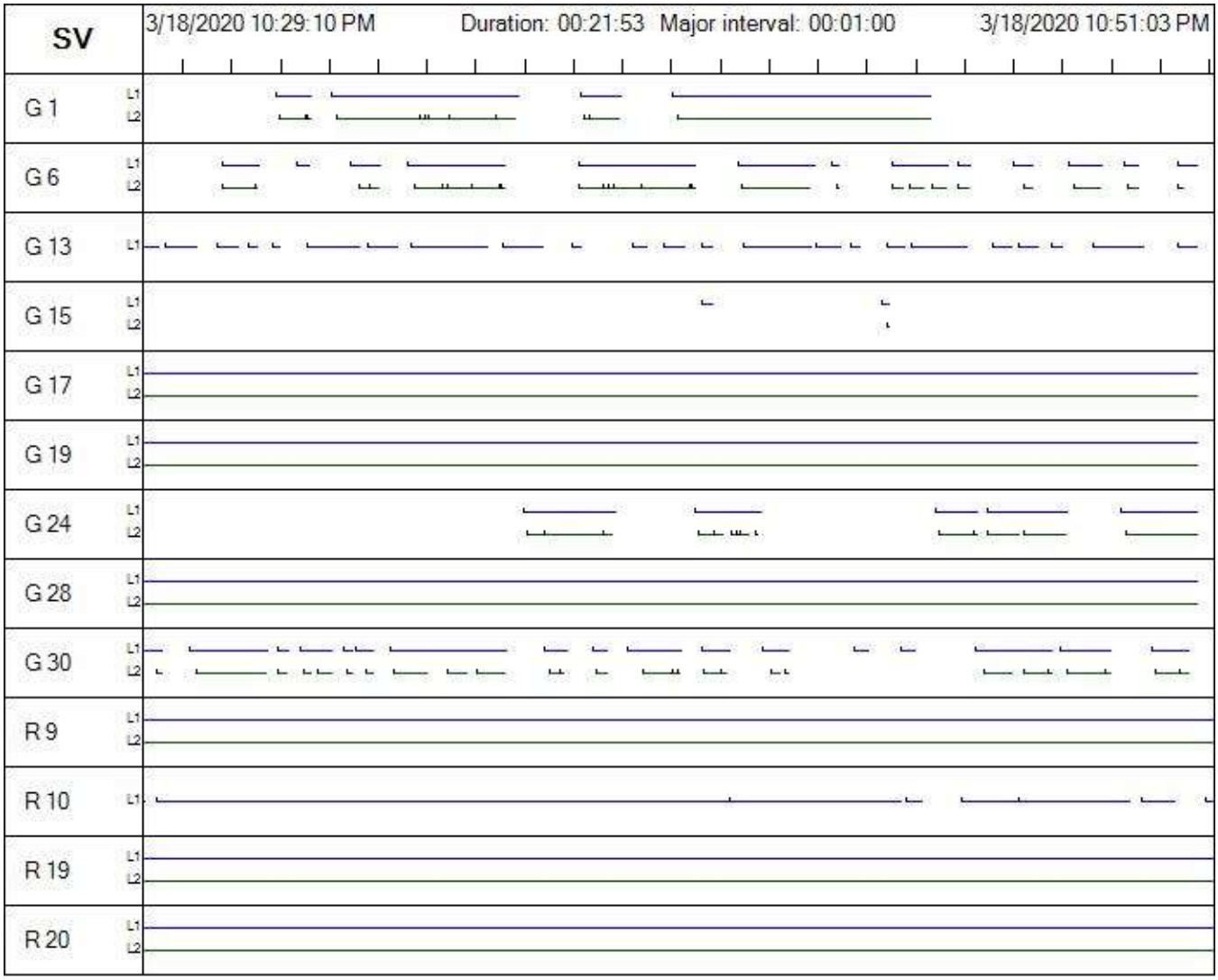
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0016427439		
Y	-0.0004176238	0.0155938587	
Z	-0.0027760432	-0.0032774074	0.0107859120

Occupations

	From	To
Point ID:	MHCB	VVA025
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740788.t02
Receiver type:	PolaRx5	R8-4
Receiver serial number:	4502928	5329440614
Antenna type:	700936 D/M Choke w/SCIS Dome	R8-4 Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA006 (9:38:53 PM-9:59:36 PM) (S31)

Baseline observation:	MHCB --- NVA006 (B31)
Processed:	5/14/2020 4:38:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.080 ft
Vertical precision:	0.154 ft
RMS:	0.049 ft
Maximum PDOP:	2.051
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 9:39:12 PM (UTC)
Processing stop time:	3/18/2020 9:59:12 PM (UTC)
Processing duration:	00:20:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	NVA006				
Grid		**Local**		**Global**	
Easting	6143613.390 ft	**Latitude**	N37°06'24.12062"	**Latitude**	N37°06'24.12062"
Northing	1864525.777 ft	**Longitude**	W121°56'00.97204"	**Longitude**	W121°56'00.97204"
Elevation	1966.652 ft	**Height**	1859.986 ft	**Height**	1859.986 ft

Vector					
ΔEasting	-85908.714 ft	**NS Fwd Azimuth**	224°49'53.5"	**ΔX**	-98335.709 ft
ΔNorthing	-84327.902 ft	**Ellipsoid Dist.**	120384.041 ft	**ΔY**	2218.583 ft
ΔElevation	-2278.275 ft	**ΔHeight**	-2281.439 ft	**ΔZ**	-69475.240 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.026 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.045 ft
σ ΔNorthing	0.033 ft	**σ Ellipsoid Dist.**	0.030 ft	**σ ΔY**	0.056 ft
σ ΔElevation	0.079 ft	**σ ΔHeight**	0.079 ft	**σ ΔZ**	0.052 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0020698959		
Y	0.0018695345	0.0031600333	
Z	-0.0014761073	-0.0018991648	0.0027150314

Occupations

	From	To
Point ID:	MHCB	NVA006
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740787.t02
Receiver type:	PolaRx5	R8-4
Receiver serial number:	4502928	5329440614
Antenna type:	700936 D/M Choke w/SCIS Dome	R8-4 Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA030 (9:00:08 PM-9:20:09 PM) (S32)

Baseline observation:	MHCB --- NVA030 (B32)
Processed:	5/14/2020 4:38:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.072 ft
Vertical precision:	0.119 ft
RMS:	0.051 ft
Maximum PDOP:	1.927
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 9:00:12 PM (UTC)
Processing stop time:	3/18/2020 9:19:42 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	NVA030				
Grid		**Local**		**Global**	
Easting	6129115.099 ft	**Latitude**	N37°09'24.32123"	**Latitude**	N37°09'24.32122"
Northing	1882979.452 ft	**Longitude**	W121°59'03.54055"	**Longitude**	W121°59'03.54055"
Elevation	1494.575 ft	**Height**	1388.254 ft	**Height**	1388.254 ft

Vector					
ΔEasting	-100407.005 ft	**NS Fwd Azimuth**	236°01'53.8"	**ΔX**	-104857.207 ft
ΔNorthing	-65874.227 ft	**Ellipsoid Dist.**	120091.263 ft	**ΔY**	19698.870 ft
ΔElevation	-2750.353 ft	**ΔHeight**	-2753.172 ft	**ΔZ**	-55228.474 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.025 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.034 ft
σ ΔNorthing	0.028 ft	**σ Ellipsoid Dist.**	0.028 ft	**σ ΔY**	0.047 ft
σ ΔElevation	0.061 ft	**σ ΔHeight**	0.061 ft	**σ ΔZ**	0.042 ft

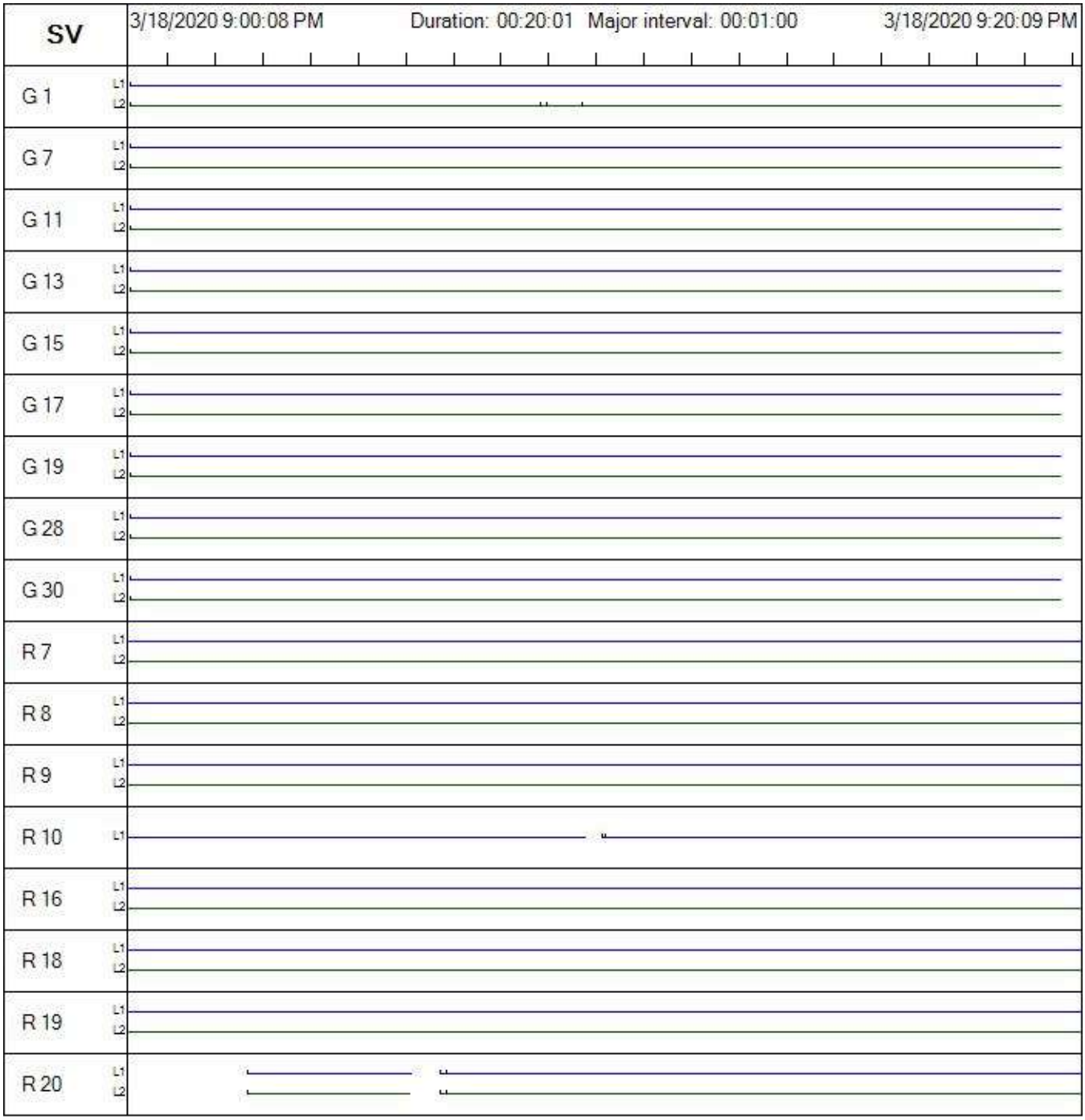
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0011871013		
Y	0.0009292287	0.0021971658	
Z	-0.0005723309	-0.0012471172	0.0017465747

Occupations

	From	To
Point ID:	MHCB	NVA030
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740786.t02
Receiver type:	PolaRx5	R8-4
Receiver serial number:	4502928	5329440614
Antenna type:	700936 D/M Choke w/SCIS Dome	R8-4 Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

VVA048 - NVA059 (8:16:21 PM-8:25:06 PM) (S17)

Baseline observation:	VVA048 --- NVA059 (B17)
Processed:	5/14/2020 4:38:25 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.170 ft
Vertical precision:	0.291 ft
RMS:	0.068 ft
Maximum PDOP:	1.472
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 8:16:21 PM (UTC)
Processing stop time:	3/18/2020 8:25:06 PM (UTC)
Processing duration:	00:08:45
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	VVA048				
Grid		**Local**		**Global**	
Easting	6129409.514 ft	**Latitude**	N37°11'47.65522"	**Latitude**	N37°11'47.65521"
Northing	1897473.342 ft	**Longitude**	W121°59'02.74329"	**Longitude**	W121°59'02.74329"
Elevation	749.441 ft	**Height**	643.147 ft	**Height**	643.147 ft

To:	NVA059				
Grid		**Local**		**Global**	
Easting	6170002.237 ft	**Latitude**	N37°23'58.19777"	**Latitude**	N37°23'58.19776"
Northing	1970754.357 ft	**Longitude**	W121°50'54.13513"	**Longitude**	W121°50'54.13513"
Elevation	187.936 ft	**Height**	81.507 ft	**Height**	81.507 ft

Vector					
ΔEasting	40592.723 ft	**NS Fwd Azimuth**	28°04'31.2"	**ΔX**	57420.461 ft
ΔNorthing	73281.015 ft	**Ellipsoid Dist.**	83776.053 ft	**ΔY**	17512.360 ft
ΔElevation	-561.505 ft	**ΔHeight**	-561.640 ft	**ΔZ**	58439.581 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.050 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.093 ft
σ ΔNorthing	0.066 ft	**σ Ellipsoid Dist.**	0.069 ft	**σ ΔY**	0.117 ft
σ ΔElevation	0.148 ft	**σ ΔHeight**	0.148 ft	**σ ΔZ**	0.080 ft

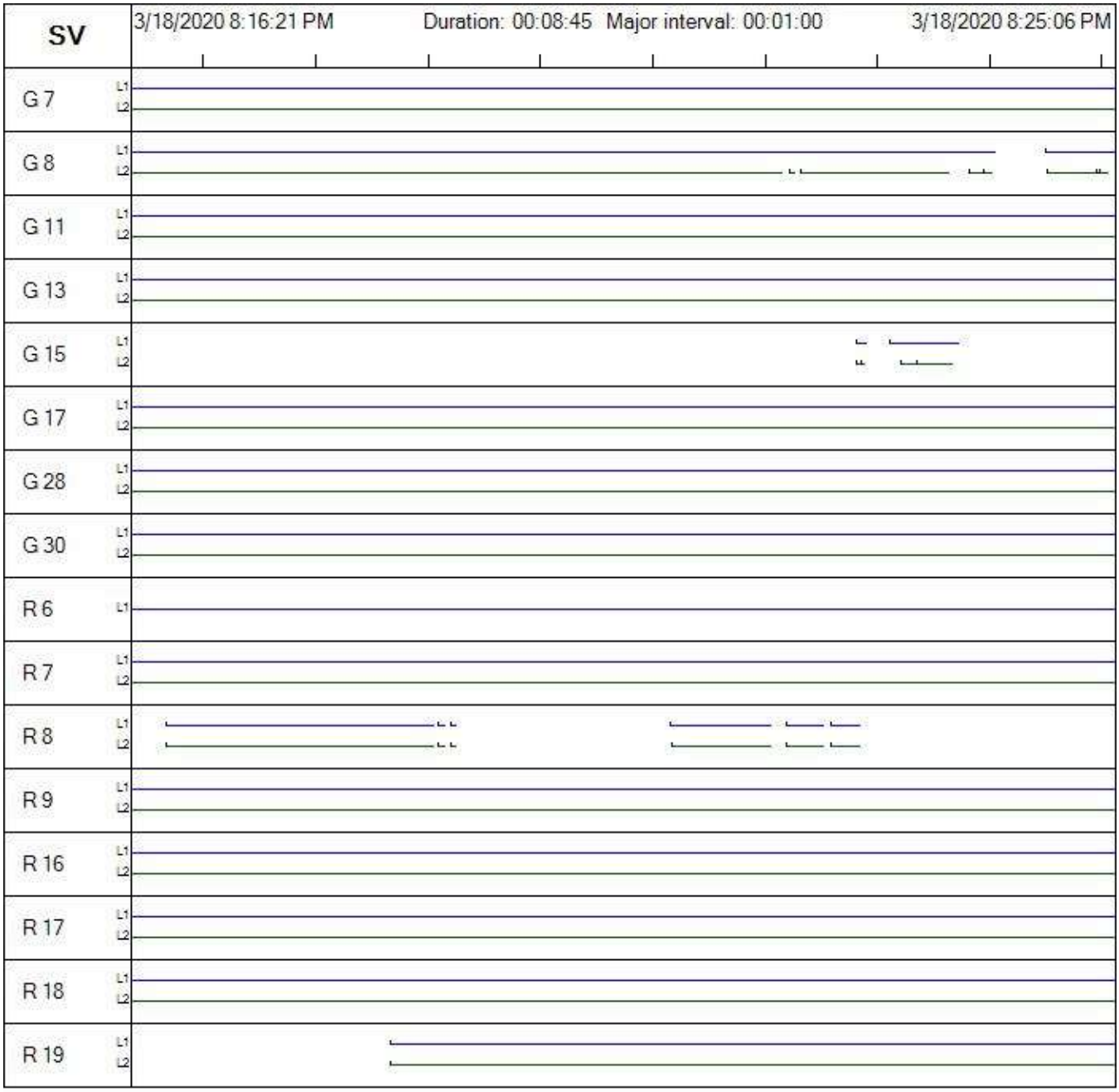
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0086834070		
Y	0.0085192367	0.0137903709	
Z	-0.0036522509	-0.0062286858	0.0063536905

Occupations

	From	To
Point ID:	VVA048	NVA059
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740785.t02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430783.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5018426973
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA048 (8:16:21 PM-8:40:08 PM) (S33)

Baseline observation:	MHCB --- VVA048 (B33)
Processed:	5/14/2020 4:38:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.090 ft
Vertical precision:	0.314 ft
RMS:	0.077 ft
Maximum PDOP:	1.841
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 8:16:42 PM (UTC)
Processing stop time:	3/18/2020 8:39:42 PM (UTC)
Processing duration:	00:23:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	VVA048				
Grid		**Local**		**Global**	
Easting	6129409.557 ft	**Latitude**	N37°11'47.65646"	**Latitude**	N37°11'47.65645"
Northing	1897473.467 ft	**Longitude**	W121°59'02.74278"	**Longitude**	W121°59'02.74278"
Elevation	749.178 ft	**Height**	642.884 ft	**Height**	642.884 ft

Vector					
ΔEasting	-100112.547 ft	**NS Fwd Azimuth**	242°07'53.0"	**ΔX**	-99847.450 ft
ΔNorthing	-51380.212 ft	**Ellipsoid Dist.**	112531.529 ft	**ΔY**	27599.176 ft
ΔElevation	-3495.749 ft	**ΔHeight**	-3498.542 ft	**ΔZ**	-44127.325 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.030 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.076 ft
σ ΔNorthing	0.036 ft	**σ Ellipsoid Dist.**	0.033 ft	**σ ΔY**	0.117 ft
σ ΔElevation	0.160 ft	**σ ΔHeight**	0.160 ft	**σ ΔZ**	0.092 ft

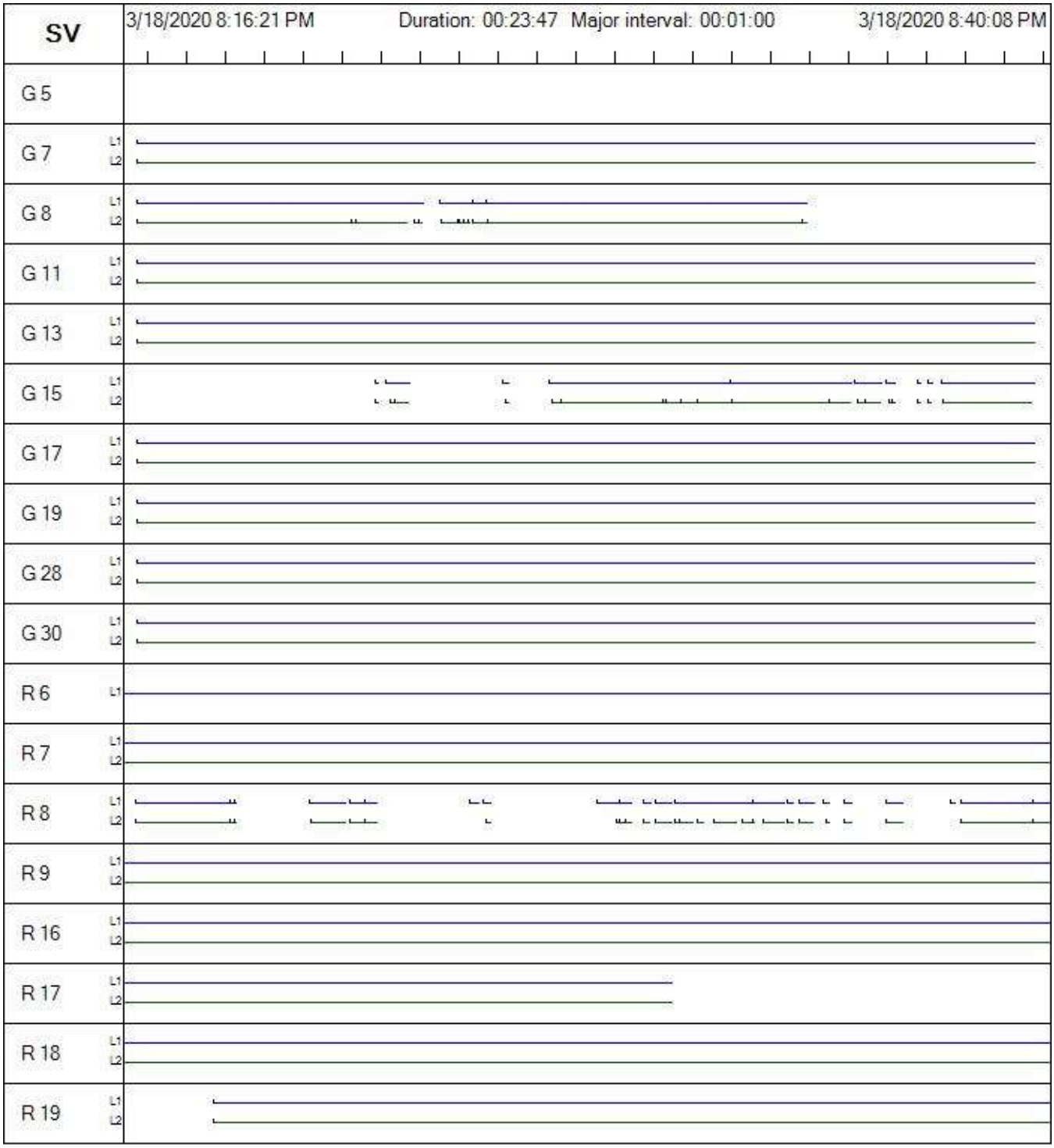
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0057466125		
Y	0.0078419519	0.0135793611	
Z	-0.0058010444	-0.0096721215	0.0085560190

Occupations

	From	To
Point ID:	MHCB	VVA048
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740785.t02
Receiver type:	PolaRx5	R8-4
Receiver serial number:	4502928	5329440614
Antenna type:	700936 D/M Choke w/SCIS Dome	R8-4 Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA031 (7:40:52 PM-8:00:54 PM) (S34)

Baseline observation:	MHCB --- NVA031 (B34)
Processed:	5/14/2020 4:38:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.077 ft
Vertical precision:	0.106 ft
RMS:	0.052 ft
Maximum PDOP:	1.683
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 7:41:12 PM (UTC)
Processing stop time:	3/18/2020 8:00:42 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	NVA031				
Grid		**Local**		**Global**	
Easting	6133063.433 ft	**Latitude**	N37°13'30.60710"	**Latitude**	N37°13'30.60709"
Northing	1907829.433 ft	**Longitude**	W121°58'19.60128"	**Longitude**	W121°58'19.60128"
Elevation	351.445 ft	**Height**	244.890 ft	**Height**	244.890 ft

Vector					
ΔEasting	-96458.671 ft	**NS Fwd Azimuth**	246°15'33.2"	**ΔX**	-93384.204 ft
ΔNorthing	-41024.246 ft	**Ellipsoid Dist.**	104824.087 ft	**ΔY**	31361.339 ft
ΔElevation	-3893.483 ft	**ΔHeight**	-3896.536 ft	**ΔZ**	-36075.035 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.025 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.031 ft
σ ΔNorthing	0.031 ft	**σ Ellipsoid Dist.**	0.025 ft	**σ ΔY**	0.048 ft
σ ΔElevation	0.054 ft	**σ ΔHeight**	0.054 ft	**σ ΔZ**	0.036 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0009472105		
Y	0.0007903531	0.0022764887	
Z	-0.0003732505	-0.0007525243	0.0013105881

Occupations

	From	To
Point ID:	MHCB	NVA031
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740784.t02
Receiver type:	PolaRx5	R8-4
Receiver serial number:	4502928	5329440614
Antenna type:	700936 D/M Choke w/SCIS Dome	R8-4 Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

NVA032 - NVA025 (7:18:55 PM-7:26:28 PM) (S15)

Baseline observation:	NVA032 --- NVA025 (B15)
Processed:	5/14/2020 4:38:23 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.158 ft
Vertical precision:	0.294 ft
RMS:	0.079 ft
Maximum PDOP:	1.904
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 7:18:55 PM (UTC)
Processing stop time:	3/18/2020 7:26:28 PM (UTC)
Processing duration:	00:07:33
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	NVA032				
Grid		**Local**		**Global**	
Easting	6128310.673 ft	**Latitude**	N37°16'03.90980"	**Latitude**	N37°16'03.90980"
Northing	1923411.553 ft	**Longitude**	W121°59'21.42428"	**Longitude**	W121°59'21.42428"
Elevation	284.601 ft	**Height**	177.577 ft	**Height**	177.576 ft

To:	NVA025				
Grid		**Local**		**Global**	
Easting	6184108.910 ft	**Latitude**	N37°23'49.88587"	**Latitude**	N37°23'49.88587"
Northing	1969714.008 ft	**Longitude**	W121°47'59.14641"	**Longitude**	W121°47'59.14641"
Elevation	551.544 ft	**Height**	446.056 ft	**Height**	446.056 ft

Vector					
ΔEasting	55798.237 ft	**NS Fwd Azimuth**	49°24'08.1"	**ΔX**	61774.547 ft
ΔNorthing	46302.455 ft	**Ellipsoid Dist.**	72510.856 ft	**ΔY**	-5029.471 ft
ΔElevation	266.943 ft	**ΔHeight**	268.479 ft	**ΔZ**	37638.511 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.050 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.078 ft
σ ΔNorthing	0.062 ft	**σ Ellipsoid Dist.**	0.049 ft	**σ ΔY**	0.126 ft
σ ΔElevation	0.150 ft	**σ ΔHeight**	0.150 ft	**σ ΔZ**	0.083 ft

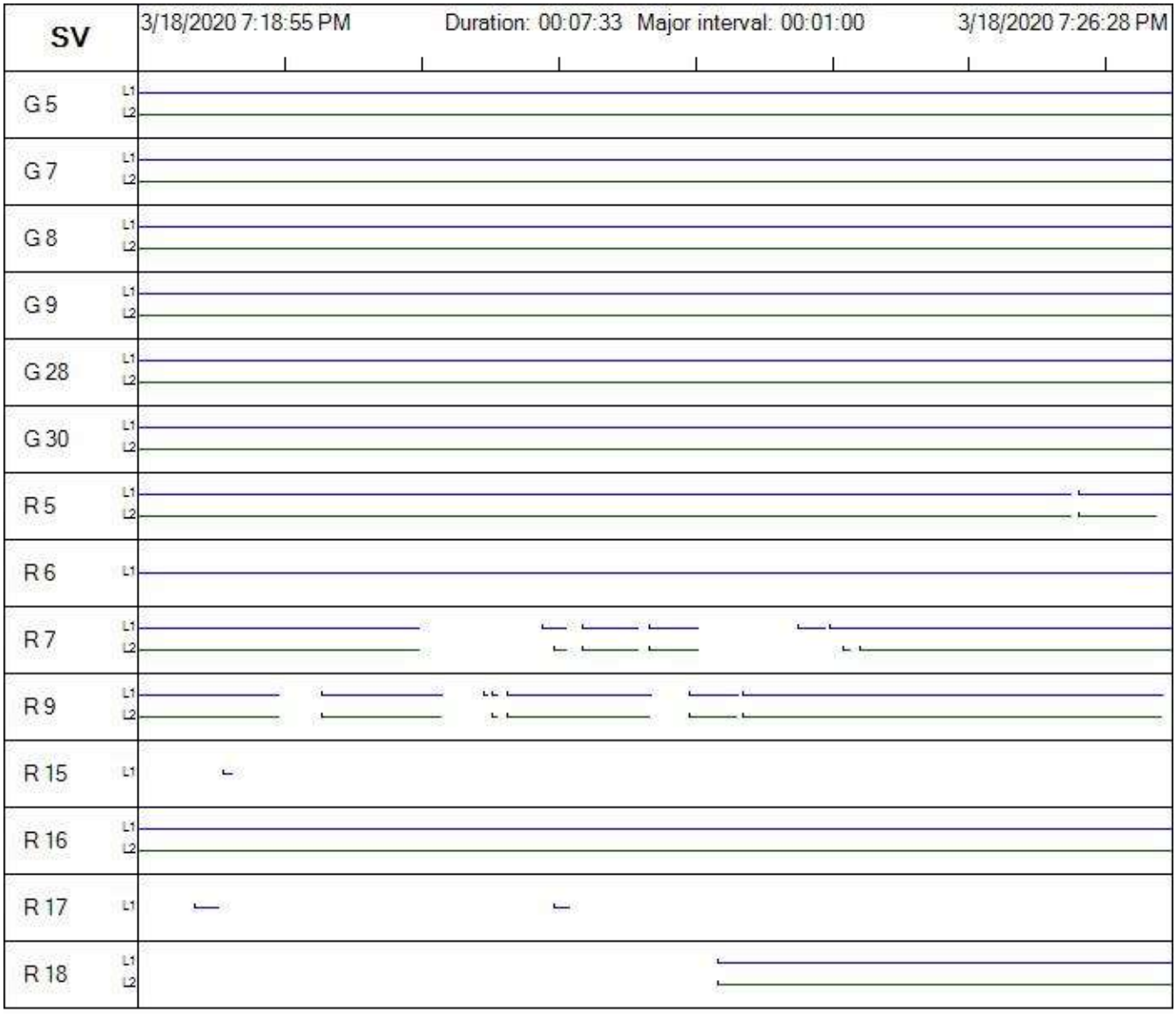
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0061035402		
Y	0.0070785241	0.0158136726	
Z	-0.0041192647	-0.0067678638	0.0069162685

Occupations

	From	To
Point ID:	NVA032	NVA025
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740783.t02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430782.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5018426973
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA032 (7:01:59 PM-7:26:28 PM) (S35)

Baseline observation:	MHCB --- NVA032 (B35)
Processed:	5/14/2020 4:38:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.068 ft
Vertical precision:	0.320 ft
RMS:	0.063 ft
Maximum PDOP:	1.834
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 7:02:12 PM (UTC)
Processing stop time:	3/18/2020 7:26:12 PM (UTC)
Processing duration:	00:24:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	NVA032				
Grid		**Local**		**Global**	
Easting	6128310.674 ft	**Latitude**	N37°16'03.91164"	**Latitude**	N37°16'03.91163"
Northing	1923411.739 ft	**Longitude**	W121°59'21.42430"	**Longitude**	W121°59'21.42430"
Elevation	283.926 ft	**Height**	176.902 ft	**Height**	176.902 ft

Vector					
ΔEasting	-101211.430 ft	**NS Fwd Azimuth**	255°11'20.8"	**ΔX**	-92625.233 ft
ΔNorthing	-25441.940 ft	**Ellipsoid Dist.**	104364.411 ft	**ΔY**	42015.285 ft
ΔElevation	-3961.001 ft	**ΔHeight**	-3964.524 ft	**ΔZ**	-23772.943 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.072 ft
σ ΔNorthing	0.027 ft	**σ Ellipsoid Dist.**	0.020 ft	**σ ΔY**	0.122 ft
σ ΔElevation	0.163 ft	**σ ΔHeight**	0.163 ft	**σ ΔZ**	0.088 ft

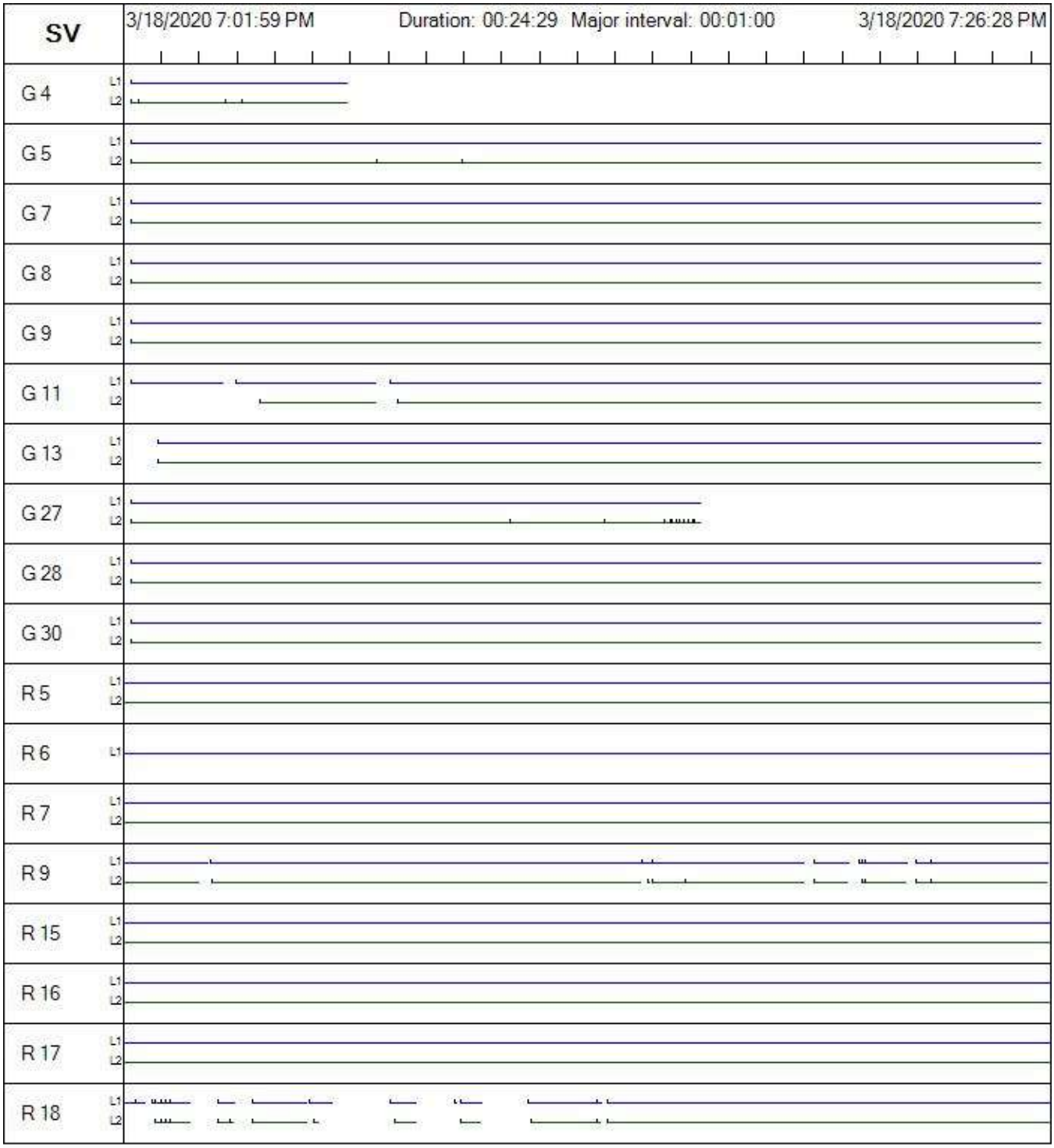
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0051561532		
Y	0.0082939036	0.0148965452	
Z	-0.0058915994	-0.0102056656	0.0077204978

Occupations

	From	To
Point ID:	MHCB	NVA032
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740783.t02
Receiver type:	PolaRx5	R8-4
Receiver serial number:	4502928	5329440614
Antenna type:	700936 D/M Choke w/SCIS Dome	R8-4 Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA017 (6:27:25 PM-6:48:19 PM) (S36)

Baseline observation:	MHCB --- VVA017 (B36)
Processed:	5/14/2020 4:38:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.078 ft
Vertical precision:	0.137 ft
RMS:	0.052 ft
Maximum PDOP:	1.964
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 6:27:42 PM (UTC)
Processing stop time:	3/18/2020 6:48:12 PM (UTC)
Processing duration:	00:20:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	VVA017				
Grid		**Local**		**Global**	
Easting	6137843.333 ft	**Latitude**	N37°15'25.43426"	**Latitude**	N37°15'25.43426"
Northing	1919369.637 ft	**Longitude**	W121°57'22.72860"	**Longitude**	W121°57'22.72860"
Elevation	278.497 ft	**Height**	171.528 ft	**Height**	171.528 ft

Vector					
ΔEasting	-91678.771 ft	**NS Fwd Azimuth**	251°28'18.0"	**ΔX**	-85730.823 ft
ΔNorthing	-29484.042 ft	**Ellipsoid Dist.**	96307.036 ft	**ΔY**	34939.065 ft
ΔElevation	-3966.431 ft	**ΔHeight**	-3969.897 ft	**ΔZ**	-26873.531 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.026 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.040 ft
σ ΔNorthing	0.031 ft	**σ Ellipsoid Dist.**	0.028 ft	**σ ΔY**	0.054 ft
σ ΔElevation	0.070 ft	**σ ΔHeight**	0.070 ft	**σ ΔZ**	0.045 ft

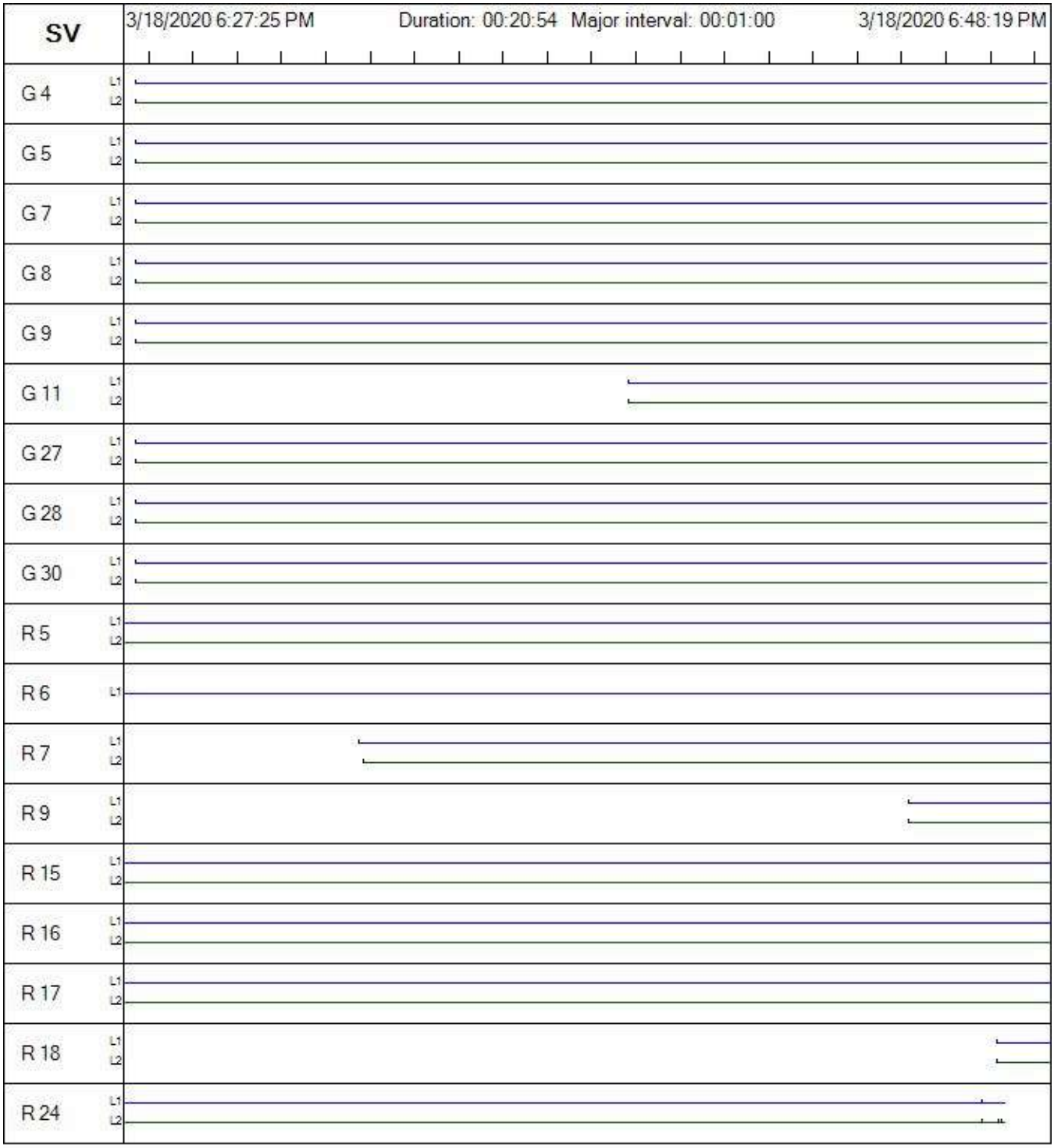
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0015831675		
Y	0.0014225934	0.0029356736	
Z	-0.0008146813	-0.0015922835	0.0020091424

Occupations

	From	To
Point ID:	MHCB	VVA017
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740782.t02
Receiver type:	PolaRx5	R8-4
Receiver serial number:	4502928	5329440614
Antenna type:	700936 D/M Choke w/SCIS Dome	R8-4 Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA044 (5:53:27 PM-6:13:38 PM) (S37)

Baseline observation:	MHCB --- NVA044 (B37)
Processed:	5/14/2020 4:38:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.160 ft
Vertical precision:	0.182 ft
RMS:	0.059 ft
Maximum PDOP:	2.041
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 5:53:42 PM (UTC)
Processing stop time:	3/18/2020 6:13:12 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	NVA044				
Grid		**Local**		**Global**	
Easting	6151502.280 ft	**Latitude**	N37°13'17.20215"	**Latitude**	N37°13'17.20215"
Northing	1906189.680 ft	**Longitude**	W121°54'31.33833"	**Longitude**	W121°54'31.33833"
Elevation	308.391 ft	**Height**	201.863 ft	**Height**	201.863 ft

Vector					
ΔEasting	-78019.825 ft	**NS Fwd Azimuth**	240°37'41.7"	**ΔX**	-78132.616 ft
ΔNorthing	-42663.999 ft	**Ellipsoid Dist.**	88926.371 ft	**ΔY**	20927.009 ft
ΔElevation	-3936.537 ft	**ΔHeight**	-3939.563 ft	**ΔZ**	-37180.684 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.040 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.061 ft
σ ΔNorthing	0.061 ft	**σ Ellipsoid Dist.**	0.056 ft	**σ ΔY**	0.074 ft
σ ΔElevation	0.093 ft	**σ ΔHeight**	0.093 ft	**σ ΔZ**	0.069 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0037190557		
Y	0.0028883279	0.0054858104	
Z	-0.0001705684	-0.0023909125	0.0047523723

Occupations

	From	To
Point ID:	MHCB	NVA044
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740781.t02
Receiver type:	PolaRx5	R8-4
Receiver serial number:	4502928	5329440614
Antenna type:	700936 D/M Choke w/SCIS Dome	R8-4 Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA063 (4:43:47 PM-4:53:48 PM) (S38)

Baseline observation:	MHCB --- NVA063 (B38)
Processed:	5/14/2020 4:38:23 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.192 ft
Vertical precision:	0.266 ft
RMS:	0.077 ft
Maximum PDOP:	1.609
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 4:44:12 PM (UTC)
Processing stop time:	3/18/2020 4:53:42 PM (UTC)
Processing duration:	00:09:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	NVA063				
Grid		**Local**		**Global**	
Easting	6149823.421 ft	**Latitude**	N37°15'39.18712"	**Latitude**	N37°15'39.18712"
Northing	1920576.948 ft	**Longitude**	W121°54'54.78269"	**Longitude**	W121°54'54.78269"
Elevation	203.905 ft	**Height**	96.968 ft	**Height**	96.968 ft

Vector					
ΔEasting	-79698.683 ft	**NS Fwd Azimuth**	249°45'54.7"	**ΔX**	-75103.664 ft
ΔNorthing	-28276.731 ft	**Ellipsoid Dist.**	84569.660 ft	**ΔY**	29377.308 ft
ΔElevation	-4041.023 ft	**ΔHeight**	-4044.458 ft	**ΔZ**	-25811.552 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.067 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.081 ft
σ ΔNorthing	0.076 ft	**σ Ellipsoid Dist.**	0.064 ft	**σ ΔY**	0.124 ft
σ ΔElevation	0.136 ft	**σ ΔHeight**	0.136 ft	**σ ΔZ**	0.081 ft

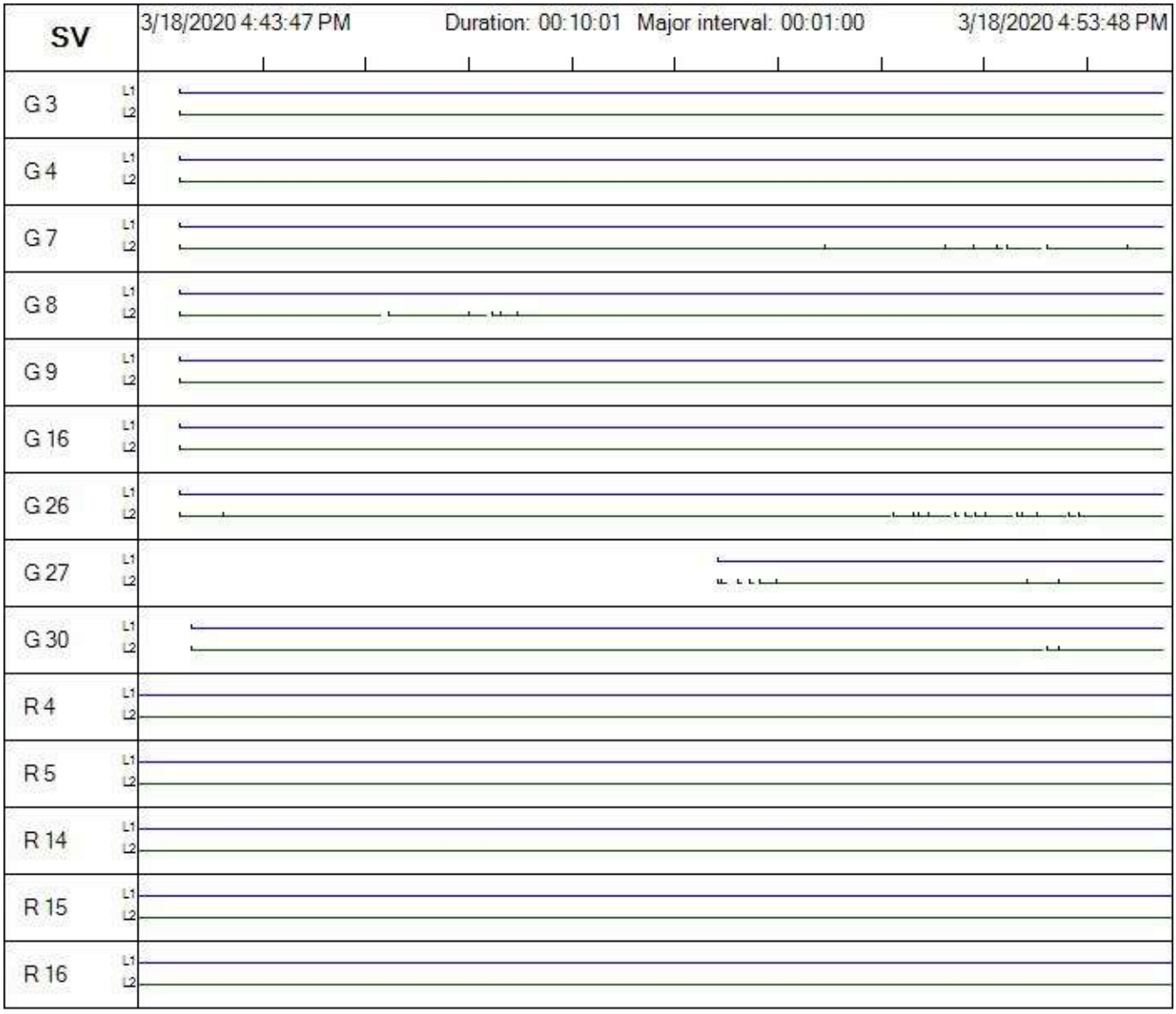
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0065915005		
Y	0.0050928959	0.0154984630	
Z	-0.0024246214	-0.0044727580	0.0066028490

Occupations

	From	To
Point ID:	MHCB	NVA063
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740780.t02
Receiver type:	PolaRx5	R8-4
Receiver serial number:	4502928	5329440614
Antenna type:	700936 D/M Choke w/SCIS Dome	R8-4 Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

NVA017 - NVA006 (9:38:53 PM-9:50:09 PM) (S21)

Baseline observation:	NVA017 --- NVA006 (B21)
Processed:	5/14/2020 4:38:18 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.156 ft
Vertical precision:	0.305 ft
RMS:	0.052 ft
Maximum PDOP:	1.651
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 9:38:53 PM (UTC)
Processing stop time:	3/18/2020 9:50:09 PM (UTC)
Processing duration:	00:11:16
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	NVA017				
Grid		**Local**		**Global**	
Easting	6169772.623 ft	**Latitude**	N37°26'50.49655"	**Latitude**	N37°26'50.49655"
Northing	1988185.844 ft	**Longitude**	W121°51'00.09678"	**Longitude**	W121°51'00.09678"
Elevation	562.798 ft	**Height**	456.956 ft	**Height**	456.956 ft

To:	NVA006				
Grid		**Local**		**Global**	
Easting	6143613.598 ft	**Latitude**	N37°06'24.12329"	**Latitude**	N37°06'24.12328"
Northing	1864526.043 ft	**Longitude**	W121°56'00.96953"	**Longitude**	W121°56'00.96953"
Elevation	1967.446 ft	**Height**	1860.779 ft	**Height**	1860.779 ft

Vector					
ΔEasting	-26159.025 ft	**NS Fwd Azimuth**	191°07'03.0"	**ΔX**	-60931.329 ft
ΔNorthing	-123659.801 ft	**Ellipsoid Dist.**	126400.834 ft	**ΔY**	-51889.923 ft
ΔElevation	1404.647 ft	**ΔHeight**	1403.823 ft	**ΔZ**	-97855.385 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.053 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.117 ft
σ ΔNorthing	0.047 ft	**σ Ellipsoid Dist.**	0.053 ft	**σ ΔY**	0.106 ft
σ ΔElevation	0.156 ft	**σ ΔHeight**	0.156 ft	**σ ΔZ**	0.064 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0137556593		
Y	0.0114598744	0.0113221885	
Z	-0.0070765047	-0.0061470703	0.0040858605

Occupations

	From	To
Point ID:	NVA017	NVA006
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430785.t02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740787.t02
Receiver type:	R8 Model 3	R8-4
Receiver serial number:	5018426973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

VVA022 - NVA032 (7:01:59 PM-7:14:08 PM) (S12)

Baseline observation:	VVA022 --- NVA032 (B12)
Processed:	5/14/2020 4:38:19 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.117 ft
Vertical precision:	0.308 ft
RMS:	0.081 ft
Maximum PDOP:	2.389
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 7:01:59 PM (UTC)
Processing stop time:	3/18/2020 7:14:08 PM (UTC)
Processing duration:	00:12:09
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	VVA022				
Grid		**Local**		**Global**	
Easting	6184558.166 ft	**Latitude**	N37°23'48.32147"	**Latitude**	N37°23'48.32147"
Northing	1969549.533 ft	**Longitude**	W121°47'53.55112"	**Longitude**	W121°47'53.55112"
Elevation	561.352 ft	**Height**	455.889 ft	**Height**	455.889 ft

To:	NVA032				
Grid		**Local**		**Global**	
Easting	6128310.673 ft	**Latitude**	N37°16'03.90980"	**Latitude**	N37°16'03.90980"
Northing	1923411.553 ft	**Longitude**	W121°59'21.42428"	**Longitude**	W121°59'21.42428"
Elevation	284.601 ft	**Height**	177.577 ft	**Height**	177.576 ft

Vector					
ΔEasting	-56247.494 ft	**NS Fwd Azimuth**	229°50'37.5"	**ΔX**	-62103.547 ft
ΔNorthing	-46137.979 ft	**Ellipsoid Dist.**	72752.733 ft	**ΔY**	5355.717 ft
ΔElevation	-276.751 ft	**ΔHeight**	-278.313 ft	**ΔZ**	-37518.774 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.038 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.070 ft
σ ΔNorthing	0.044 ft	**σ Ellipsoid Dist.**	0.034 ft	**σ ΔY**	0.129 ft
σ ΔElevation	0.157 ft	**σ ΔHeight**	0.157 ft	**σ ΔZ**	0.081 ft

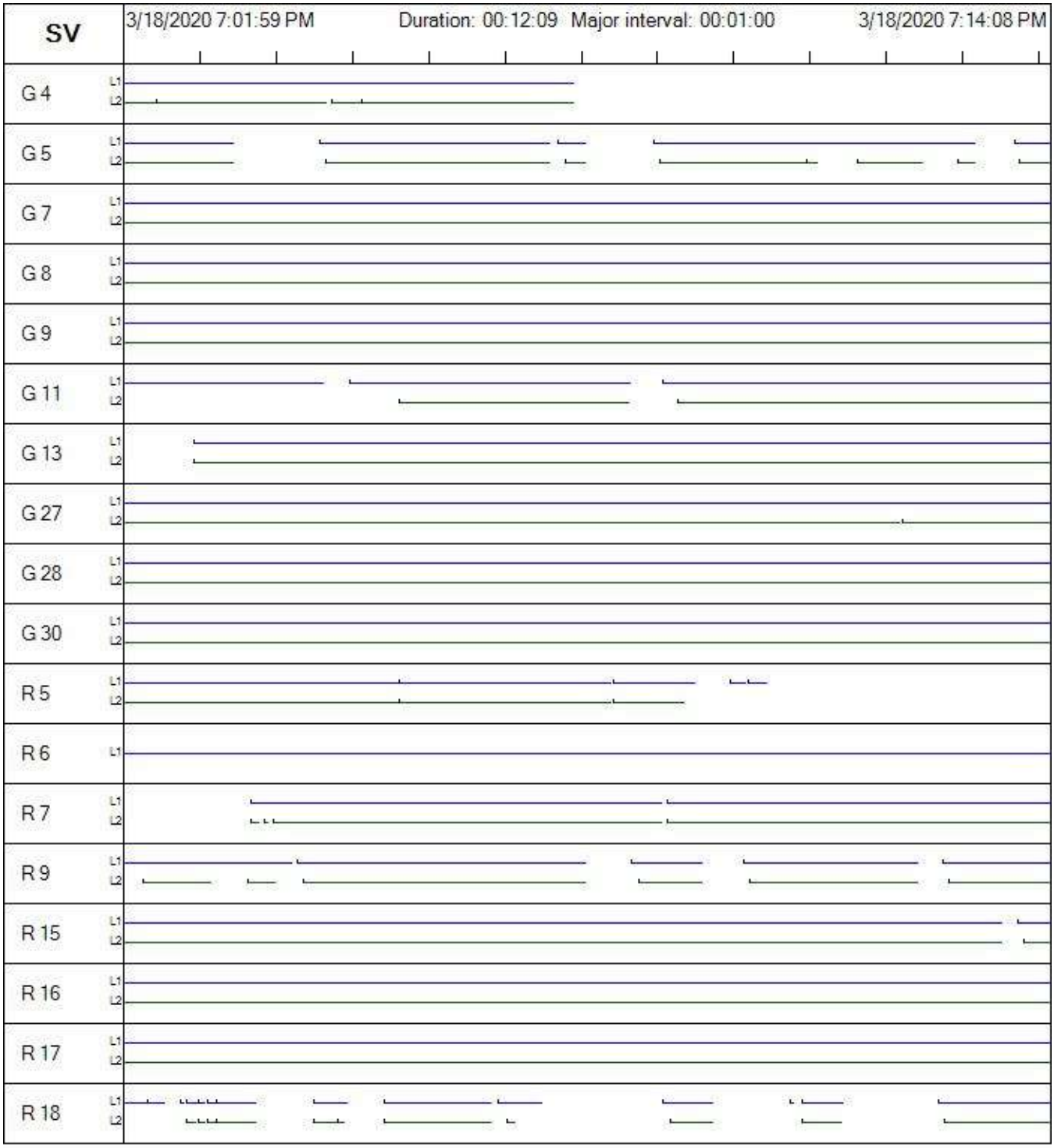
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0048874551		
Y	0.0074799793	0.0166810827	
Z	-0.0044951349	-0.0088725098	0.0065327793

Occupations

	From	To
Point ID:	VVA022	NVA032
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430781.t02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740783.t02
Receiver type:	R8 Model 3	R8-4
Receiver serial number:	5018426973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

NVA058 - NVA044 (5:53:27 PM-6:13:32 PM) (S10)

Baseline observation:	NVA058 --- NVA044 (B10)
Processed:	5/14/2020 4:38:17 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.132 ft
Vertical precision:	0.158 ft
RMS:	0.120 ft
Maximum PDOP:	2.041
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 5:53:32 PM (UTC)
Processing stop time:	3/18/2020 6:13:32 PM (UTC)
Processing duration:	00:20:00
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	NVA058				
Grid		**Local**		**Global**	
Easting	6175462.503 ft	**Latitude**	N37°21'59.20744"	**Latitude**	N37°21'59.20744"
Northing	1958640.319 ft	**Longitude**	W121°49'44.33999"	**Longitude**	W121°49'44.33999"
Elevation	153.327 ft	**Height**	46.833 ft	**Height**	46.833 ft

To:	NVA044				
Grid		**Local**		**Global**	
Easting	6151502.270 ft	**Latitude**	N37°13'17.20221"	**Latitude**	N37°13'17.20221"
Northing	1906189.686 ft	**Longitude**	W121°54'31.33846"	**Longitude**	W121°54'31.33846"
Elevation	308.397 ft	**Height**	201.869 ft	**Height**	201.869 ft

Vector					
ΔEasting	-23960.233 ft	**NS Fwd Azimuth**	203°44'15.9"	**ΔX**	-36650.941 ft
ΔNorthing	-52450.633 ft	**Ellipsoid Dist.**	57666.460 ft	**ΔY**	-15028.309 ft
ΔElevation	155.070 ft	**ΔHeight**	155.036 ft	**ΔZ**	-41908.718 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.034 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.050 ft
σ ΔNorthing	0.051 ft	**σ Ellipsoid Dist.**	0.054 ft	**σ ΔY**	0.064 ft
σ ΔElevation	0.081 ft	**σ ΔHeight**	0.081 ft	**σ ΔZ**	0.060 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0025326667		
Y	0.0020303268	0.0041497709	
Z	-0.0002457385	-0.0019034614	0.0035649032

Occupations

	From	To
Point ID:	NVA058	NVA044
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430780.t02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740781.t02
Receiver type:	R8 Model 3	R8-4
Receiver serial number:	5018426973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA017 (9:18:28 PM-9:50:09 PM) (S23)

Baseline observation:	HS2787 --- NVA017 (B23)
Processed:	5/14/2020 4:38:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.049 ft
Vertical precision:	0.320 ft
RMS:	0.090 ft
Maximum PDOP:	1.692
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 9:18:32 PM (UTC)
Processing stop time:	3/18/2020 9:50:02 PM (UTC)
Processing duration:	00:31:30
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	NVA017				
Grid		**Local**		**Global**	
Easting	6169772.611 ft	**Latitude**	N37°26'50.49676"	**Latitude**	N37°26'50.49676"
Northing	1988185.865 ft	**Longitude**	W121°51'00.09692"	**Longitude**	W121°51'00.09692"
Elevation	562.805 ft	**Height**	456.963 ft	**Height**	456.963 ft

Vector					
ΔEasting	-12239.669 ft	**NS Fwd Azimuth**	349°14'28.1"	**ΔX**	10848.766 ft
ΔNorthing	69698.654 ft	**Ellipsoid Dist.**	70768.461 ft	**ΔY**	42561.496 ft
ΔElevation	372.190 ft	**ΔHeight**	372.933 ft	**ΔZ**	55491.103 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.017 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.074 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.019 ft	**σ ΔY**	0.111 ft
σ ΔElevation	0.163 ft	**σ ΔHeight**	0.163 ft	**σ ΔZ**	0.098 ft

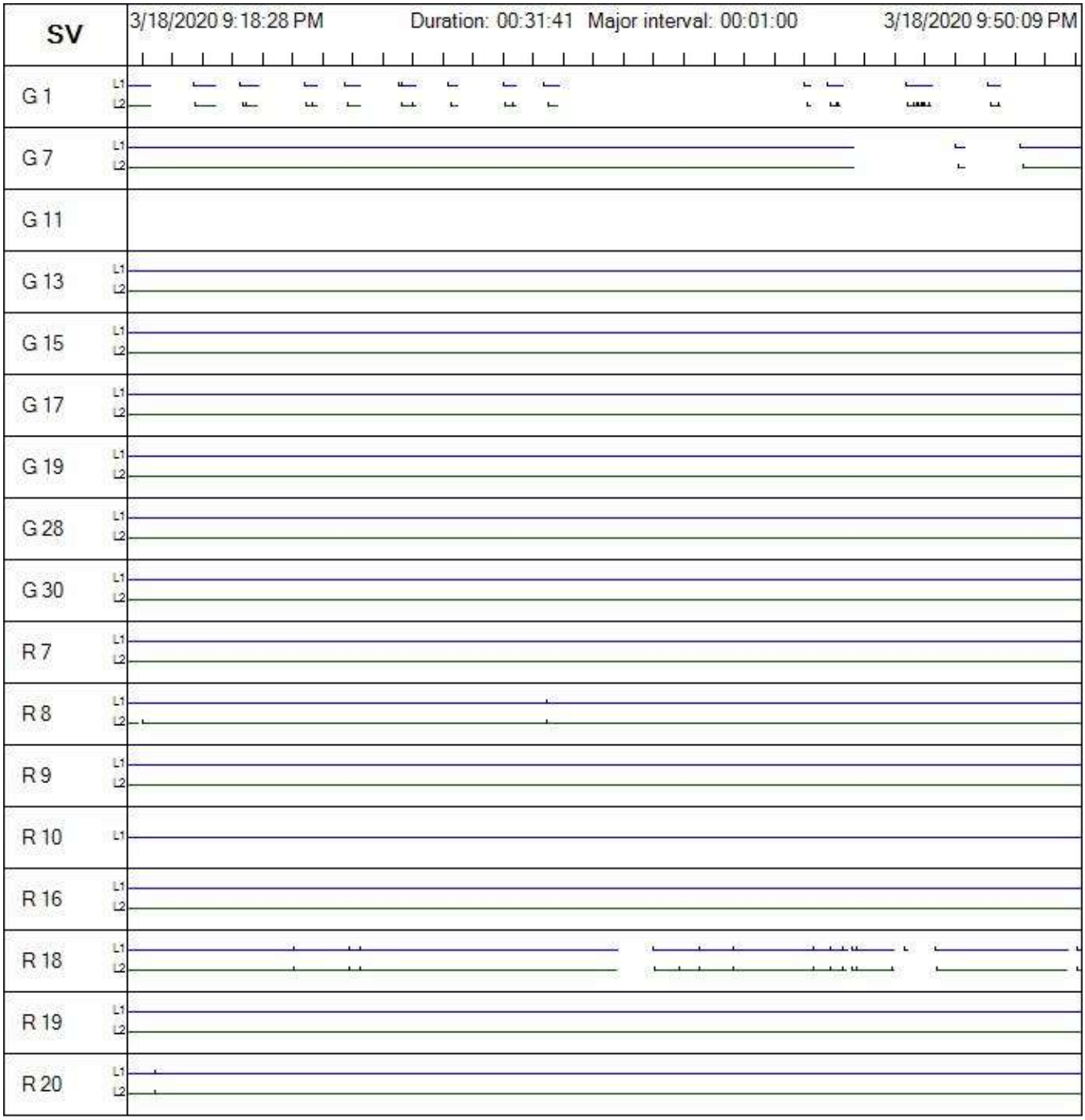
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0055219687		
Y	0.0079287031	0.0122217702	
Z	-0.0068998181	-0.0104980823	0.0096100051

Occupations

	From	To
Point ID:	HS2787	NVA017
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430785.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - VVA054 (8:38:12 PM-8:58:13 PM) (S20)

Baseline observation:	HS2787 --- VVA054 (B20)
Processed:	5/14/2020 4:38:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.162 ft
Vertical precision:	0.248 ft
RMS:	0.049 ft
Maximum PDOP:	1.864
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 8:38:12 PM (UTC)
Processing stop time:	3/18/2020 8:58:12 PM (UTC)
Processing duration:	00:20:00
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	VVA054				
Grid		**Local**		**Global**	
Easting	6167448.631 ft	**Latitude**	N37°24'49.50912"	**Latitude**	N37°24'49.50911"
Northing	1975981.461 ft	**Longitude**	W121°51'26.71868"	**Longitude**	W121°51'26.71868"
Elevation	175.082 ft	**Height**	68.675 ft	**Height**	68.675 ft

Vector					
ΔEasting	-14563.649 ft	**NS Fwd Azimuth**	344°59'12.4"	**ΔX**	5262.119 ft
ΔNorthing	57494.251 ft	**Ellipsoid Dist.**	59312.735 ft	**ΔY**	37638.849 ft
ΔElevation	-15.533 ft	**ΔHeight**	-15.355 ft	**ΔZ**	45537.361 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.051 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.089 ft
σ ΔNorthing	0.058 ft	**σ Ellipsoid Dist.**	0.052 ft	**σ ΔY**	0.095 ft
σ ΔElevation	0.127 ft	**σ ΔHeight**	0.127 ft	**σ ΔZ**	0.071 ft

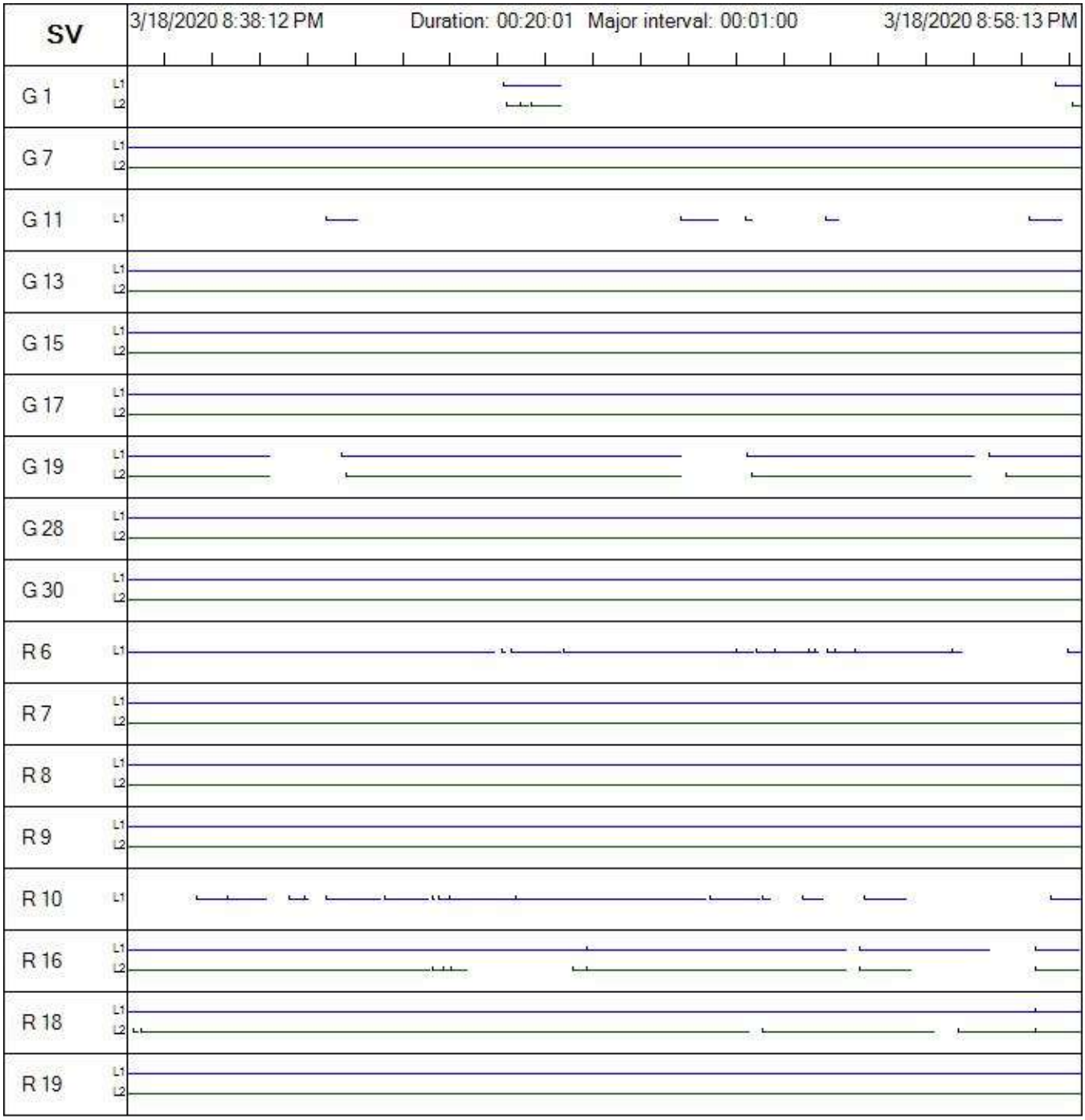
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0079656796		
Y	0.0063322184	0.0089456689	
Z	-0.0029002857	-0.0044612012	0.0050734393

Occupations

	From	To
Point ID:	HS2787	VVA054
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430784.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA059 (8:05:05 PM-8:25:06 PM) (S18)

Baseline observation:	HS2787 --- NVA059 (B18)
Processed:	5/14/2020 4:38:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.098 ft
Vertical precision:	0.159 ft
RMS:	0.063 ft
Maximum PDOP:	2.155
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 8:05:12 PM (UTC)
Processing stop time:	3/18/2020 8:25:02 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	NVA059				
Grid		**Local**		**Global**	
Easting	6170002.408 ft	**Latitude**	N37°23'58.20183"	**Latitude**	N37°23'58.20183"
Northing	1970754.766 ft	**Longitude**	W121°50'54.13308"	**Longitude**	W121°50'54.13308"
Elevation	187.849 ft	**Height**	81.420 ft	**Height**	81.419 ft

Vector					
ΔEasting	-12009.872 ft	**NS Fwd Azimuth**	346°15'38.1"	**ΔX**	5826.362 ft
ΔNorthing	52267.555 ft	**Ellipsoid Dist.**	53631.934 ft	**ΔY**	33564.982 ft
ΔElevation	-2.766 ft	**ΔHeight**	-2.611 ft	**ΔZ**	41422.832 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.028 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.051 ft
σ ΔNorthing	0.039 ft	**σ Ellipsoid Dist.**	0.037 ft	**σ ΔY**	0.062 ft
σ ΔElevation	0.081 ft	**σ ΔHeight**	0.081 ft	**σ ΔZ**	0.049 ft

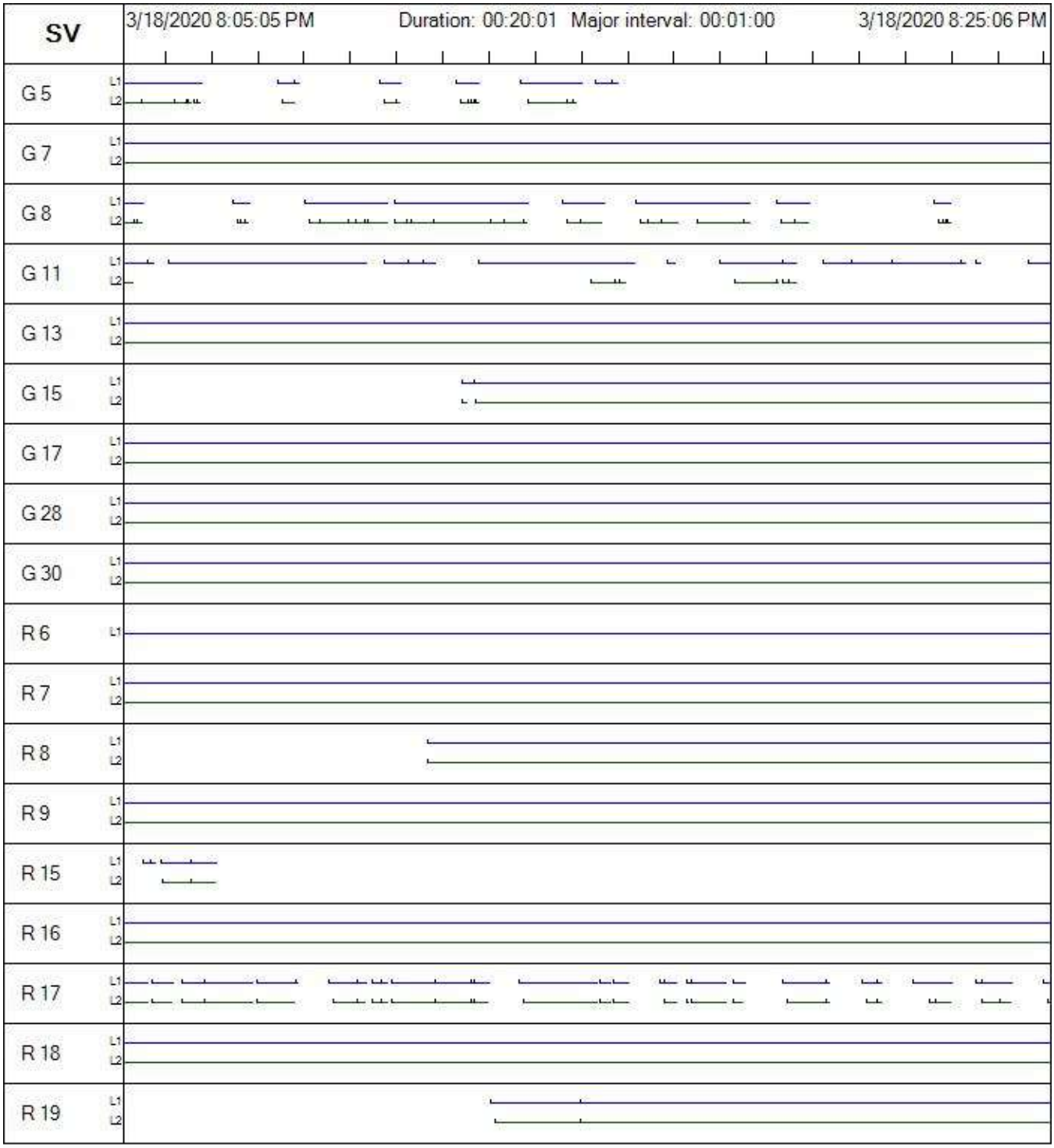
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0025545969		
Y	0.0023879417	0.0038984167	
Z	-0.0011536004	-0.0018649117	0.0024294309

Occupations

	From	To
Point ID:	HS2787	NVA059
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430783.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA025 (7:18:55 PM-7:38:56 PM) (S16)

Baseline observation:	HS2787 --- NVA025 (B16)
Processed:	5/14/2020 4:38:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.091 ft
Vertical precision:	0.160 ft
RMS:	0.048 ft
Maximum PDOP:	1.904
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 7:19:02 PM (UTC)
Processing stop time:	3/18/2020 7:38:52 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	NVA025				
Grid		**Local**		**Global**	
Easting	6184108.955 ft	**Latitude**	N37°23'49.88780"	**Latitude**	N37°23'49.88779"
Northing	1969714.202 ft	**Longitude**	W121°47'59.14588"	**Longitude**	W121°47'59.14588"
Elevation	550.870 ft	**Height**	445.382 ft	**Height**	445.382 ft

Vector					
ΔEasting	2096.675 ft	**NS Fwd Azimuth**	1°32'42.4"	**ΔX**	17402.581 ft
ΔNorthing	51226.991 ft	**Ellipsoid Dist.**	51272.102 ft	**ΔY**	25439.279 ft
ΔElevation	360.255 ft	**ΔHeight**	361.351 ft	**ΔZ**	40975.818 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.028 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.043 ft
σ ΔNorthing	0.036 ft	**σ Ellipsoid Dist.**	0.036 ft	**σ ΔY**	0.070 ft
σ ΔElevation	0.082 ft	**σ ΔHeight**	0.082 ft	**σ ΔZ**	0.045 ft

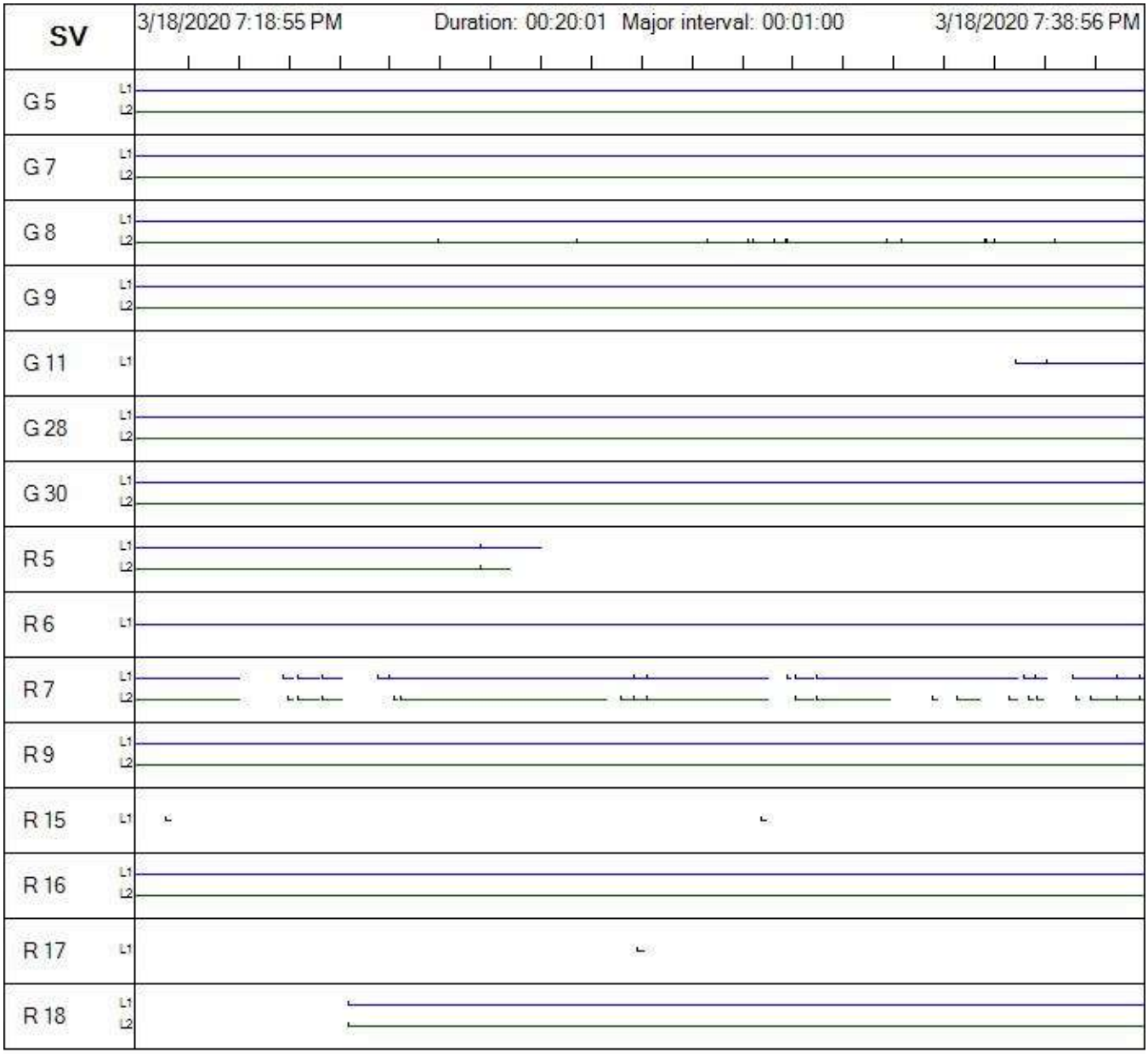
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0018770907		
Y	0.0021443574	0.0048670434	
Z	-0.0011544321	-0.0019238929	0.0020553470

Occupations

	From	To
Point ID:	HS2787	NVA025
Data file:	A:\GroundSurvey \312020310_SantaClaraCAYear5\03_Survey_Project \312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey \312020310_SantaClaraCAYear5\03_Survey_Project \312020310_SantaClaraCAYear5\88430782.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - VVA022 (6:41:26 PM-7:14:08 PM) (S14)

Baseline observation:	HS2787 --- VVA022 (B14)
Processed:	5/14/2020 4:38:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.085 ft
Vertical precision:	0.231 ft
RMS:	0.074 ft
Maximum PDOP:	3.966
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 6:41:32 PM (UTC)
Processing stop time:	3/18/2020 7:14:02 PM (UTC)
Processing duration:	00:32:30
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	VVA022				
Grid		**Local**		**Global**	
Easting	6184558.181 ft	**Latitude**	N37°23'48.32133"	**Latitude**	N37°23'48.32133"
Northing	1969549.518 ft	**Longitude**	W121°47'53.55093"	**Longitude**	W121°47'53.55093"
Elevation	561.457 ft	**Height**	455.994 ft	**Height**	455.994 ft

Vector					
ΔEasting	2545.901 ft	**NS Fwd Azimuth**	2°03'20.4"	**ΔX**	17731.164 ft
ΔNorthing	51062.307 ft	**Ellipsoid Dist.**	51127.949 ft	**ΔY**	25112.414 ft
ΔElevation	370.842 ft	**ΔHeight**	371.964 ft	**ΔZ**	40856.388 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.032 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.053 ft
σ ΔNorthing	0.034 ft	**σ Ellipsoid Dist.**	0.034 ft	**σ ΔY**	0.094 ft
σ ΔElevation	0.118 ft	**σ ΔHeight**	0.118 ft	**σ ΔZ**	0.066 ft

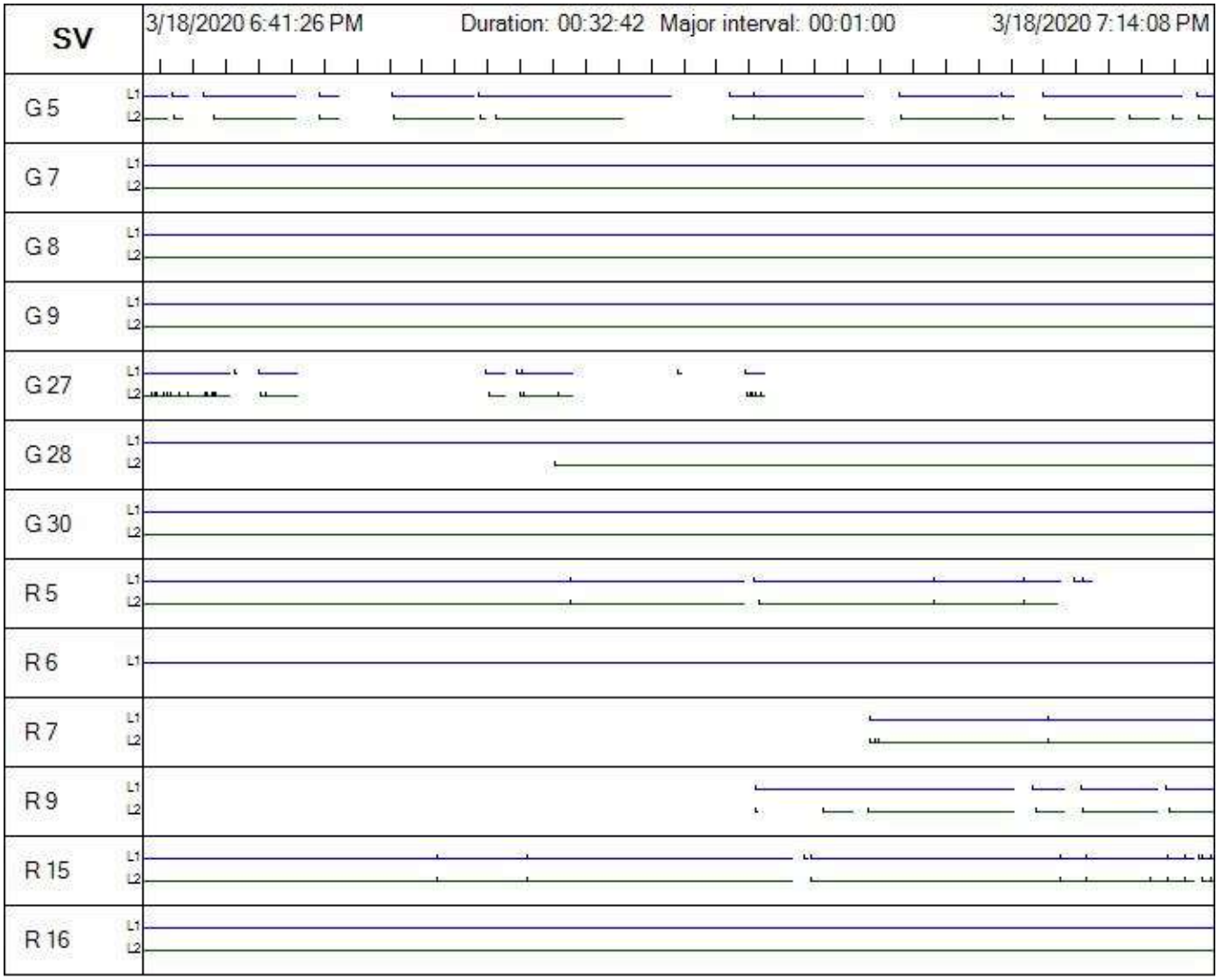
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0028575923		
Y	0.0039252398	0.0088779369	
Z	-0.0025140941	-0.0051723408	0.0042904792

Occupations

	From	To
Point ID:	HS2787	VVA022
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430781.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA058 (5:52:43 PM-6:13:32 PM) (S11)

Baseline observation:	HS2787 --- NVA058 (B11)
Processed:	5/14/2020 4:38:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.074 ft
Vertical precision:	0.103 ft
RMS:	0.073 ft
Maximum PDOP:	2.047
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 5:52:52 PM (UTC)
Processing stop time:	3/18/2020 6:13:32 PM (UTC)
Processing duration:	00:20:40
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	NVA058				
Grid		**Local**		**Global**	
Easting	6175462.494 ft	**Latitude**	N37°21'59.20735"	**Latitude**	N37°21'59.20735"
Northing	1958640.310 ft	**Longitude**	W121°49'44.34009"	**Longitude**	W121°49'44.34009"
Elevation	153.255 ft	**Height**	46.761 ft	**Height**	46.761 ft

Vector					
ΔEasting	-6549.786 ft	**NS Fwd Azimuth**	349°56'12.3"	**ΔX**	6771.564 ft
ΔNorthing	40153.099 ft	**Ellipsoid Dist.**	40685.479 ft	**ΔY**	24408.852 ft
ΔElevation	-37.360 ft	**ΔHeight**	-37.269 ft	**ΔZ**	31838.236 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.033 ft
σ ΔNorthing	0.029 ft	**σ Ellipsoid Dist.**	0.027 ft	**σ ΔY**	0.041 ft
σ ΔElevation	0.053 ft	**σ ΔHeight**	0.053 ft	**σ ΔZ**	0.035 ft

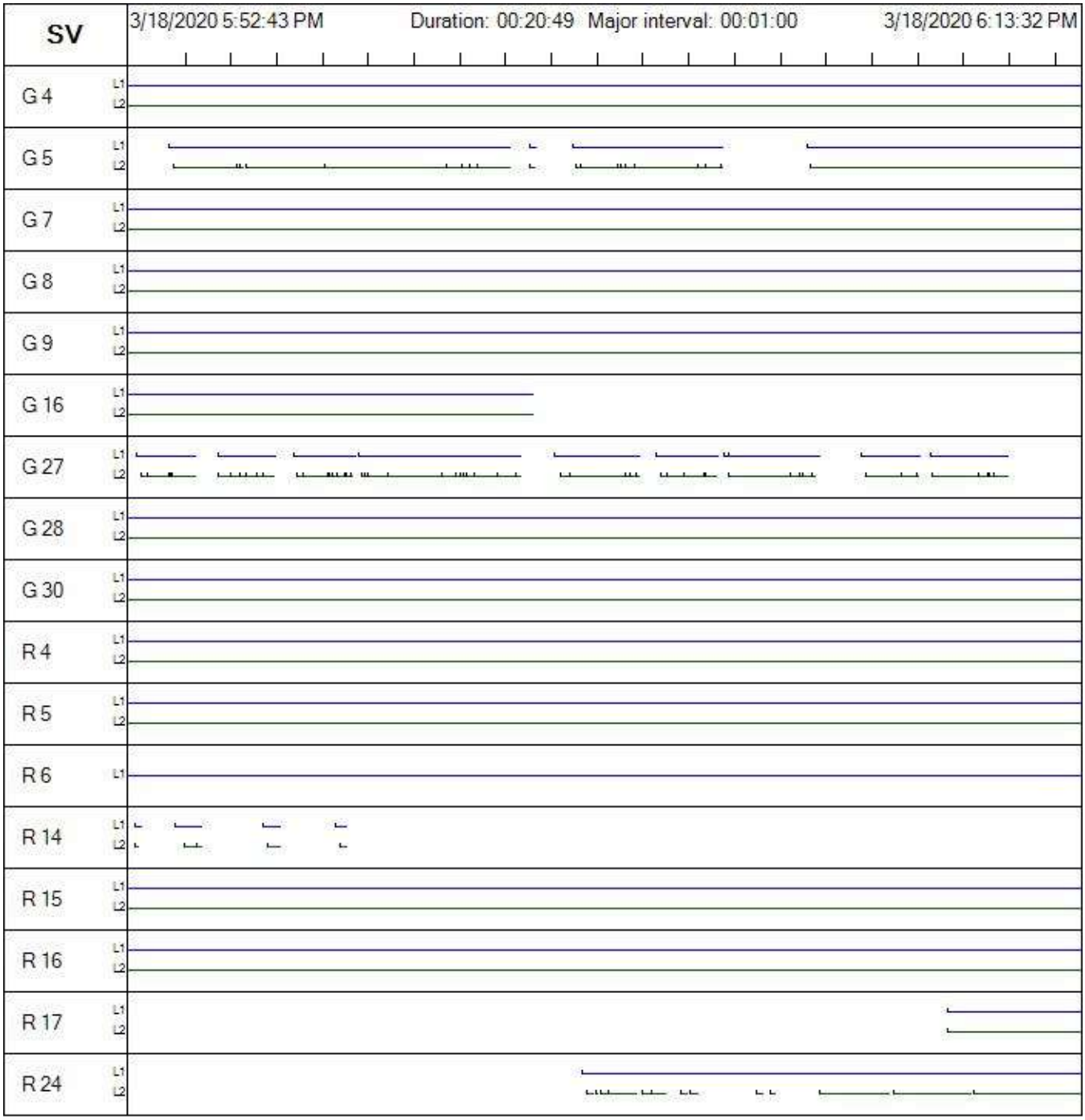
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0011010356		
Y	0.0009128300	0.0017195829	
Z	-0.0003098426	-0.0008024293	0.0012203546

Occupations

	From	To
Point ID:	HS2787	NVA058
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430780.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - VVA025 (10:29:10 PM-10:51:03 PM) (S9)

Baseline observation:	HS2787 --- VVA025 (B9)
Processed:	5/14/2020 4:38:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.191 ft
Vertical precision:	0.272 ft
RMS:	0.120 ft
Maximum PDOP:	7.537
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 10:29:12 PM (UTC)
Processing stop time:	3/18/2020 10:51:02 PM (UTC)
Processing duration:	00:21:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	VVA025				
Grid		**Local**		**Global**	
Easting	6129682.874 ft	**Latitude**	N37°09'12.99864"	**Latitude**	N37°09'12.99863"
Northing	1881825.146 ft	**Longitude**	W121°58'56.30186"	**Longitude**	W121°58'56.30186"
Elevation	1311.181 ft	**Height**	1204.850 ft	**Height**	1204.850 ft

Vector					
ΔEasting	-52329.406 ft	**NS Fwd Azimuth**	234°11'07.9"	**ΔX**	-56395.847 ft
ΔNorthing	-36662.065 ft	**Ellipsoid Dist.**	63895.874 ft	**ΔY**	7379.221 ft
ΔElevation	1120.566 ft	**ΔHeight**	1120.820 ft	**ΔZ**	-29141.770 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.065 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.048 ft
σ ΔNorthing	0.064 ft	**σ Ellipsoid Dist.**	0.048 ft	**σ ΔY**	0.112 ft
σ ΔElevation	0.139 ft	**σ ΔHeight**	0.139 ft	**σ ΔZ**	0.112 ft

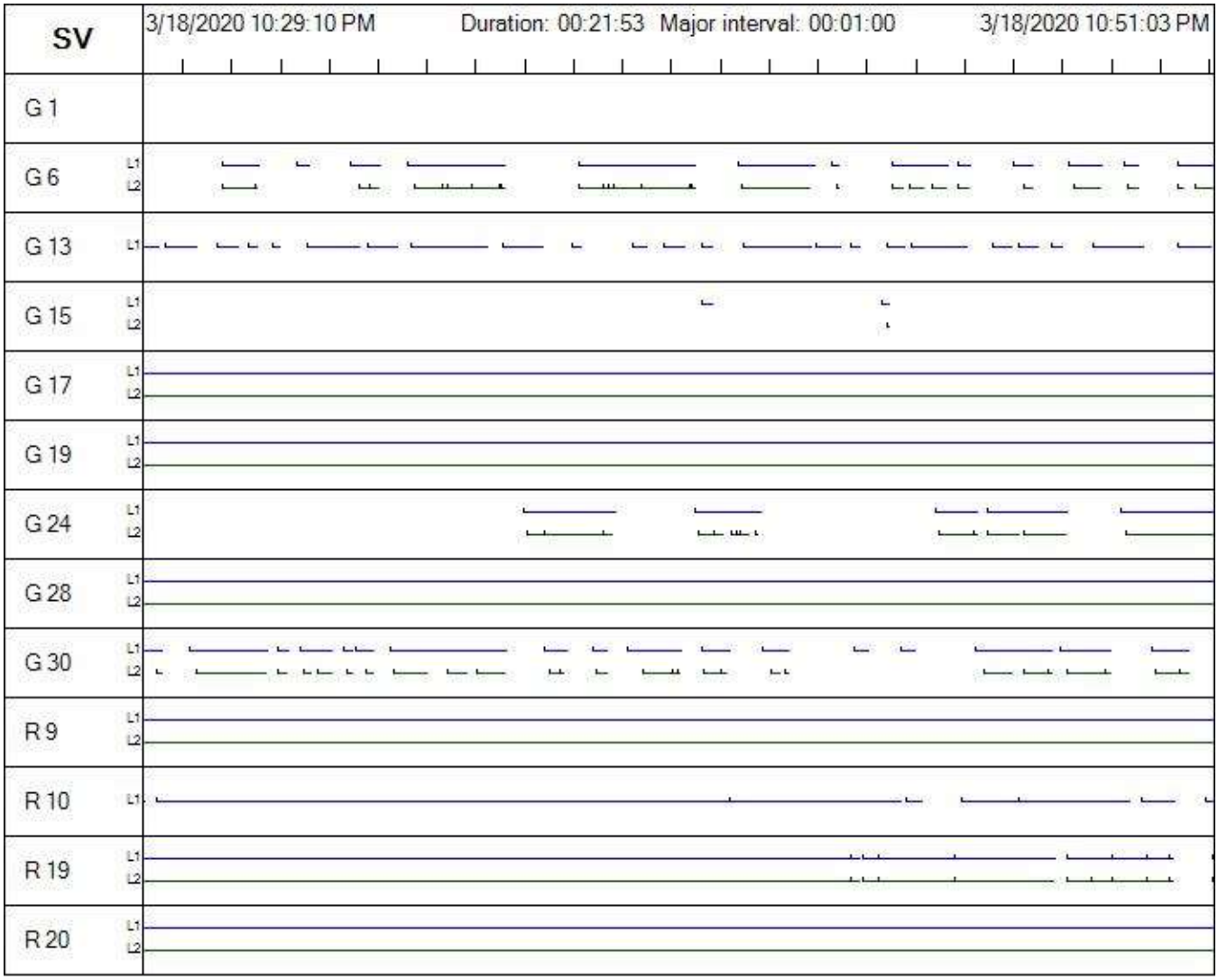
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0023450283		
Y	0.0011301675	0.0125728354	
Z	-0.0037423689	-0.0072053833	0.0125710823

Occupations

	From	To
Point ID:	HS2787	VVA025
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740788.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA006 (9:38:53 PM-9:59:36 PM) (S8)

Baseline observation:	HS2787 --- NVA006 (B8)
Processed:	5/14/2020 4:38:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.097 ft
Vertical precision:	0.186 ft
RMS:	0.074 ft
Maximum PDOP:	1.651
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 9:39:02 PM (UTC)
Processing stop time:	3/18/2020 9:59:32 PM (UTC)
Processing duration:	00:20:30
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	NVA006				
Grid		**Local**		**Global**	
Easting	6143613.380 ft	**Latitude**	N37°06'24.12095"	**Latitude**	N37°06'24.12095"
Northing	1864525.811 ft	**Longitude**	W121°56'00.97217"	**Longitude**	W121°56'00.97217"
Elevation	1966.538 ft	**Height**	1859.871 ft	**Height**	1859.871 ft

Vector					
ΔEasting	-38398.900 ft	**NS Fwd Azimuth**	214°38'11.3"	**ΔX**	-50082.430 ft
ΔNorthing	-53961.400 ft	**Ellipsoid Dist.**	66230.633 ft	**ΔY**	-9327.833 ft
ΔElevation	1775.922 ft	**ΔHeight**	1775.841 ft	**ΔZ**	-42365.039 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.032 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.055 ft
σ ΔNorthing	0.039 ft	**σ Ellipsoid Dist.**	0.038 ft	**σ ΔY**	0.068 ft
σ ΔElevation	0.095 ft	**σ ΔHeight**	0.095 ft	**σ ΔZ**	0.063 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0030200901		
Y	0.0027458108	0.0046369321	
Z	-0.0021155672	-0.0027890696	0.0039065915

Occupations

	From	To
Point ID:	HS2787	NVA006
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740787.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA030 (9:00:08 PM-9:20:09 PM) (S7)

Baseline observation:	HS2787 --- NVA030 (B7)
Processed:	5/14/2020 4:38:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.130 ft
Vertical precision:	0.202 ft
RMS:	0.096 ft
Maximum PDOP:	1.816
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 9:00:12 PM (UTC)
Processing stop time:	3/18/2020 9:20:02 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	NVA030				
Grid		**Local**		**Global**	
Easting	6129114.976 ft	**Latitude**	N37°09'24.32046"	**Latitude**	N37°09'24.32046"
Northing	1882979.376 ft	**Longitude**	W121°59'03.54206"	**Longitude**	W121°59'03.54206"
Elevation	1494.632 ft	**Height**	1388.311 ft	**Height**	1388.311 ft

Vector					
ΔEasting	-52897.304 ft	**NS Fwd Azimuth**	235°19'43.7"	**ΔX**	-56604.130 ft
ΔNorthing	-35507.834 ft	**Ellipsoid Dist.**	63711.388 ft	**ΔY**	8152.340 ft
ΔElevation	1304.017 ft	**ΔHeight**	1304.281 ft	**ΔZ**	-28118.257 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.040 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.064 ft
σ ΔNorthing	0.047 ft	**σ Ellipsoid Dist.**	0.051 ft	**σ ΔY**	0.075 ft
σ ΔElevation	0.103 ft	**σ ΔHeight**	0.103 ft	**σ ΔZ**	0.068 ft

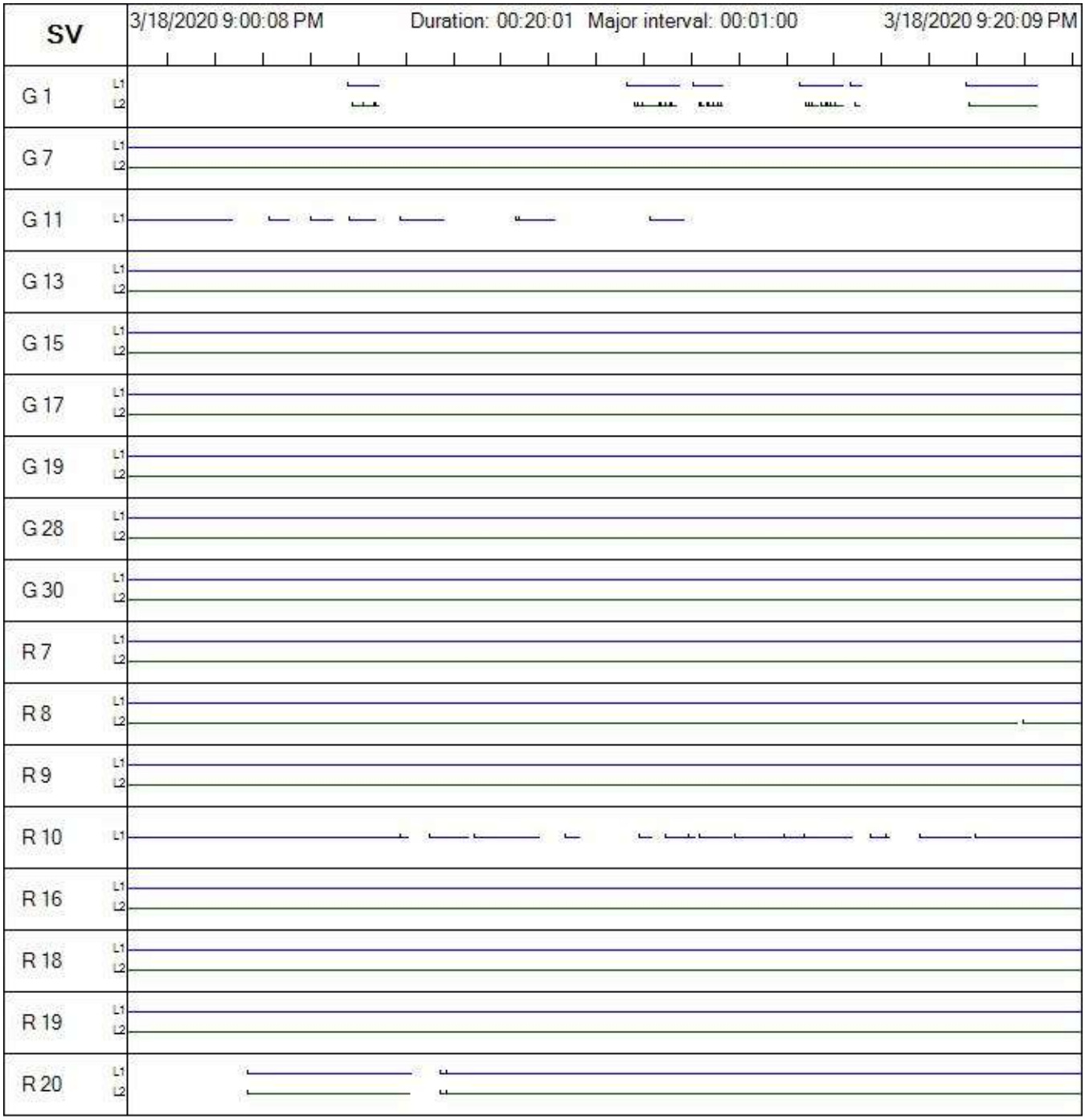
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0040919272		
Y	0.0032649179	0.0055783560	
Z	-0.0016042808	-0.0035686380	0.0046591908

Occupations

	From	To
Point ID:	HS2787	NVA030
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740786.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - VVA048 (8:16:21 PM-8:40:08 PM) (S6)

Baseline observation:	HS2787 --- VVA048 (B6)
Processed:	5/14/2020 4:38:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.118 ft
Vertical precision:	0.204 ft
RMS:	0.074 ft
Maximum PDOP:	1.842
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 8:16:22 PM (UTC)
Processing stop time:	3/18/2020 8:40:02 PM (UTC)
Processing duration:	00:23:40
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	VVA048				
Grid		**Local**		**Global**	
Easting	6129409.514 ft	**Latitude**	N37°11'47.65522"	**Latitude**	N37°11'47.65521"
Northing	1897473.342 ft	**Longitude**	W121°59'02.74329"	**Longitude**	W121°59'02.74329"
Elevation	749.441 ft	**Height**	643.147 ft	**Height**	643.147 ft

Vector					
ΔEasting	-52602.766 ft	**NS Fwd Azimuth**	247°25'29.5"	**ΔX**	-51594.408 ft
ΔNorthing	-21013.868 ft	**Ellipsoid Dist.**	56646.454 ft	**ΔY**	16052.439 ft
ΔElevation	558.826 ft	**ΔHeight**	559.117 ft	**ΔZ**	-17017.022 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.041 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.076 ft
σ ΔNorthing	0.042 ft	**σ Ellipsoid Dist.**	0.046 ft	**σ ΔY**	0.082 ft
σ ΔElevation	0.104 ft	**σ ΔHeight**	0.104 ft	**σ ΔZ**	0.043 ft

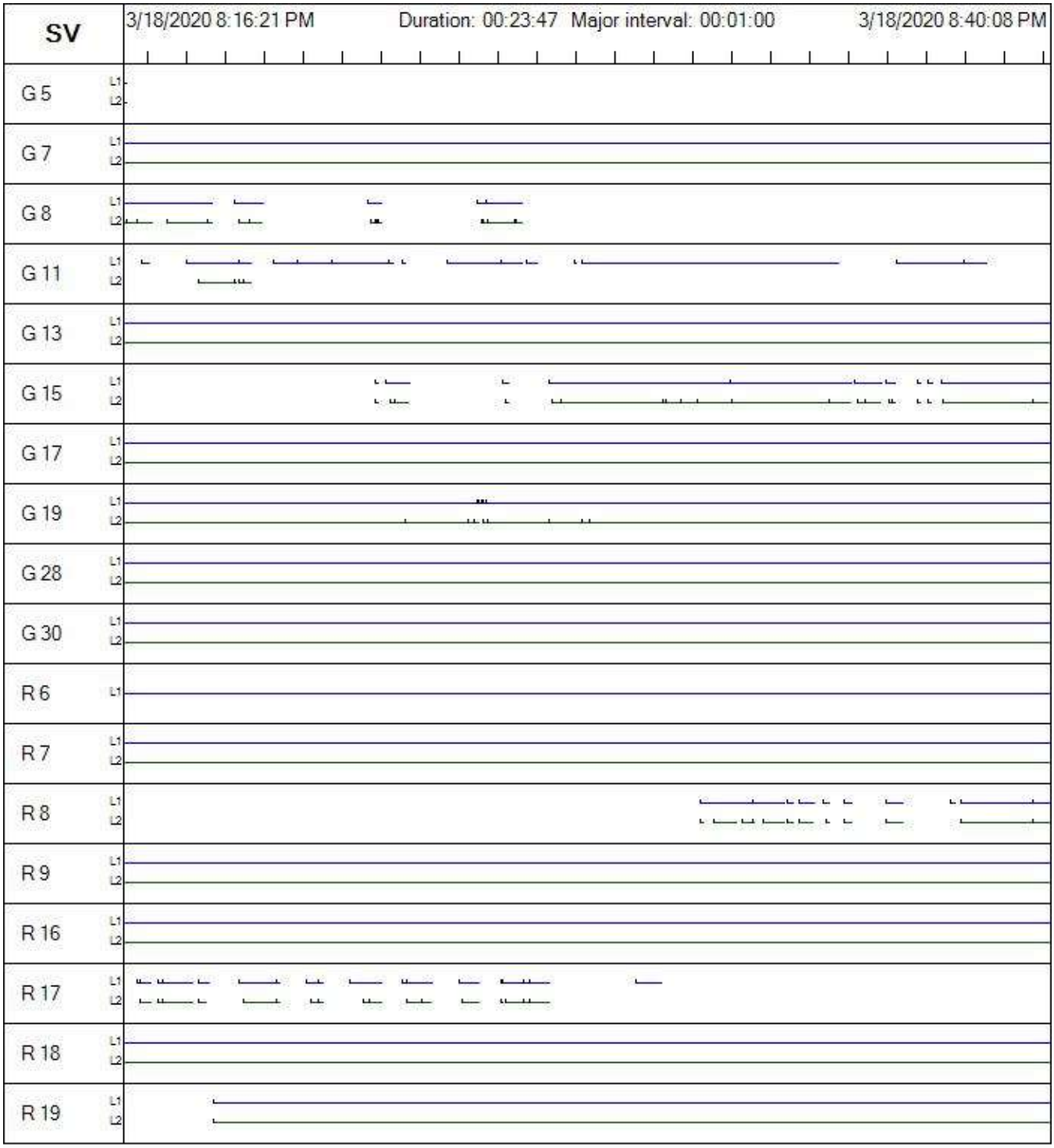
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0057265432		
Y	0.0048427312	0.0067281431	
Z	-0.0022545993	-0.0026772144	0.0018067535

Occupations

	From	To
Point ID:	HS2787	VVA048
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740785.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA031 (7:40:52 PM-8:00:54 PM) (S5)

Baseline observation:	HS2787 --- NVA031 (B5)
Processed:	5/14/2020 4:38:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.087 ft
Vertical precision:	0.132 ft
RMS:	0.109 ft
Maximum PDOP:	1.749
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 7:40:52 PM (UTC)
Processing stop time:	3/18/2020 8:00:52 PM (UTC)
Processing duration:	00:20:00
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	NVA031				
Grid		**Local**		**Global**	
Easting	6133063.490 ft	**Latitude**	N37°13'30.60717"	**Latitude**	N37°13'30.60717"
Northing	1907829.440 ft	**Longitude**	W121°58'19.60059"	**Longitude**	W121°58'19.60059"
Elevation	351.311 ft	**Height**	244.757 ft	**Height**	244.756 ft

Vector					
ΔEasting	-48948.790 ft	**NS Fwd Azimuth**	256°55'02.2"	**ΔX**	-45130.869 ft
ΔNorthing	-10657.770 ft	**Ellipsoid Dist.**	50097.204 ft	**ΔY**	19814.887 ft
ΔElevation	160.696 ft	**ΔHeight**	160.726 ft	**ΔZ**	-8964.865 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.029 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.042 ft
σ ΔNorthing	0.036 ft	**σ Ellipsoid Dist.**	0.030 ft	**σ ΔY**	0.056 ft
σ ΔElevation	0.067 ft	**σ ΔHeight**	0.067 ft	**σ ΔZ**	0.042 ft

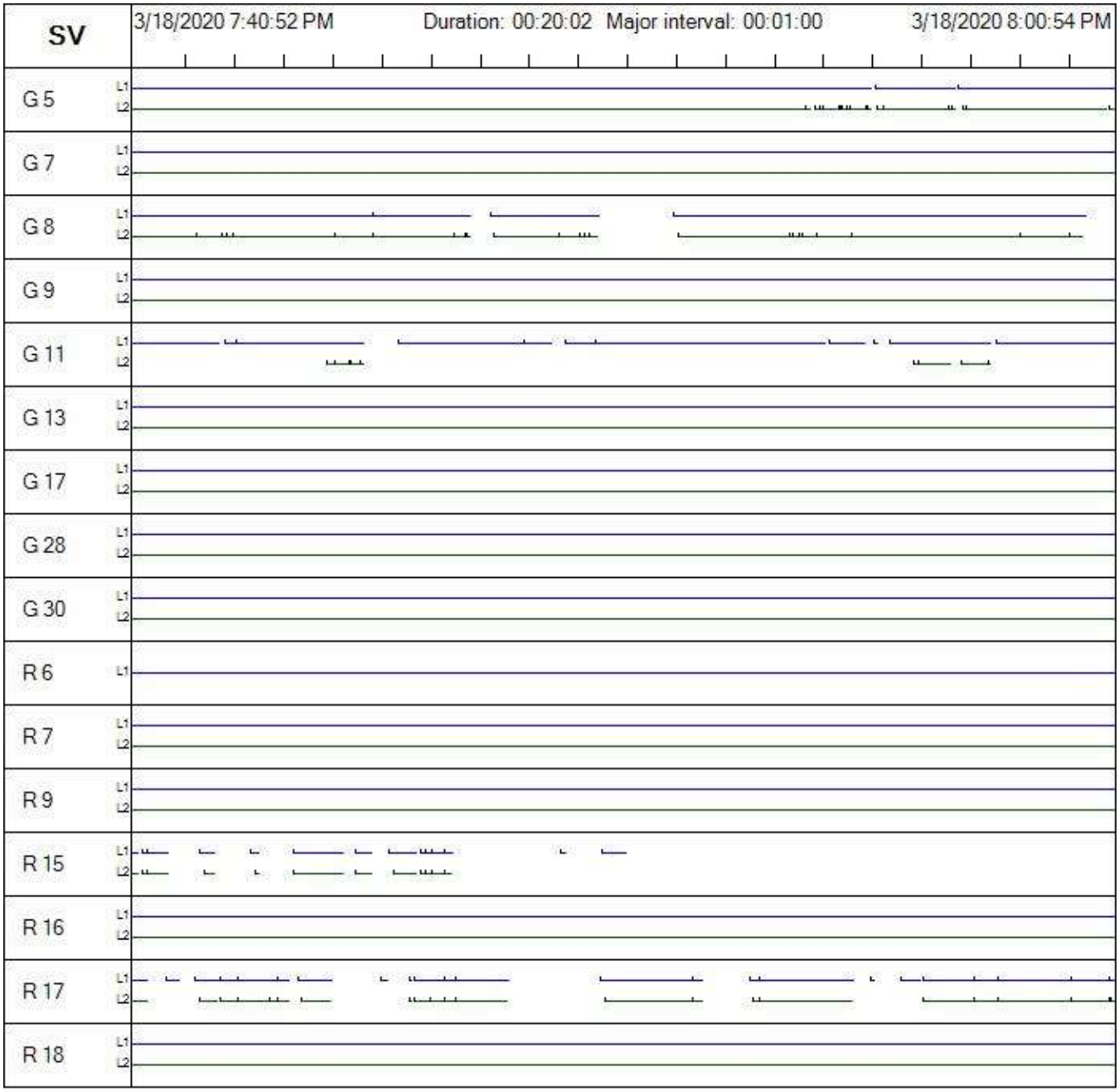
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0017713355		
Y	0.0014347019	0.0031218971	
Z	-0.0007494054	-0.0011492805	0.0017486719

Occupations

	From	To
Point ID:	HS2787	NVA031
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740784.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA032 (7:01:59 PM-7:26:28 PM) (S4)

Baseline observation:	HS2787 --- NVA032 (B4)
Processed:	5/14/2020 4:38:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.090 ft
Vertical precision:	0.186 ft
RMS:	0.092 ft
Maximum PDOP:	1.476
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 7:02:02 PM (UTC)
Processing stop time:	3/18/2020 7:26:22 PM (UTC)
Processing duration:	00:24:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	NVA032				
Grid		**Local**		**Global**	
Easting	6128310.702 ft	**Latitude**	N37°16'03.91145"	**Latitude**	N37°16'03.91145"
Northing	1923411.720 ft	**Longitude**	W121°59'21.42395"	**Longitude**	W121°59'21.42395"
Elevation	283.994 ft	**Height**	176.970 ft	**Height**	176.970 ft

Vector					
ΔEasting	-53701.578 ft	**NS Fwd Azimuth**	274°26'24.5"	**ΔX**	-44372.015 ft
ΔNorthing	4924.509 ft	**Ellipsoid Dist.**	53928.765 ft	**ΔY**	30468.698 ft
ΔElevation	93.379 ft	**ΔHeight**	92.939 ft	**ΔZ**	3337.327 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.030 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.051 ft
σ ΔNorthing	0.036 ft	**σ Ellipsoid Dist.**	0.031 ft	**σ ΔY**	0.076 ft
σ ΔElevation	0.095 ft	**σ ΔHeight**	0.095 ft	**σ ΔZ**	0.054 ft

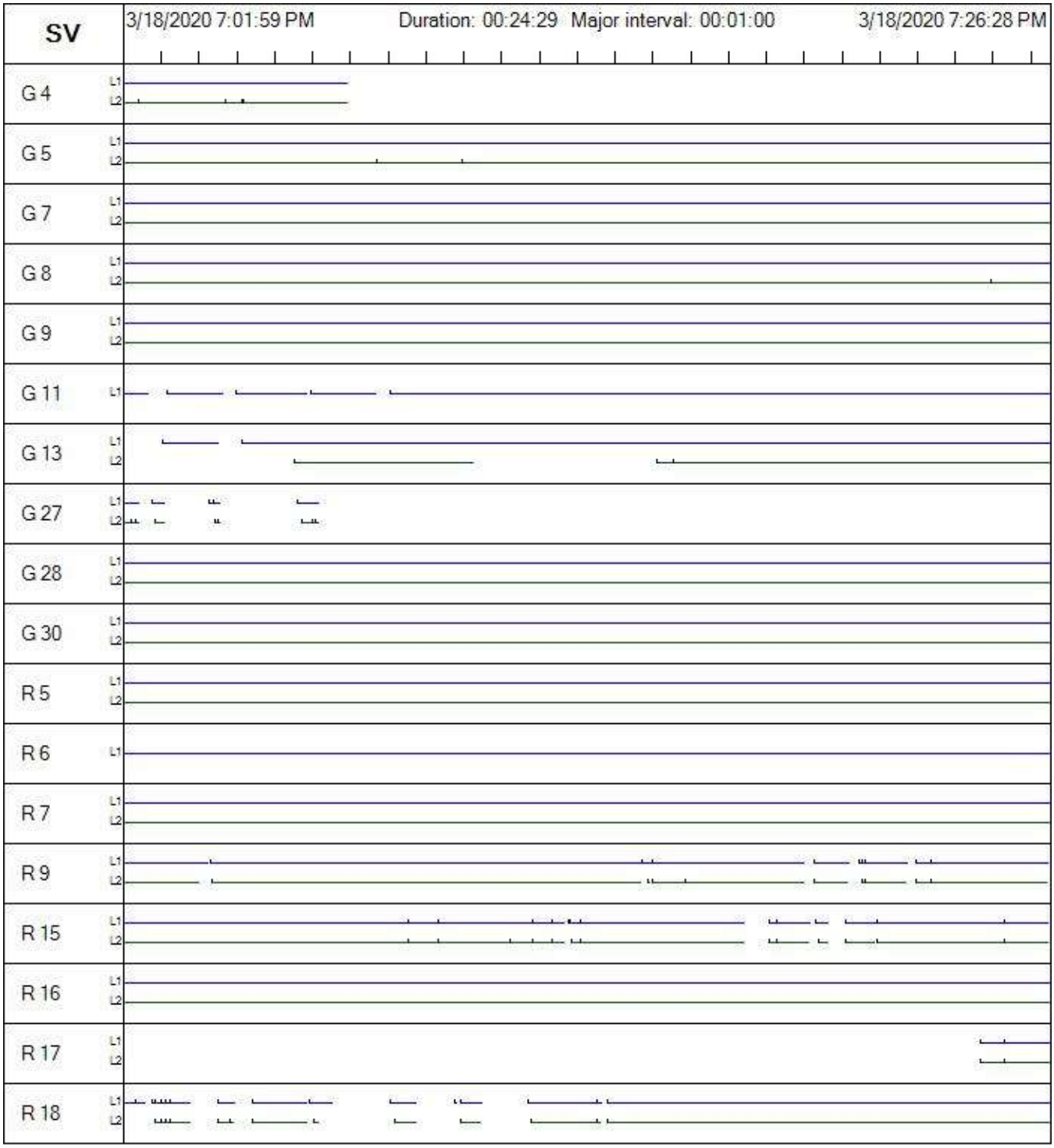
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0025723211		
Y	0.0028259540	0.0057092181	
Z	-0.0018178539	-0.0028420560	0.0029347407

Occupations

	From	To
Point ID:	HS2787	NVA032
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740783.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - VVA017 (6:27:25 PM-6:48:19 PM) (S3)

Baseline observation:	HS2787 --- VVA017 (B3)
Processed:	5/14/2020 4:38:19 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.078 ft
Vertical precision:	0.145 ft
RMS:	0.094 ft
Maximum PDOP:	2.820
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 6:27:32 PM (UTC)
Processing stop time:	3/18/2020 6:48:12 PM (UTC)
Processing duration:	00:20:40
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	VVA017				
Grid		**Local**		**Global**	
Easting	6137843.306 ft	**Latitude**	N37°15'25.43424"	**Latitude**	N37°15'25.43423"
Northing	1919369.634 ft	**Longitude**	W121°57'22.72893"	**Longitude**	W121°57'22.72893"
Elevation	278.443 ft	**Height**	171.475 ft	**Height**	171.475 ft

Vector					
ΔEasting	-44168.974 ft	**NS Fwd Azimuth**	270°20'43.2"	**ΔX**	-37477.595 ft
ΔNorthing	882.424 ft	**Ellipsoid Dist.**	44179.283 ft	**ΔY**	23392.597 ft
ΔElevation	87.828 ft	**ΔHeight**	87.444 ft	**ΔZ**	236.679 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.026 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.044 ft
σ ΔNorthing	0.030 ft	**σ Ellipsoid Dist.**	0.026 ft	**σ ΔY**	0.057 ft
σ ΔElevation	0.074 ft	**σ ΔHeight**	0.074 ft	**σ ΔZ**	0.045 ft

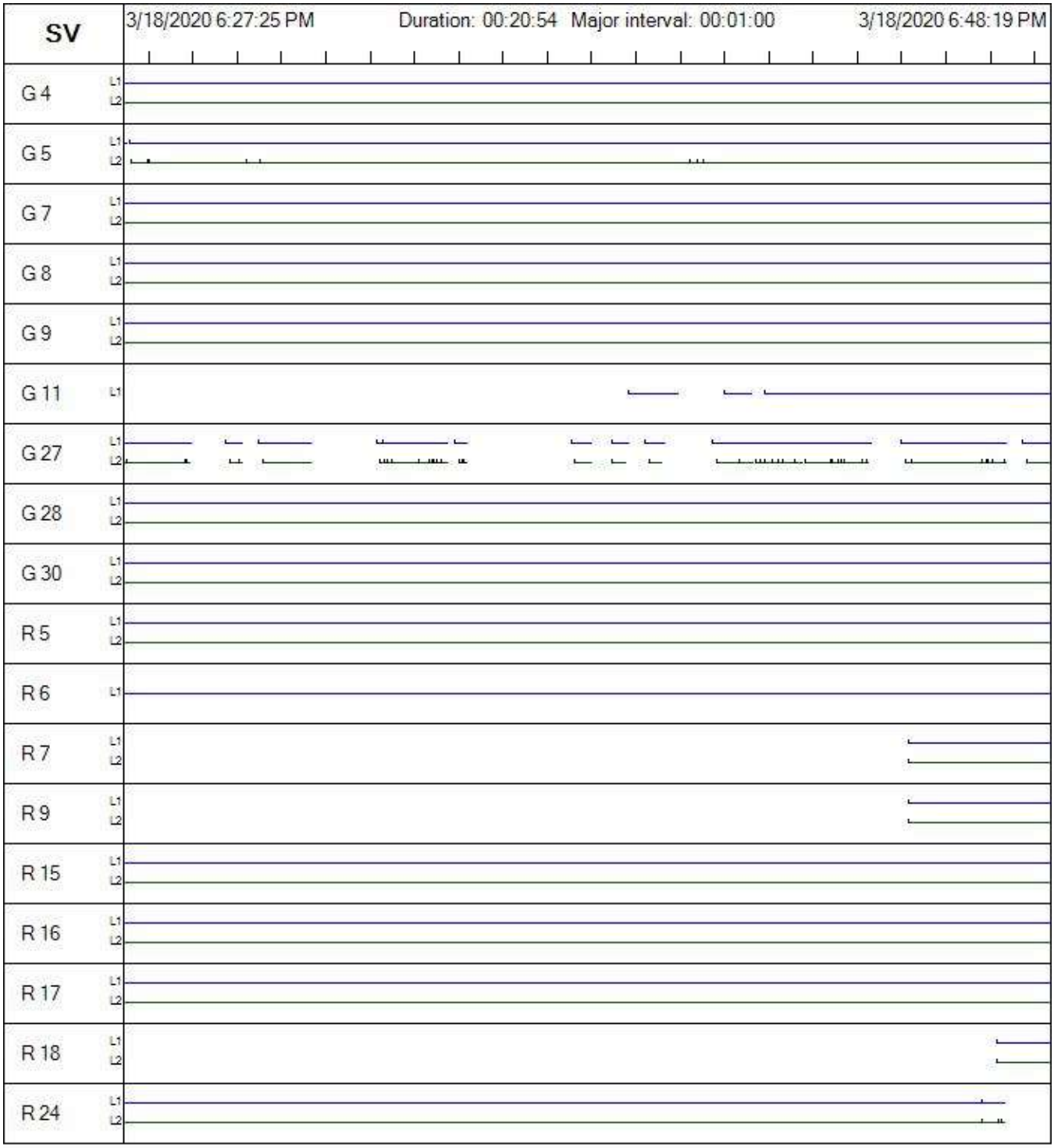
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0018963934		
Y	0.0017746252	0.0032190571	
Z	-0.0010141938	-0.0017618243	0.0019820716

Occupations

	From	To
Point ID:	HS2787	VVA017
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740782.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA044 (5:53:27 PM-6:13:38 PM) (S2)

Baseline observation:	HS2787 --- NVA044 (B2)
Processed:	5/14/2020 4:38:19 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.103 ft
Vertical precision:	0.155 ft
RMS:	0.102 ft
Maximum PDOP:	2.047
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 5:53:32 PM (UTC)
Processing stop time:	3/18/2020 6:13:32 PM (UTC)
Processing duration:	00:20:00
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	NVA044				
Grid		**Local**		**Global**	
Easting	6151502.270 ft	**Latitude**	N37°13'17.20240"	**Latitude**	N37°13'17.20239"
Northing	1906189.705 ft	**Longitude**	W121°54'31.33845"	**Longitude**	W121°54'31.33845"
Elevation	308.300 ft	**Height**	201.772 ft	**Height**	201.772 ft

Vector					
ΔEasting	-30510.010 ft	**NS Fwd Azimuth**	247°14'54.0"	**ΔX**	-29879.350 ft
ΔNorthing	-12297.506 ft	**Ellipsoid Dist.**	32896.150 ft	**ΔY**	9380.571 ft
ΔElevation	117.685 ft	**ΔHeight**	117.741 ft	**ΔZ**	-10070.475 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.029 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.047 ft
σ ΔNorthing	0.040 ft	**σ Ellipsoid Dist.**	0.035 ft	**σ ΔY**	0.061 ft
σ ΔElevation	0.079 ft	**σ ΔHeight**	0.079 ft	**σ ΔZ**	0.052 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0022474236		
Y	0.0020379837	0.0037729961	
Z	-0.0008323450	-0.0019078720	0.0027075477

Occupations

	From	To
Point ID:	HS2787	NVA044
Data file:	A:\GroundSurvey \312020310_SantaClaraCAYear5\03_Survey_Project \312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey \312020310_SantaClaraCAYear5\03_Survey_Project \312020310_SantaClaraCAYear5\85740781.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS2787 - NVA063 (4:43:47 PM-4:53:48 PM) (S1)

Baseline observation:	HS2787 --- NVA063 (B1)
Processed:	5/14/2020 4:38:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.138 ft
Vertical precision:	0.204 ft
RMS:	0.055 ft
Maximum PDOP:	1.915
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 4:43:47 PM (UTC)
Processing stop time:	3/18/2020 4:53:48 PM (UTC)
Processing duration:	00:10:01
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.280 ft	**Latitude**	N37°15'23.15184"	**Latitude**	N37°15'23.15183"
Northing	1918487.211 ft	**Longitude**	W121°48'16.27793"	**Longitude**	W121°48'16.27793"
Elevation	190.615 ft	**Height**	84.030 ft	**Height**	84.030 ft

To:	NVA063				
Grid		**Local**		**Global**	
Easting	6149823.448 ft	**Latitude**	N37°15'39.18657"	**Latitude**	N37°15'39.18657"
Northing	1920576.892 ft	**Longitude**	W121°54'54.78235"	**Longitude**	W121°54'54.78235"
Elevation	203.885 ft	**Height**	96.948 ft	**Height**	96.948 ft

Vector					
ΔEasting	-32188.832 ft	**NS Fwd Azimuth**	272°54'55.3"	**ΔX**	-26850.421 ft
ΔNorthing	2089.681 ft	**Ellipsoid Dist.**	32257.692 ft	**ΔY**	17830.761 ft
ΔElevation	13.270 ft	**ΔHeight**	12.917 ft	**ΔZ**	1298.635 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.037 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.061 ft
σ ΔNorthing	0.056 ft	**σ Ellipsoid Dist.**	0.037 ft	**σ ΔY**	0.095 ft
σ ΔElevation	0.104 ft	**σ ΔHeight**	0.104 ft	**σ ΔZ**	0.050 ft

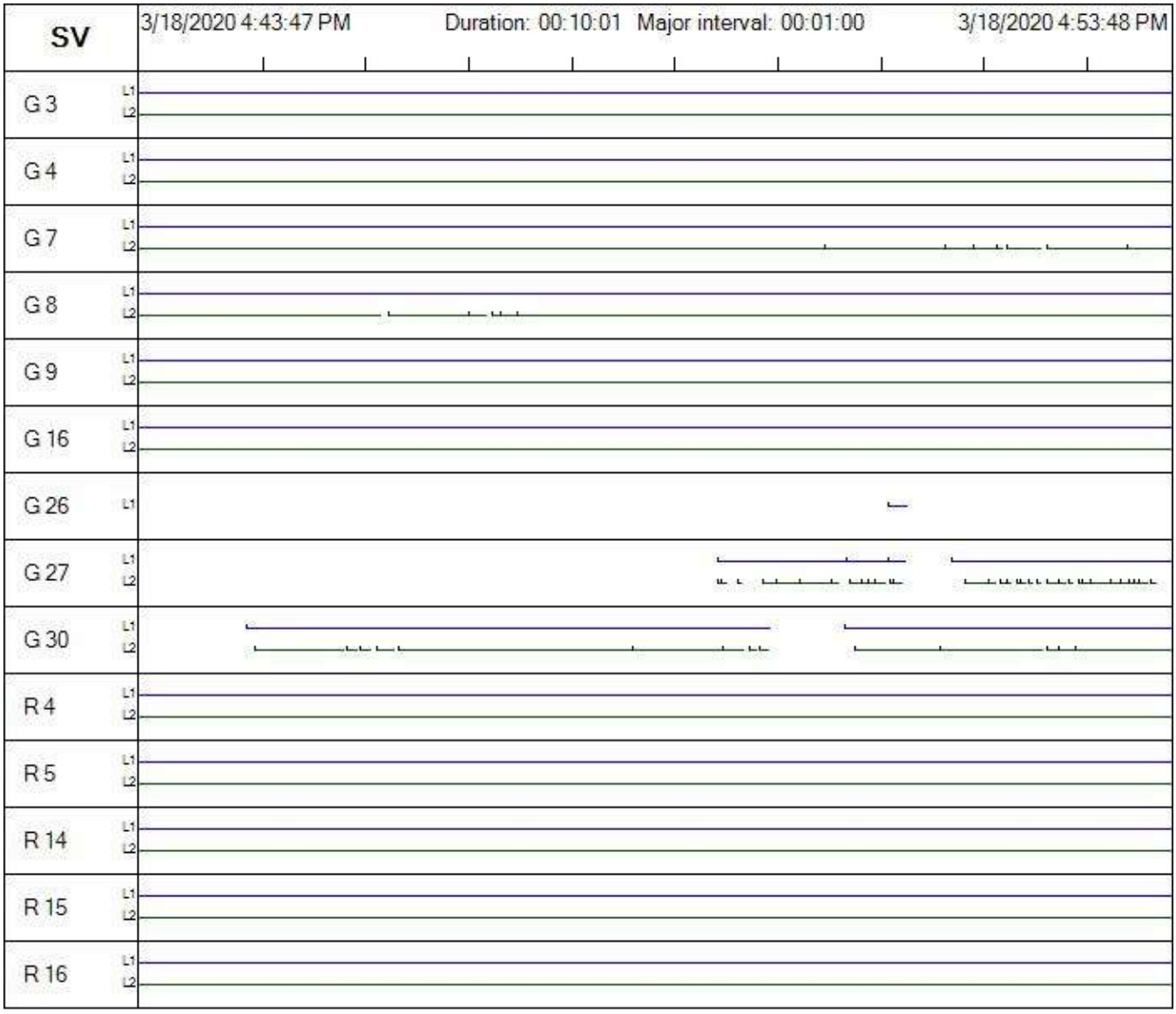
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0036925916		
Y	0.0042732841	0.0090397131	
Z	-0.0014395269	-0.0023432085	0.0025266585

Occupations

	From	To
Point ID:	HS2787	NVA063
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740780.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA017 (9:18:28 PM-9:50:09 PM) (S24)

Baseline observation:	MHCB --- NVA017 (B24)
Processed:	5/14/2020 4:38:16 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.055 ft
Vertical precision:	0.317 ft
RMS:	0.036 ft
Maximum PDOP:	2.093
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 9:18:42 PM (UTC)
Processing stop time:	3/18/2020 9:49:42 PM (UTC)
Processing duration:	00:31:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	NVA017				
Grid		**Local**		**Global**	
Easting	6169772.623 ft	**Latitude**	N37°26'50.49655"	**Latitude**	N37°26'50.49655"
Northing	1988185.844 ft	**Longitude**	W121°51'00.09678"	**Longitude**	W121°51'00.09678"
Elevation	562.798 ft	**Height**	456.956 ft	**Height**	456.956 ft

Vector					
ΔEasting	-59749.481 ft	**NS Fwd Azimuth**	302°39'22.5"	**ΔX**	-37404.456 ft
ΔNorthing	39332.165 ft	**Ellipsoid Dist.**	71537.026 ft	**ΔY**	54108.000 ft
ΔElevation	-3682.129 ft	**ΔHeight**	-3684.469 ft	**ΔZ**	28380.838 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.019 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.079 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.109 ft
σ ΔElevation	0.162 ft	**σ ΔHeight**	0.162 ft	**σ ΔZ**	0.094 ft

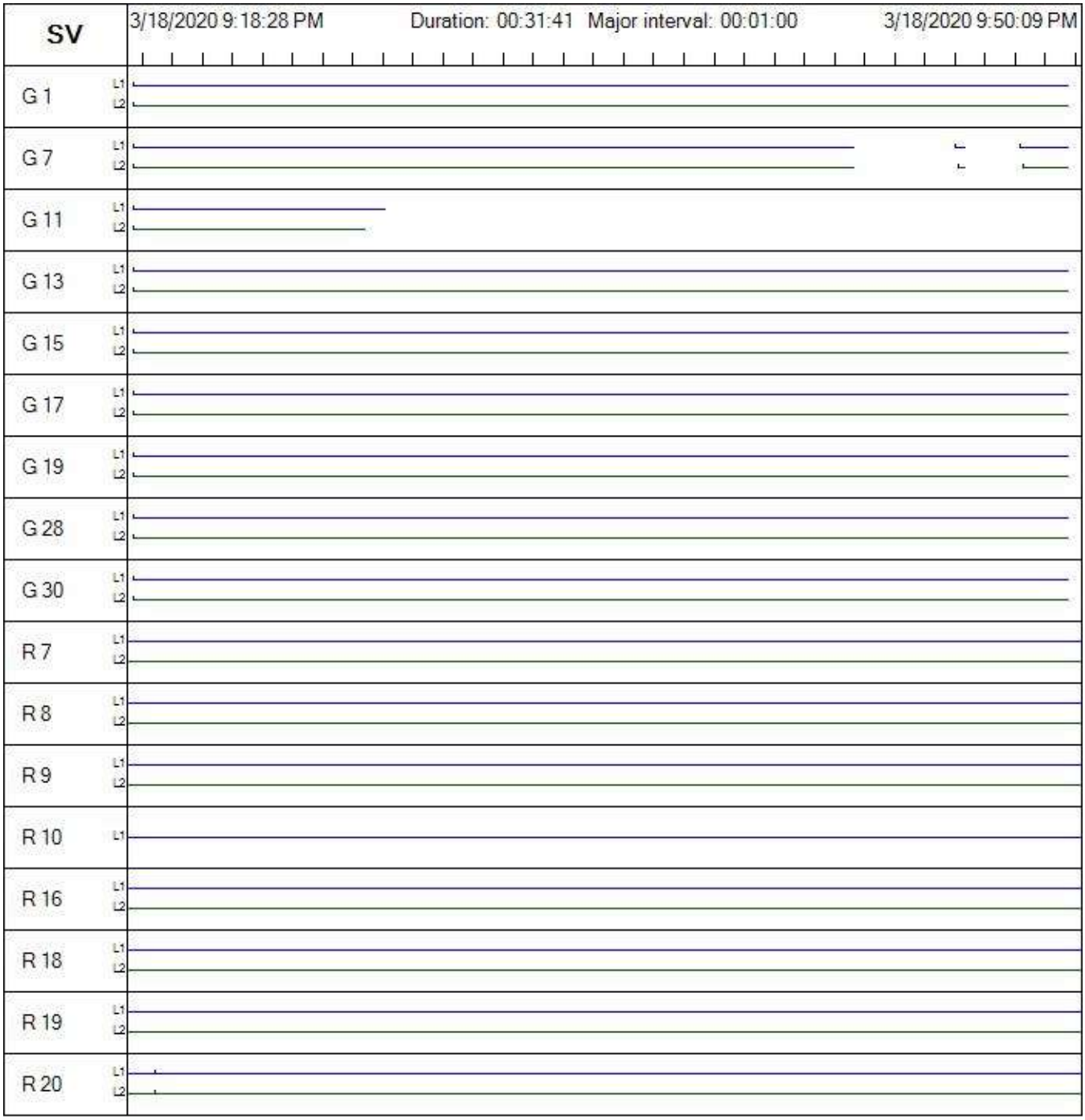
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0062207977		
Y	0.0082984066	0.0118946602	
Z	-0.0070452529	-0.0098558341	0.0088453098

Occupations

	From	To
Point ID:	MHCB	NVA017
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430785.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA054 (8:38:12 PM-8:58:13 PM) (S25)

Baseline observation:	MHCB --- VVA054 (B25)
Processed:	5/14/2020 4:38:16 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.119 ft
Vertical precision:	0.180 ft
RMS:	0.048 ft
Maximum PDOP:	1.864
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 8:38:12 PM (UTC)
Processing stop time:	3/18/2020 8:58:12 PM (UTC)
Processing duration:	00:20:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	VVA054				
Grid		**Local**		**Global**	
Easting	6167448.647 ft	**Latitude**	N37°24'49.50900"	**Latitude**	N37°24'49.50900"
Northing	1975981.449 ft	**Longitude**	W121°51'26.71848"	**Longitude**	W121°51'26.71848"
Elevation	175.074 ft	**Height**	68.668 ft	**Height**	68.668 ft

Vector					
ΔEasting	-62073.457 ft	**NS Fwd Azimuth**	292°54'23.5"	**ΔX**	-42991.097 ft
ΔNorthing	27127.770 ft	**Ellipsoid Dist.**	67745.743 ft	**ΔY**	49185.357 ft
ΔElevation	-4069.853 ft	**ΔHeight**	-4072.758 ft	**ΔZ**	18427.103 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.037 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.064 ft
σ ΔNorthing	0.043 ft	**σ Ellipsoid Dist.**	0.030 ft	**σ ΔY**	0.068 ft
σ ΔElevation	0.092 ft	**σ ΔHeight**	0.092 ft	**σ ΔZ**	0.053 ft

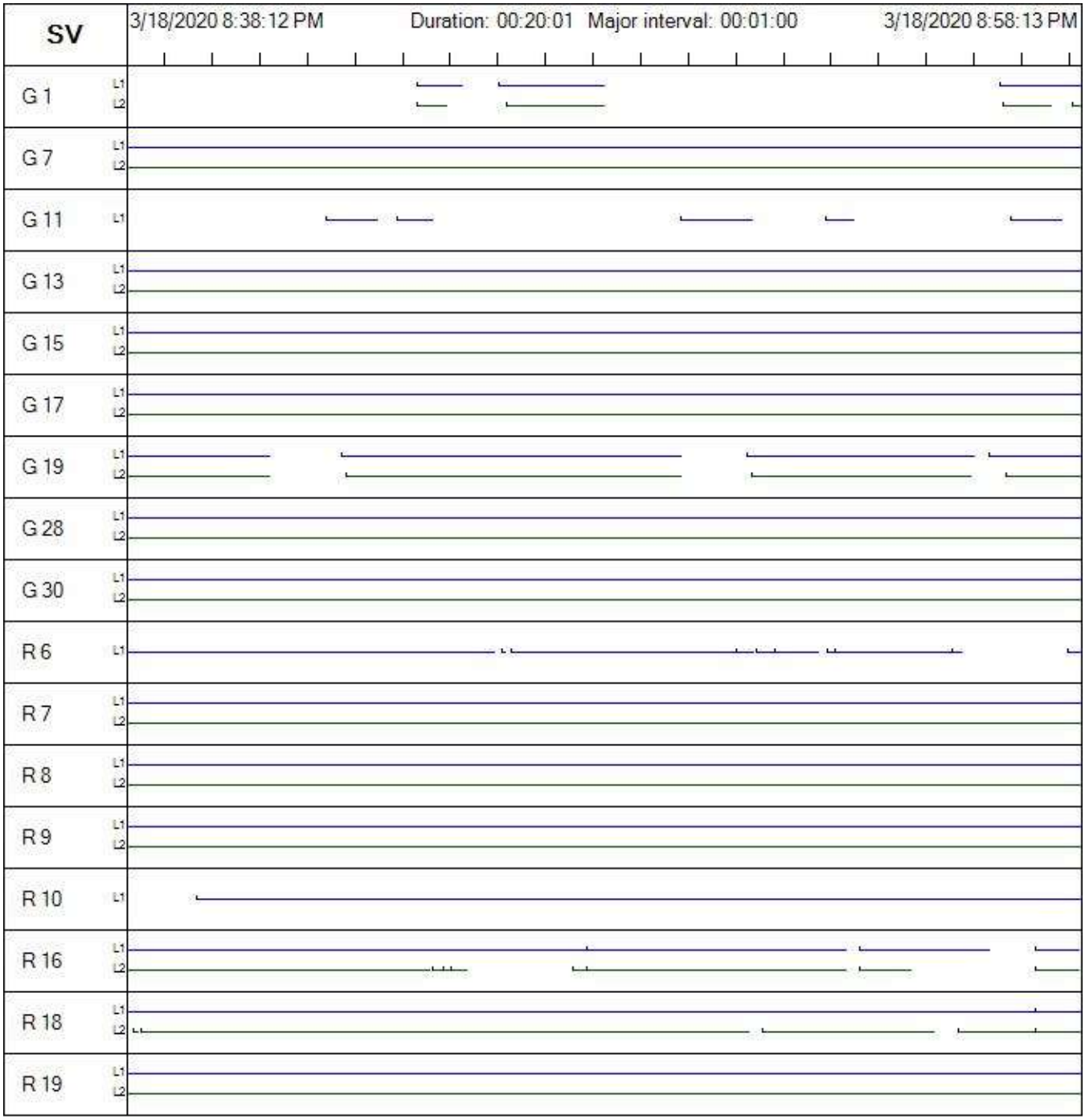
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0040728432		
Y	0.0032324253	0.0046811943	
Z	-0.0014536076	-0.0023802359	0.0028378260

Occupations

	From	To
Point ID:	MHCB	VVA054
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430784.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA059 (8:05:05 PM-8:25:06 PM) (S26)

Baseline observation:	MHCB --- NVA059 (B26)
Processed:	5/14/2020 4:38:16 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.079 ft
Vertical precision:	0.109 ft
RMS:	0.047 ft
Maximum PDOP:	1.587
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 8:05:12 PM (UTC)
Processing stop time:	3/18/2020 8:24:42 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	NVA059				
Grid		**Local**		**Global**	
Easting	6170002.374 ft	**Latitude**	N37°23'58.20218"	**Latitude**	N37°23'58.20218"
Northing	1970754.802 ft	**Longitude**	W121°50'54.13351"	**Longitude**	W121°50'54.13351"
Elevation	187.871 ft	**Height**	81.442 ft	**Height**	81.441 ft

Vector					
ΔEasting	-59519.730 ft	**NS Fwd Azimuth**	289°30'06.2"	**ΔX**	-42426.894 ft
ΔNorthing	21901.123 ft	**Ellipsoid Dist.**	63424.368 ft	**ΔY**	45111.521 ft
ΔElevation	-4057.057 ft	**ΔHeight**	-4059.984 ft	**ΔZ**	14312.630 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.025 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.031 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.025 ft	**σ ΔY**	0.045 ft
σ ΔElevation	0.056 ft	**σ ΔHeight**	0.056 ft	**σ ΔZ**	0.041 ft

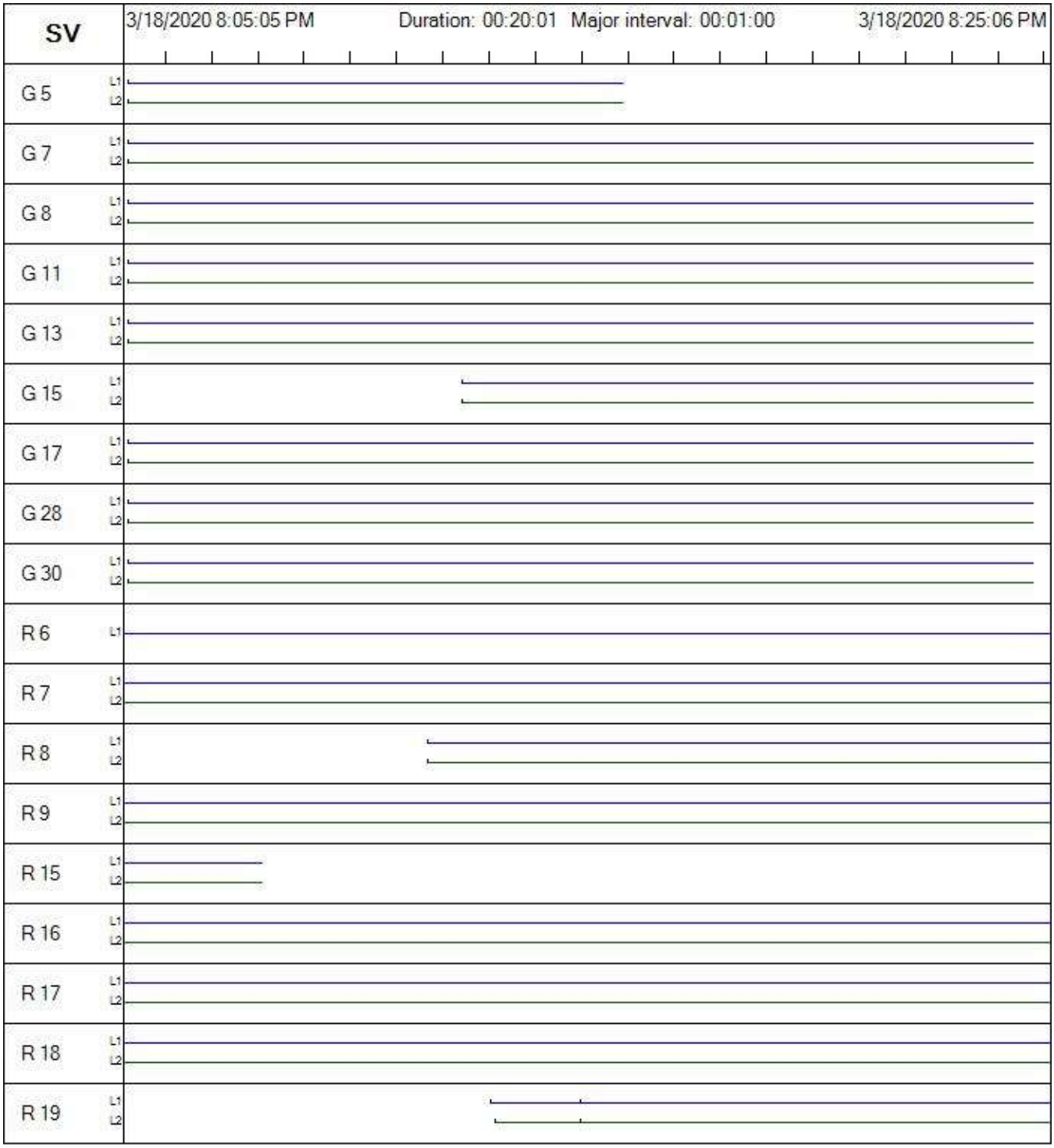
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0009866135		
Y	0.0007471580	0.0020633982	
Z	-0.0003609275	-0.0009225675	0.0017029451

Occupations

	From	To
Point ID:	MHCB	NVA059
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430783.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA025 (7:18:55 PM-7:38:56 PM) (S27)

Baseline observation:	MHCB --- NVA025 (B27)
Processed:	5/14/2020 4:38:16 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.080 ft
Vertical precision:	0.137 ft
RMS:	0.042 ft
Maximum PDOP:	1.902
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 7:19:12 PM (UTC)
Processing stop time:	3/18/2020 7:38:42 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	NVA025				
Grid		**Local**		**Global**	
Easting	6184108.930 ft	**Latitude**	N37°23'49.88751"	**Latitude**	N37°23'49.88750"
Northing	1969714.173 ft	**Longitude**	W121°47'59.14618"	**Longitude**	W121°47'59.14618"
Elevation	550.928 ft	**Height**	445.440 ft	**Height**	445.439 ft

Vector					
ΔEasting	-45413.174 ft	**NS Fwd Azimuth**	293°58'18.1"	**ΔX**	-30850.702 ft
ΔNorthing	20860.494 ft	**Ellipsoid Dist.**	49977.595 ft	**ΔY**	36985.755 ft
ΔElevation	-3694.000 ft	**ΔHeight**	-3695.986 ft	**ΔZ**	13865.586 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.025 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.035 ft
σ ΔNorthing	0.031 ft	**σ Ellipsoid Dist.**	0.029 ft	**σ ΔY**	0.060 ft
σ ΔElevation	0.070 ft	**σ ΔHeight**	0.070 ft	**σ ΔZ**	0.039 ft

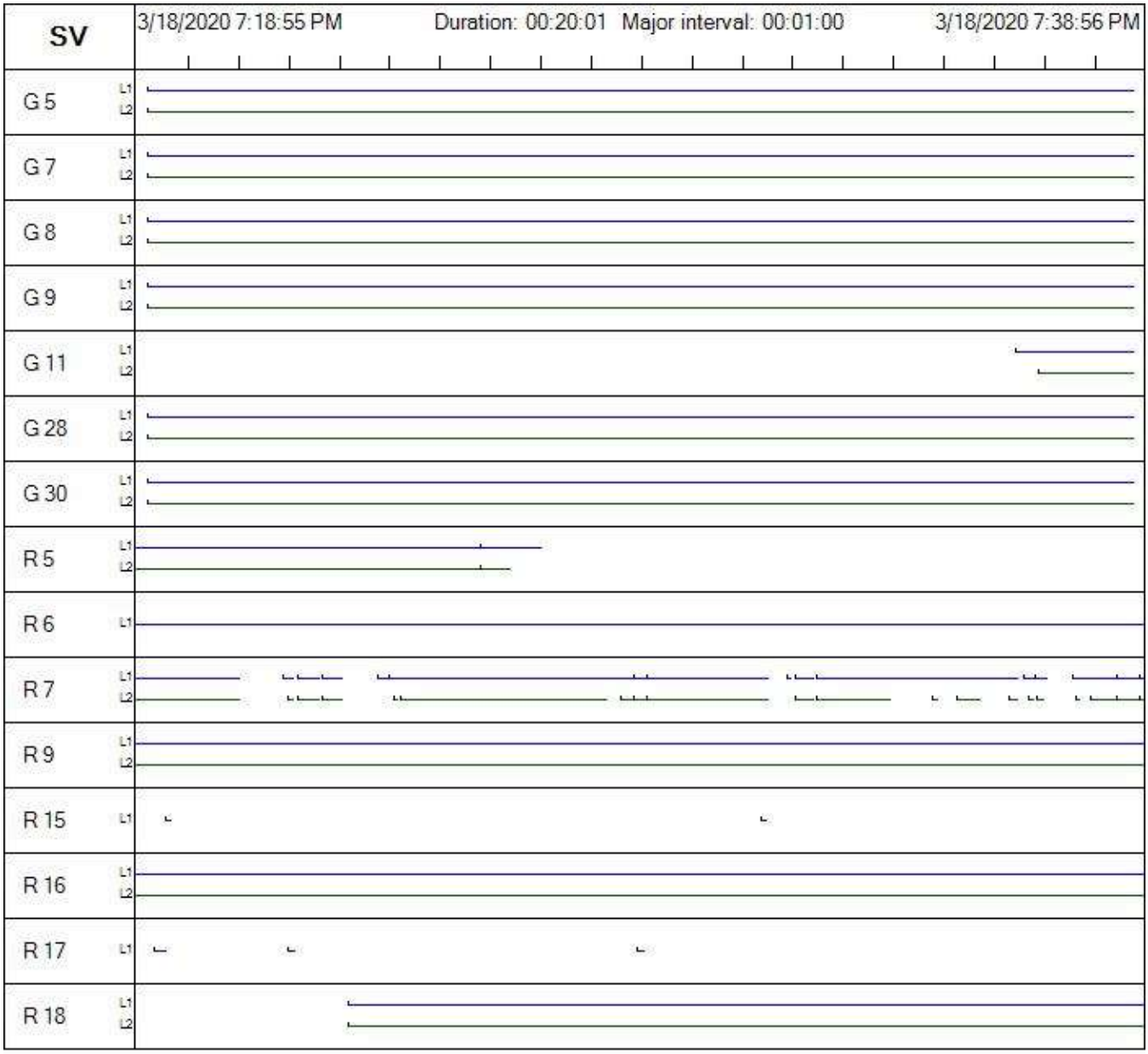
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0012237931		
Y	0.0014380378	0.0036446206	
Z	-0.0008148758	-0.0014324798	0.0015572767

Occupations

	From	To
Point ID:	MHCB	NVA025
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430782.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA022 (6:41:26 PM-7:14:08 PM) (S28)

Baseline observation:	MHCB --- VVA022 (B28)
Processed:	5/14/2020 4:38:16 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.109 ft
Vertical precision:	0.301 ft
RMS:	0.096 ft
Maximum PDOP:	3.404
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 6:41:42 PM (UTC)
Processing stop time:	3/18/2020 7:13:42 PM (UTC)
Processing duration:	00:32:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	VVA022				
Grid		**Local**		**Global**	
Easting	6184558.166 ft	**Latitude**	N37°23'48.32147"	**Latitude**	N37°23'48.32147"
Northing	1969549.533 ft	**Longitude**	W121°47'53.55112"	**Longitude**	W121°47'53.55112"
Elevation	561.352 ft	**Height**	455.889 ft	**Height**	455.889 ft

Vector					
ΔEasting	-44963.938 ft	**NS Fwd Azimuth**	294°00'56.1"	**ΔX**	-30522.029 ft
ΔNorthing	20695.854 ft	**Ellipsoid Dist.**	49500.634 ft	**ΔY**	36659.017 ft
ΔElevation	-3683.575 ft	**ΔHeight**	-3685.536 ft	**ΔZ**	13746.091 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.041 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.069 ft
σ ΔNorthing	0.044 ft	**σ Ellipsoid Dist.**	0.043 ft	**σ ΔY**	0.123 ft
σ ΔElevation	0.154 ft	**σ ΔHeight**	0.154 ft	**σ ΔZ**	0.086 ft

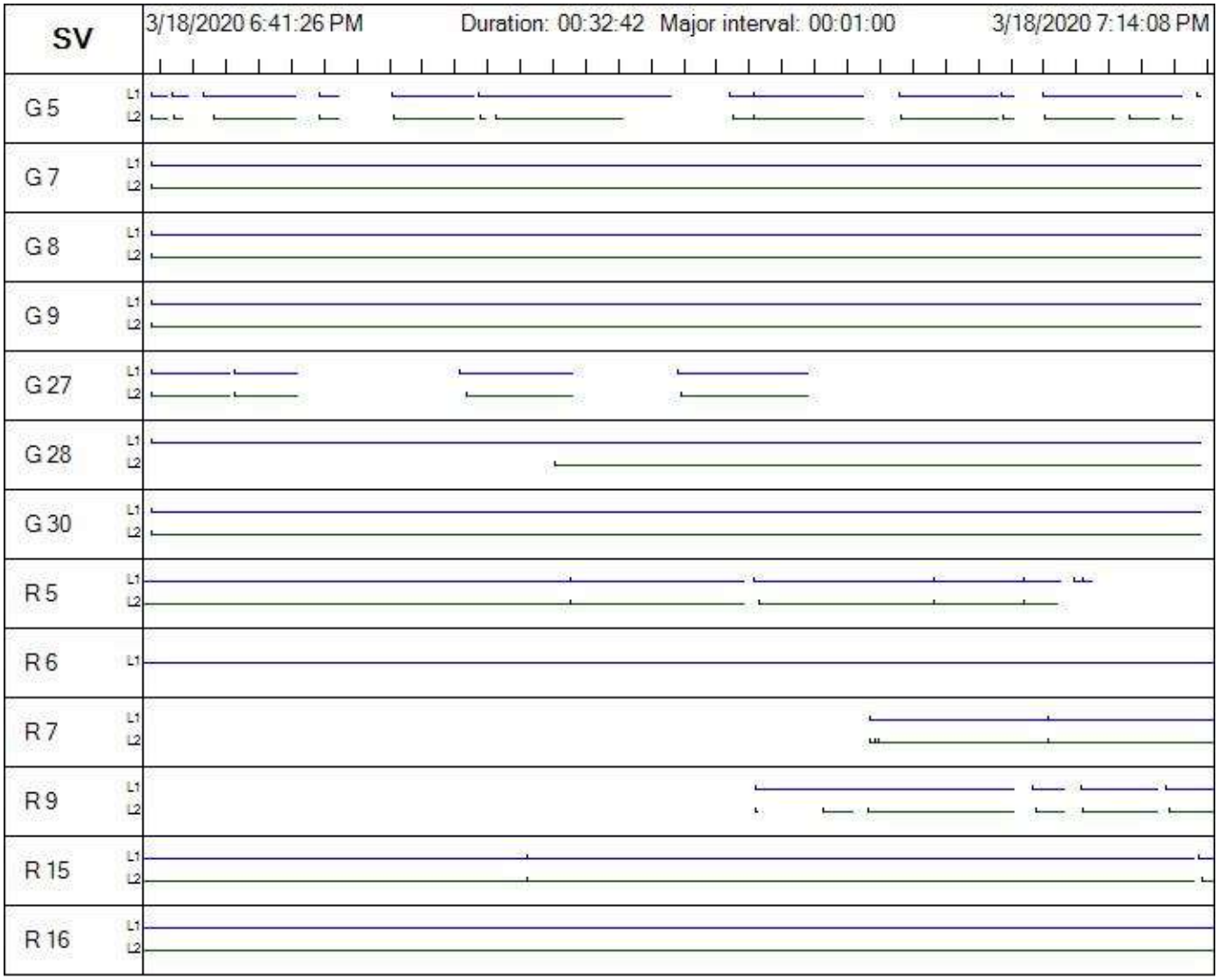
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0048260088		
Y	0.0067039236	0.0150289719	
Z	-0.0042956635	-0.0088524517	0.0073609336

Occupations

	From	To
Point ID:	MHCB	VVA022
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430781.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA058 (5:52:43 PM-6:13:32 PM) (S29)

Baseline observation:	MHCB --- NVA058 (B29)
Processed:	5/14/2020 4:38:16 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.078 ft
Vertical precision:	0.089 ft
RMS:	0.065 ft
Maximum PDOP:	1.912
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 5:53:12 PM (UTC)
Processing stop time:	3/18/2020 6:13:12 PM (UTC)
Processing duration:	00:20:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	NVA058				
Grid		**Local**		**Global**	
Easting	6175462.503 ft	**Latitude**	N37°21'59.20744"	**Latitude**	N37°21'59.20744"
Northing	1958640.319 ft	**Longitude**	W121°49'44.33999"	**Longitude**	W121°49'44.33999"
Elevation	153.327 ft	**Height**	46.833 ft	**Height**	46.833 ft

Vector					
ΔEasting	-54059.602 ft	**NS Fwd Azimuth**	279°33'40.8"	**ΔX**	-41481.685 ft
ΔNorthing	9786.640 ft	**Ellipsoid Dist.**	54940.898 ft	**ΔY**	35955.321 ft
ΔElevation	-4091.601 ft	**ΔHeight**	-4094.593 ft	**ΔZ**	4728.043 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.020 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.029 ft
σ ΔNorthing	0.030 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.035 ft
σ ΔElevation	0.046 ft	**σ ΔHeight**	0.046 ft	**σ ΔZ**	0.036 ft

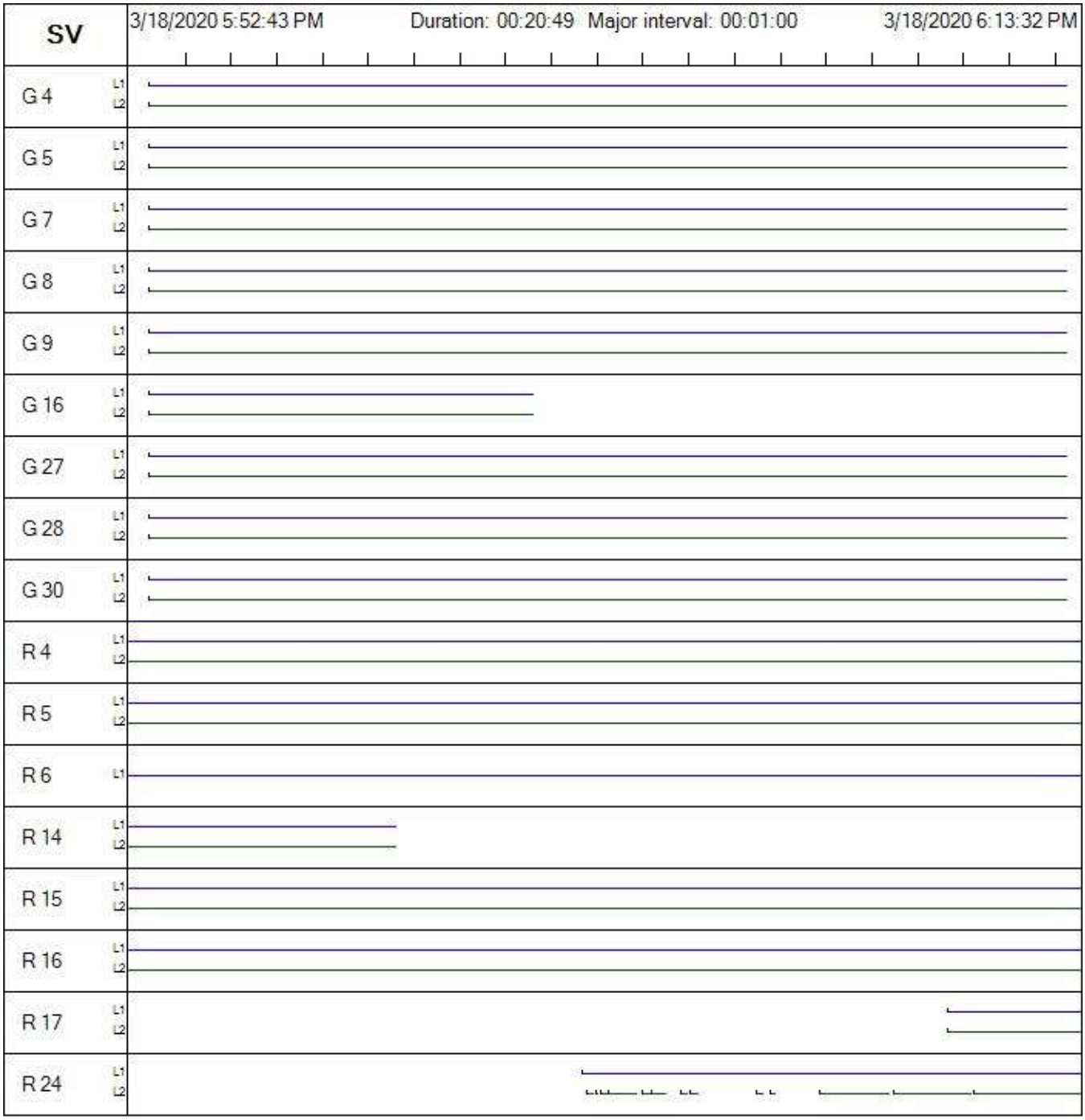
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0008537291		
Y	0.0006088550	0.0012383750	
Z	-0.0000785098	-0.0005980610	0.0013170879

Occupations

	From	To
Point ID:	MHCB	NVA058
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430780.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5018426973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - HS2787 (4:01:36 PM-10:53:35 PM) (S39)

Baseline observation:	MHCB --- HS2787 (B39)
Processed:	5/14/2020 4:38:18 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.023 ft
Vertical precision:	0.092 ft
RMS:	0.041 ft
Maximum PDOP:	2.541
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/18/2020 4:01:42 PM (UTC)
Processing stop time:	3/18/2020 10:53:12 PM (UTC)
Processing duration:	06:51:30
Processing interval:	3 Minutes

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.104 ft	**Latitude**	N37°20'29.51031"	**Latitude**	N37°20'29.51030"
Northing	1948853.679 ft	**Longitude**	W121°38'33.23554"	**Longitude**	W121°38'33.23554"
Elevation	4244.928 ft	**Height**	4141.426 ft	**Height**	4141.426 ft

To:	HS2787				
Grid		**Local**		**Global**	
Easting	6182012.276 ft	**Latitude**	N37°15'23.15198"	**Latitude**	N37°15'23.15198"
Northing	1918487.226 ft	**Longitude**	W121°48'16.27798"	**Longitude**	W121°48'16.27798"
Elevation	190.611 ft	**Height**	84.026 ft	**Height**	84.026 ft

Vector					
ΔEasting	-47509.828 ft	**NS Fwd Azimuth**	236°42'53.4"	**ΔX**	-48253.225 ft
ΔNorthing	-30366.453 ft	**Ellipsoid Dist.**	56387.572 ft	**ΔY**	11546.529 ft
ΔElevation	-4054.317 ft	**ΔHeight**	-4057.400 ft	**ΔZ**	-27110.235 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.007 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.022 ft
σ ΔNorthing	0.009 ft	**σ Ellipsoid Dist.**	0.009 ft	**σ ΔY**	0.033 ft
σ ΔElevation	0.047 ft	**σ ΔHeight**	0.047 ft	**σ ΔZ**	0.028 ft

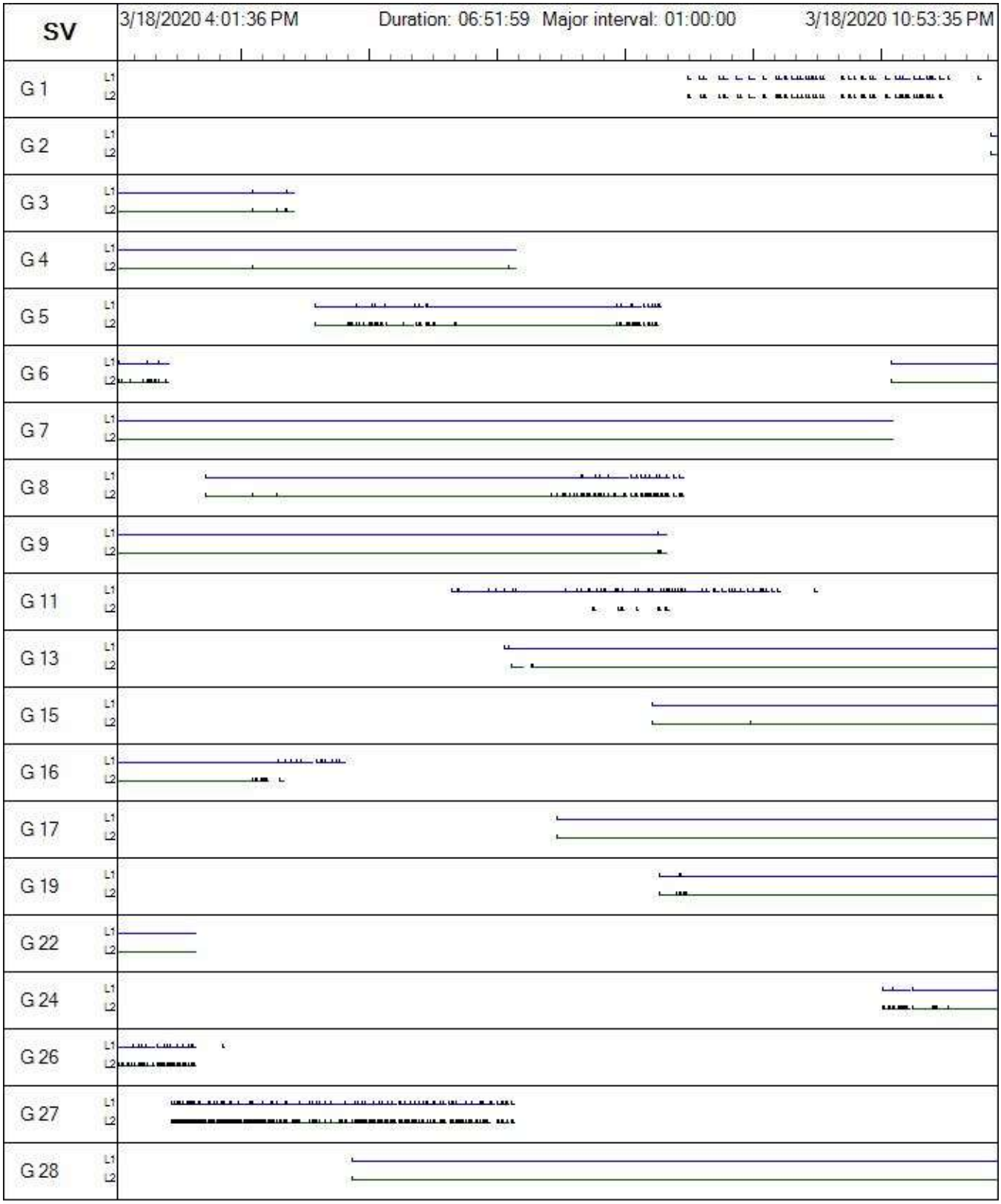
Aposteriori Covariance Matrix (US survey foot²)

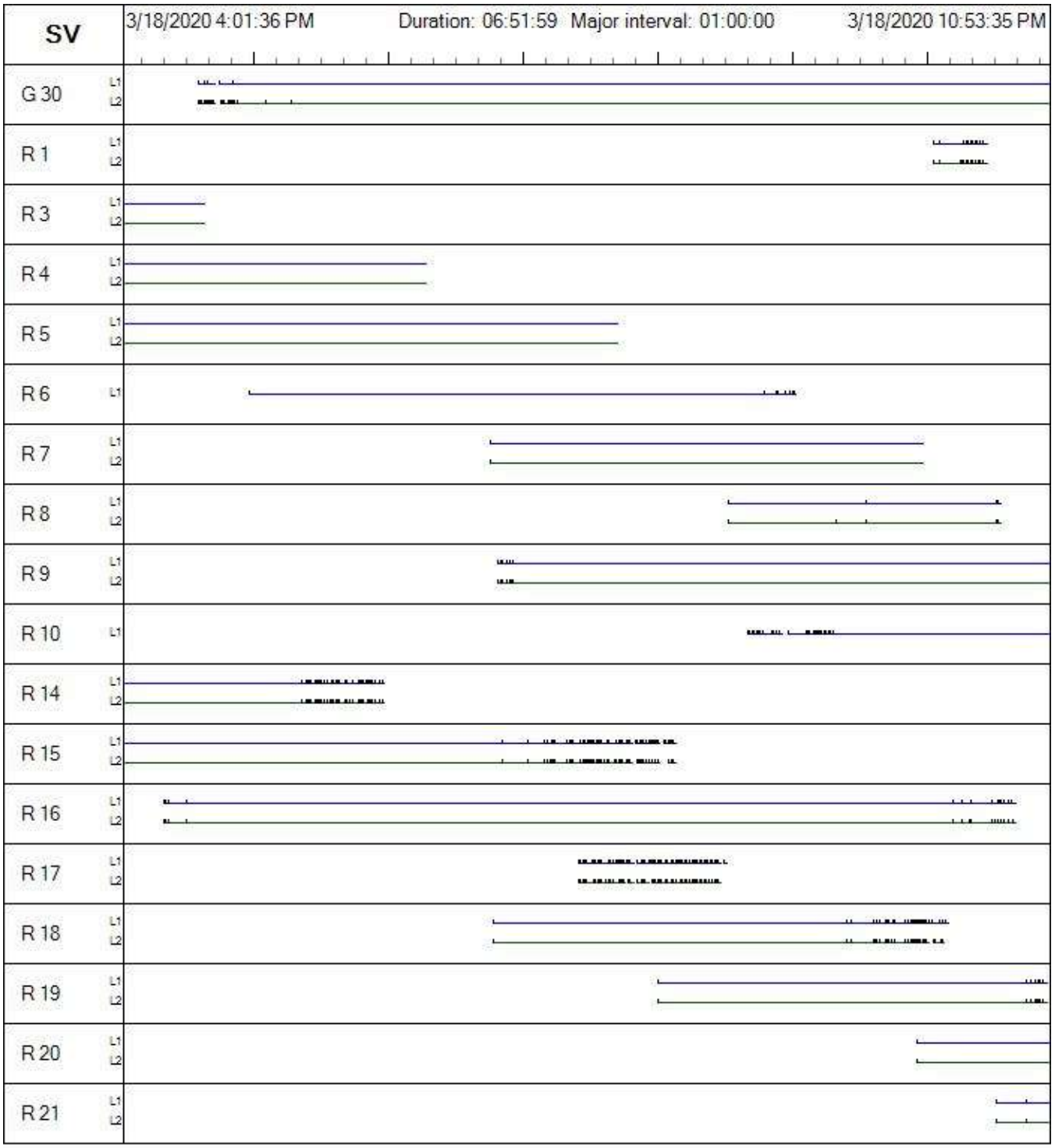
	X	Y	Z
X	0.0004870742		
Y	0.0006689222	0.0010752499	
Z	-0.0005350542	-0.0008437064	0.0007828425

Occupations

	From	To
Point ID:	MHCB	HS2787
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0780.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730780.T01
Receiver type:	PolaRx5	R8 Model 2
Receiver serial number:	4502928	4720132973
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
3/18/2020 4:01:36 PM
Duration: 06:51:59 Major interval: 01:00:00
3/18/2020 10:53:35 PM
G 30
R 1
R 3
R 4
R 5
R 6
R 7
R 8
R 9
R 10
R 14
R 15
R 16
R 17
R 18
R 19
R 20
R 21

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - HS5407 (3:33:08 PM-7:41:54 PM) (S22)

Baseline observation:	P217 --- HS5407 (B22)
Processed:	5/13/2020 5:03:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.011 ft
Vertical precision:	0.044 ft
RMS:	0.040 ft
Maximum PDOP:	1.887
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 3:33:12 PM (UTC)
Processing stop time:	3/19/2020 7:41:42 PM (UTC)
Processing duration:	04:08:30
Processing interval:	2 Minutes

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.576 ft	**Latitude**	N37°06'16.18578"	**Latitude**	N37°06'16.18578"
Northing	1862583.954 ft	**Longitude**	W121°39'02.23313"	**Longitude**	W121°39'02.23313"
Elevation	345.486 ft	**Height**	238.957 ft	**Height**	238.957 ft

To:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.555 ft	**Latitude**	N37°11'20.20723"	**Latitude**	N37°11'20.20722"
Northing	1893492.604 ft	**Longitude**	W121°41'42.34862"	**Longitude**	W121°41'42.34862"
Elevation	338.285 ft	**Height**	232.015 ft	**Height**	232.015 ft

Vector					
ΔEasting	-12577.021 ft	**NS Fwd Azimuth**	337°09'12.6"	**ΔX**	-1280.381 ft
ΔNorthing	30908.650 ft	**Ellipsoid Dist.**	33370.055 ft	**ΔY**	22614.285 ft
ΔElevation	-7.201 ft	**ΔHeight**	-6.943 ft	**ΔZ**	24505.922 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.004 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.010 ft
σ ΔNorthing	0.004 ft	**σ Ellipsoid Dist.**	0.004 ft	**σ ΔY**	0.016 ft
σ ΔElevation	0.023 ft	**σ ΔHeight**	0.023 ft	**σ ΔZ**	0.014 ft

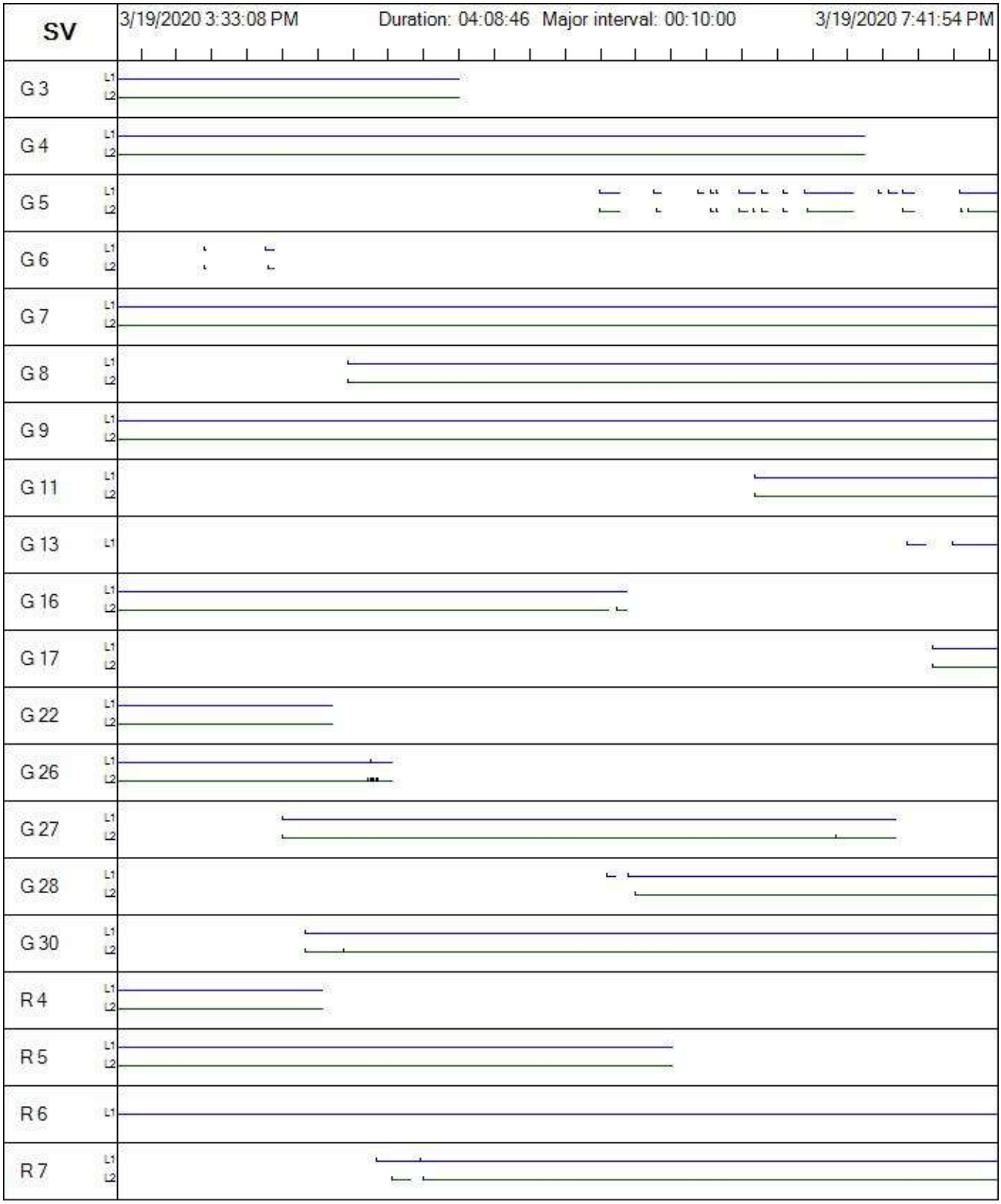
Aposteriori Covariance Matrix (US survey foot²)

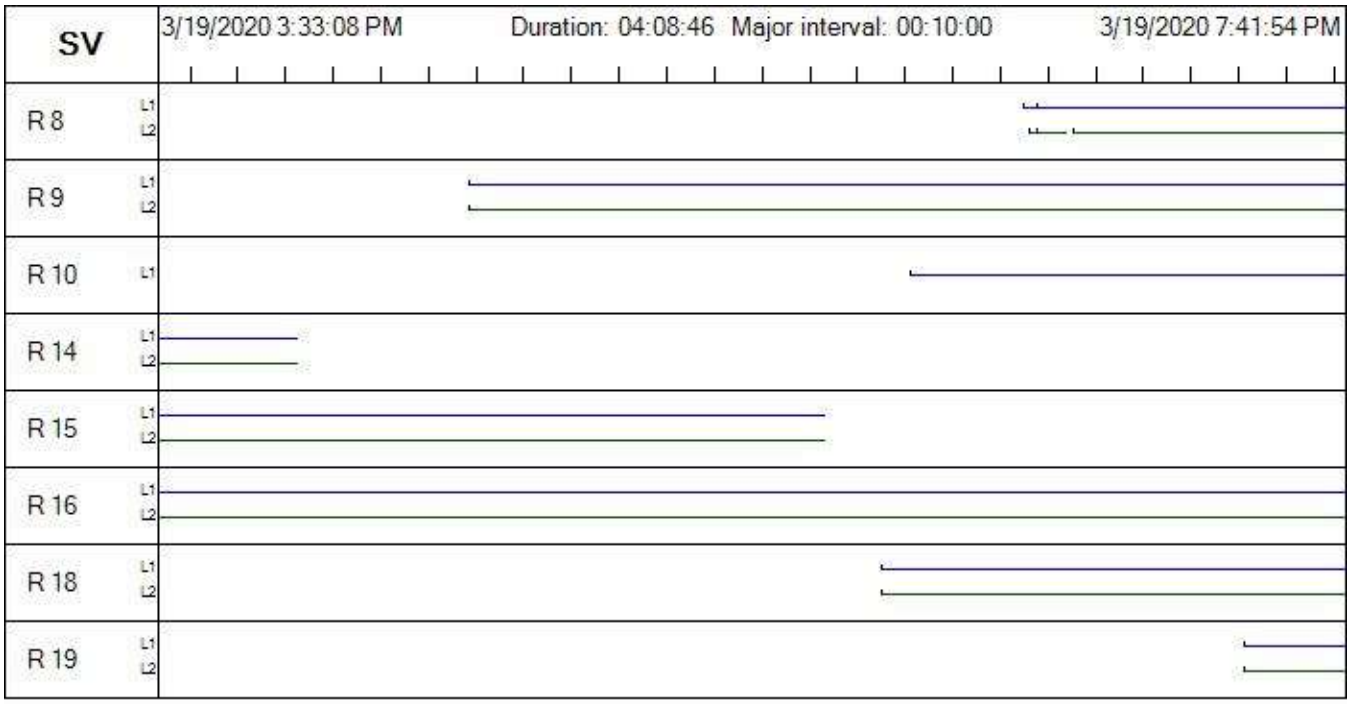
	X	Y	Z
X	0.0001033672		
Y	0.0001466579	0.0002532747	
Z	-0.0001213196	-0.0001959260	0.0001824854

Occupations

	From	To
Point ID:	P217	HS5407
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170790.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730790.T01
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4720132973
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
3/19/2020 3:33:08 PM
Duration: 04:08:46 Major interval: 00:10:00
3/19/2020 7:41:54 PM
R 8
L1
L2
R 9
L1
L2
R 10
L1
R 14
L1
L2
R 15
L1
L2
R 16
L1
L2
R 18
L1
L2
R 19
L1
L2

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA019 (3:46:00 PM-4:16:25 PM) (S21)

Baseline observation:	P217 --- NVA019 (B21)
Processed:	5/13/2020 5:03:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.044 ft
Vertical precision:	0.091 ft
RMS:	0.111 ft
Maximum PDOP:	1.805
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 3:46:12 PM (UTC)
Processing stop time:	3/19/2020 4:16:12 PM (UTC)
Processing duration:	00:30:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.576 ft	**Latitude**	N37°06'16.18578"	**Latitude**	N37°06'16.18578"
Northing	1862583.954 ft	**Longitude**	W121°39'02.23313"	**Longitude**	W121°39'02.23313"
Elevation	345.486 ft	**Height**	238.957 ft	**Height**	238.957 ft

To:	NVA019				
Grid		**Local**		**Global**	
Easting	6245705.961 ft	**Latitude**	N36°59'27.22987"	**Latitude**	N36°59'27.22987"
Northing	1820985.637 ft	**Longitude**	W121°34'54.53117"	**Longitude**	W121°34'54.53117"
Elevation	265.674 ft	**Height**	158.244 ft	**Height**	158.244 ft

Vector					
ΔEasting	19586.386 ft	**NS Fwd Azimuth**	154°04'57.7"	**ΔX**	4070.922 ft
ΔNorthing	-41598.317 ft	**Ellipsoid Dist.**	45978.571 ft	**ΔY**	-31693.384 ft
ΔElevation	-79.811 ft	**ΔHeight**	-80.714 ft	**ΔZ**	-33061.033 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.017 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.025 ft
σ ΔNorthing	0.017 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.038 ft
σ ΔElevation	0.047 ft	**σ ΔHeight**	0.047 ft	**σ ΔZ**	0.027 ft

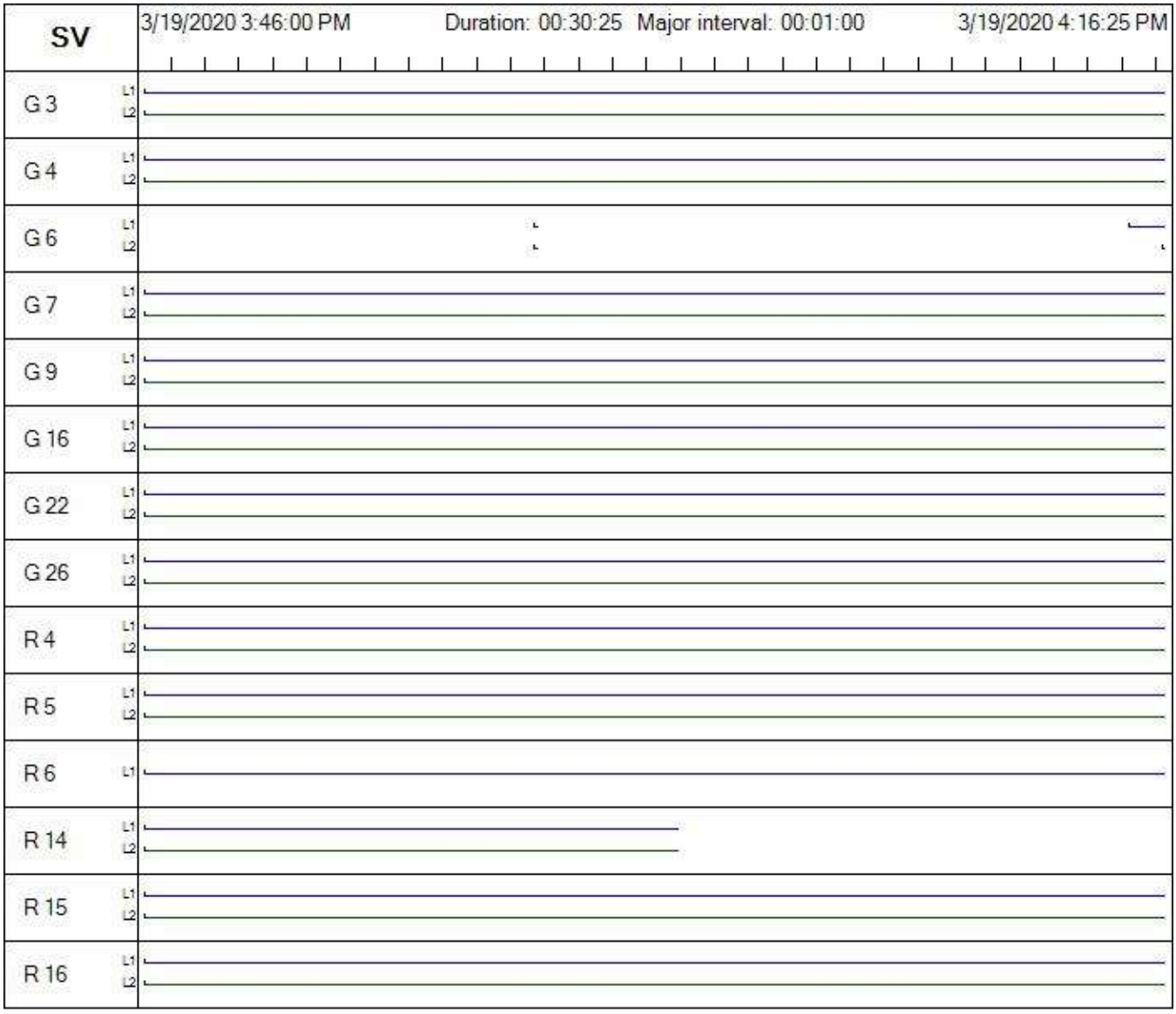
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0006471955		
Y	0.0006349935	0.0014076932	
Z	-0.0004357311	-0.0007035471	0.0007113233

Occupations

	From	To
Point ID:	P217	NVA019
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170790.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740790.t02
Receiver type:	NetR9	R8-4
Receiver serial number:	5038K70492	5329440614
Antenna type:	TRM59800-80 w/SCIT Dome	R8-4 Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA008 (4:27:59 PM-5:00:17 PM) (S20)

Baseline observation:	P217 --- VVA008 (B20)
Processed:	5/13/2020 5:03:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.082 ft
Vertical precision:	0.104 ft
RMS:	0.029 ft
Maximum PDOP:	3.441
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 4:28:12 PM (UTC)
Processing stop time:	3/19/2020 5:00:12 PM (UTC)
Processing duration:	00:32:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.576 ft	**Latitude**	N37°06'16.18578"	**Latitude**	N37°06'16.18578"
Northing	1862583.954 ft	**Longitude**	W121°39'02.23313"	**Longitude**	W121°39'02.23313"
Elevation	345.486 ft	**Height**	238.957 ft	**Height**	238.957 ft

To:	VVA008				
Grid		**Local**		**Global**	
Easting	6246162.884 ft	**Latitude**	N36°59'37.40147"	**Latitude**	N36°59'37.40147"
Northing	1822009.184 ft	**Longitude**	W121°34'49.04527"	**Longitude**	W121°34'49.04527"
Elevation	214.988 ft	**Height**	107.574 ft	**Height**	107.574 ft

Vector					
ΔEasting	20043.309 ft	**NS Fwd Azimuth**	153°00'26.0"	**ΔX**	4795.443 ft
ΔNorthing	-40574.770 ft	**Ellipsoid Dist.**	45255.171 ft	**ΔY**	-31364.659 ft
ΔElevation	-130.498 ft	**ΔHeight**	-131.383 ft	**ΔZ**	-32269.844 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.026 ft
σ ΔNorthing	0.033 ft	**σ Ellipsoid Dist.**	0.032 ft	**σ ΔY**	0.041 ft
σ ΔElevation	0.053 ft	**σ ΔHeight**	0.053 ft	**σ ΔZ**	0.043 ft

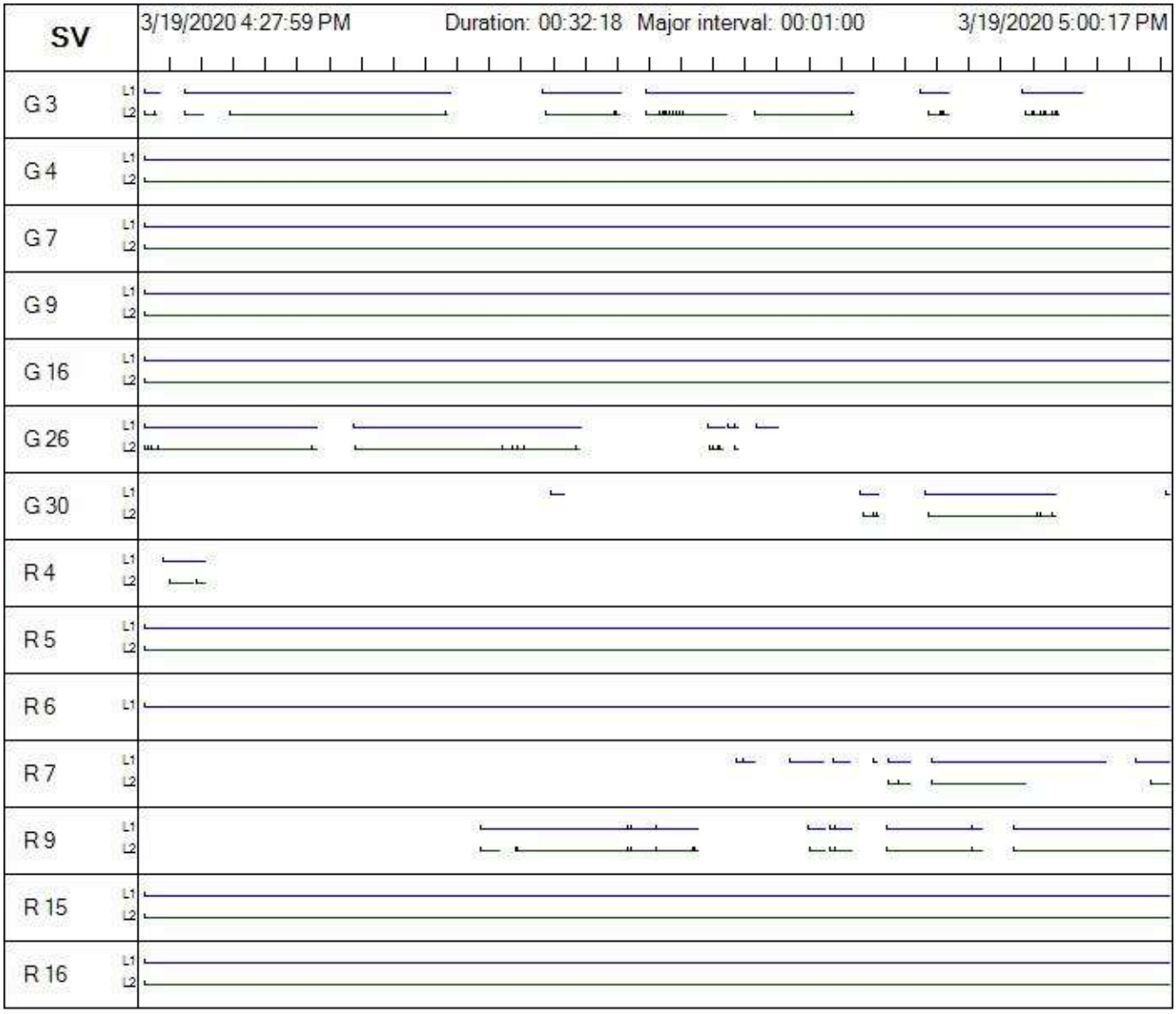
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0006850021		
Y	0.0007740029	0.0016705508	
Z	-0.0004637528	-0.0006878845	0.0018194506

Occupations

	From	To
Point ID:	P217	VVA008
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170790.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740791.t02
Receiver type:	NetR9	R8-4
Receiver serial number:	5038K70492	5329440614
Antenna type:	TRM59800-80 w/SCIT Dome	R8-4 Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA035 (5:18:52 PM-5:50:14 PM) (S19)

Baseline observation:	P217 --- NVA035 (B19)
Processed:	5/13/2020 5:03:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.094 ft
Vertical precision:	0.088 ft
RMS:	0.043 ft
Maximum PDOP:	1.522
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 5:19:12 PM (UTC)
Processing stop time:	3/19/2020 5:50:12 PM (UTC)
Processing duration:	00:31:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.576 ft	**Latitude**	N37°06'16.18578"	**Latitude**	N37°06'16.18578"
Northing	1862583.954 ft	**Longitude**	W121°39'02.23313"	**Longitude**	W121°39'02.23313"
Elevation	345.486 ft	**Height**	238.957 ft	**Height**	238.957 ft

To:	NVA035				
Grid		**Local**		**Global**	
Easting	6254821.382 ft	**Latitude**	N36°57'42.65132"	**Latitude**	N36°57'42.65132"
Northing	1810304.013 ft	**Longitude**	W121°33'00.70666"	**Longitude**	W121°33'00.70666"
Elevation	166.470 ft	**Height**	58.661 ft	**Height**	58.660 ft

Vector					
ΔEasting	28701.806 ft	**NS Fwd Azimuth**	150°31'44.9"	**ΔX**	8651.976 ft
ΔNorthing	-52279.941 ft	**Ellipsoid Dist.**	59640.034 ft	**ΔY**	-41881.217 ft
ΔElevation	-179.016 ft	**ΔHeight**	-180.297 ft	**ΔZ**	-41570.680 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.020 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.027 ft
σ ΔNorthing	0.037 ft	**σ Ellipsoid Dist.**	0.029 ft	**σ ΔY**	0.036 ft
σ ΔElevation	0.045 ft	**σ ΔHeight**	0.045 ft	**σ ΔZ**	0.043 ft

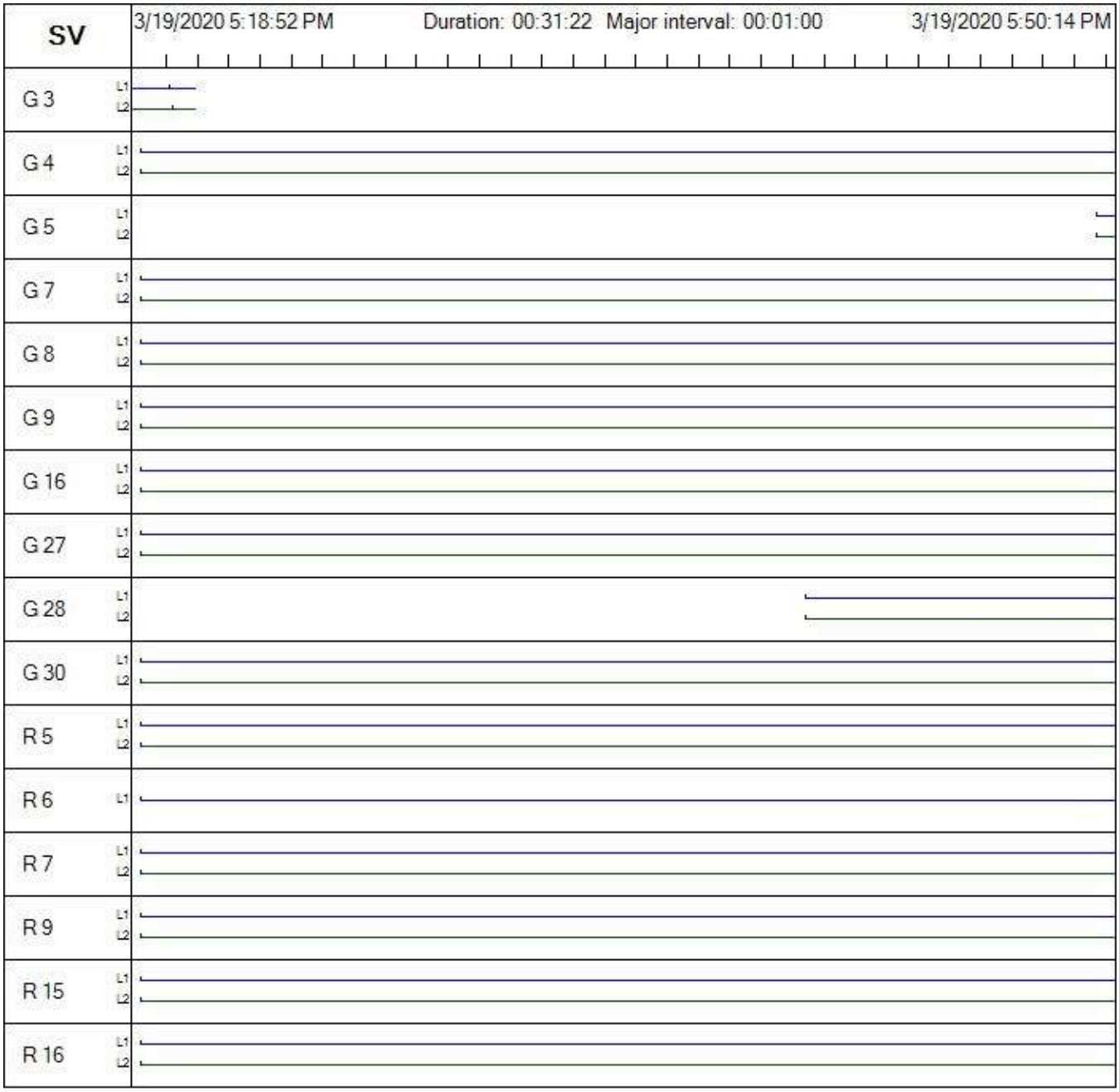
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0007059985		
Y	0.0005048156	0.0012603870	
Z	0.0001866538	-0.0005474474	0.0018316078

Occupations

	From	To
Point ID:	P217	NVA035
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170790.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740792.t02
Receiver type:	NetR9	R8-4
Receiver serial number:	5038K70492	5329440614
Antenna type:	TRM59800-80 w/SCIT Dome	R8-4 Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA012 (5:36:52 PM-6:02:15 PM) (S13)

Baseline observation:	P217 --- VVA012 (B13)
Processed:	5/13/2020 5:03:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.073 ft
Vertical precision:	0.078 ft
RMS:	0.054 ft
Maximum PDOP:	1.887
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 5:37:12 PM (UTC)
Processing stop time:	3/19/2020 6:02:12 PM (UTC)
Processing duration:	00:25:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.576 ft	**Latitude**	N37°06'16.18578"	**Latitude**	N37°06'16.18578"
Northing	1862583.954 ft	**Longitude**	W121°39'02.23313"	**Longitude**	W121°39'02.23313"
Elevation	345.486 ft	**Height**	238.957 ft	**Height**	238.957 ft

To:	VVA012				
Grid		**Local**		**Global**	
Easting	6262675.418 ft	**Latitude**	N37°10'53.17537"	**Latitude**	N37°10'53.17536"
Northing	1890175.266 ft	**Longitude**	W121°31'34.73520"	**Longitude**	W121°31'34.73520"
Elevation	2318.246 ft	**Height**	2213.389 ft	**Height**	2213.389 ft

Vector					
ΔEasting	36555.843 ft	**NS Fwd Azimuth**	52°15'05.8"	**ΔX**	38902.996 ft
ΔNorthing	27591.311 ft	**Ellipsoid Dist.**	45800.352 ft	**ΔY**	-5911.031 ft
ΔElevation	1972.760 ft	**ΔHeight**	1974.431 ft	**ΔZ**	23525.143 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.022 ft
σ ΔNorthing	0.028 ft	**σ Ellipsoid Dist.**	0.027 ft	**σ ΔY**	0.031 ft
σ ΔElevation	0.040 ft	**σ ΔHeight**	0.040 ft	**σ ΔZ**	0.035 ft

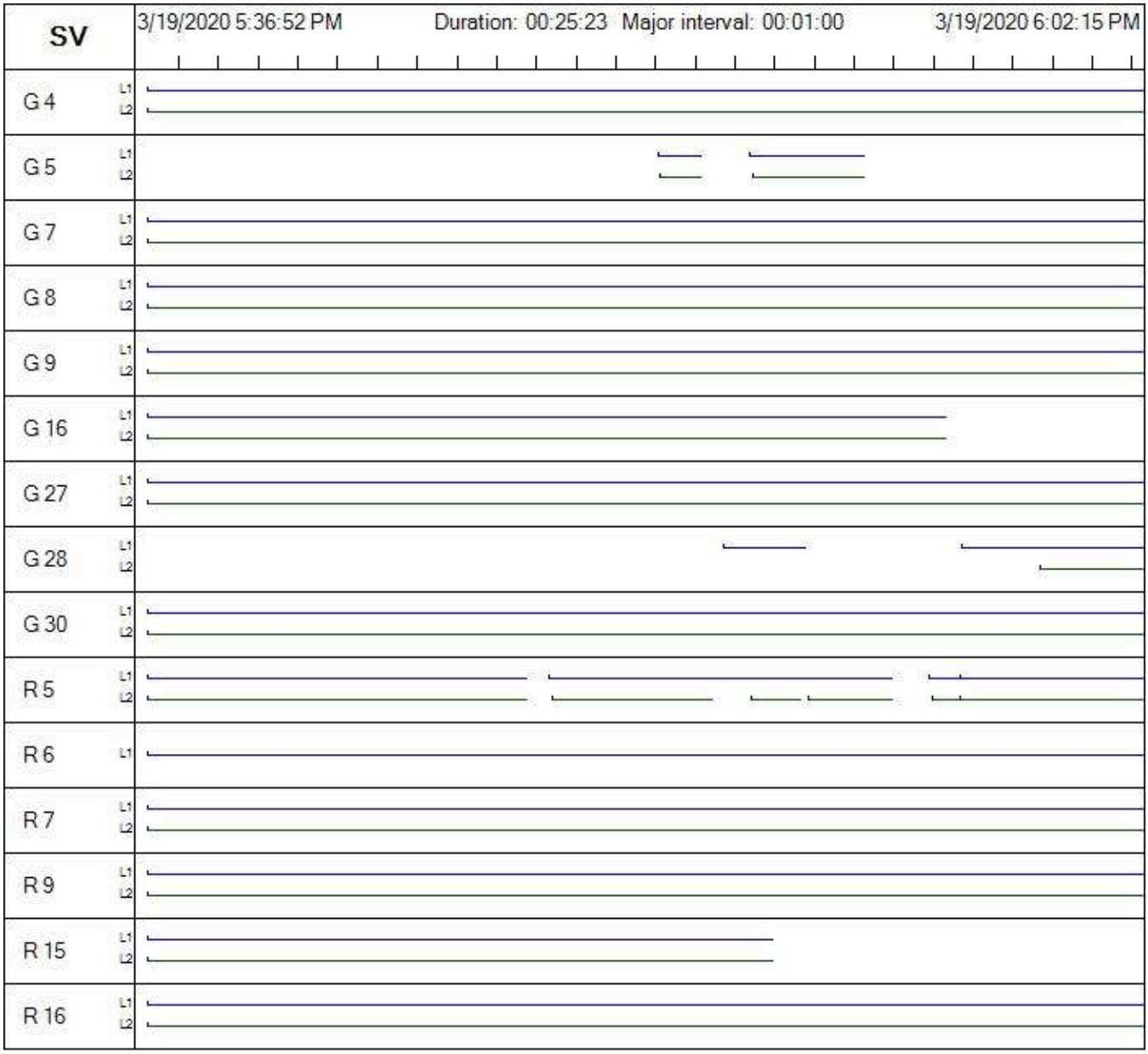
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0005058726		
Y	0.0003583534	0.0009572868	
Z	0.0000557304	-0.0005249415	0.0012374316

Occupations

	From	To
Point ID:	P217	VVA012
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170790.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430790.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5018426973
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA001 (7:11:01 PM-7:34:44 PM) (S4)

Baseline observation:	HS5407 --- VVA001 (B4)
Processed:	5/13/2020 5:03:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.070 ft
Vertical precision:	0.112 ft
RMS:	0.118 ft
Maximum PDOP:	1.502
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 7:11:02 PM (UTC)
Processing stop time:	3/19/2020 7:34:42 PM (UTC)
Processing duration:	00:23:40
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.557 ft	**Latitude**	N37°11'20.20721"	**Latitude**	N37°11'20.20721"
Northing	1893492.602 ft	**Longitude**	W121°41'42.34859"	**Longitude**	W121°41'42.34859"
Elevation	338.299 ft	**Height**	232.029 ft	**Height**	232.029 ft

To:	VVA001				
Grid		**Local**		**Global**	
Easting	6168862.543 ft	**Latitude**	N37°05'48.83849"	**Latitude**	N37°05'48.83848"
Northing	1860581.852 ft	**Longitude**	W121°50'48.60871"	**Longitude**	W121°50'48.60871"
Elevation	3076.306 ft	**Height**	2970.153 ft	**Height**	2970.152 ft

Vector					
ΔEasting	-44680.013 ft	**NS Fwd Azimuth**	232°53'34.1"	**ΔX**	-49410.148 ft
ΔNorthing	-32910.750 ft	**Ellipsoid Dist.**	55493.351 ft	**ΔY**	4228.585 ft
ΔElevation	2738.006 ft	**ΔHeight**	2738.124 ft	**ΔZ**	-25064.624 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.023 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.031 ft
σ ΔNorthing	0.028 ft	**σ Ellipsoid Dist.**	0.024 ft	**σ ΔY**	0.047 ft
σ ΔElevation	0.057 ft	**σ ΔHeight**	0.057 ft	**σ ΔZ**	0.038 ft

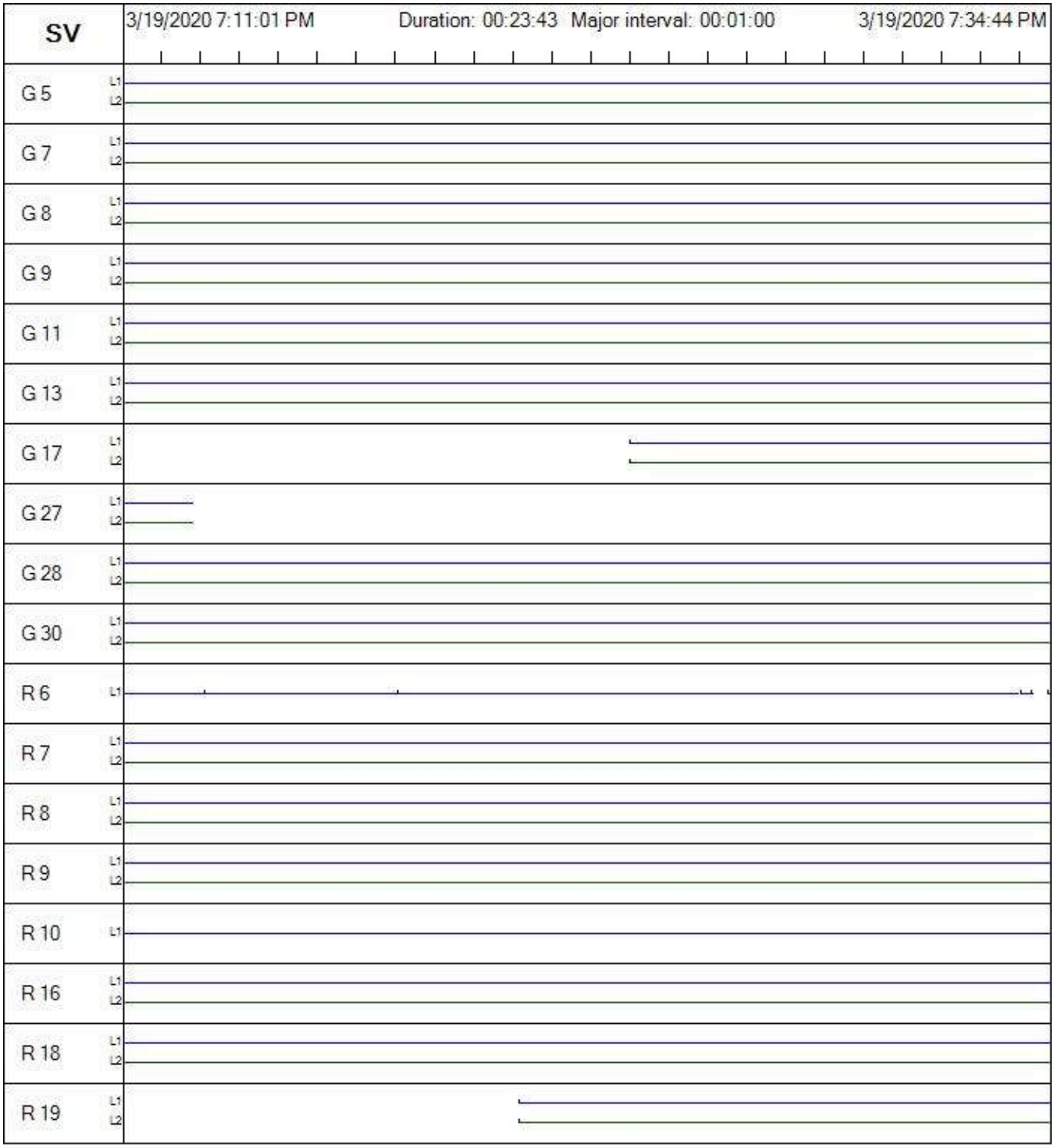
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0009317206		
Y	0.0008608677	0.0022085243	
Z	-0.0005414383	-0.0009982057	0.0014654298

Occupations

	From	To
Point ID:	HS5407	VVA001
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730790.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740793.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA019 (3:46:00 PM-4:16:25 PM) (S1)

Baseline observation:	HS5407 --- NVA019 (B1)
Processed:	5/13/2020 5:03:23 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.038 ft
Vertical precision:	0.170 ft
RMS:	0.038 ft
Maximum PDOP:	1.502
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 3:46:02 PM (UTC)
Processing stop time:	3/19/2020 4:16:22 PM (UTC)
Processing duration:	00:30:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.557 ft	**Latitude**	N37°11'20.20721"	**Latitude**	N37°11'20.20721"
Northing	1893492.602 ft	**Longitude**	W121°41'42.34859"	**Longitude**	W121°41'42.34859"
Elevation	338.299 ft	**Height**	232.029 ft	**Height**	232.029 ft

To:	NVA019				
Grid		**Local**		**Global**	
Easting	6245705.973 ft	**Latitude**	N36°59'27.22989"	**Latitude**	N36°59'27.22989"
Northing	1820985.639 ft	**Longitude**	W121°34'54.53103"	**Longitude**	W121°34'54.53103"
Elevation	265.654 ft	**Height**	158.224 ft	**Height**	158.223 ft

Vector					
ΔEasting	32163.416 ft	**NS Fwd Azimuth**	155°20'49.9"	**ΔX**	5351.326 ft
ΔNorthing	-72506.963 ft	**Ellipsoid Dist.**	79320.857 ft	**ΔY**	-54307.649 ft
ΔElevation	-72.645 ft	**ΔHeight**	-73.806 ft	**ΔZ**	-57566.973 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.013 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.040 ft
σ ΔNorthing	0.015 ft	**σ Ellipsoid Dist.**	0.015 ft	**σ ΔY**	0.063 ft
σ ΔElevation	0.087 ft	**σ ΔHeight**	0.087 ft	**σ ΔZ**	0.049 ft

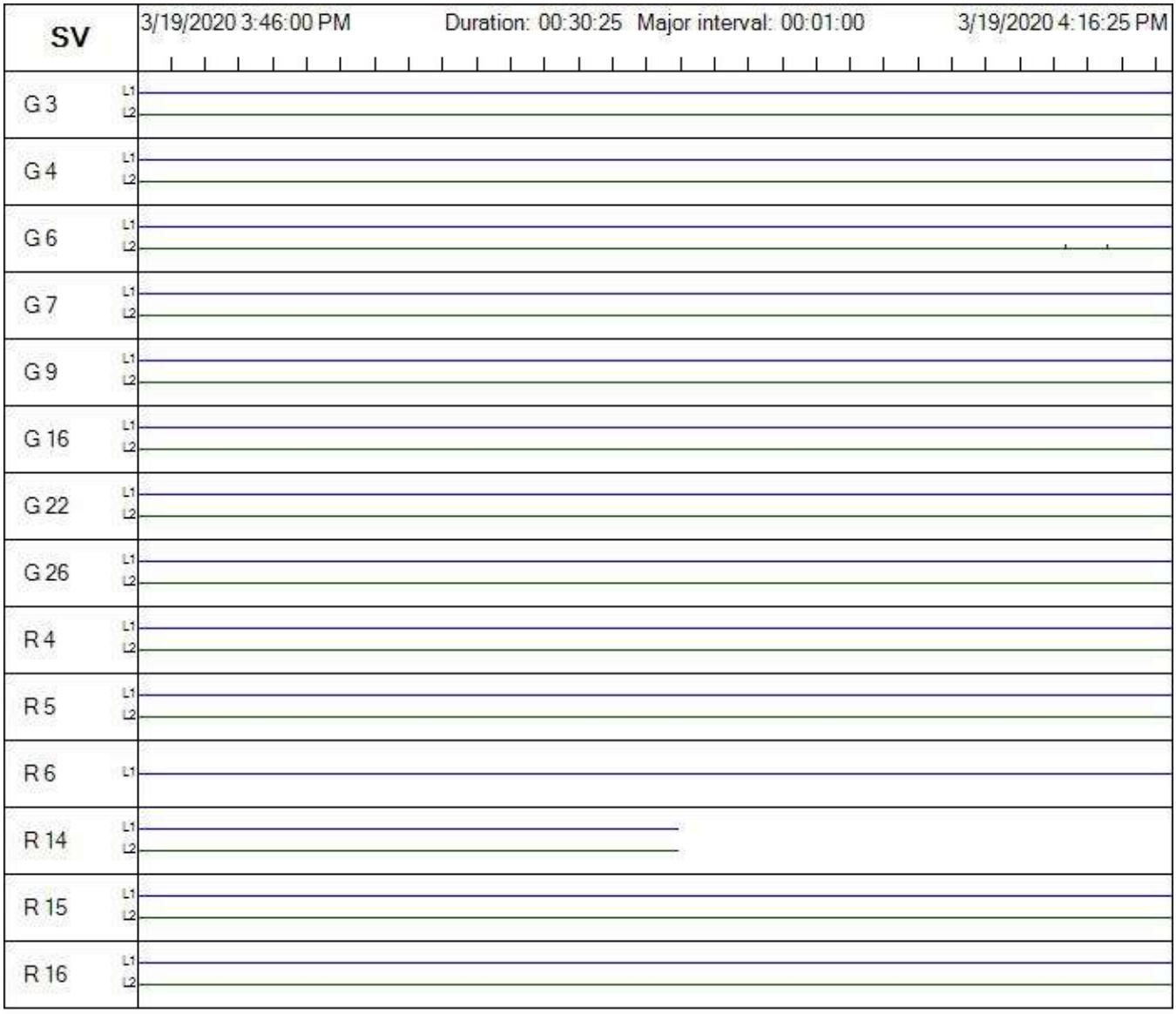
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0015656636		
Y	0.0022924436	0.0039784600	
Z	-0.0017544805	-0.0028737517	0.0023903701

Occupations

	From	To
Point ID:	HS5407	NVA019
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730790.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740790.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA008 (4:27:59 PM-5:00:17 PM) (S2)

Baseline observation:	HS5407 --- VVA008 (B2)
Processed:	5/13/2020 5:03:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.083 ft
Vertical precision:	0.315 ft
RMS:	0.096 ft
Maximum PDOP:	3.577
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 4:28:02 PM (UTC)
Processing stop time:	3/19/2020 5:00:12 PM (UTC)
Processing duration:	00:32:10
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.557 ft	**Latitude**	N37°11'20.20721"	**Latitude**	N37°11'20.20721"
Northing	1893492.602 ft	**Longitude**	W121°41'42.34859"	**Longitude**	W121°41'42.34859"
Elevation	338.299 ft	**Height**	232.029 ft	**Height**	232.029 ft

To:	VVA008				
Grid		**Local**		**Global**	
Easting	6246162.889 ft	**Latitude**	N36°59'37.40072"	**Latitude**	N36°59'37.40072"
Northing	1822009.108 ft	**Longitude**	W121°34'49.04520"	**Longitude**	W121°34'49.04520"
Elevation	214.973 ft	**Height**	107.559 ft	**Height**	107.559 ft

Vector					
ΔEasting	32620.332 ft	**NS Fwd Azimuth**	154°44'24.0"	**ΔX**	6075.815 ft
ΔNorthing	-71483.494 ft	**Ellipsoid Dist.**	78575.008 ft	**ΔY**	-53978.964 ft
ΔElevation	-123.327 ft	**ΔHeight**	-124.470 ft	**ΔZ**	-56775.844 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.070 ft
σ ΔNorthing	0.034 ft	**σ Ellipsoid Dist.**	0.033 ft	**σ ΔY**	0.112 ft
σ ΔElevation	0.161 ft	**σ ΔHeight**	0.161 ft	**σ ΔZ**	0.099 ft

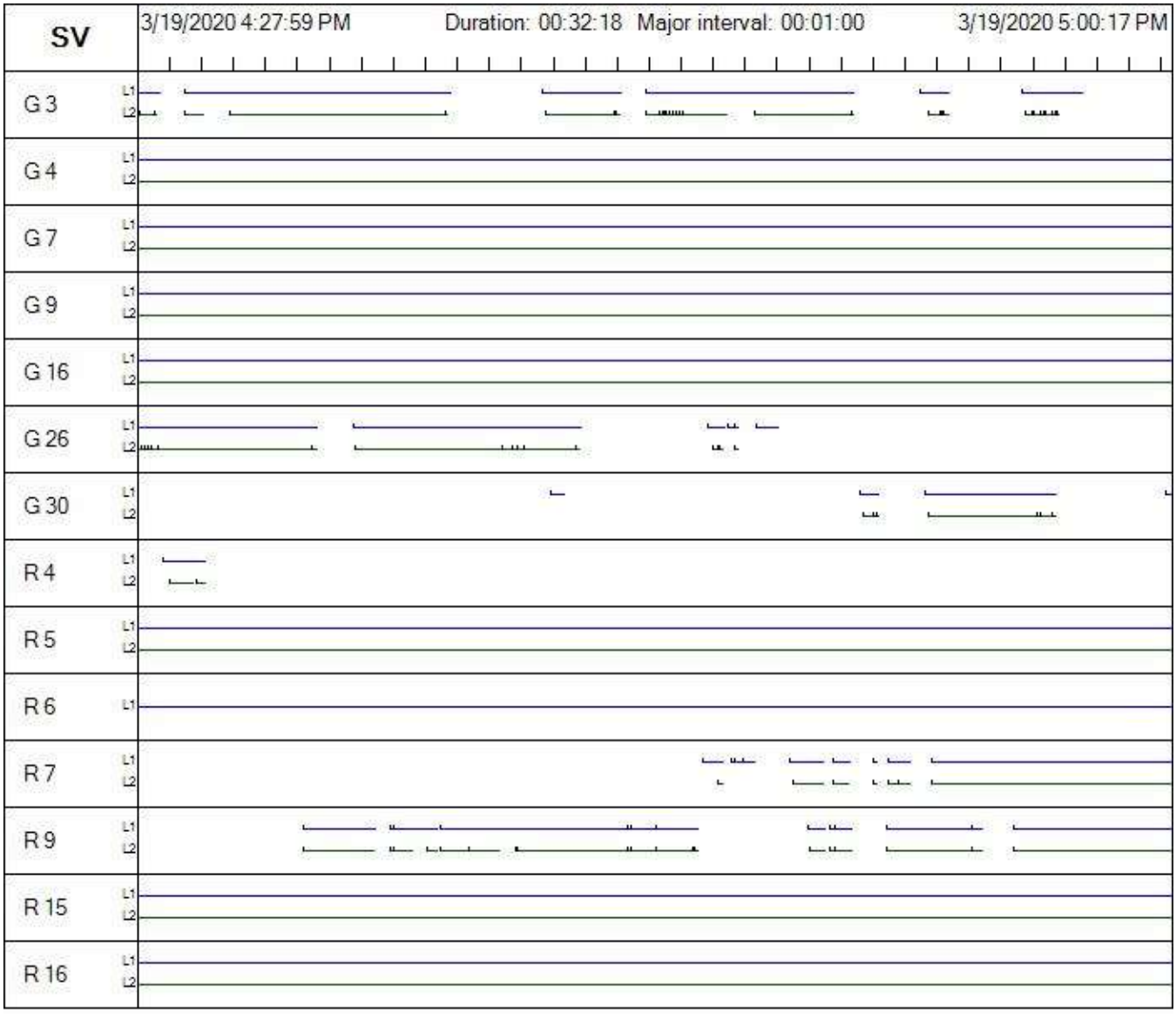
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0048621238		
Y	0.0073658206	0.0126552078	
Z	-0.0062072544	-0.0100464400	0.0098753440

Occupations

	From	To
Point ID:	HS5407	VVA008
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730790.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740791.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA035 (5:18:52 PM-5:50:14 PM) (S3)

Baseline observation:	HS5407 --- NVA035 (B3)
Processed:	5/13/2020 5:03:25 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.092 ft
Vertical precision:	0.204 ft
RMS:	0.058 ft
Maximum PDOP:	1.502
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 5:18:52 PM (UTC)
Processing stop time:	3/19/2020 5:50:12 PM (UTC)
Processing duration:	00:31:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.557 ft	**Latitude**	N37°11'20.20721"	**Latitude**	N37°11'20.20721"
Northing	1893492.602 ft	**Longitude**	W121°41'42.34859"	**Longitude**	W121°41'42.34859"
Elevation	338.299 ft	**Height**	232.029 ft	**Height**	232.029 ft

To:	NVA035				
Grid		**Local**		**Global**	
Easting	6254821.410 ft	**Latitude**	N36°57'42.65185"	**Latitude**	N36°57'42.65184"
Northing	1810304.066 ft	**Longitude**	W121°33'00.70633"	**Longitude**	W121°33'00.70633"
Elevation	166.516 ft	**Height**	58.707 ft	**Height**	58.707 ft

Vector					
ΔEasting	41278.853 ft	**NS Fwd Azimuth**	152°52'40.7"	**ΔX**	9932.382 ft
ΔNorthing	-83188.536 ft	**Ellipsoid Dist.**	92867.088 ft	**ΔY**	-64495.510 ft
ΔElevation	-171.783 ft	**ΔHeight**	-173.322 ft	**ΔZ**	-66076.539 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.019 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.052 ft
σ ΔNorthing	0.036 ft	**σ Ellipsoid Dist.**	0.030 ft	**σ ΔY**	0.077 ft
σ ΔElevation	0.104 ft	**σ ΔHeight**	0.104 ft	**σ ΔZ**	0.062 ft

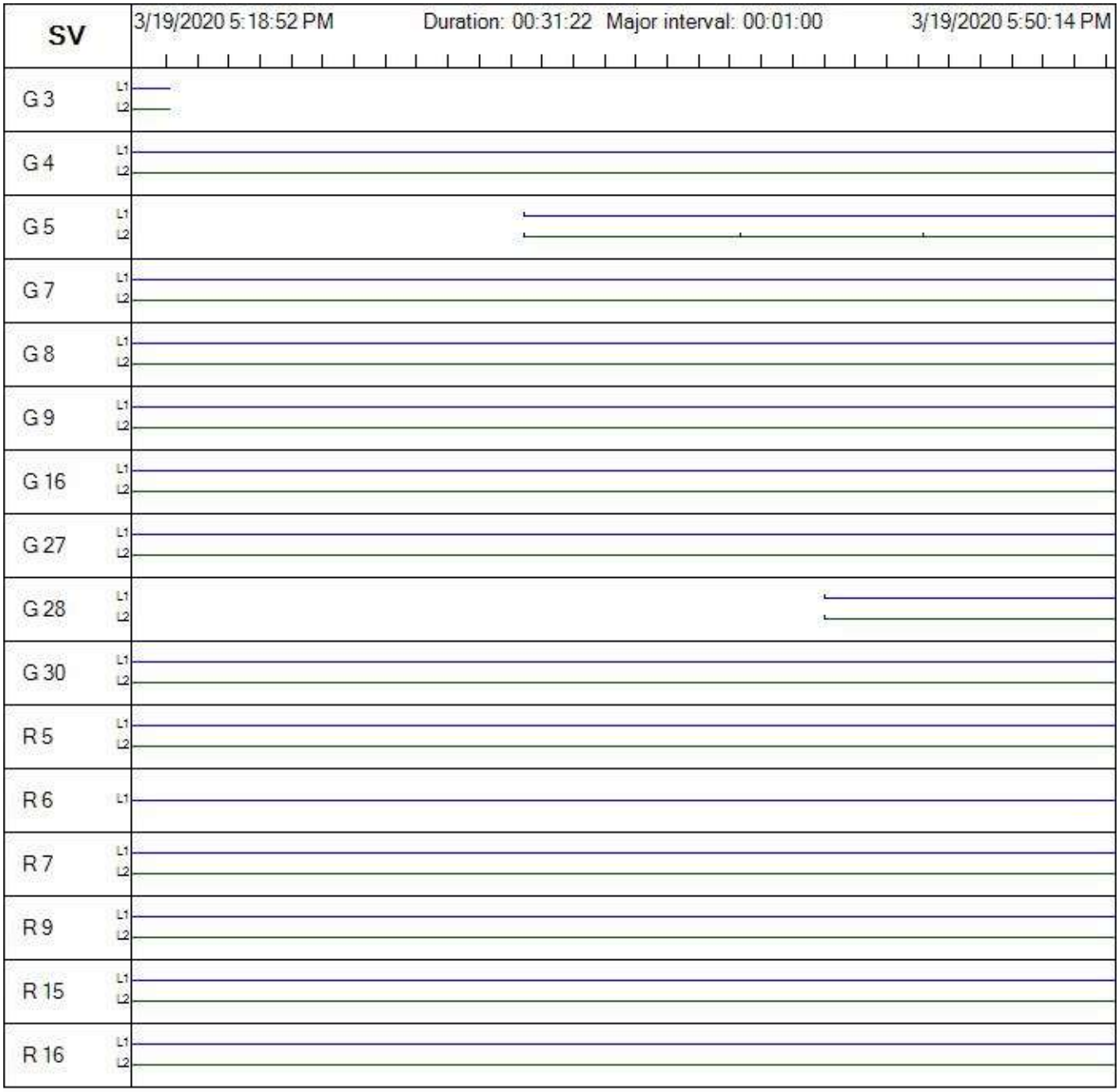
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0027253101		
Y	0.0036456243	0.0059402621	
Z	-0.0020598446	-0.0038104910	0.0038521481

Occupations

	From	To
Point ID:	HS5407	NVA035
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730790.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740792.t02
Receiver type:	R8 Model 2	R8-4
Receiver serial number:	4720132973	5329440614
Antenna type:	R8 GNSS/SPS88x Internal	R8-4 Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA012 (5:36:52 PM-6:02:15 PM) (S6)

Baseline observation:	HS5407 --- VVA012 (B6)
Processed:	5/13/2020 5:03:25 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.069 ft
Vertical precision:	0.076 ft
RMS:	0.065 ft
Maximum PDOP:	1.521
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 5:36:52 PM (UTC)
Processing stop time:	3/19/2020 6:02:12 PM (UTC)
Processing duration:	00:25:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.557 ft	**Latitude**	N37°11'20.20721"	**Latitude**	N37°11'20.20721"
Northing	1893492.602 ft	**Longitude**	W121°41'42.34859"	**Longitude**	W121°41'42.34859"
Elevation	338.299 ft	**Height**	232.029 ft	**Height**	232.029 ft

To:	VVA012				
Grid		**Local**		**Global**	
Easting	6262675.464 ft	**Latitude**	N37°10'53.17589"	**Latitude**	N37°10'53.17588"
Northing	1890175.318 ft	**Longitude**	W121°31'34.73465"	**Longitude**	W121°31'34.73465"
Elevation	2318.303 ft	**Height**	2213.446 ft	**Height**	2213.446 ft

Vector					
ΔEasting	49132.907 ft	**NS Fwd Azimuth**	93°07'53.5"	**ΔX**	40183.413 ft
ΔNorthing	-3317.284 ft	**Ellipsoid Dist.**	49245.868 ft	**ΔY**	-28525.340 ft
ΔElevation	1980.004 ft	**ΔHeight**	1981.417 ft	**ΔZ**	-980.710 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.017 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.024 ft
σ ΔNorthing	0.027 ft	**σ Ellipsoid Dist.**	0.016 ft	**σ ΔY**	0.031 ft
σ ΔElevation	0.039 ft	**σ ΔHeight**	0.039 ft	**σ ΔZ**	0.032 ft

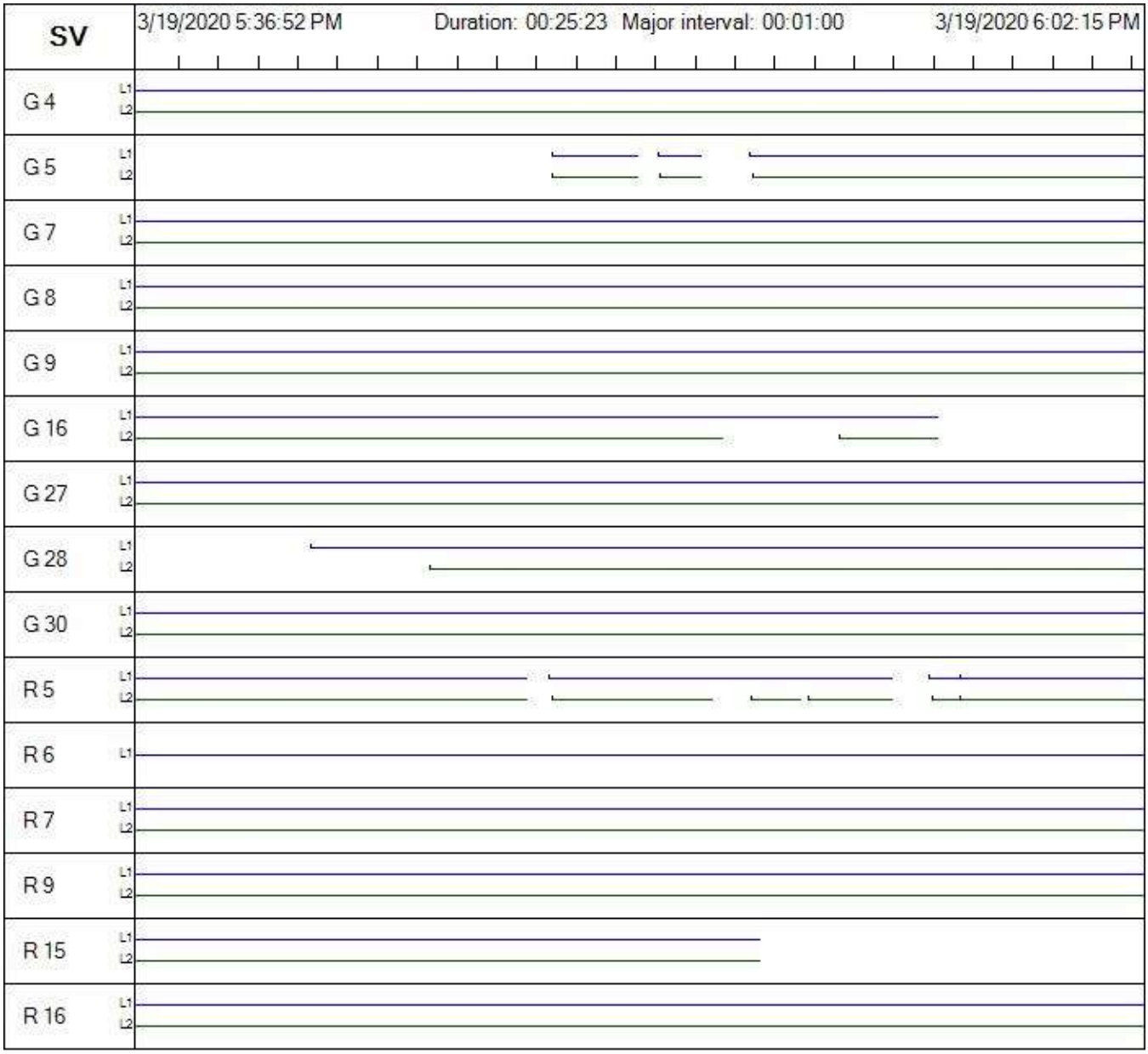
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0005534573		
Y	0.0004234363	0.0009672131	
Z	-0.0000023875	-0.0004268571	0.0010071586

Occupations

	From	To
Point ID:	HS5407	VVA012
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\29730790.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430790.t02
Receiver type:	R8 Model 2	R8 Model 3
Receiver serial number:	4720132973	5018426973
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

NVA035 - VVA012 (5:36:52 PM-5:50:14 PM) (S5)

Baseline observation:	NVA035 --- VVA012 (B5)
Processed:	5/13/2020 5:03:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.153 ft
Vertical precision:	0.148 ft
RMS:	0.058 ft
Maximum PDOP:	1.521
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 5:36:52 PM (UTC)
Processing stop time:	3/19/2020 5:50:14 PM (UTC)
Processing duration:	00:13:22
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	NVA035				
Grid		**Local**		**Global**	
Easting	6254821.382 ft	**Latitude**	N36°57'42.65132"	**Latitude**	N36°57'42.65132"
Northing	1810304.013 ft	**Longitude**	W121°33'00.70666"	**Longitude**	W121°33'00.70666"
Elevation	166.470 ft	**Height**	58.661 ft	**Height**	58.660 ft

To:	VVA012				
Grid		**Local**		**Global**	
Easting	6262675.429 ft	**Latitude**	N37°10'53.17517"	**Latitude**	N37°10'53.17517"
Northing	1890175.246 ft	**Longitude**	W121°31'34.73507"	**Longitude**	W121°31'34.73507"
Elevation	2318.242 ft	**Height**	2213.385 ft	**Height**	2213.385 ft

Vector					
ΔEasting	7854.047 ft	**NS Fwd Azimuth**	4°58'23.6"	**ΔX**	30251.025 ft
ΔNorthing	79871.232 ft	**Ellipsoid Dist.**	80256.497 ft	**ΔY**	35970.174 ft
ΔElevation	2151.772 ft	**ΔHeight**	2154.724 ft	**ΔZ**	65095.804 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.035 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.046 ft
σ ΔNorthing	0.060 ft	**σ Ellipsoid Dist.**	0.061 ft	**σ ΔY**	0.059 ft
σ ΔElevation	0.075 ft	**σ ΔHeight**	0.075 ft	**σ ΔZ**	0.069 ft

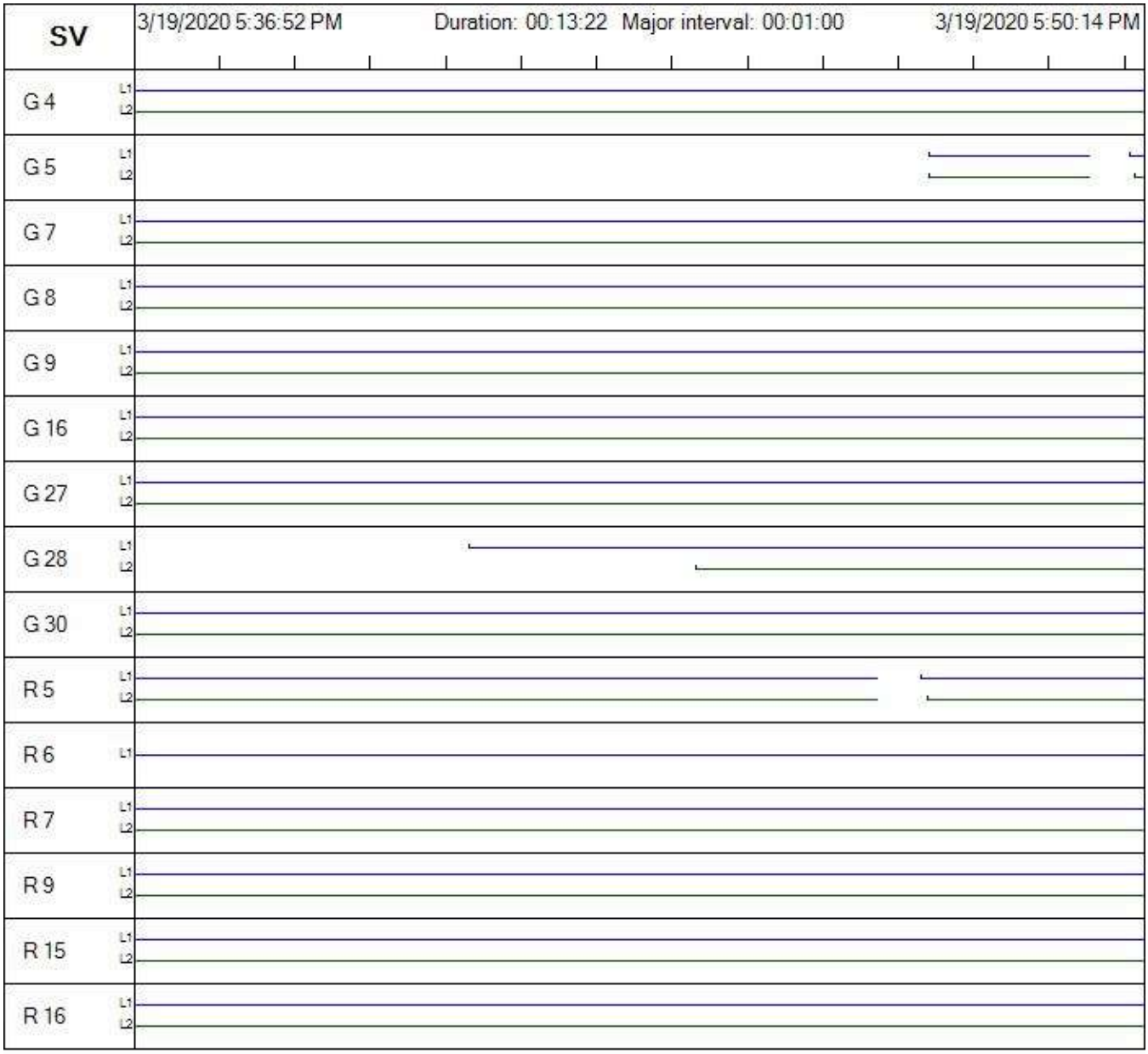
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0020772997		
Y	0.0014356643	0.0035368740	
Z	0.0004359894	-0.0016277785	0.0048199079

Occupations

	From	To
Point ID:	NVA035	VVA012
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740792.t02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\88430790.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5018426973
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA001 (7:11:01 PM-7:34:44 PM) (S18)

Baseline observation:	P217 --- VVA001 (B18)
Processed:	5/13/2020 5:03:25 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.071 ft
Vertical precision:	0.121 ft
RMS:	0.065 ft
Maximum PDOP:	1.768
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	3/19/2020 7:11:12 PM (UTC)
Processing stop time:	3/19/2020 7:34:42 PM (UTC)
Processing duration:	00:23:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.576 ft	**Latitude**	N37°06'16.18578"	**Latitude**	N37°06'16.18578"
Northing	1862583.954 ft	**Longitude**	W121°39'02.23313"	**Longitude**	W121°39'02.23313"
Elevation	345.486 ft	**Height**	238.957 ft	**Height**	238.957 ft

To:	VVA001				
Grid		**Local**		**Global**	
Easting	6168862.499 ft	**Latitude**	N37°05'48.83888"	**Latitude**	N37°05'48.83888"
Northing	1860581.893 ft	**Longitude**	W121°50'48.60926"	**Longitude**	W121°50'48.60926"
Elevation	3076.279 ft	**Height**	2970.125 ft	**Height**	2970.125 ft

Vector					
ΔEasting	-57257.077 ft	**NS Fwd Azimuth**	267°17'31.5"	**ΔX**	-50690.547 ft
ΔNorthing	-2002.061 ft	**Ellipsoid Dist.**	57292.461 ft	**ΔY**	26842.921 ft
ΔElevation	2730.793 ft	**ΔHeight**	2731.168 ft	**ΔZ**	-558.678 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.029 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.030 ft
σ ΔNorthing	0.024 ft	**σ Ellipsoid Dist.**	0.028 ft	**σ ΔY**	0.055 ft
σ ΔElevation	0.062 ft	**σ ΔHeight**	0.062 ft	**σ ΔZ**	0.037 ft

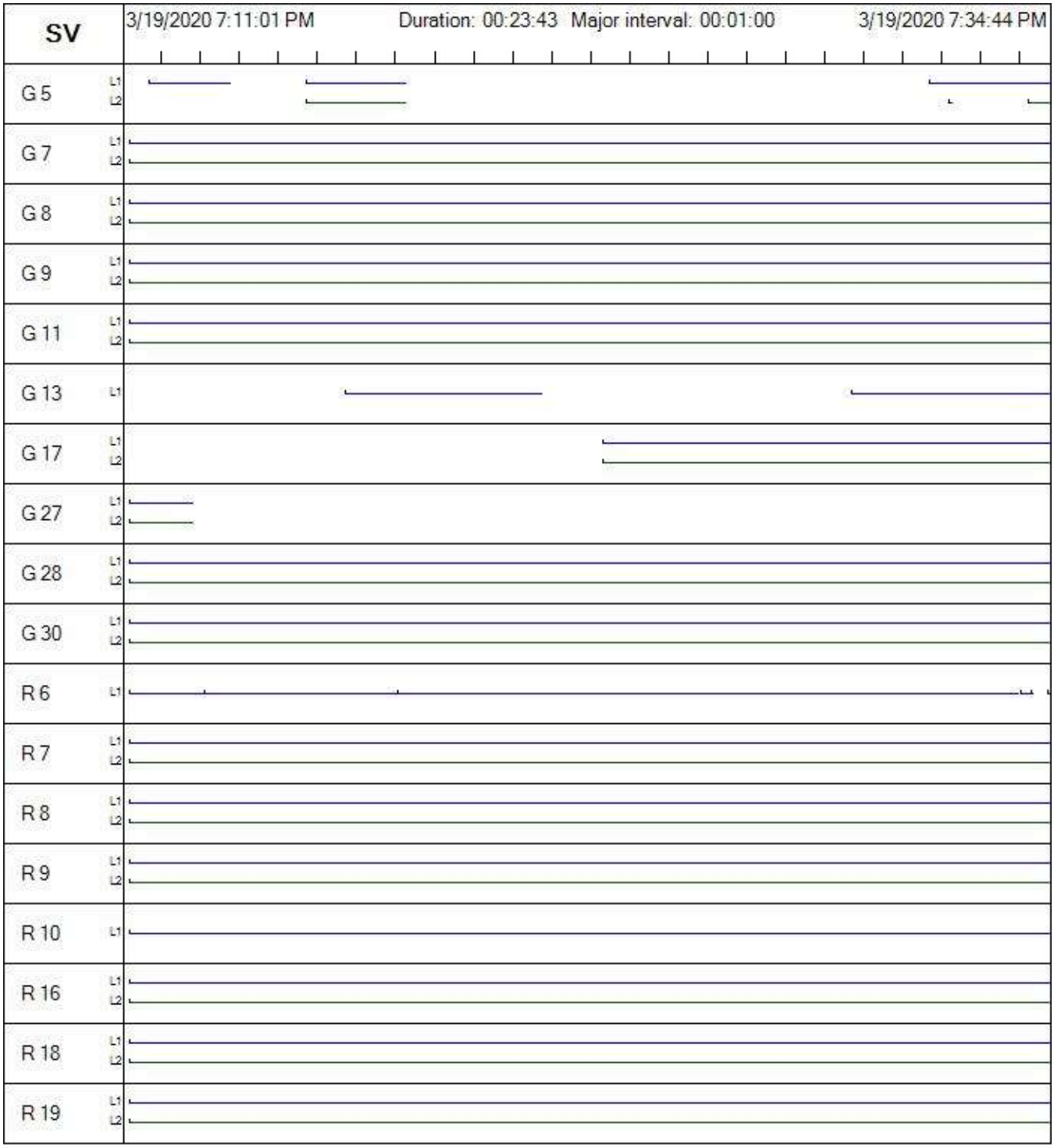
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0008872329		
Y	0.0007287702	0.0029829717	
Z	-0.0004356888	-0.0014291256	0.0013647786

Occupations

	From	To
Point ID:	P217	VVA001
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170790.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85740793.t02
Receiver type:	NetR9	R8-4
Receiver serial number:	5038K70492	5329440614
Antenna type:	TRM59800-80 w/SCIT Dome	R8-4 Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - AA1864 (9:13:17 PM-12:53:41 AM) (S7)

Baseline observation:	P242 --- AA1864 (B7)
Processed:	5/13/2020 5:16:12 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.020 ft
Vertical precision:	0.090 ft
RMS:	0.047 ft
Maximum PDOP:	2.997
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/2/2020 9:13:42 PM (UTC)
Processing stop time:	4/3/2020 12:53:12 AM (UTC)
Processing duration:	03:39:30
Processing interval:	1 Minute

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.738 ft	**Latitude**	N36°57'14.15019"	**Latitude**	N36°57'14.15019"
Northing	1807148.035 ft	**Longitude**	W121°27'47.41560"	**Longitude**	W121°27'47.41560"
Elevation	158.183 ft	**Height**	50.217 ft	**Height**	50.217 ft

To:	AA1864				
Grid		**Local**		**Global**	
Easting	6324913.949 ft	**Latitude**	N37°02'18.86743"	**Latitude**	N37°02'18.86743"
Northing	1837544.841 ft	**Longitude**	W121°18'40.03968"	**Longitude**	W121°18'40.03968"
Elevation	411.737 ft	**Height**	305.523 ft	**Height**	305.523 ft

Vector					
ΔEasting	44696.210 ft	**NS Fwd Azimuth**	55°11'32.9"	**ΔX**	47460.463 ft
ΔNorthing	30396.806 ft	**Ellipsoid Dist.**	54052.078 ft	**ΔY**	-7469.542 ft
ΔElevation	253.553 ft	**ΔHeight**	255.306 ft	**ΔZ**	24767.939 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.008 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.021 ft
σ ΔNorthing	0.008 ft	**σ Ellipsoid Dist.**	0.008 ft	**σ ΔY**	0.031 ft
σ ΔElevation	0.046 ft	**σ ΔHeight**	0.046 ft	**σ ΔZ**	0.029 ft

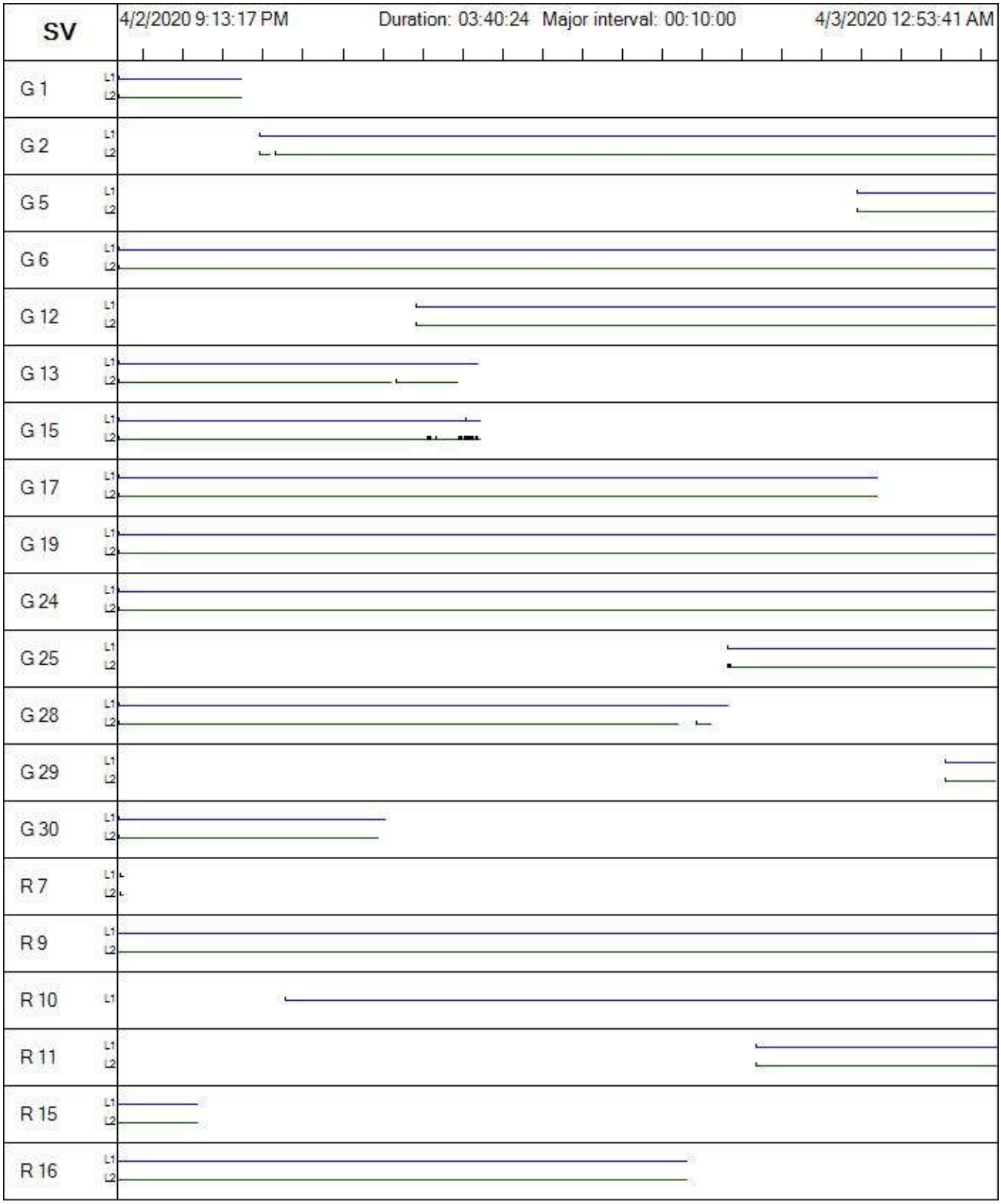
Aposteriori Covariance Matrix (US survey foot²)

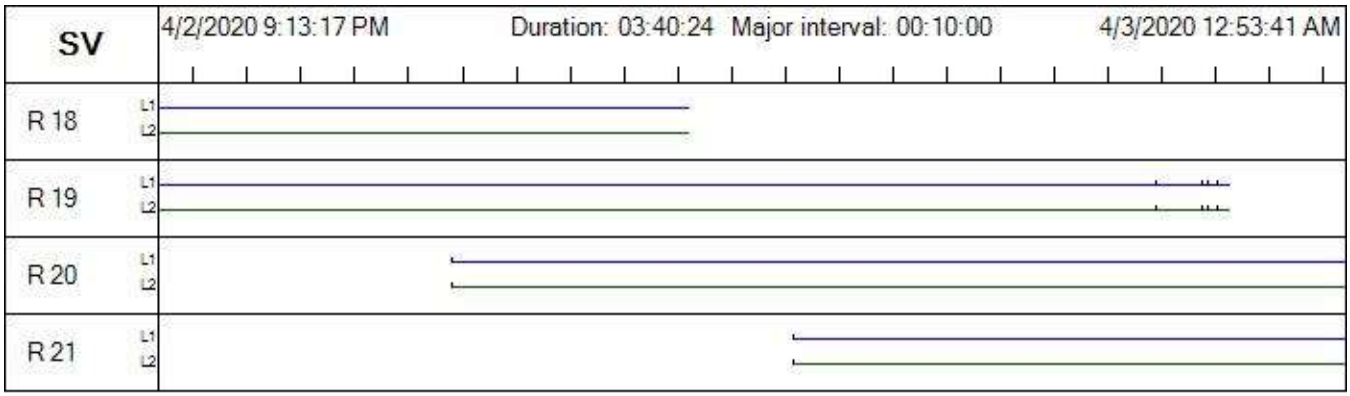
	X	Y	Z
X	0.0004273365		
Y	0.0005789818	0.0009614573	
Z	-0.0005311767	-0.0008200874	0.0008232231

Occupations

	From	To
Point ID:	P242	AA1864
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420930.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700931.T01
Receiver type:	NetRS	R8 Model 2
Receiver serial number:	4541260327	4811147470
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
4/2/2020 9:13:17 PM
Duration: 03:40:24
Major interval: 00:10:00
4/3/2020 12:53:41 AM
R 18
L1
L2
R 19
L1
L2
R 20
L1
L2
R 21
L1
L2

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - NVA024 (9:14:21 PM-9:24:48 PM) (S6)

Baseline observation:	P242 --- NVA024 (B6)
Processed:	5/13/2020 5:16:11 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.088 ft
Vertical precision:	0.116 ft
RMS:	0.043 ft
Maximum PDOP:	1.580
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/2/2020 9:14:42 PM (UTC)
Processing stop time:	4/2/2020 9:24:42 PM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.738 ft	**Latitude**	N36°57'14.15019"	**Latitude**	N36°57'14.15019"
Northing	1807148.035 ft	**Longitude**	W121°27'47.41560"	**Longitude**	W121°27'47.41560"
Elevation	158.183 ft	**Height**	50.217 ft	**Height**	50.217 ft

To:	NVA024				
Grid		**Local**		**Global**	
Easting	6324933.267 ft	**Latitude**	N37°02'17.97118"	**Latitude**	N37°02'17.97118"
Northing	1837454.024 ft	**Longitude**	W121°18'39.79173"	**Longitude**	W121°18'39.79173"
Elevation	403.730 ft	**Height**	297.514 ft	**Height**	297.514 ft

Vector					
ΔEasting	44715.528 ft	**NS Fwd Azimuth**	55°17'01.1"	**ΔX**	47452.586 ft
ΔNorthing	30305.989 ft	**Ellipsoid Dist.**	54017.048 ft	**ΔY**	-7521.178 ft
ΔElevation	245.547 ft	**ΔHeight**	247.297 ft	**ΔZ**	24690.758 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.029 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.037 ft
σ ΔNorthing	0.034 ft	**σ Ellipsoid Dist.**	0.027 ft	**σ ΔY**	0.047 ft
σ ΔElevation	0.059 ft	**σ ΔHeight**	0.059 ft	**σ ΔZ**	0.044 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0013682889		
Y	0.0008583569	0.0022369753	
Z	-0.0008478357	-0.0007686205	0.0019072797

Occupations

	From	To
Point ID:	P242	NVA024
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420930.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570931.t02
Receiver type:	NetRS	R8 Model 2
Receiver serial number:	4541260327	4803143756
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - NVA070 (10:36:51 PM-10:53:58 PM) (S5)

Baseline observation:	P242 --- NVA070 (B5)
Processed:	5/13/2020 5:16:11 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.066 ft
Vertical precision:	0.144 ft
RMS:	0.065 ft
Maximum PDOP:	2.485
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/2/2020 10:37:12 PM (UTC)
Processing stop time:	4/2/2020 10:53:42 PM (UTC)
Processing duration:	00:16:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.738 ft	**Latitude**	N36°57'14.15019"	**Latitude**	N36°57'14.15019"
Northing	1807148.035 ft	**Longitude**	W121°27'47.41560"	**Longitude**	W121°27'47.41560"
Elevation	158.183 ft	**Height**	50.217 ft	**Height**	50.217 ft

To:	NVA070				
Grid		**Local**		**Global**	
Easting	6279709.467 ft	**Latitude**	N37°04'33.65835"	**Latitude**	N37°04'33.65834"
Northing	1851607.514 ft	**Longitude**	W121°27'59.33342"	**Longitude**	W121°27'59.33342"
Elevation	854.701 ft	**Height**	748.759 ft	**Height**	748.759 ft

Vector					
ΔEasting	-508.271 ft	**NS Fwd Azimuth**	358°45'19.1"	**ΔX**	12853.108 ft
ΔNorthing	44459.479 ft	**Ellipsoid Dist.**	44461.883 ft	**ΔY**	22855.116 ft
ΔElevation	696.518 ft	**ΔHeight**	698.543 ft	**ΔZ**	35914.666 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.025 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.042 ft
σ ΔNorthing	0.025 ft	**σ Ellipsoid Dist.**	0.025 ft	**σ ΔY**	0.054 ft
σ ΔElevation	0.073 ft	**σ ΔHeight**	0.073 ft	**σ ΔZ**	0.045 ft

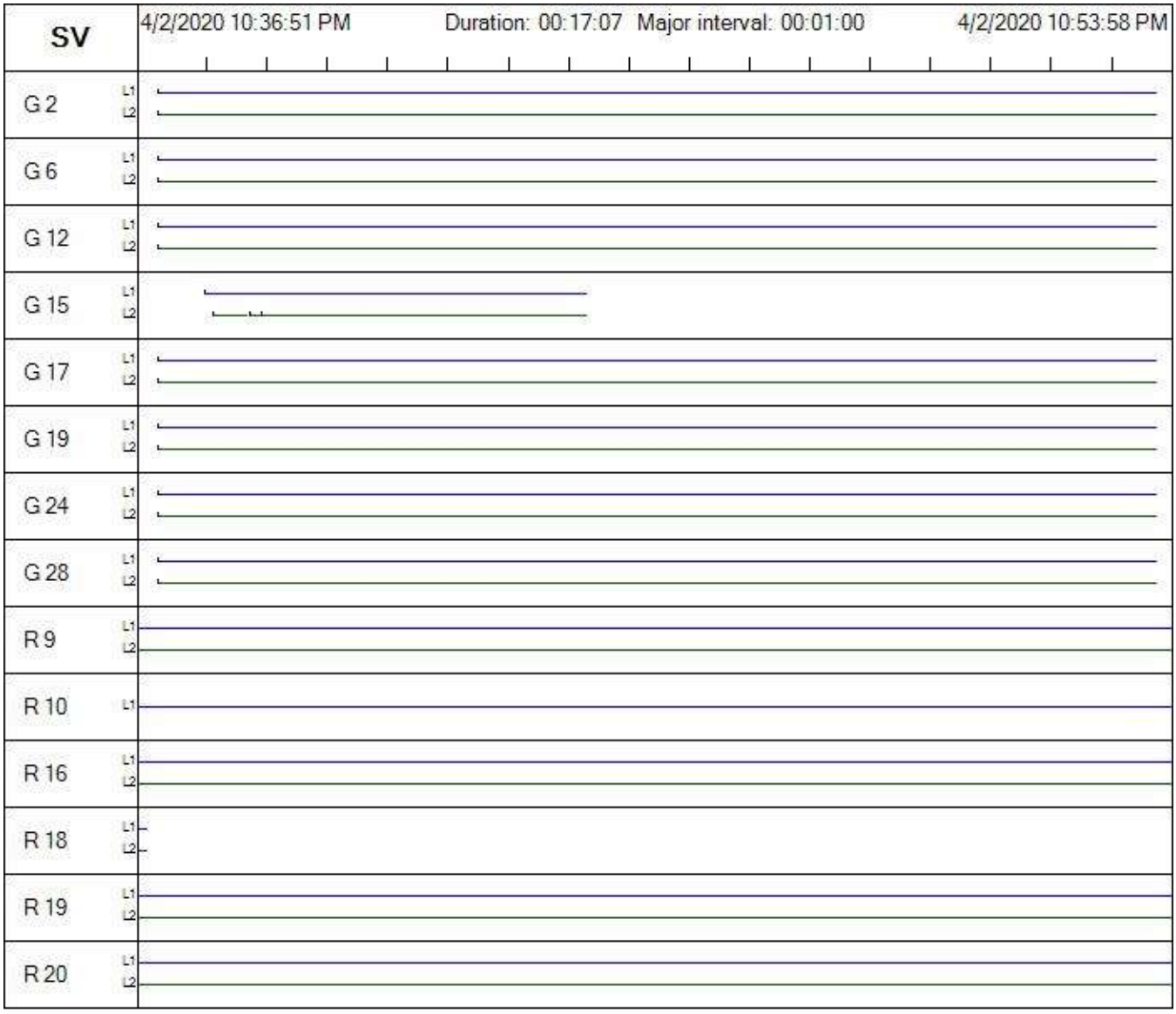
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0017335564		
Y	0.0016103131	0.0029052156	
Z	-0.0011599282	-0.0018373335	0.0019862383

Occupations

	From	To
Point ID:	P242	NVA070
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420930.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570932.t02
Receiver type:	NetRS	R8 Model 2
Receiver serial number:	4541260327	4803143756
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P242 - VVA042 (12:00:06 AM-12:21:02 AM) (S4)

Baseline observation:	P242 --- VVA042 (B4)
Processed:	5/13/2020 5:16:11 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.130 ft
Vertical precision:	0.189 ft
RMS:	0.032 ft
Maximum PDOP:	2.672
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/3/2020 12:00:12 AM (UTC)
Processing stop time:	4/3/2020 12:20:42 AM (UTC)
Processing duration:	00:20:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P242				
Grid		**Local**		**Global**	
Easting	6280217.738 ft	**Latitude**	N36°57'14.15019"	**Latitude**	N36°57'14.15019"
Northing	1807148.035 ft	**Longitude**	W121°27'47.41560"	**Longitude**	W121°27'47.41560"
Elevation	158.183 ft	**Height**	50.217 ft	**Height**	50.217 ft

To:	VVA042				
Grid		**Local**		**Global**	
Easting	6276332.068 ft	**Latitude**	N36°55'54.63737"	**Latitude**	N36°55'54.63736"
Northing	1799145.899 ft	**Longitude**	W121°28'34.25482"	**Longitude**	W121°28'34.25482"
Elevation	161.463 ft	**Height**	53.216 ft	**Height**	53.216 ft

Vector					
ΔEasting	-3885.670 ft	**NS Fwd Azimuth**	205°18'37.7"	**ΔX**	-5767.611 ft
ΔNorthing	-8002.136 ft	**Ellipsoid Dist.**	8895.403 ft	**ΔY**	-2139.343 ft
ΔElevation	3.279 ft	**ΔHeight**	2.999 ft	**ΔZ**	-6425.456 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.038 ft	**σ NS fwd Azimuth**	0°00'01.1"	**σ ΔX**	0.048 ft
σ ΔNorthing	0.051 ft	**σ Ellipsoid Dist.**	0.045 ft	**σ ΔY**	0.060 ft
σ ΔElevation	0.096 ft	**σ ΔHeight**	0.096 ft	**σ ΔZ**	0.086 ft

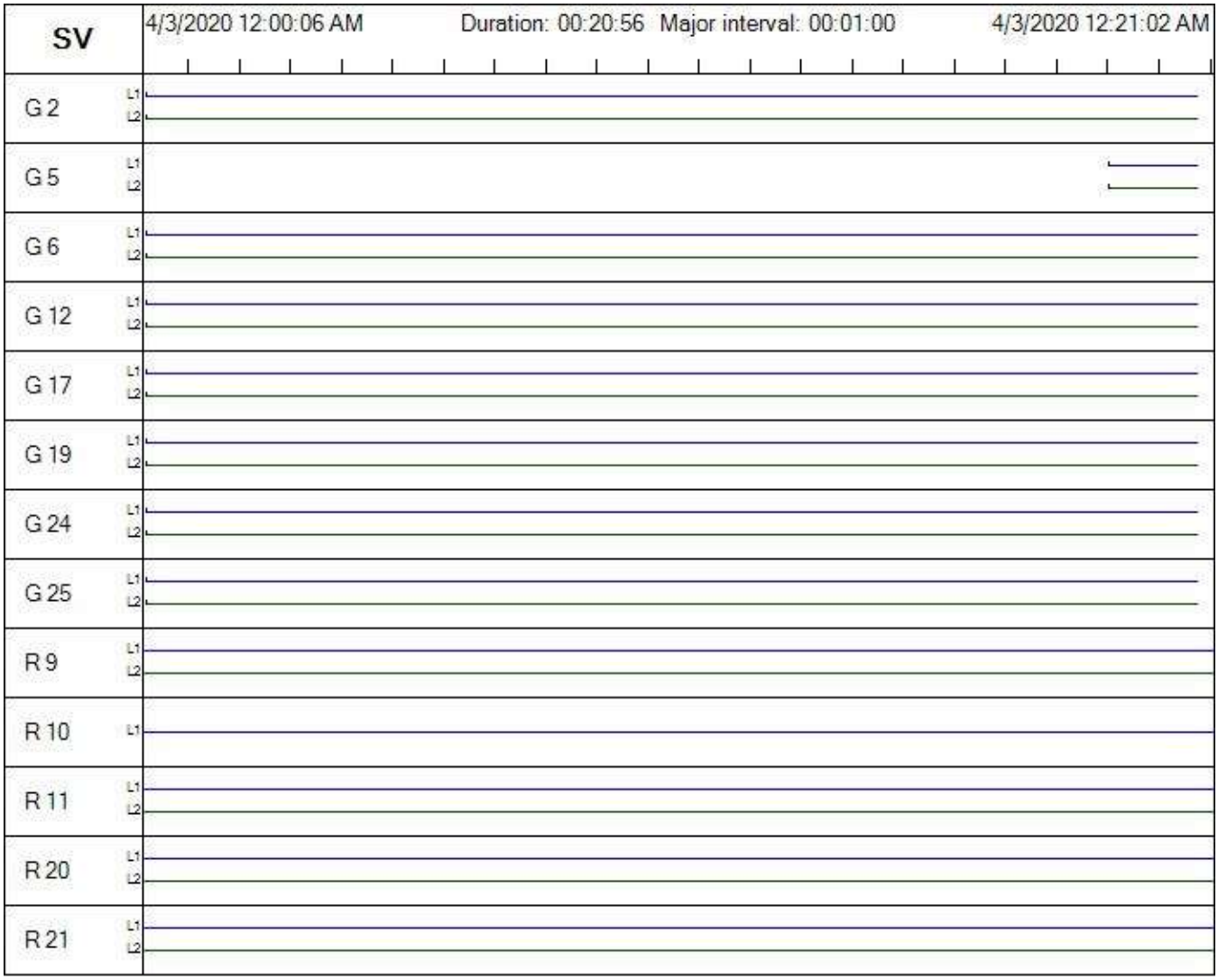
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0023463926		
Y	0.0013603380	0.0035666803	
Z	-0.0026538909	-0.0029518590	0.0074638891

Occupations

	From	To
Point ID:	P242	VVA042
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2420930.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570940.t02
Receiver type:	NetRS	R8 Model 2
Receiver serial number:	4541260327	4803143756
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220335613	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1864 - NVA024 (9:14:21 PM-9:24:48 PM) (S1)

Baseline observation:	AA1864 --- NVA024 (B1)
Processed:	5/13/2020 5:16:14 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.014 ft
Vertical precision:	0.020 ft
RMS:	0.024 ft
Maximum PDOP:	1.452
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/2/2020 9:14:21 PM (UTC)
Processing stop time:	4/2/2020 9:24:48 PM (UTC)
Processing duration:	00:10:27
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1864				
Grid		**Local**		**Global**	
Easting	6324913.944 ft	**Latitude**	N37°02'18.86743"	**Latitude**	N37°02'18.86743"
Northing	1837544.841 ft	**Longitude**	W121°18'40.03974"	**Longitude**	W121°18'40.03974"
Elevation	411.766 ft	**Height**	305.552 ft	**Height**	305.552 ft

To:	NVA024				
Grid		**Local**		**Global**	
Easting	6324933.244 ft	**Latitude**	N37°02'17.97141"	**Latitude**	N37°02'17.97141"
Northing	1837454.047 ft	**Longitude**	W121°18'39.79201"	**Longitude**	W121°18'39.79201"
Elevation	403.656 ft	**Height**	297.440 ft	**Height**	297.440 ft

Vector					
ΔEasting	19.300 ft	**NS Fwd Azimuth**	167°30'10.6"	**ΔX**	-7.843 ft
ΔNorthing	-90.794 ft	**Ellipsoid Dist.**	92.822 ft	**ΔY**	-51.544 ft
ΔElevation	-8.110 ft	**ΔHeight**	-8.112 ft	**ΔZ**	-77.225 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.005 ft	**σ NS fwd Azimuth**	0°00'10.4"	**σ ΔX**	0.006 ft
σ ΔNorthing	0.005 ft	**σ Ellipsoid Dist.**	0.006 ft	**σ ΔY**	0.008 ft
σ ΔElevation	0.010 ft	**σ ΔHeight**	0.010 ft	**σ ΔZ**	0.007 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0000401984		
Y	0.0000239485	0.0000584043	
Z	-0.0000255109	-0.0000247035	0.0000545946

Occupations

	From	To
Point ID:	AA1864	NVA024
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700931.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570931.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1864 - NVA070 (10:36:51 PM-10:53:58 PM) (S2)

Baseline observation:	AA1864 --- NVA070 (B2)
Processed:	5/13/2020 5:16:15 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.044 ft
Vertical precision:	0.100 ft
RMS:	0.032 ft
Maximum PDOP:	1.862
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/2/2020 10:36:51 PM (UTC)
Processing stop time:	4/2/2020 10:53:58 PM (UTC)
Processing duration:	00:17:07
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1864				
Grid		**Local**		**Global**	
Easting	6324913.944 ft	**Latitude**	N37°02'18.86743"	**Latitude**	N37°02'18.86743"
Northing	1837544.841 ft	**Longitude**	W121°18'40.03974"	**Longitude**	W121°18'40.03974"
Elevation	411.766 ft	**Height**	305.552 ft	**Height**	305.552 ft

To:	NVA070				
Grid		**Local**		**Global**	
Easting	6279709.473 ft	**Latitude**	N37°04'33.65860"	**Latitude**	N37°04'33.65860"
Northing	1851607.539 ft	**Longitude**	W121°27'59.33336"	**Longitude**	W121°27'59.33336"
Elevation	854.729 ft	**Height**	748.788 ft	**Height**	748.787 ft

Vector					
ΔEasting	-45204.472 ft	**NS Fwd Azimuth**	286°46'59.1"	**ΔX**	-34607.339 ft
ΔNorthing	14062.698 ft	**Ellipsoid Dist.**	47341.260 ft	**ΔY**	30324.667 ft
ΔElevation	442.963 ft	**ΔHeight**	443.236 ft	**ΔZ**	11146.746 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.017 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.028 ft
σ ΔNorthing	0.017 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.038 ft
σ ΔElevation	0.051 ft	**σ ΔHeight**	0.051 ft	**σ ΔZ**	0.030 ft

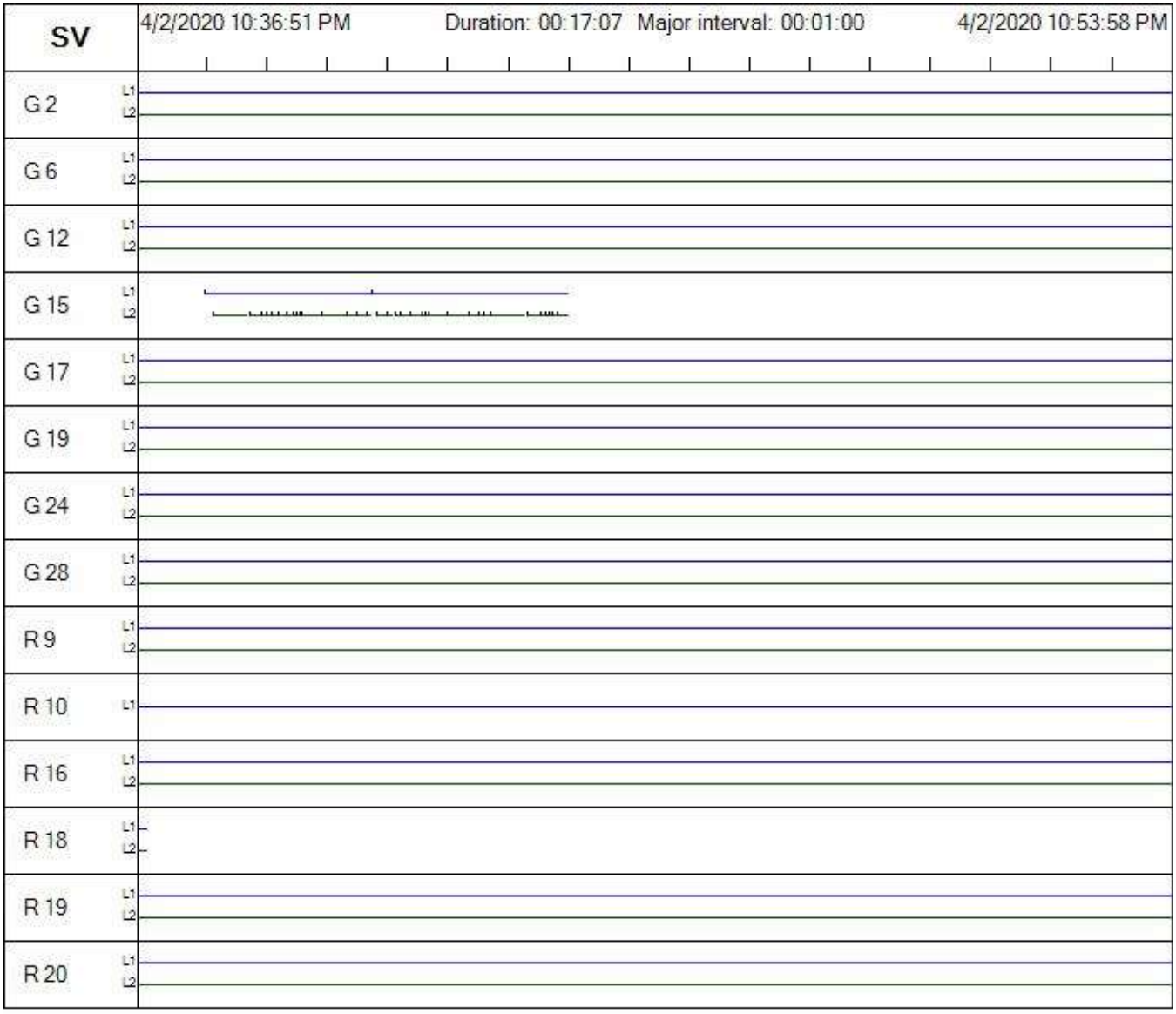
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0007979930		
Y	0.0007752101	0.0014756605	
Z	-0.0005491820	-0.0009027178	0.0009210502

Occupations

	From	To
Point ID:	AA1864	NVA070
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700931.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570932.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1864 - VVA042 (12:00:06 AM-12:21:02 AM) (S3)

Baseline observation:	AA1864 --- VVA042 (B3)
Processed:	5/13/2020 5:16:14 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.087 ft
Vertical precision:	0.134 ft
RMS:	0.056 ft
Maximum PDOP:	1.649
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/3/2020 12:00:12 AM (UTC)
Processing stop time:	4/3/2020 12:21:02 AM (UTC)
Processing duration:	00:20:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	AA1864				
Grid		**Local**		**Global**	
Easting	6324913.944 ft	**Latitude**	N37°02'18.86743"	**Latitude**	N37°02'18.86743"
Northing	1837544.841 ft	**Longitude**	W121°18'40.03974"	**Longitude**	W121°18'40.03974"
Elevation	411.766 ft	**Height**	305.552 ft	**Height**	305.552 ft

To:	VVA042				
Grid		**Local**		**Global**	
Easting	6276332.090 ft	**Latitude**	N36°55'54.63738"	**Latitude**	N36°55'54.63737"
Northing	1799145.900 ft	**Longitude**	W121°28'34.25456"	**Longitude**	W121°28'34.25456"
Elevation	161.345 ft	**Height**	53.098 ft	**Height**	53.098 ft

Vector					
ΔEasting	-48581.855 ft	**NS Fwd Azimuth**	231°10'47.3"	**ΔX**	-53227.989 ft
ΔNorthing	-38398.941 ft	**Ellipsoid Dist.**	61923.642 ft	**ΔY**	5330.287 ft
ΔElevation	-250.421 ft	**ΔHeight**	-252.454 ft	**ΔZ**	-31193.482 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.025 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.034 ft
σ ΔNorthing	0.034 ft	**σ Ellipsoid Dist.**	0.025 ft	**σ ΔY**	0.043 ft
σ ΔElevation	0.068 ft	**σ ΔHeight**	0.068 ft	**σ ΔZ**	0.059 ft

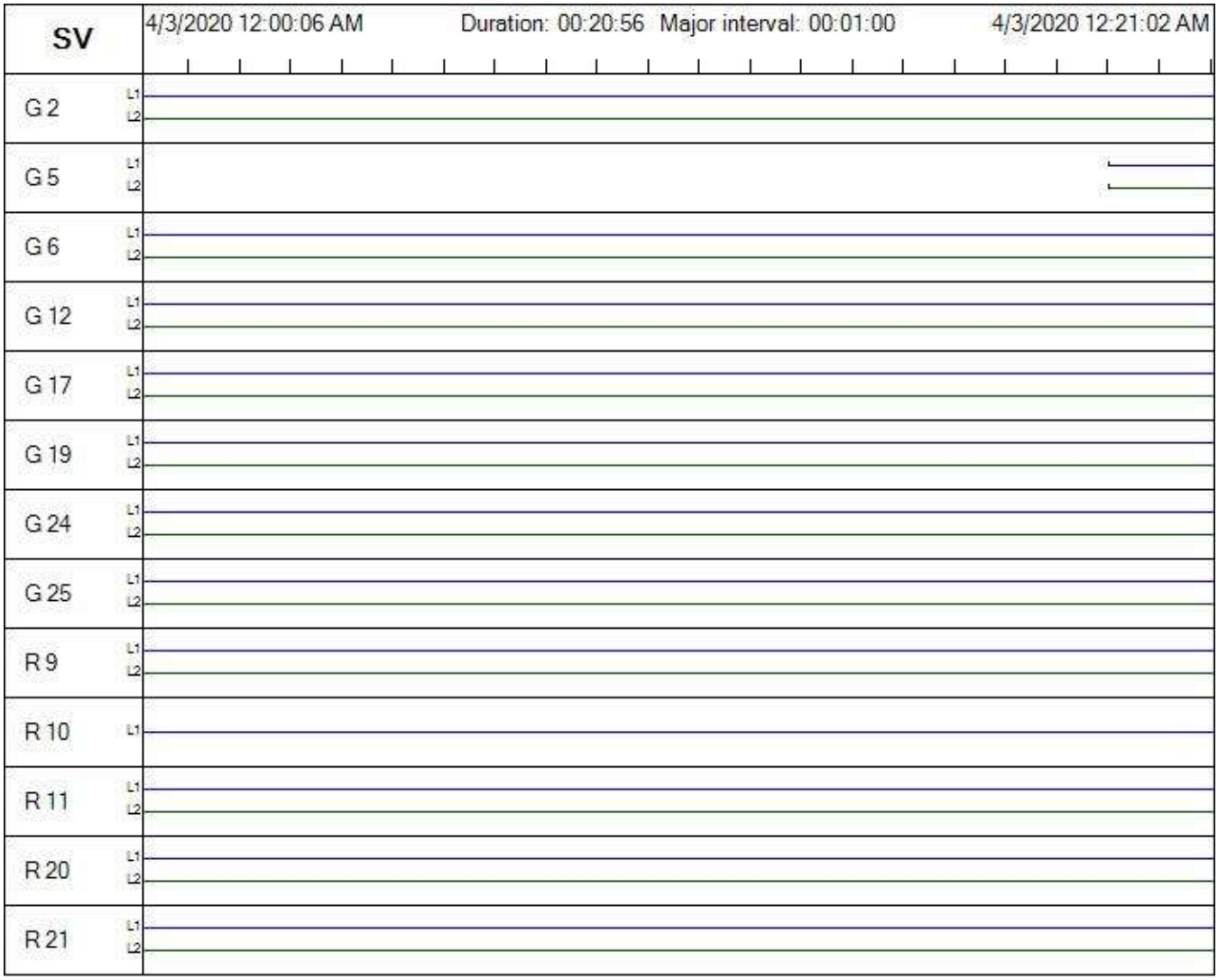
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0011862546		
Y	0.0008120401	0.0018248296	
Z	-0.0013399281	-0.0014896067	0.0034490873

Occupations

	From	To
Point ID:	AA1864	VVA042
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700931.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570940.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - HS5407 (8:01:21 PM-1:53:07 AM) (S13)

Baseline observation:	P217 --- HS5407 (B13)
Processed:	5/13/2020 5:27:03 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.008 ft
Vertical precision:	0.032 ft
RMS:	0.035 ft
Maximum PDOP:	1.974
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/3/2020 8:01:42 PM (UTC)
Processing stop time:	4/4/2020 1:52:42 AM (UTC)
Processing duration:	05:51:00
Processing interval:	2 Minutes

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18584"	**Latitude**	N37°06'16.18584"
Northing	1862583.960 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.542 ft	**Height**	239.013 ft	**Height**	239.013 ft

To:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.547 ft	**Latitude**	N37°11'20.20755"	**Latitude**	N37°11'20.20754"
Northing	1893492.636 ft	**Longitude**	W121°41'42.34871"	**Longitude**	W121°41'42.34871"
Elevation	338.303 ft	**Height**	232.032 ft	**Height**	232.032 ft

Vector					
ΔEasting	-12577.031 ft	**NS Fwd Azimuth**	337°09'12.6"	**ΔX**	-1280.365 ft
ΔNorthing	30908.676 ft	**Ellipsoid Dist.**	33370.083 ft	**ΔY**	22614.330 ft
ΔElevation	-7.239 ft	**ΔHeight**	-6.981 ft	**ΔZ**	24505.920 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.003 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.007 ft
σ ΔNorthing	0.003 ft	**σ Ellipsoid Dist.**	0.003 ft	**σ ΔY**	0.011 ft
σ ΔElevation	0.016 ft	**σ ΔHeight**	0.016 ft	**σ ΔZ**	0.010 ft

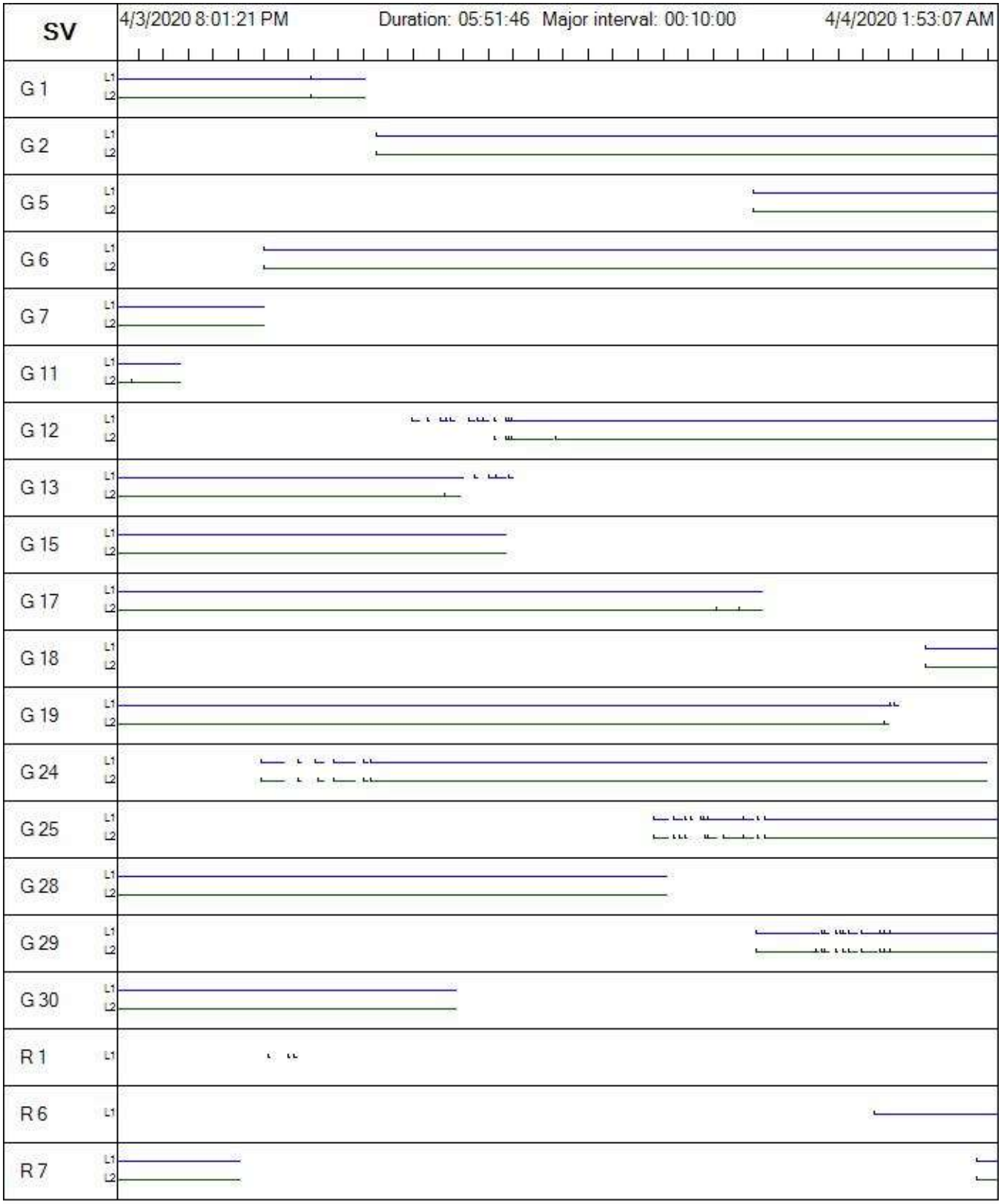
Aposteriori Covariance Matrix (US survey foot²)

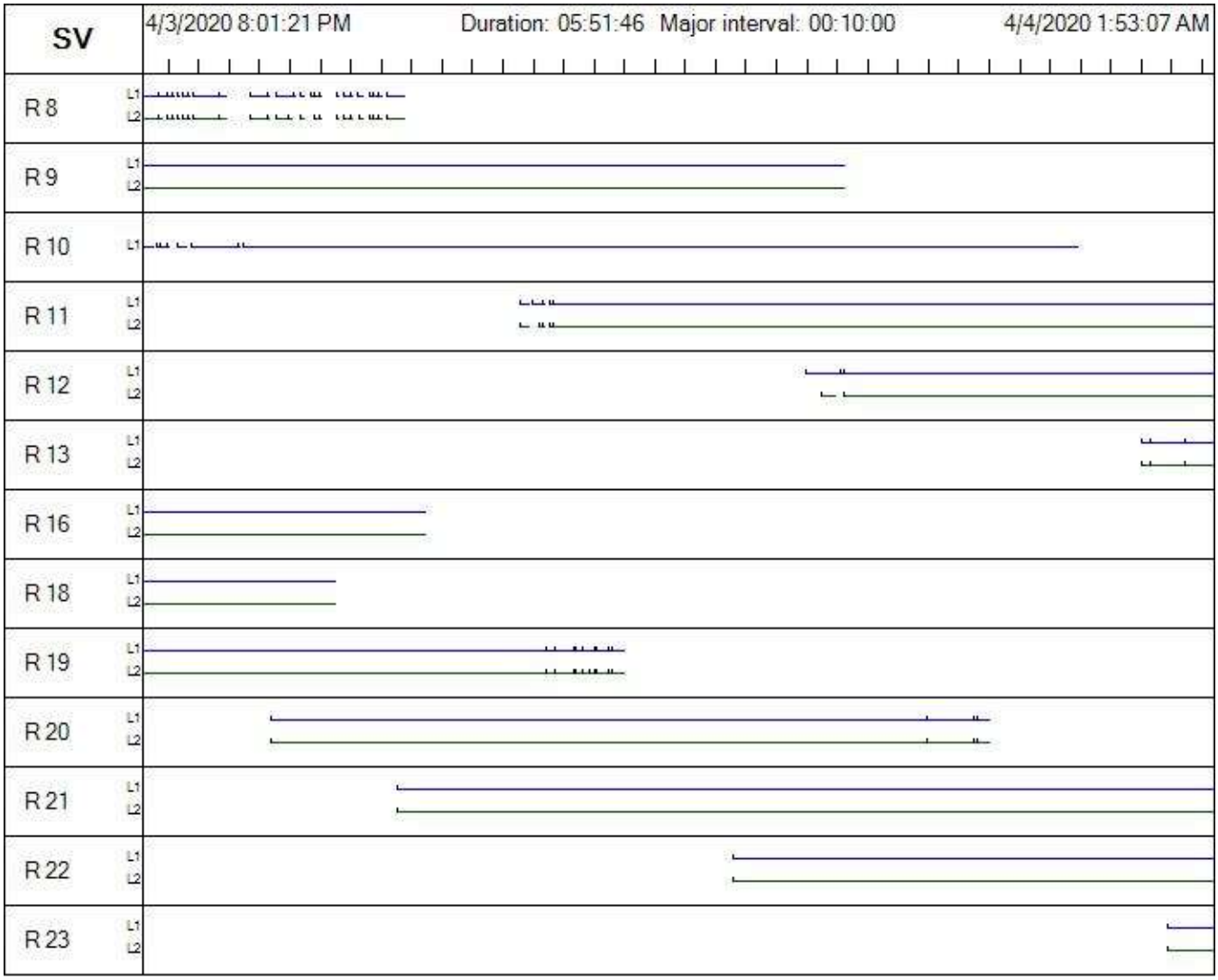
	X	Y	Z
X	0.0000554595		
Y	0.0000724222	0.0001224514	
Z	-0.0000663984	-0.0001016238	0.0001032429

Occupations

	From	To
Point ID:	P217	HS5407
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170940.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700940.T01
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4811147470
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
4/3/2020 8:01:21 PM
Duration: 05:51:46 Major interval: 00:10:00
4/4/2020 1:53:07 AM
R 8
R 9
R 10
R 11
R 12
R 13
R 16
R 18
R 19
R 20
R 21
R 22
R 23
L1
L2

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA052 (9:43:49 PM-10:00:21 PM) (S5)

Baseline observation:	HS5407 --- VVA052 (B5)
Processed:	5/13/2020 5:27:07 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.129 ft
Vertical precision:	0.191 ft
RMS:	0.062 ft
Maximum PDOP:	2.215
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/3/2020 9:43:49 PM (UTC)
Processing stop time:	4/3/2020 10:00:21 PM (UTC)
Processing duration:	00:16:32
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.563 ft	**Latitude**	N37°11'20.20743"	**Latitude**	N37°11'20.20743"
Northing	1893492.624 ft	**Longitude**	W121°41'42.34851"	**Longitude**	W121°41'42.34851"
Elevation	338.280 ft	**Height**	232.009 ft	**Height**	232.009 ft

To:	VVA052				
Grid		**Local**		**Global**	
Easting	6179576.138 ft	**Latitude**	N37°17'01.79194"	**Latitude**	N37°17'01.79194"
Northing	1928498.688 ft	**Longitude**	W121°48'48.14663"	**Longitude**	W121°48'48.14663"
Elevation	163.945 ft	**Height**	57.305 ft	**Height**	57.305 ft

Vector					
ΔEasting	-33966.425 ft	**NS Fwd Azimuth**	315°07'53.2"	**ΔX**	-18204.097 ft
ΔNorthing	35006.064 ft	**Ellipsoid Dist.**	48777.949 ft	**ΔY**	36016.428 ft
ΔElevation	-174.335 ft	**ΔHeight**	-174.704 ft	**ΔZ**	27400.336 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.050 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.065 ft
σ ΔNorthing	0.052 ft	**σ Ellipsoid Dist.**	0.049 ft	**σ ΔY**	0.083 ft
σ ΔElevation	0.098 ft	**σ ΔHeight**	0.098 ft	**σ ΔZ**	0.059 ft

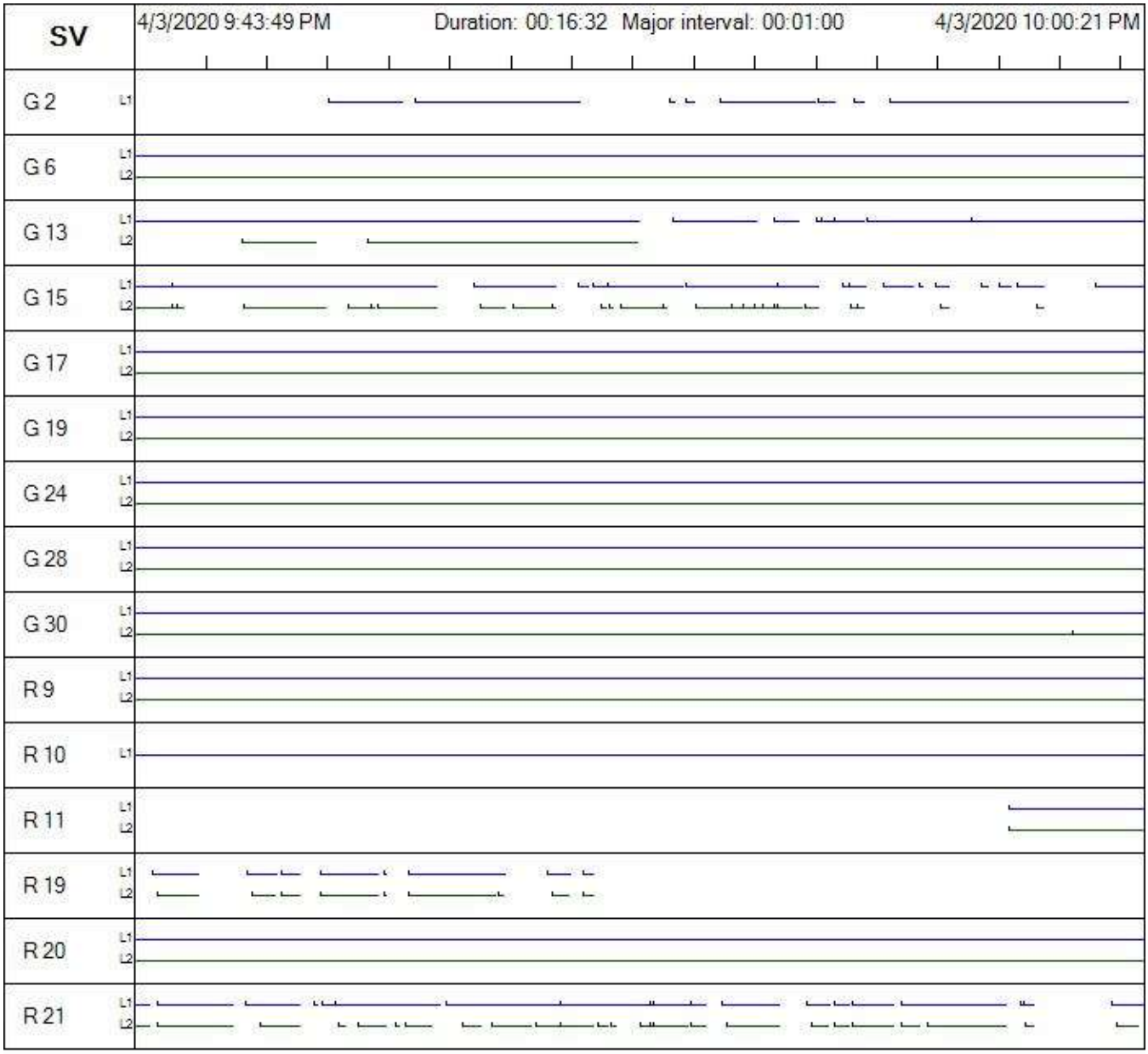
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0042499602		
Y	0.0028350654	0.0069419309	
Z	-0.0013468116	-0.0024788210	0.0034602241

Occupations

	From	To
Point ID:	HS5407	VVA052
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700940.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570941.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA022 (11:25:31 PM-11:46:07 PM) (S6)

Baseline observation:	HS5407 --- NVA022 (B6)
Processed:	5/13/2020 5:27:05 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.075 ft
Vertical precision:	0.148 ft
RMS:	0.066 ft
Maximum PDOP:	1.577
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/3/2020 11:25:32 PM (UTC)
Processing stop time:	4/3/2020 11:46:02 PM (UTC)
Processing duration:	00:20:30
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.563 ft	**Latitude**	N37°11'20.20743"	**Latitude**	N37°11'20.20743"
Northing	1893492.624 ft	**Longitude**	W121°41'42.34851"	**Longitude**	W121°41'42.34851"
Elevation	338.280 ft	**Height**	232.009 ft	**Height**	232.009 ft

To:	NVA022				
Grid		**Local**		**Global**	
Easting	6155019.269 ft	**Latitude**	N37°08'46.57704"	**Latitude**	N37°08'46.57704"
Northing	1878763.013 ft	**Longitude**	W121°53'42.80494"	**Longitude**	W121°53'42.80494"
Elevation	3301.182 ft	**Height**	3195.319 ft	**Height**	3195.319 ft

Vector					
ΔEasting	-58523.294 ft	**NS Fwd Azimuth**	255°08'25.0"	**ΔX**	-55758.800 ft
ΔNorthing	-14729.611 ft	**Ellipsoid Dist.**	60349.632 ft	**ΔY**	20741.273 ft
ΔElevation	2962.902 ft	**ΔHeight**	2963.309 ft	**ΔZ**	-10592.855 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.024 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.033 ft
σ ΔNorthing	0.030 ft	**σ Ellipsoid Dist.**	0.024 ft	**σ ΔY**	0.050 ft
σ ΔElevation	0.075 ft	**σ ΔHeight**	0.075 ft	**σ ΔZ**	0.060 ft

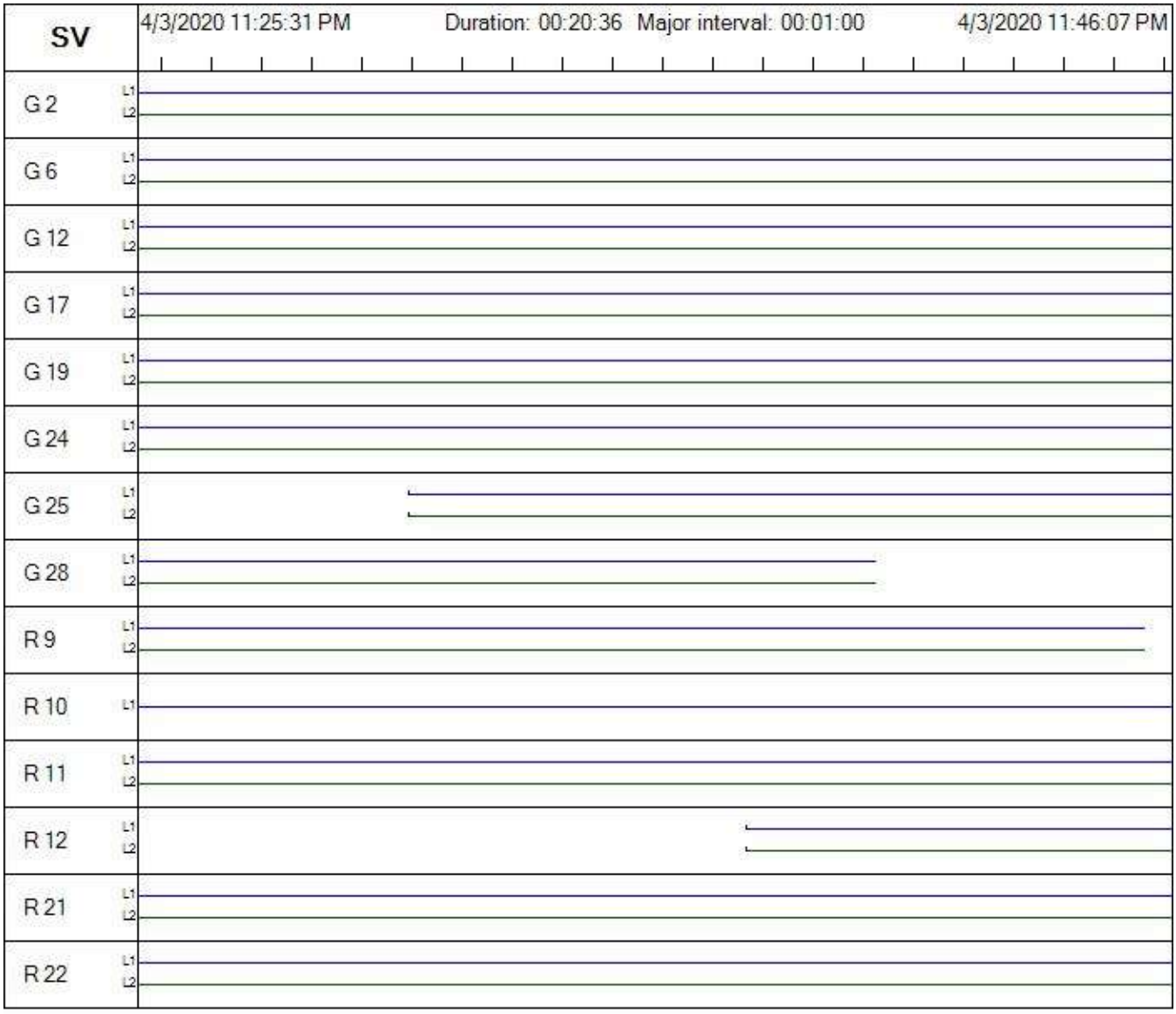
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0010988767		
Y	0.0010247208	0.0024965517	
Z	-0.0012917427	-0.0021850982	0.0035590030

Occupations

	From	To
Point ID:	HS5407	NVA022
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700940.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570942.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA026 (12:40:30 AM-12:56:16 AM) (S7)

Baseline observation:	HS5407 --- VVA026 (B7)
Processed:	5/13/2020 5:27:07 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.093 ft
Vertical precision:	0.140 ft
RMS:	0.060 ft
Maximum PDOP:	3.624
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 12:40:30 AM (UTC)
Processing stop time:	4/4/2020 12:56:16 AM (UTC)
Processing duration:	00:15:46
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.563 ft	**Latitude**	N37°11'20.20743"	**Latitude**	N37°11'20.20743"
Northing	1893492.624 ft	**Longitude**	W121°41'42.34851"	**Longitude**	W121°41'42.34851"
Elevation	338.280 ft	**Height**	232.009 ft	**Height**	232.009 ft

To:	VVA026				
Grid		**Local**		**Global**	
Easting	6175676.948 ft	**Latitude**	N37°10'22.60775"	**Latitude**	N37°10'22.60775"
Northing	1888176.315 ft	**Longitude**	W121°49'29.32739"	**Longitude**	W121°49'29.32739"
Elevation	484.877 ft	**Height**	378.667 ft	**Height**	378.667 ft

Vector					
ΔEasting	-37865.615 ft	**NS Fwd Azimuth**	261°16'32.7"	**ΔX**	-34047.720 ft
ΔNorthing	-5316.309 ft	**Ellipsoid Dist.**	38237.825 ft	**ΔY**	16799.351 ft
ΔElevation	146.597 ft	**ΔHeight**	146.658 ft	**ΔZ**	-4552.978 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.037 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.056 ft
σ ΔNorthing	0.028 ft	**σ Ellipsoid Dist.**	0.036 ft	**σ ΔY**	0.041 ft
σ ΔElevation	0.072 ft	**σ ΔHeight**	0.072 ft	**σ ΔZ**	0.050 ft

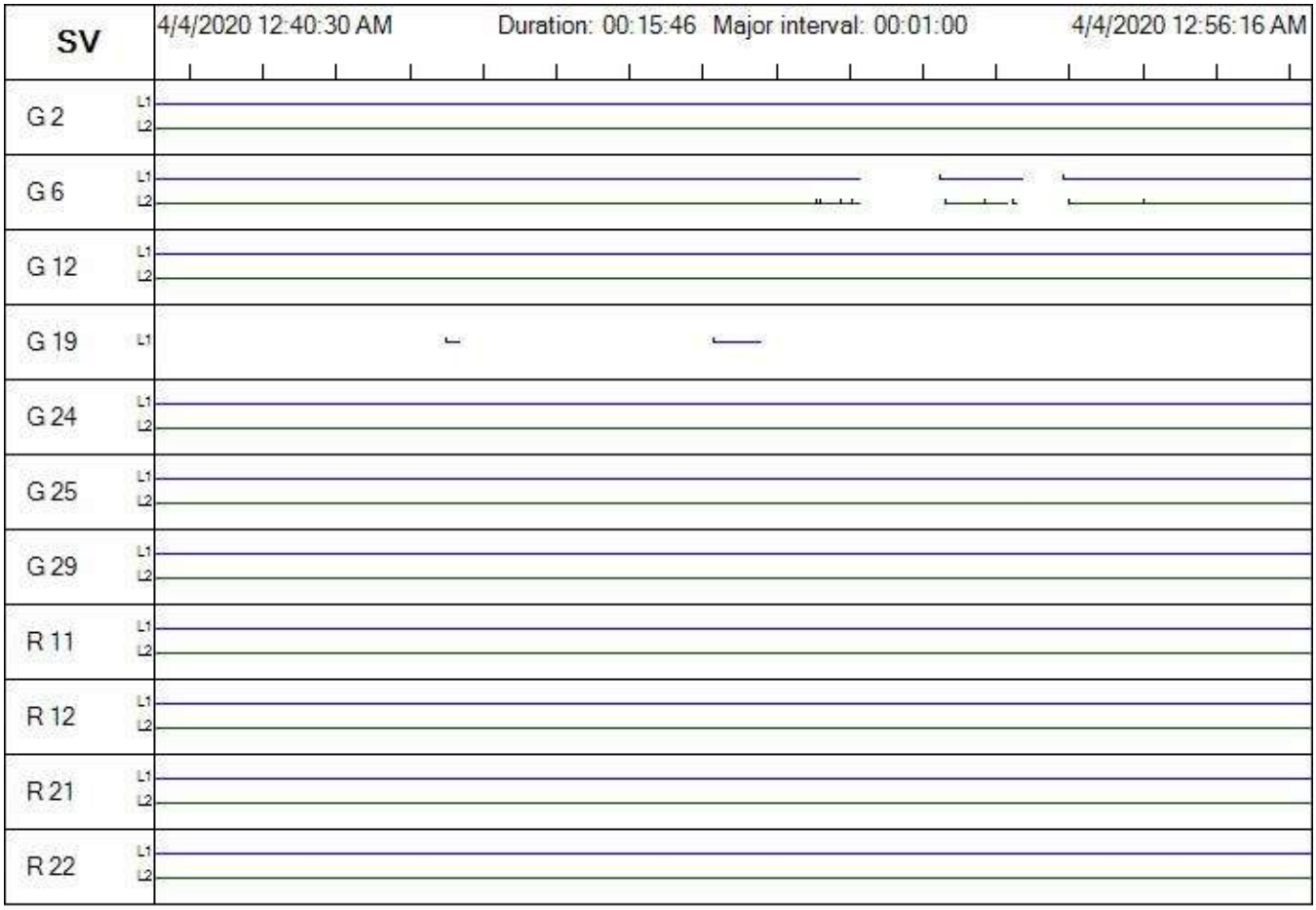
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0031220359		
Y	0.0015082184	0.0017039324	
Z	-0.0021853325	-0.0011382995	0.0024536068

Occupations

	From	To
Point ID:	HS5407	VVA026
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700940.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570951.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA043 (1:09:15 AM-1:24:58 AM) (S8)

Baseline observation:	HS5407 --- NVA043 (B8)
Processed:	5/13/2020 5:27:09 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.064 ft
Vertical precision:	0.098 ft
RMS:	0.028 ft
Maximum PDOP:	1.903
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 1:09:15 AM (UTC)
Processing stop time:	4/4/2020 1:24:58 AM (UTC)
Processing duration:	00:15:43
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.563 ft	**Latitude**	N37°11'20.20743"	**Latitude**	N37°11'20.20743"
Northing	1893492.624 ft	**Longitude**	W121°41'42.34851"	**Longitude**	W121°41'42.34851"
Elevation	338.280 ft	**Height**	232.009 ft	**Height**	232.009 ft

To:	NVA043				
Grid		**Local**		**Global**	
Easting	6175619.889 ft	**Latitude**	N37°10'26.04397"	**Latitude**	N37°10'26.04396"
Northing	1888524.695 ft	**Longitude**	W121°49'30.09327"	**Longitude**	W121°49'30.09327"
Elevation	478.812 ft	**Height**	372.590 ft	**Height**	372.590 ft

Vector					
ΔEasting	-37922.675 ft	**NS Fwd Azimuth**	261°48'16.1"	**ΔX**	-33987.096 ft
ΔNorthing	-4967.929 ft	**Ellipsoid Dist.**	38247.525 ft	**ΔY**	17014.582 ft
ΔElevation	140.532 ft	**ΔHeight**	140.581 ft	**ΔZ**	-4279.718 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.025 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.030 ft
σ ΔNorthing	0.026 ft	**σ Ellipsoid Dist.**	0.025 ft	**σ ΔY**	0.041 ft
σ ΔElevation	0.050 ft	**σ ΔHeight**	0.050 ft	**σ ΔZ**	0.035 ft

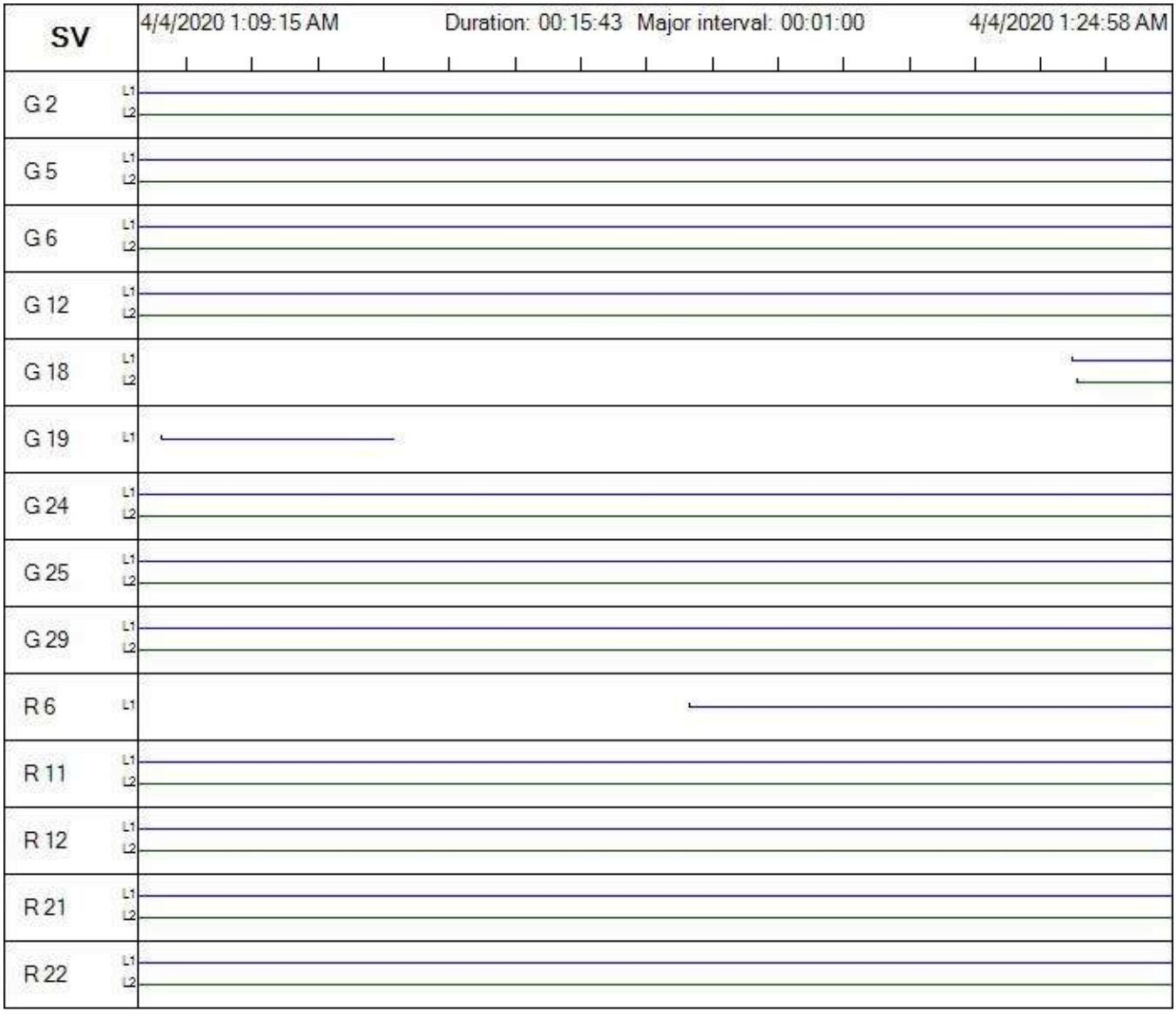
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0009296932		
Y	0.0005739298	0.0016777863	
Z	-0.0003883172	-0.0007545604	0.0012201118

Occupations

	From	To
Point ID:	HS5407	NVA043
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700940.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570952.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA052 (9:43:49 PM-10:00:21 PM) (S12)

Baseline observation:	P217 --- VVA052 (B12)
Processed:	5/13/2020 5:27:08 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.245 ft
Vertical precision:	0.248 ft
RMS:	0.106 ft
Maximum PDOP:	2.035
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/3/2020 9:44:12 PM (UTC)
Processing stop time:	4/3/2020 10:00:12 PM (UTC)
Processing duration:	00:16:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18584"	**Latitude**	N37°06'16.18584"
Northing	1862583.960 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.542 ft	**Height**	239.013 ft	**Height**	239.013 ft

To:	VVA052				
Grid		**Local**		**Global**	
Easting	6179576.074 ft	**Latitude**	N37°17'01.79006"	**Latitude**	N37°17'01.79006"
Northing	1928498.499 ft	**Longitude**	W121°48'48.14739"	**Longitude**	W121°48'48.14739"
Elevation	163.666 ft	**Height**	57.026 ft	**Height**	57.026 ft

Vector					
ΔEasting	-46543.504 ft	**NS Fwd Azimuth**	324°04'05.7"	**ΔX**	-19484.438 ft
ΔNorthing	65914.539 ft	**Ellipsoid Dist.**	80692.814 ft	**ΔY**	58630.883 ft
ΔElevation	-181.876 ft	**ΔHeight**	-181.987 ft	**ΔZ**	51905.914 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.043 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.052 ft
σ ΔNorthing	0.100 ft	**σ Ellipsoid Dist.**	0.085 ft	**σ ΔY**	0.071 ft
σ ΔElevation	0.127 ft	**σ ΔHeight**	0.127 ft	**σ ΔZ**	0.142 ft

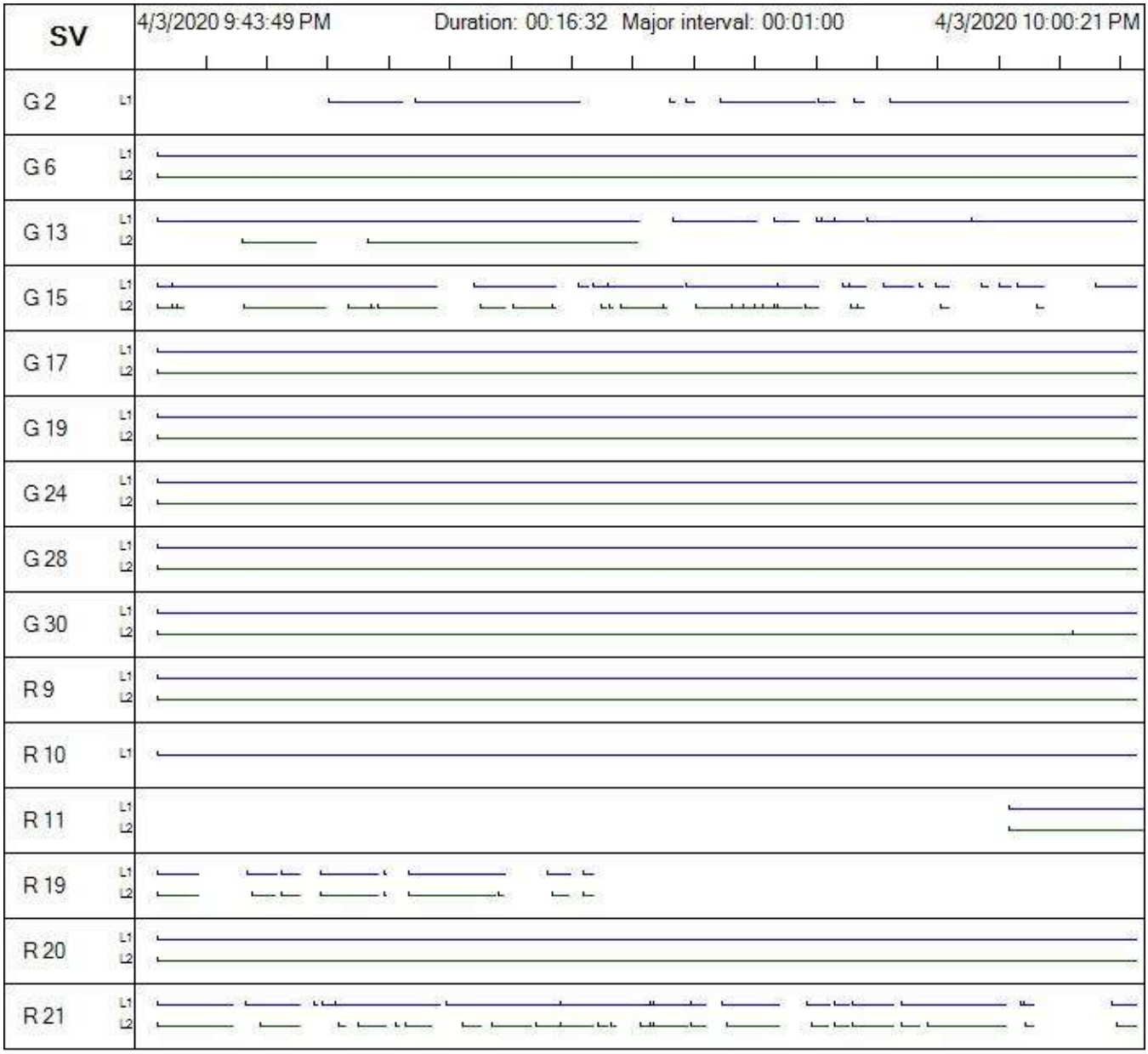
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0027507395		
Y	0.0017655259	0.0050905586	
Z	-0.0023887990	-0.0045096979	0.0200703095

Occupations

	From	To
Point ID:	P217	VVA052
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170940.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570941.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4803143756
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA022 (11:25:31 PM-11:46:07 PM) (S11)

Baseline observation:	P217 --- NVA022 (B11)
Processed:	5/13/2020 5:27:06 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.084 ft
Vertical precision:	0.172 ft
RMS:	0.057 ft
Maximum PDOP:	1.577
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/3/2020 11:25:42 PM (UTC)
Processing stop time:	4/3/2020 11:45:42 PM (UTC)
Processing duration:	00:20:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18584"	**Latitude**	N37°06'16.18584"
Northing	1862583.960 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.542 ft	**Height**	239.013 ft	**Height**	239.013 ft

To:	NVA022				
Grid		**Local**		**Global**	
Easting	6155019.275 ft	**Latitude**	N37°08'46.57721"	**Latitude**	N37°08'46.57721"
Northing	1878763.030 ft	**Longitude**	W121°53'42.80486"	**Longitude**	W121°53'42.80486"
Elevation	3301.279 ft	**Height**	3195.415 ft	**Height**	3195.415 ft

Vector					
ΔEasting	-71100.303 ft	**NS Fwd Azimuth**	282°06'50.4"	**ΔX**	-57039.175 ft
ΔNorthing	16179.070 ft	**Ellipsoid Dist.**	72918.713 ft	**ΔY**	43355.544 ft
ΔElevation	2955.737 ft	**ΔHeight**	2956.402 ft	**ΔZ**	13913.114 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.026 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.039 ft
σ ΔNorthing	0.034 ft	**σ Ellipsoid Dist.**	0.028 ft	**σ ΔY**	0.056 ft
σ ΔElevation	0.088 ft	**σ ΔHeight**	0.088 ft	**σ ΔZ**	0.070 ft

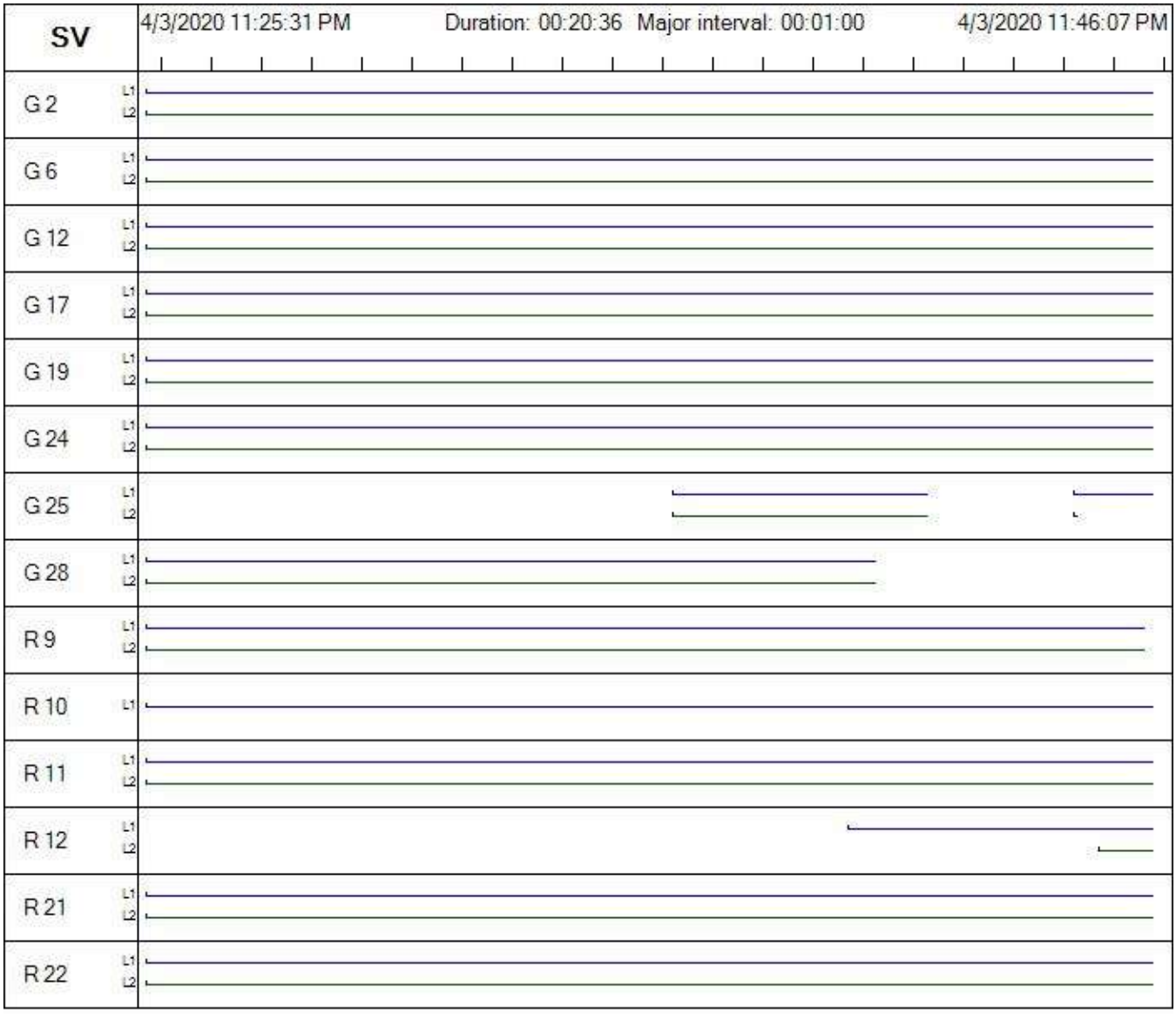
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0015083448		
Y	0.0014176261	0.0031045886	
Z	-0.0019313680	-0.0029414603	0.0048915261

Occupations

	From	To
Point ID:	P217	NVA022
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170940.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570942.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4803143756
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA026 (12:40:30 AM-12:56:16 AM) (S10)

Baseline observation:	P217 --- VVA026 (B10)
Processed:	5/13/2020 5:27:08 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.151 ft
Vertical precision:	0.232 ft
RMS:	0.024 ft
Maximum PDOP:	3.582
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 12:40:42 AM (UTC)
Processing stop time:	4/4/2020 12:56:12 AM (UTC)
Processing duration:	00:15:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18584"	**Latitude**	N37°06'16.18584"
Northing	1862583.960 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.542 ft	**Height**	239.013 ft	**Height**	239.013 ft

To:	VVA026				
Grid		**Local**		**Global**	
Easting	6175677.020 ft	**Latitude**	N37°10'22.60804"	**Latitude**	N37°10'22.60804"
Northing	1888176.343 ft	**Longitude**	W121°49'29.32651"	**Longitude**	W121°49'29.32651"
Elevation	484.707 ft	**Height**	378.498 ft	**Height**	378.498 ft

Vector					
ΔEasting	-50442.558 ft	**NS Fwd Azimuth**	296°11'45.9"	**ΔX**	-35327.924 ft
ΔNorthing	25592.383 ft	**Ellipsoid Dist.**	56564.226 ft	**ΔY**	39413.774 ft
ΔElevation	139.165 ft	**ΔHeight**	139.485 ft	**ΔZ**	19952.840 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.060 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.087 ft
σ ΔNorthing	0.048 ft	**σ Ellipsoid Dist.**	0.061 ft	**σ ΔY**	0.074 ft
σ ΔElevation	0.118 ft	**σ ΔHeight**	0.118 ft	**σ ΔZ**	0.082 ft

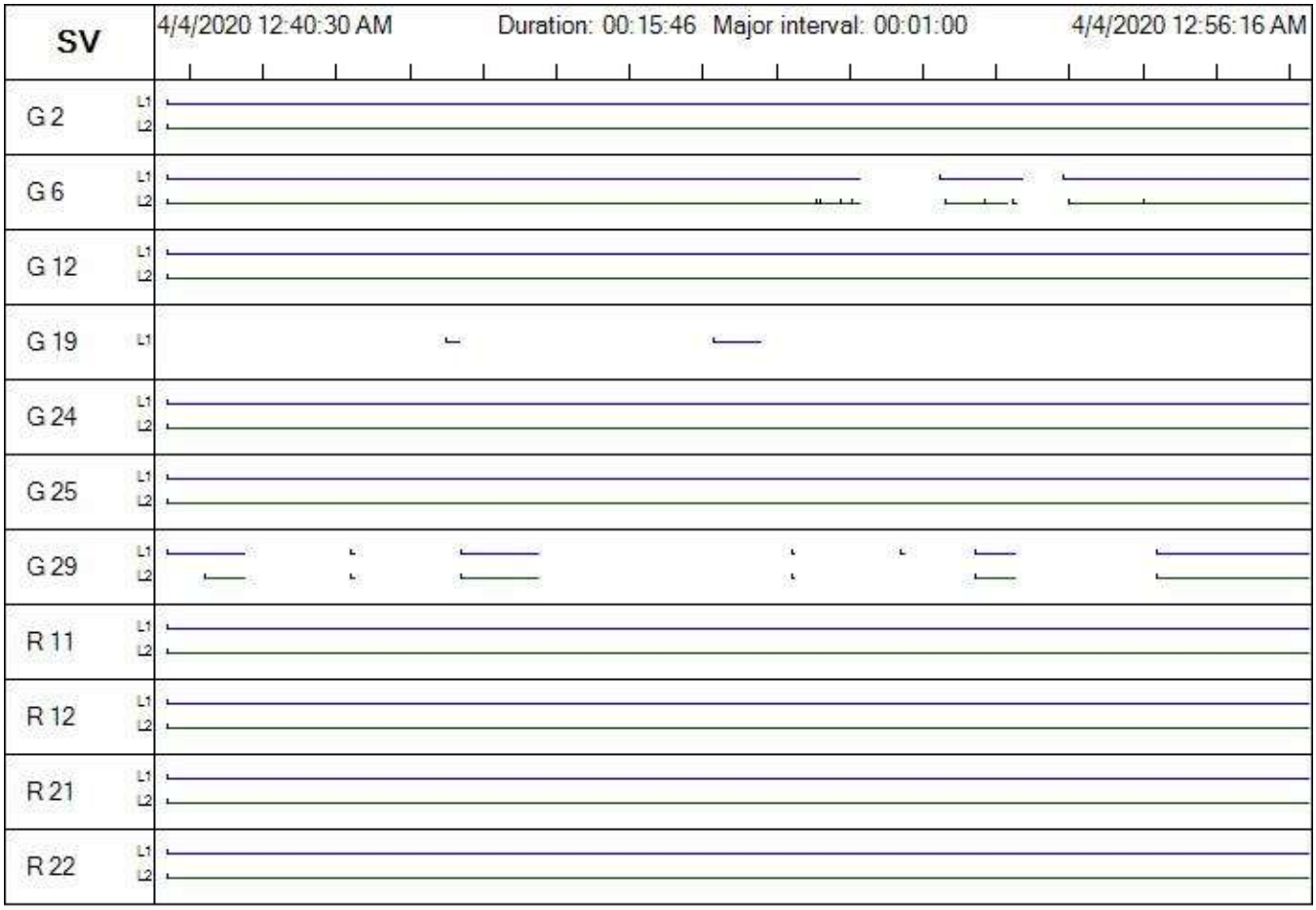
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0075828038		
Y	0.0038792575	0.0054899180	
Z	-0.0053392572	-0.0033526748	0.0067318798

Occupations

	From	To
Point ID:	P217	VVA026
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170940.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570951.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4803143756
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA043 (1:09:15 AM-1:24:58 AM) (S9)

Baseline observation:	P217 --- NVA043 (B9)
Processed:	5/13/2020 5:27:10 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.097 ft
Vertical precision:	0.164 ft
RMS:	0.039 ft
Maximum PDOP:	1.958
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 1:09:42 AM (UTC)
Processing stop time:	4/4/2020 1:24:42 AM (UTC)
Processing duration:	00:15:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.578 ft	**Latitude**	N37°06'16.18584"	**Latitude**	N37°06'16.18584"
Northing	1862583.960 ft	**Longitude**	W121°39'02.23310"	**Longitude**	W121°39'02.23310"
Elevation	345.542 ft	**Height**	239.013 ft	**Height**	239.013 ft

To:	NVA043				
Grid		**Local**		**Global**	
Easting	6175619.871 ft	**Latitude**	N37°10'26.04385"	**Latitude**	N37°10'26.04385"
Northing	1888524.683 ft	**Longitude**	W121°49'30.09348"	**Longitude**	W121°49'30.09348"
Elevation	478.787 ft	**Height**	372.566 ft	**Height**	372.566 ft

Vector					
ΔEasting	-50499.707 ft	**NS Fwd Azimuth**	296°29'00.6"	**ΔX**	-35267.450 ft
ΔNorthing	25940.723 ft	**Ellipsoid Dist.**	56773.521 ft	**ΔY**	39628.933 ft
ΔElevation	133.246 ft	**ΔHeight**	133.553 ft	**ΔZ**	20226.154 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.039 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.051 ft
σ ΔNorthing	0.039 ft	**σ Ellipsoid Dist.**	0.039 ft	**σ ΔY**	0.068 ft
σ ΔElevation	0.083 ft	**σ ΔHeight**	0.083 ft	**σ ΔZ**	0.053 ft

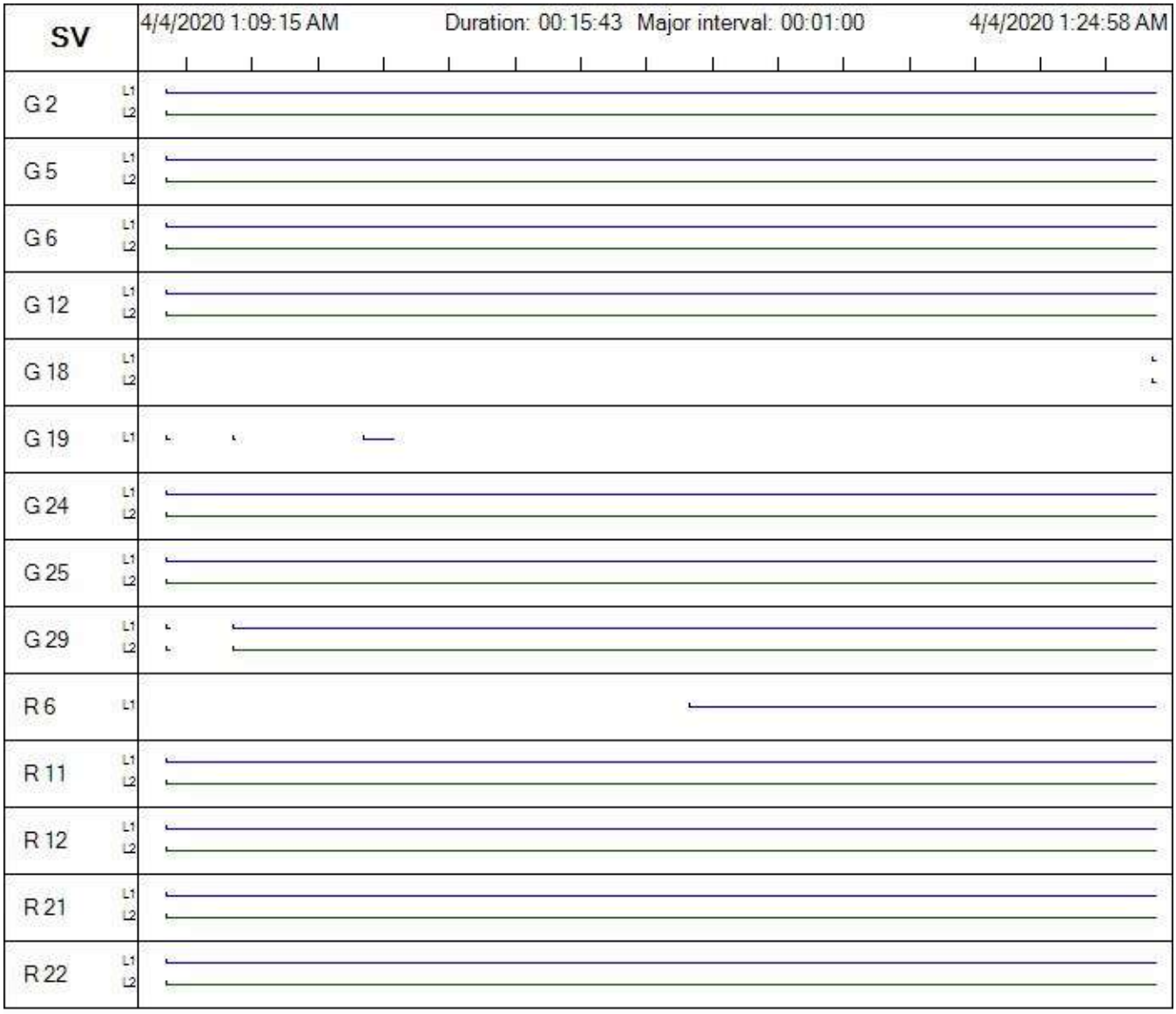
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0026057311		
Y	0.0017809783	0.0045696618	
Z	-0.0011807436	-0.0021371254	0.0028539969

Occupations

	From	To
Point ID:	P217	NVA043
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2170940.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570952.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5038K70492	4803143756
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - HS5407 (8:20:20 PM-1:19:45 AM) (S11)

Baseline observation:	MHCB --- HS5407 (B11)
Processed:	5/13/2020 5:40:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.016 ft
Vertical precision:	0.062 ft
RMS:	0.037 ft
Maximum PDOP:	3.004
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 8:20:42 PM (UTC)
Processing stop time:	4/5/2020 1:19:42 AM (UTC)
Processing duration:	04:59:00
Processing interval:	2 Minutes

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.095 ft	**Latitude**	N37°20'29.51041"	**Latitude**	N37°20'29.51041"
Northing	1948853.690 ft	**Longitude**	W121°38'33.23566"	**Longitude**	W121°38'33.23566"
Elevation	4244.918 ft	**Height**	4141.416 ft	**Height**	4141.416 ft

To:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.534 ft	**Latitude**	N37°11'20.20715"	**Latitude**	N37°11'20.20715"
Northing	1893492.597 ft	**Longitude**	W121°41'42.34886"	**Longitude**	W121°41'42.34886"
Elevation	338.301 ft	**Height**	232.031 ft	**Height**	232.031 ft

Vector					
ΔEasting	-15979.560 ft	**NS Fwd Azimuth**	195°24'02.5"	**ΔX**	-29042.590 ft
ΔNorthing	-55361.093 ft	**Ellipsoid Dist.**	57623.156 ft	**ΔY**	-17959.777 ft
ΔElevation	-3906.617 ft	**ΔHeight**	-3909.385 ft	**ΔZ**	-46587.333 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.006 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.015 ft
σ ΔNorthing	0.007 ft	**σ Ellipsoid Dist.**	0.006 ft	**σ ΔY**	0.021 ft
σ ΔElevation	0.032 ft	**σ ΔHeight**	0.032 ft	**σ ΔZ**	0.020 ft

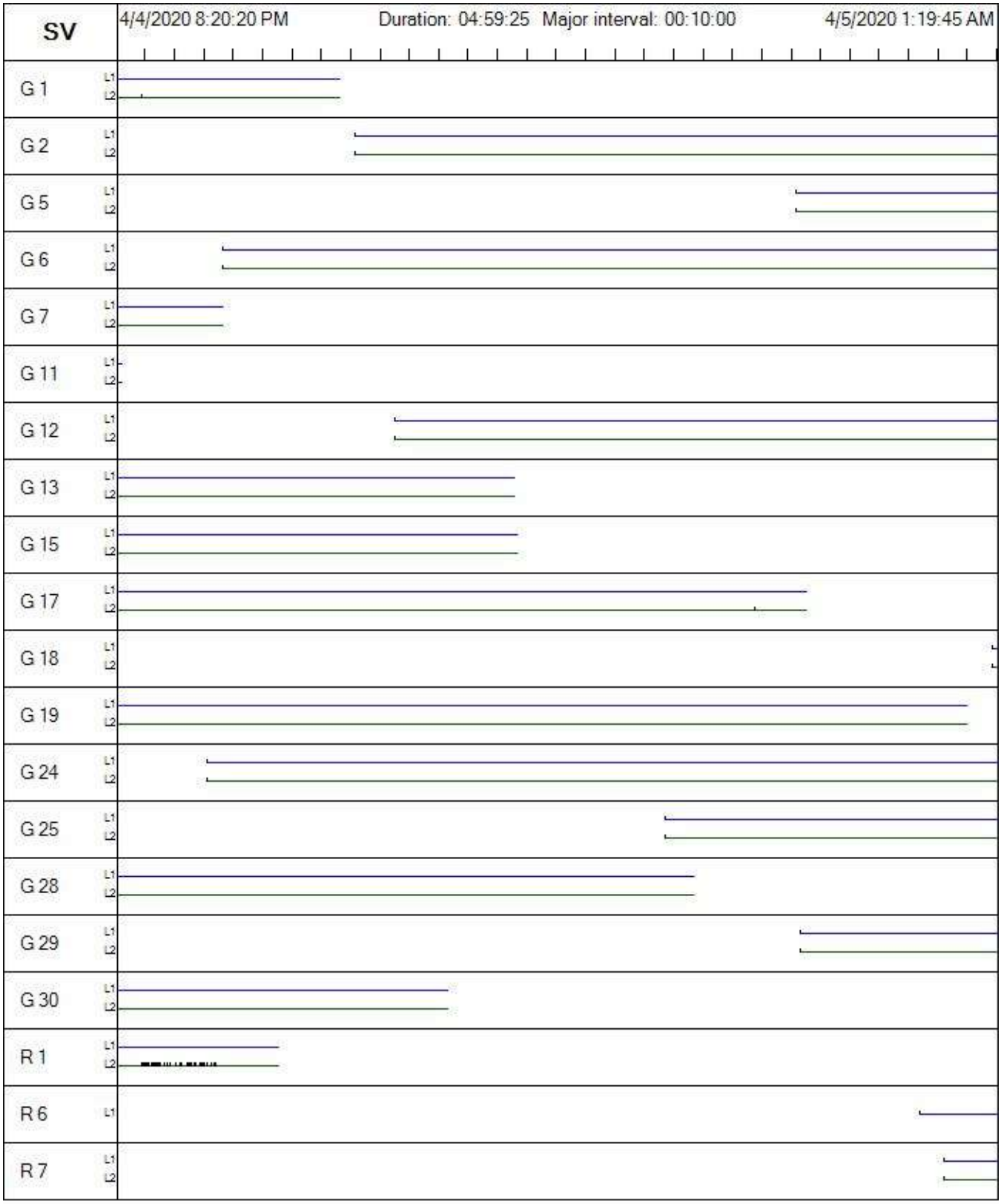
Aposteriori Covariance Matrix (US survey foot²)

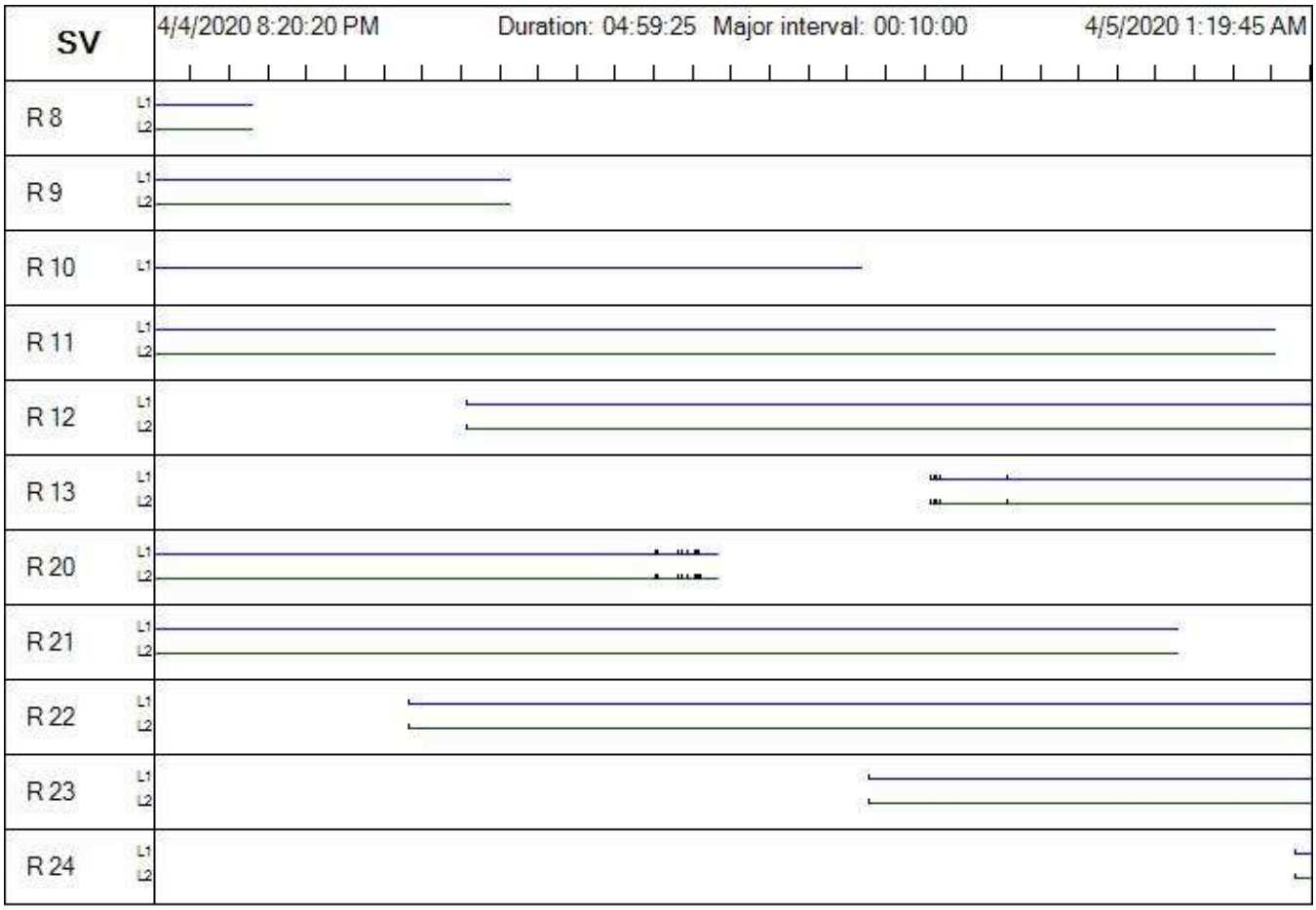
	X	Y	Z
X	0.0002117252		
Y	0.0002769161	0.0004585074	
Z	-0.0002536953	-0.0003868834	0.0004021994

Occupations

	From	To
Point ID:	MHCB	HS5407
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0950.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700950.T01
Receiver type:	PolaRx5	R8 Model 2
Receiver serial number:	4502928	4811147470
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
4/4/2020 8:20:20 PM
Duration: 04:59:25 Major interval: 00:10:00
4/5/2020 1:19:45 AM
R 8
R 9
R 10
R 11
R 12
R 13
R 20
R 21
R 22
R 23
R 24
L1
L2

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA007 (9:13:40 PM-9:49:52 PM) (S10)

Baseline observation:	MHCB --- VVA007 (B10)
Processed:	5/13/2020 5:40:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.068 ft
Vertical precision:	0.220 ft
RMS:	0.056 ft
Maximum PDOP:	2.275
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 9:13:42 PM (UTC)
Processing stop time:	4/4/2020 9:49:42 PM (UTC)
Processing duration:	00:36:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.095 ft	**Latitude**	N37°20'29.51041"	**Latitude**	N37°20'29.51041"
Northing	1948853.690 ft	**Longitude**	W121°38'33.23566"	**Longitude**	W121°38'33.23566"
Elevation	4244.918 ft	**Height**	4141.416 ft	**Height**	4141.416 ft

To:	VVA007				
Grid		**Local**		**Global**	
Easting	6118534.926 ft	**Latitude**	N37°18'11.74250"	**Latitude**	N37°18'11.74250"
Northing	1936499.563 ft	**Longitude**	W122°01'24.98338"	**Longitude**	W122°01'24.98338"
Elevation	263.236 ft	**Height**	156.081 ft	**Height**	156.081 ft

Vector					
ΔEasting	-110987.169 ft	**NS Fwd Azimuth**	262°56'52.3"	**ΔX**	-96932.821 ft
ΔNorthing	-12354.127 ft	**Ellipsoid Dist.**	111677.431 ft	**ΔY**	53963.657 ft
ΔElevation	-3981.682 ft	**ΔHeight**	-3985.334 ft	**ΔZ**	-13498.607 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.023 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.054 ft
σ ΔNorthing	0.027 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.080 ft
σ ΔElevation	0.112 ft	**σ ΔHeight**	0.112 ft	**σ ΔZ**	0.068 ft

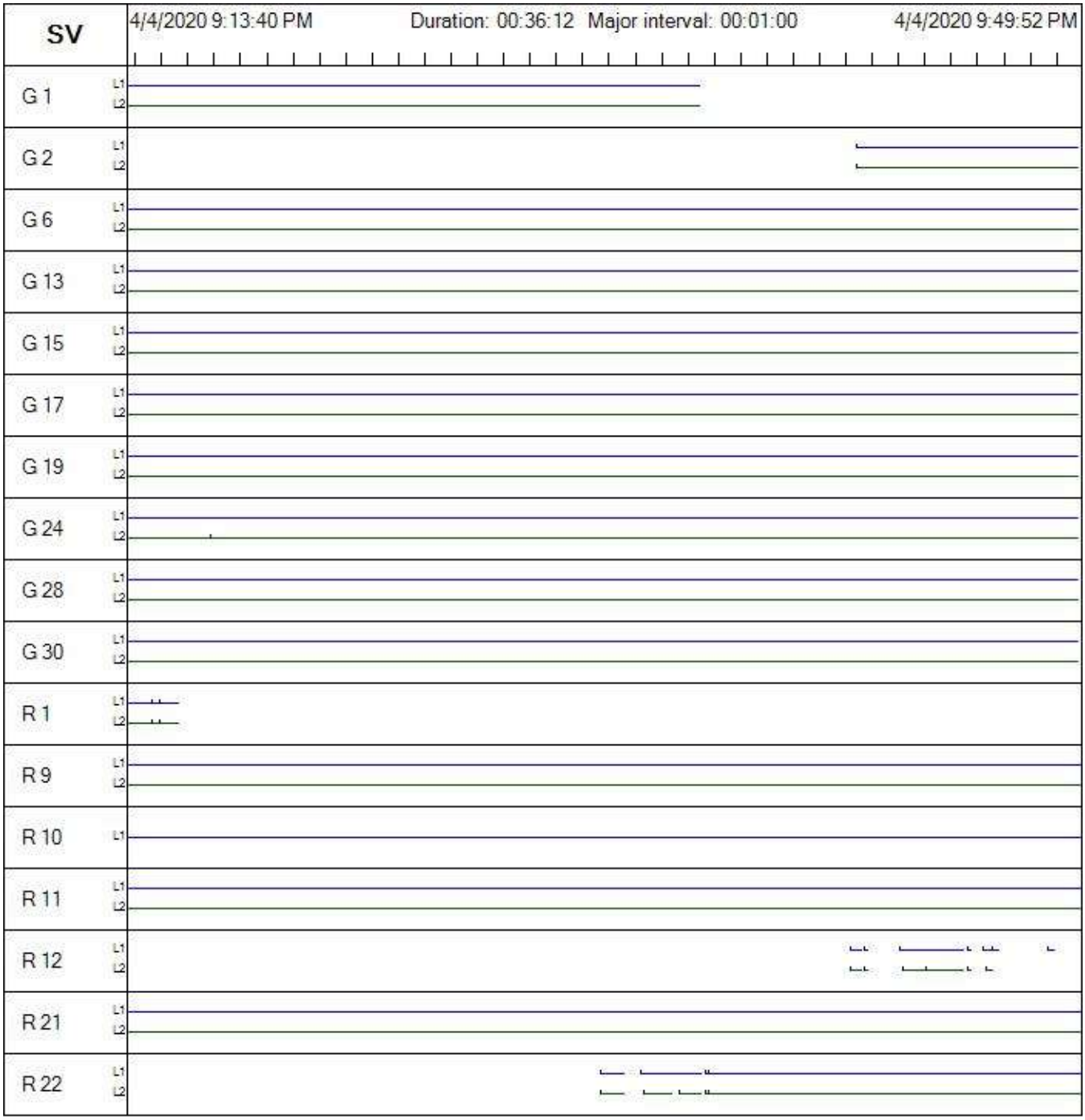
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0028957542		
Y	0.0037339733	0.0063758424	
Z	-0.0031234766	-0.0046666235	0.0046379549

Occupations

	From	To
Point ID:	MHCB	VVA007
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0950.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570953.t02
Receiver type:	PolaRx5	R8 Model 2
Receiver serial number:	4502928	4803143756
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA064 (10:15:54 PM-10:41:28 PM) (S9)

Baseline observation:	MHCB --- NVA064 (B9)
Processed:	5/13/2020 5:40:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.060 ft
Vertical precision:	0.118 ft
RMS:	0.044 ft
Maximum PDOP:	2.464
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 10:16:12 PM (UTC)
Processing stop time:	4/4/2020 10:41:12 PM (UTC)
Processing duration:	00:25:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.095 ft	**Latitude**	N37°20'29.51041"	**Latitude**	N37°20'29.51041"
Northing	1948853.690 ft	**Longitude**	W121°38'33.23566"	**Longitude**	W121°38'33.23566"
Elevation	4244.918 ft	**Height**	4141.416 ft	**Height**	4141.416 ft

To:	NVA064				
Grid		**Local**		**Global**	
Easting	6165164.941 ft	**Latitude**	N37°19'13.70267"	**Latitude**	N37°19'13.70267"
Northing	1942047.597 ft	**Longitude**	W121°51'48.89471"	**Longitude**	W121°51'48.89471"
Elevation	104.954 ft	**Height**	-1.966 ft	**Height**	-1.966 ft

Vector					
ΔEasting	-64357.154 ft	**NS Fwd Azimuth**	263°15'46.7"	**ΔX**	-55363.219 ft
ΔNorthing	-6806.093 ft	**Ellipsoid Dist.**	64718.898 ft	**ΔY**	32669.695 ft
ΔElevation	-4139.963 ft	**ΔHeight**	-4143.381 ft	**ΔZ**	-8610.024 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.022 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.038 ft
σ ΔNorthing	0.023 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.045 ft
σ ΔElevation	0.060 ft	**σ ΔHeight**	0.060 ft	**σ ΔZ**	0.034 ft

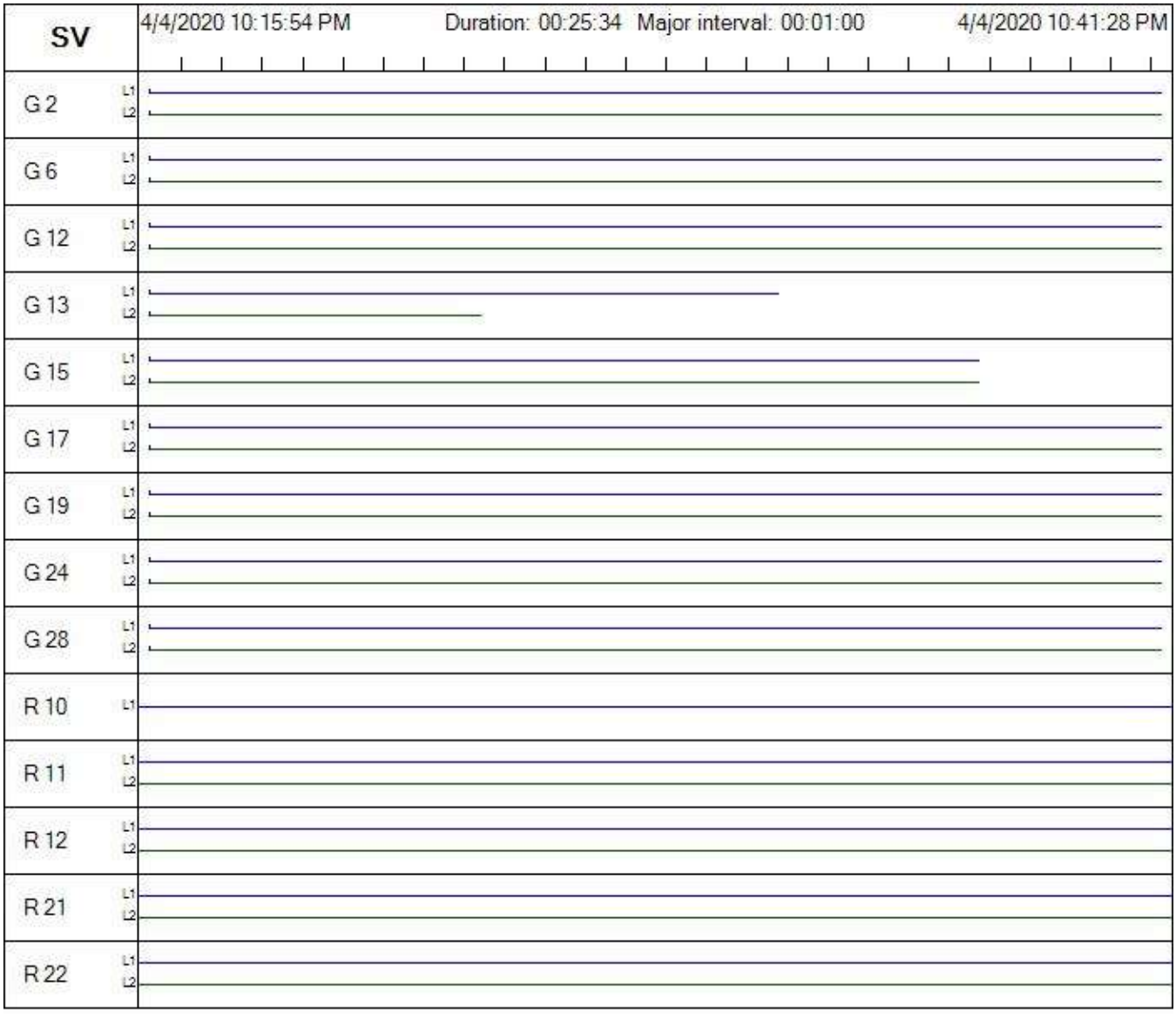
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0014121083		
Y	0.0012352366	0.0020307436	
Z	-0.0007908434	-0.0010967889	0.0011669254

Occupations

	From	To
Point ID:	MHCB	NVA064
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0950.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570954.t02
Receiver type:	PolaRx5	R8 Model 2
Receiver serial number:	4502928	4803143756
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA040 (11:09:02 PM-11:29:49 PM) (S8)

Baseline observation:	MHCB --- NVA040 (B8)
Processed:	5/13/2020 5:40:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.063 ft
Vertical precision:	0.141 ft
RMS:	0.059 ft
Maximum PDOP:	2.552
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 11:09:12 PM (UTC)
Processing stop time:	4/4/2020 11:29:42 PM (UTC)
Processing duration:	00:20:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.095 ft	**Latitude**	N37°20'29.51041"	**Latitude**	N37°20'29.51041"
Northing	1948853.690 ft	**Longitude**	W121°38'33.23566"	**Longitude**	W121°38'33.23566"
Elevation	4244.918 ft	**Height**	4141.416 ft	**Height**	4141.416 ft

To:	NVA040				
Grid		**Local**		**Global**	
Easting	6178385.452 ft	**Latitude**	N37°20'17.77714"	**Latitude**	N37°20'17.77714"
Northing	1948339.291 ft	**Longitude**	W121°49'06.33733"	**Longitude**	W121°49'06.33733"
Elevation	120.843 ft	**Height**	14.264 ft	**Height**	14.264 ft

Vector					
ΔEasting	-51136.643 ft	**NS Fwd Azimuth**	268°43'25.1"	**ΔX**	-42142.967 ft
ΔNorthing	-514.399 ft	**Ellipsoid Dist.**	51141.544 ft	**ΔY**	29070.560 ft
ΔElevation	-4124.074 ft	**ΔHeight**	-4127.152 ft	**ΔZ**	-3446.917 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.030 ft
σ ΔNorthing	0.026 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.045 ft
σ ΔElevation	0.072 ft	**σ ΔHeight**	0.072 ft	**σ ΔZ**	0.057 ft

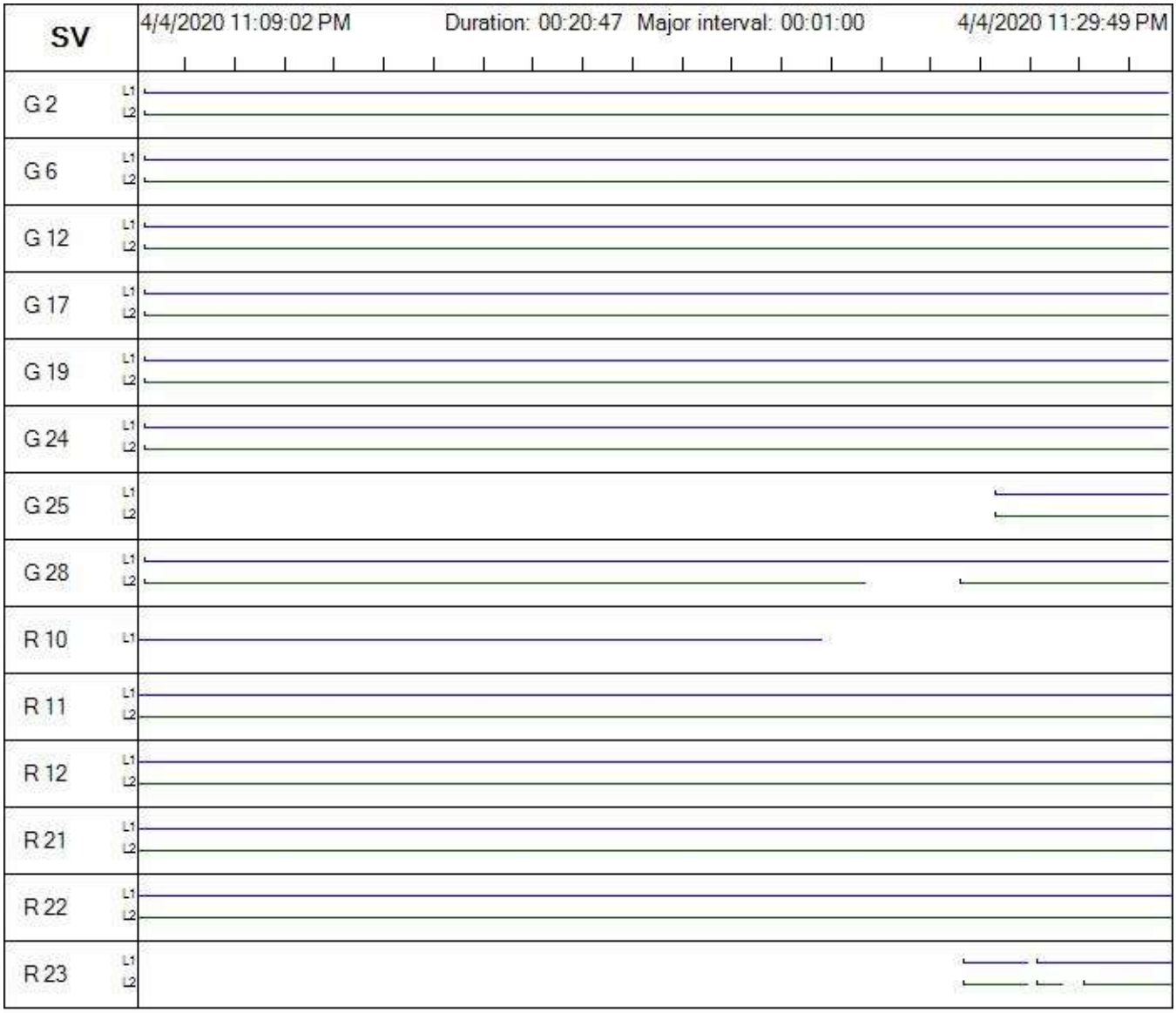
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0008749907		
Y	0.0009486573	0.0020168179	
Z	-0.0012301463	-0.0020991336	0.0032845477

Occupations

	From	To
Point ID:	MHCB	NVA040
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0950.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570955.t02
Receiver type:	PolaRx5	R8 Model 2
Receiver serial number:	4502928	4803143756
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA038 (11:53:23 PM-12:14:12 AM) (S7)

Baseline observation:	MHCB --- NVA038 (B7)
Processed:	5/13/2020 5:40:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.092 ft
Vertical precision:	0.137 ft
RMS:	0.053 ft
Maximum PDOP:	2.620
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 11:53:42 PM (UTC)
Processing stop time:	4/5/2020 12:14:12 AM (UTC)
Processing duration:	00:20:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.095 ft	**Latitude**	N37°20'29.51041"	**Latitude**	N37°20'29.51041"
Northing	1948853.690 ft	**Longitude**	W121°38'33.23566"	**Longitude**	W121°38'33.23566"
Elevation	4244.918 ft	**Height**	4141.416 ft	**Height**	4141.416 ft

To:	NVA038				
Grid		**Local**		**Global**	
Easting	6188995.752 ft	**Latitude**	N37°19'27.08349"	**Latitude**	N37°19'27.08349"
Northing	1943064.243 ft	**Longitude**	W121°46'54.06748"	**Longitude**	W121°46'54.06748"
Elevation	261.261 ft	**Height**	155.074 ft	**Height**	155.074 ft

Vector					
ΔEasting	-40526.343 ft	**NS Fwd Azimuth**	261°10'12.1"	**ΔX**	-34761.012 ft
ΔNorthing	-5789.446 ft	**Ellipsoid Dist.**	40939.600 ft	**ΔY**	20703.264 ft
ΔElevation	-3983.657 ft	**ΔHeight**	-3986.341 ft	**ΔZ**	-7438.540 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.028 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.037 ft
σ ΔNorthing	0.036 ft	**σ Ellipsoid Dist.**	0.027 ft	**σ ΔY**	0.046 ft
σ ΔElevation	0.070 ft	**σ ΔHeight**	0.070 ft	**σ ΔZ**	0.059 ft

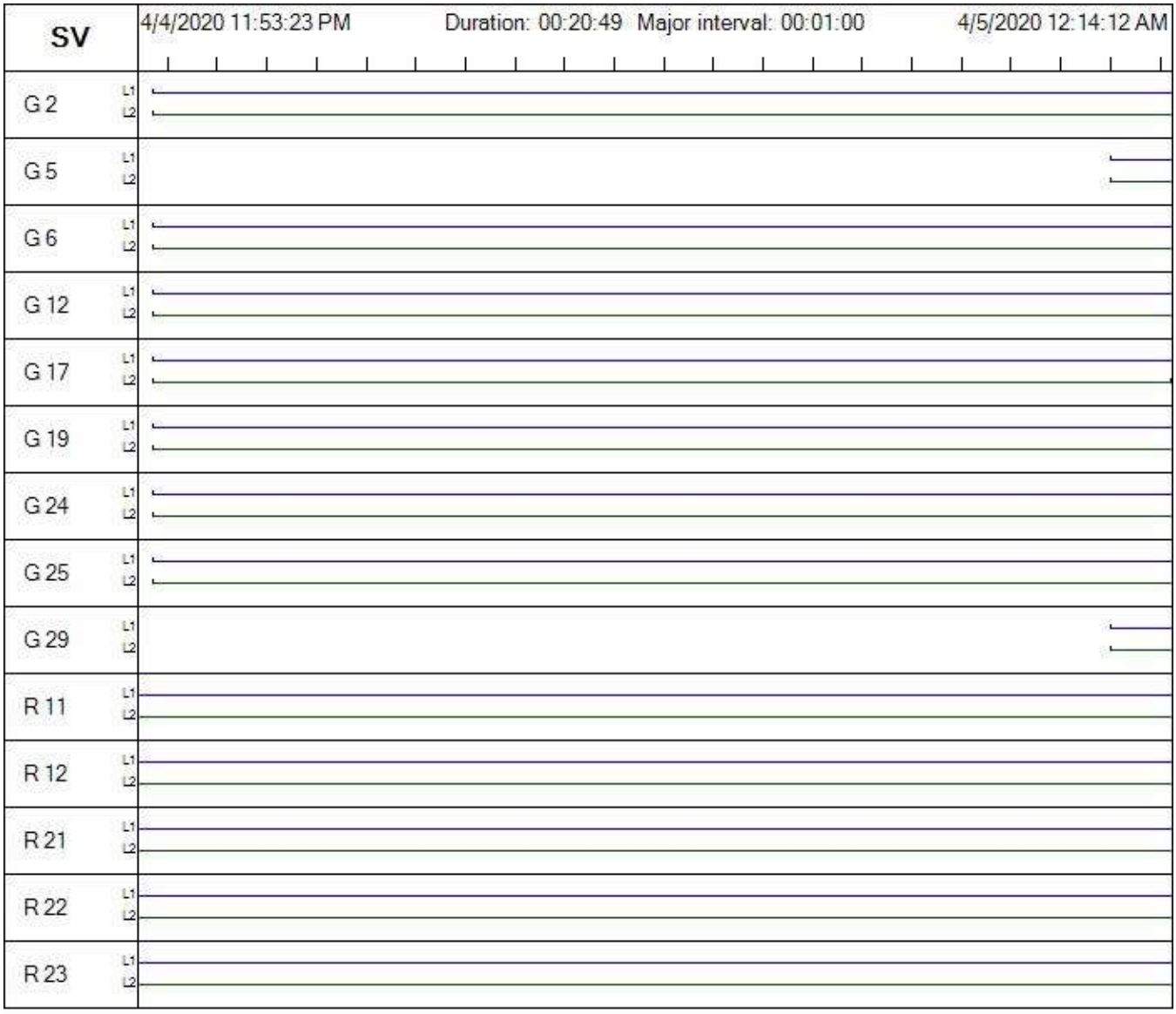
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0013398285		
Y	0.0008566202	0.0021050114	
Z	-0.0013413471	-0.0014754669	0.0034995563

Occupations

	From	To
Point ID:	MHCB	NVA038
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0950.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570956.t02
Receiver type:	PolaRx5	R8 Model 2
Receiver serial number:	4502928	4803143756
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA032 (12:34:07 AM-12:49:49 AM) (S6)

Baseline observation:	MHCB --- VVA032 (B6)
Processed:	5/13/2020 5:40:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.083 ft
Vertical precision:	0.108 ft
RMS:	0.028 ft
Maximum PDOP:	1.797
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/5/2020 12:34:12 AM (UTC)
Processing stop time:	4/5/2020 12:49:42 AM (UTC)
Processing duration:	00:15:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229522.095 ft	**Latitude**	N37°20'29.51041"	**Latitude**	N37°20'29.51041"
Northing	1948853.690 ft	**Longitude**	W121°38'33.23566"	**Longitude**	W121°38'33.23566"
Elevation	4244.918 ft	**Height**	4141.416 ft	**Height**	4141.416 ft

To:	VVA032				
Grid		**Local**		**Global**	
Easting	6194239.015 ft	**Latitude**	N37°18'52.73416"	**Latitude**	N37°18'52.73416"
Northing	1939518.534 ft	**Longitude**	W121°45'48.56553"	**Longitude**	W121°45'48.56553"
Elevation	438.141 ft	**Height**	332.166 ft	**Height**	332.166 ft

Vector					
ΔEasting	-35283.080 ft	**NS Fwd Azimuth**	254°28'49.7"	**ΔX**	-31445.889 ft
ΔNorthing	-9335.155 ft	**Ellipsoid Dist.**	36498.731 ft	**ΔY**	16006.750 ft
ΔElevation	-3806.777 ft	**ΔHeight**	-3809.250 ft	**ΔZ**	-10094.155 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.029 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.038 ft
σ ΔNorthing	0.033 ft	**σ Ellipsoid Dist.**	0.028 ft	**σ ΔY**	0.047 ft
σ ΔElevation	0.055 ft	**σ ΔHeight**	0.055 ft	**σ ΔZ**	0.037 ft

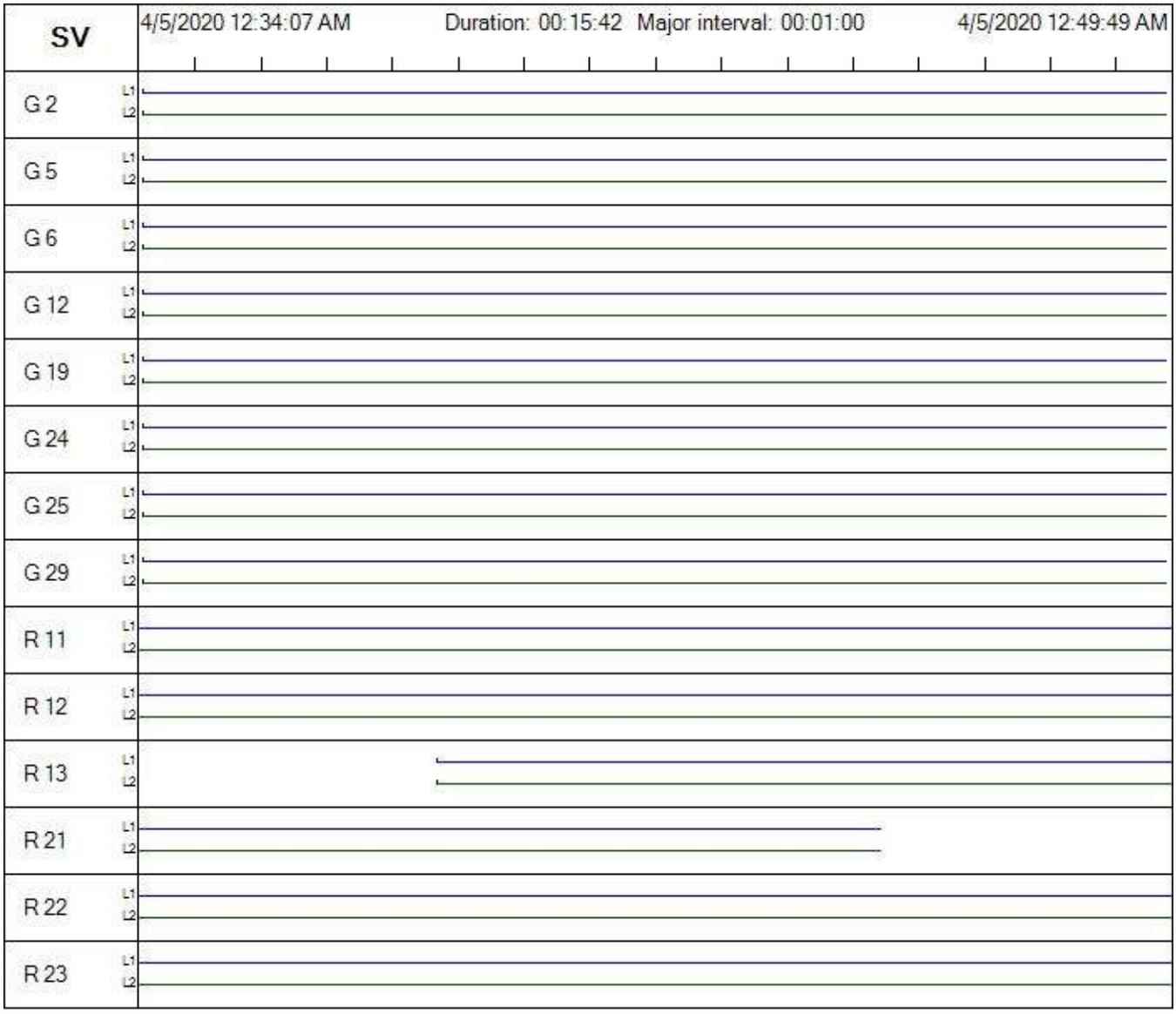
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0014093431		
Y	0.0008754820	0.0021974297	
Z	-0.0005770764	-0.0006139696	0.0013913927

Occupations

	From	To
Point ID:	MHCB	VVA032
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb0950.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570960.t02
Receiver type:	PolaRx5	R8 Model 2
Receiver serial number:	4502928	4803143756
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA007 (9:13:40 PM-9:49:52 PM) (S1)

Baseline observation:	HS5407 --- VVA007 (B1)
Processed:	5/13/2020 5:40:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.068 ft
Vertical precision:	0.239 ft
RMS:	0.070 ft
Maximum PDOP:	1.614
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 9:13:42 PM (UTC)
Processing stop time:	4/4/2020 9:49:52 PM (UTC)
Processing duration:	00:36:10
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.551 ft	**Latitude**	N37°11'20.20720"	**Latitude**	N37°11'20.20720"
Northing	1893492.601 ft	**Longitude**	W121°41'42.34866"	**Longitude**	W121°41'42.34866"
Elevation	338.345 ft	**Height**	232.075 ft	**Height**	232.075 ft

To:	VVA007				
Grid		**Local**		**Global**	
Easting	6118534.923 ft	**Latitude**	N37°18'11.74249"	**Latitude**	N37°18'11.74249"
Northing	1936499.562 ft	**Longitude**	W122°01'24.98342"	**Longitude**	W122°01'24.98342"
Elevation	263.229 ft	**Height**	156.075 ft	**Height**	156.074 ft

Vector					
ΔEasting	-95007.628 ft	**NS Fwd Azimuth**	293°37'18.8"	**ΔX**	-67890.229 ft
ΔNorthing	43006.961 ft	**Ellipsoid Dist.**	104291.639 ft	**ΔY**	71923.476 ft
ΔElevation	-75.116 ft	**ΔHeight**	-76.001 ft	**ΔZ**	33088.691 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.025 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.059 ft
σ ΔNorthing	0.028 ft	**σ Ellipsoid Dist.**	0.026 ft	**σ ΔY**	0.084 ft
σ ΔElevation	0.122 ft	**σ ΔHeight**	0.122 ft	**σ ΔZ**	0.075 ft

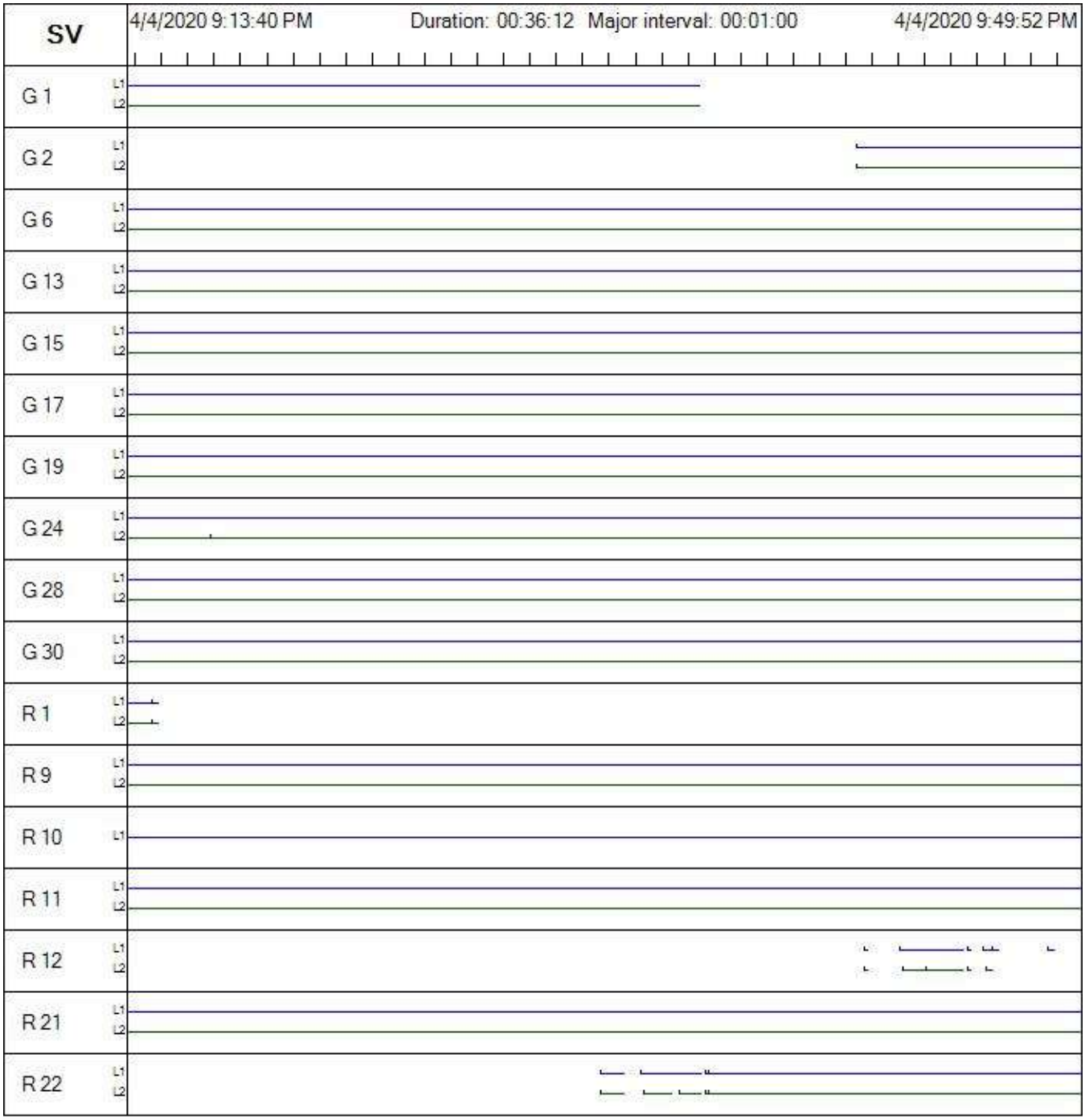
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0035089585		
Y	0.0043358128	0.0071167925	
Z	-0.0038064376	-0.0055532875	0.0056433551

Occupations

	From	To
Point ID:	HS5407	VVA007
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700950.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570953.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA064 (10:15:54 PM-10:41:28 PM) (S2)

Baseline observation:	HS5407 --- NVA064 (B2)
Processed:	5/13/2020 5:40:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.064 ft
Vertical precision:	0.268 ft
RMS:	0.054 ft
Maximum PDOP:	1.784
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 10:16:02 PM (UTC)
Processing stop time:	4/4/2020 10:41:22 PM (UTC)
Processing duration:	00:25:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.551 ft	**Latitude**	N37°11'20.20720"	**Latitude**	N37°11'20.20720"
Northing	1893492.601 ft	**Longitude**	W121°41'42.34866"	**Longitude**	W121°41'42.34866"
Elevation	338.345 ft	**Height**	232.075 ft	**Height**	232.075 ft

To:	NVA064				
Grid		**Local**		**Global**	
Easting	6165164.958 ft	**Latitude**	N37°19'13.70264"	**Latitude**	N37°19'13.70264"
Northing	1942047.593 ft	**Longitude**	W121°51'48.89450"	**Longitude**	W121°51'48.89450"
Elevation	104.901 ft	**Height**	-2.018 ft	**Height**	-2.019 ft

Vector					
ΔEasting	-48377.593 ft	**NS Fwd Azimuth**	314°22'21.3"	**ΔX**	-26320.591 ft
ΔNorthing	48554.992 ft	**Ellipsoid Dist.**	68544.088 ft	**ΔY**	50629.534 ft
ΔElevation	-233.444 ft	**ΔHeight**	-234.093 ft	**ΔZ**	37977.244 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.025 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.062 ft
σ ΔNorthing	0.024 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.097 ft
σ ΔElevation	0.137 ft	**σ ΔHeight**	0.137 ft	**σ ΔZ**	0.081 ft

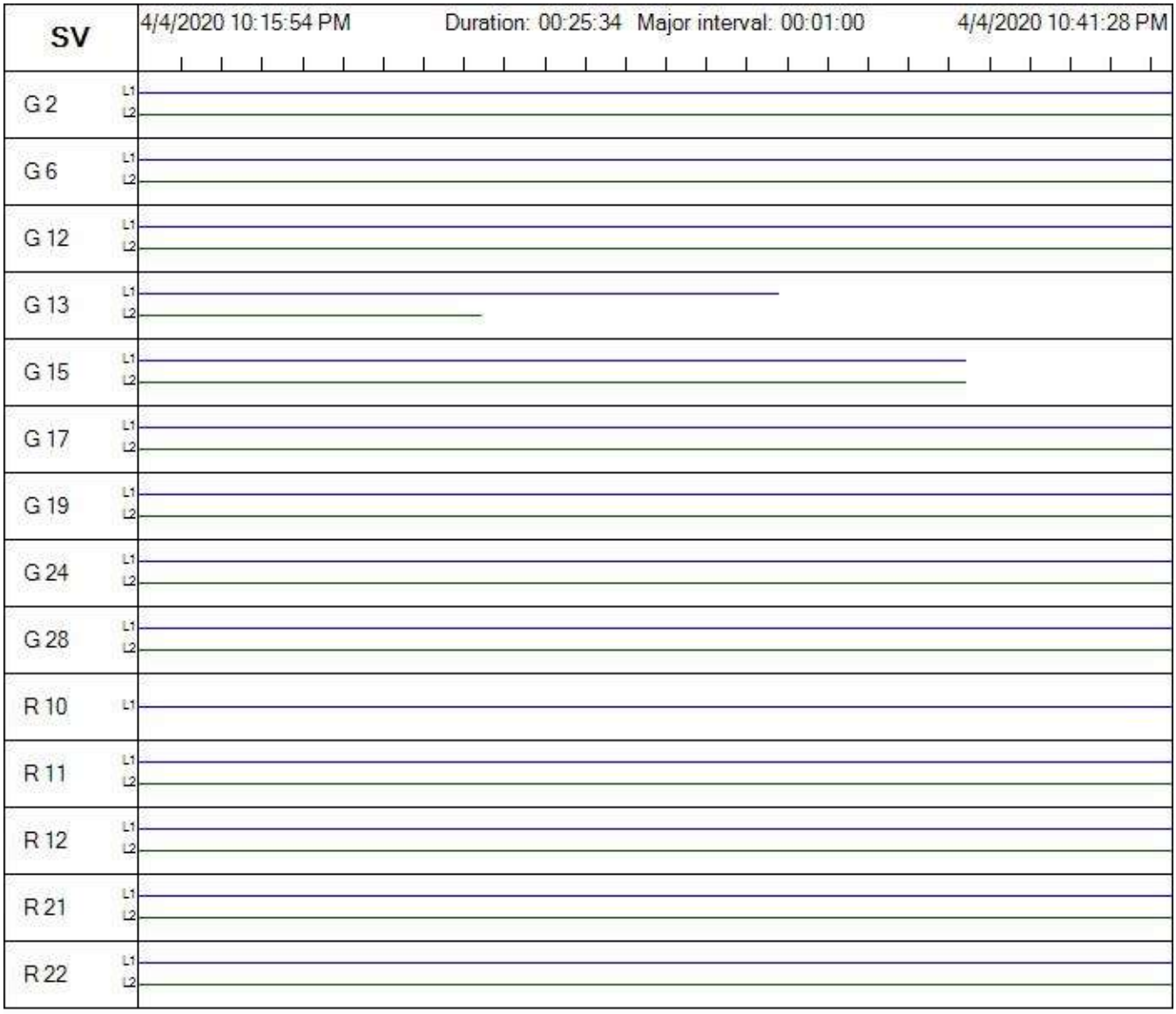
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0038114913		
Y	0.0053271387	0.0094602452	
Z	-0.0043307337	-0.0074349067	0.0066357079

Occupations

	From	To
Point ID:	HS5407	NVA064
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700950.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570954.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA040 (11:09:02 PM-11:29:49 PM) (S3)

Baseline observation:	HS5407 --- NVA040 (B3)
Processed:	5/13/2020 5:40:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.067 ft
Vertical precision:	0.175 ft
RMS:	0.043 ft
Maximum PDOP:	2.161
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 11:09:02 PM (UTC)
Processing stop time:	4/4/2020 11:29:42 PM (UTC)
Processing duration:	00:20:40
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.551 ft	**Latitude**	N37°11'20.20720"	**Latitude**	N37°11'20.20720"
Northing	1893492.601 ft	**Longitude**	W121°41'42.34866"	**Longitude**	W121°41'42.34866"
Elevation	338.345 ft	**Height**	232.075 ft	**Height**	232.075 ft

To:	NVA040				
Grid		**Local**		**Global**	
Easting	6178385.467 ft	**Latitude**	N37°20'17.77722"	**Latitude**	N37°20'17.77722"
Northing	1948339.299 ft	**Longitude**	W121°49'06.33715"	**Longitude**	W121°49'06.33715"
Elevation	120.900 ft	**Height**	14.320 ft	**Height**	14.320 ft

Vector					
ΔEasting	-35157.084 ft	**NS Fwd Azimuth**	326°36'27.9"	**ΔX**	-13100.383 ft
ΔNorthing	54846.698 ft	**Ellipsoid Dist.**	65149.631 ft	**ΔY**	47030.332 ft
ΔElevation	-217.446 ft	**ΔHeight**	-217.755 ft	**ΔZ**	43140.426 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.037 ft
σ ΔNorthing	0.027 ft	**σ Ellipsoid Dist.**	0.026 ft	**σ ΔY**	0.053 ft
σ ΔElevation	0.090 ft	**σ ΔHeight**	0.090 ft	**σ ΔZ**	0.071 ft

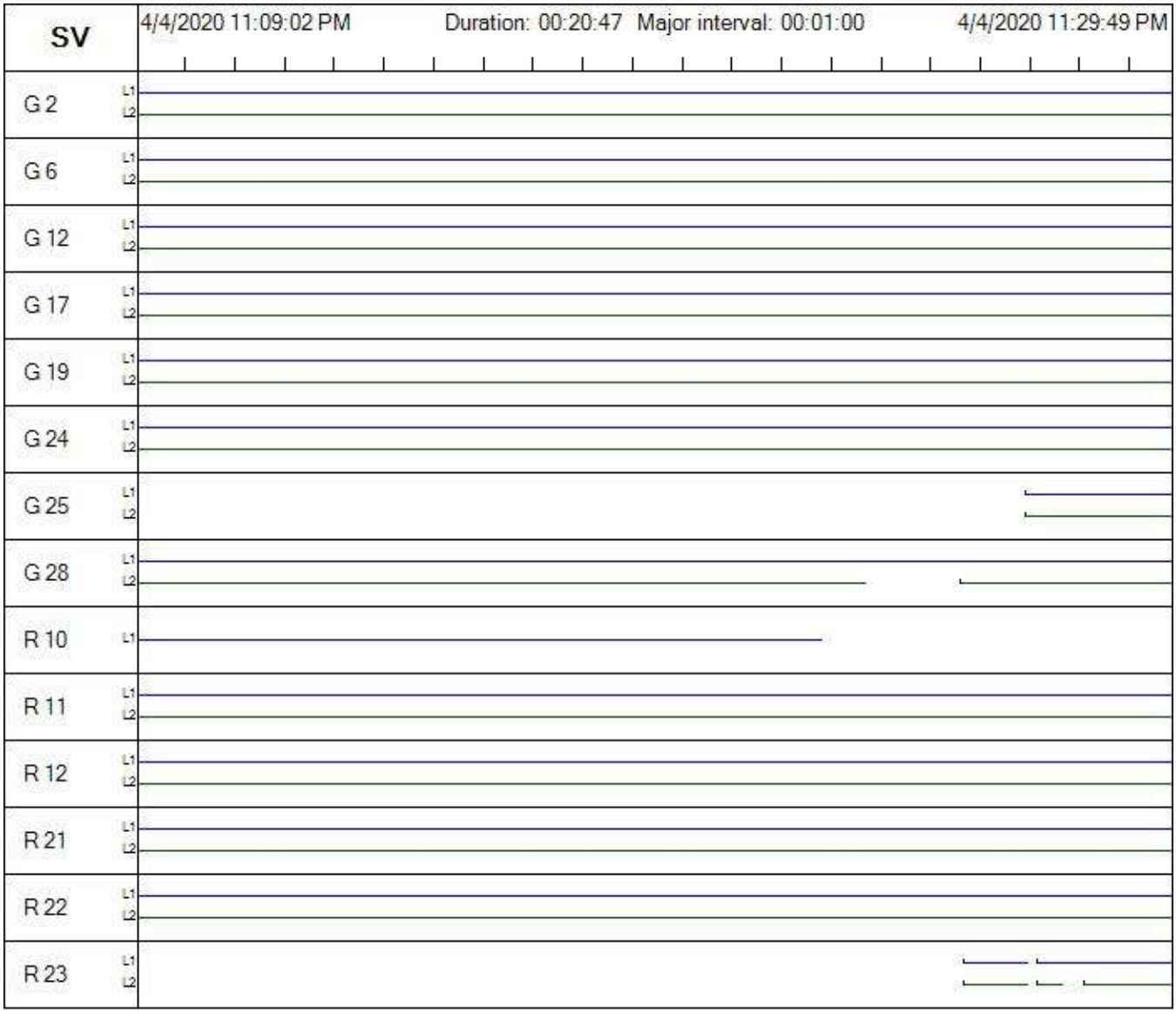
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0013473910		
Y	0.0015659731	0.0027605097	
Z	-0.0021783860	-0.0032907000	0.0049831578

Occupations

	From	To
Point ID:	HS5407	NVA040
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700950.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570955.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA038 (11:53:23 PM-12:14:12 AM) (S4)

Baseline observation:	HS5407 --- NVA038 (B4)
Processed:	5/13/2020 5:40:25 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.064 ft
Vertical precision:	0.099 ft
RMS:	0.052 ft
Maximum PDOP:	1.543
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/4/2020 11:53:32 PM (UTC)
Processing stop time:	4/5/2020 12:14:12 AM (UTC)
Processing duration:	00:20:40
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.551 ft	**Latitude**	N37°11'20.20720"	**Latitude**	N37°11'20.20720"
Northing	1893492.601 ft	**Longitude**	W121°41'42.34866"	**Longitude**	W121°41'42.34866"
Elevation	338.345 ft	**Height**	232.075 ft	**Height**	232.075 ft

To:	NVA038				
Grid		**Local**		**Global**	
Easting	6188995.767 ft	**Latitude**	N37°19'27.08321"	**Latitude**	N37°19'27.08321"
Northing	1943064.215 ft	**Longitude**	W121°46'54.06729"	**Longitude**	W121°46'54.06729"
Elevation	261.253 ft	**Height**	155.066 ft	**Height**	155.066 ft

Vector					
ΔEasting	-24546.784 ft	**NS Fwd Azimuth**	332°55'27.8"	**ΔX**	-5718.412 ft
ΔNorthing	49571.614 ft	**Ellipsoid Dist.**	55318.126 ft	**ΔY**	38663.060 ft
ΔElevation	-77.092 ft	**ΔHeight**	-77.009 ft	**ΔZ**	39148.736 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.027 ft
σ ΔNorthing	0.025 ft	**σ Ellipsoid Dist.**	0.026 ft	**σ ΔY**	0.035 ft
σ ΔElevation	0.051 ft	**σ ΔHeight**	0.051 ft	**σ ΔZ**	0.041 ft

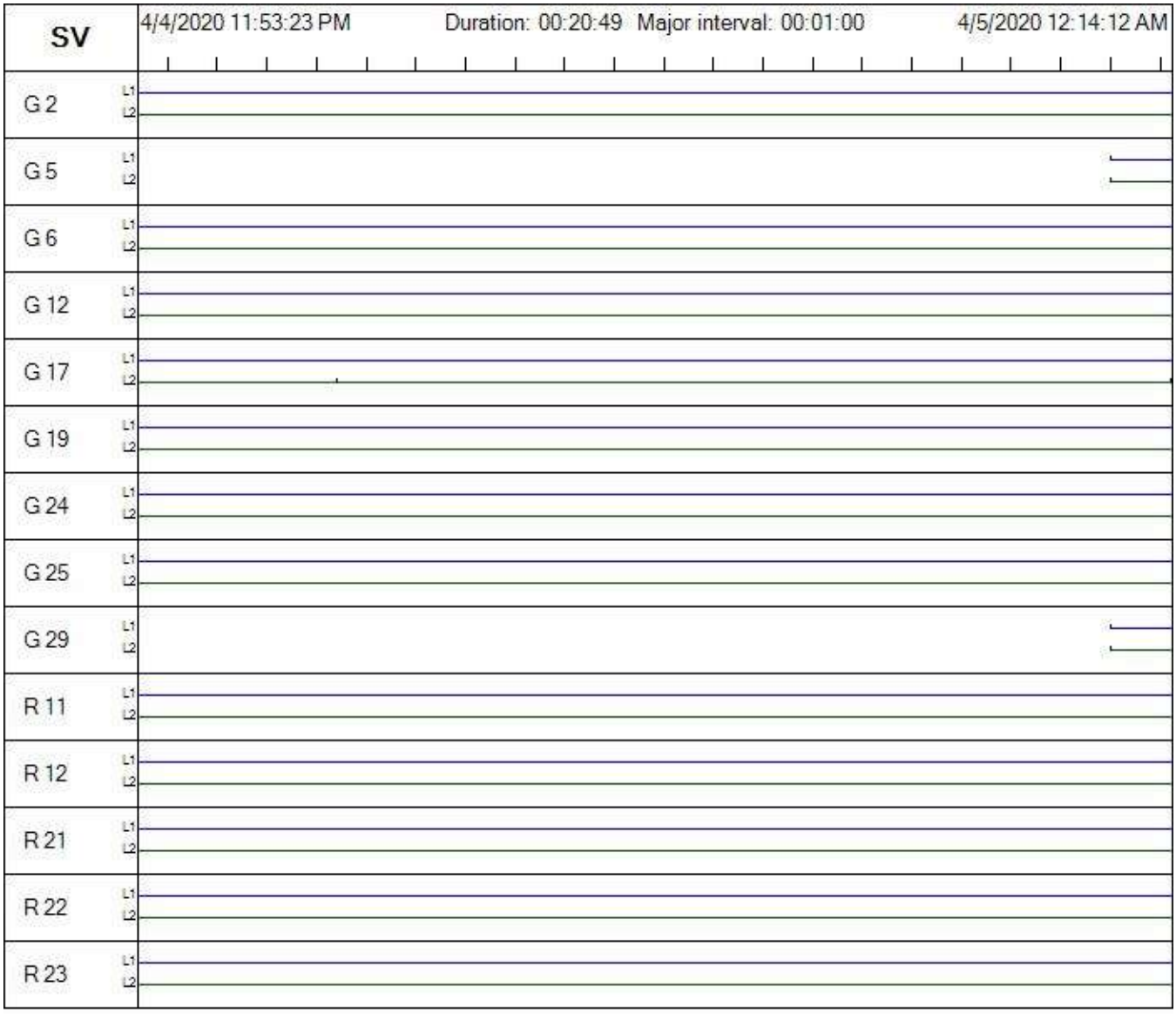
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0007394938		
Y	0.0004754406	0.0012351210	
Z	-0.0006538108	-0.0007983265	0.0016704984

Occupations

	From	To
Point ID:	HS5407	NVA038
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700950.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570956.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA032 (12:34:07 AM-12:49:49 AM) (S5)

Baseline observation:	HS5407 --- VVA032 (B5)
Processed:	5/13/2020 5:40:27 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.050 ft
Vertical precision:	0.073 ft
RMS:	0.038 ft
Maximum PDOP:	1.512
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/5/2020 12:34:07 AM (UTC)
Processing stop time:	4/5/2020 12:49:49 AM (UTC)
Processing duration:	00:15:42
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.551 ft	**Latitude**	N37°11'20.20720"	**Latitude**	N37°11'20.20720"
Northing	1893492.601 ft	**Longitude**	W121°41'42.34866"	**Longitude**	W121°41'42.34866"
Elevation	338.345 ft	**Height**	232.075 ft	**Height**	232.075 ft

To:	VVA032				
Grid		**Local**		**Global**	
Easting	6194239.016 ft	**Latitude**	N37°18'52.73426"	**Latitude**	N37°18'52.73425"
Northing	1939518.544 ft	**Longitude**	W121°45'48.56552"	**Longitude**	W121°45'48.56552"
Elevation	438.071 ft	**Height**	332.097 ft	**Height**	332.096 ft

Vector					
ΔEasting	-19303.535 ft	**NS Fwd Azimuth**	336°30'52.7"	**ΔX**	-2403.263 ft
ΔNorthing	46025.943 ft	**Ellipsoid Dist.**	49911.700 ft	**ΔY**	33966.616 ft
ΔElevation	99.726 ft	**ΔHeight**	100.021 ft	**ΔZ**	36493.113 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.019 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.025 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.020 ft	**σ ΔY**	0.031 ft
σ ΔElevation	0.037 ft	**σ ΔHeight**	0.037 ft	**σ ΔZ**	0.024 ft

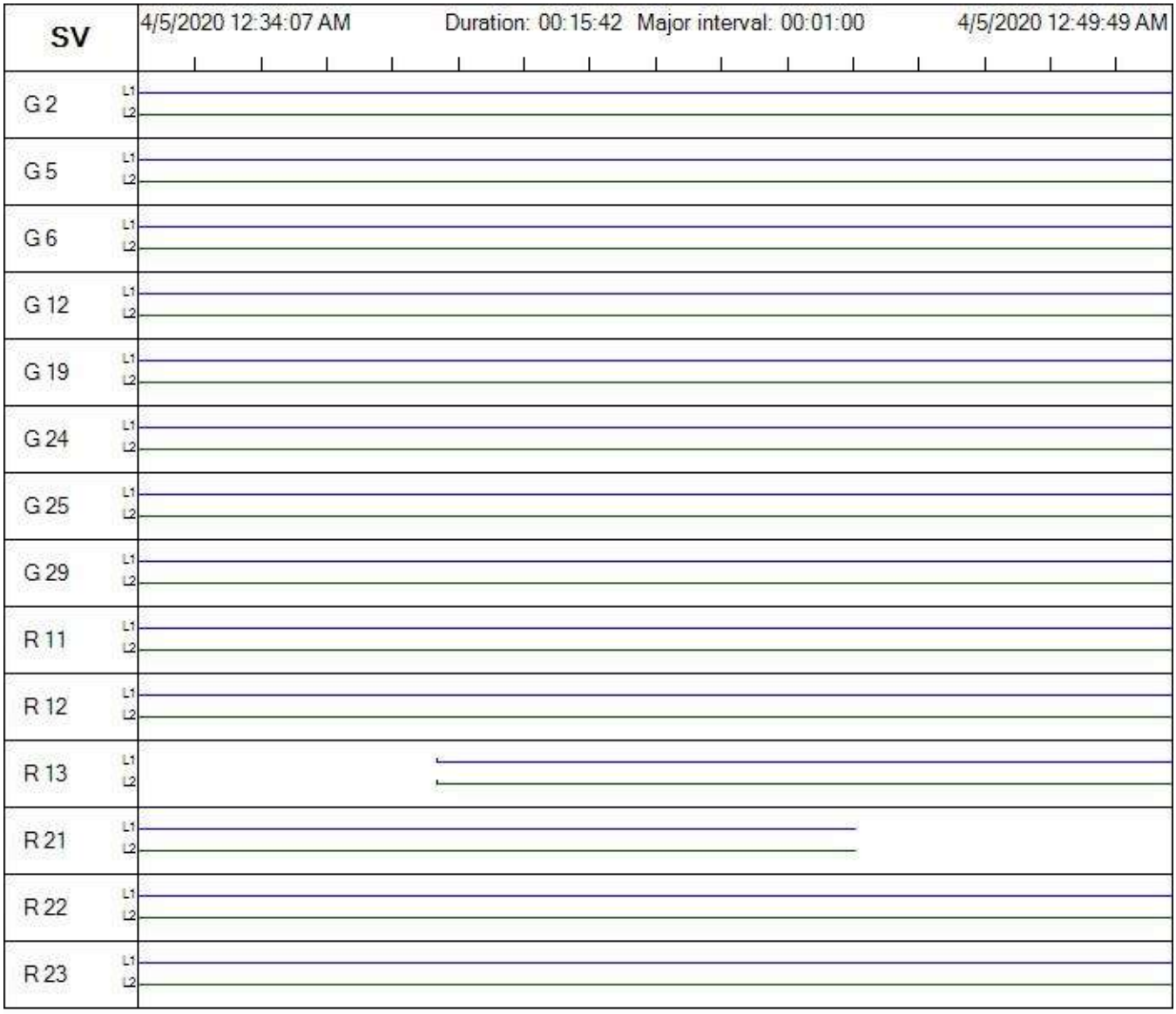
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0006146622		
Y	0.0003831005	0.0009346327	
Z	-0.0002796323	-0.0003291688	0.0005897777

Occupations

	From	To
Point ID:	HS5407	VVA032
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700950.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570960.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - AA1871 (9:12:49 PM-1:11:59 AM) (S16)

Baseline observation:	SLAC --- AA1871 (B16)
Processed:	5/13/2020 5:59:34 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.015 ft
Vertical precision:	0.065 ft
RMS:	0.040 ft
Maximum PDOP:	1.975
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/6/2020 9:13:12 PM (UTC)
Processing stop time:	4/7/2020 1:11:42 AM (UTC)
Processing duration:	03:58:30
Processing interval:	1 Minute

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.838 ft	**Latitude**	N37°24'59.46093"	**Latitude**	N37°24'59.46093"
Northing	1978635.439 ft	**Longitude**	W122°12'15.30525"	**Longitude**	W122°12'15.30525"
Elevation	317.543 ft	**Height**	210.643 ft	**Height**	210.643 ft

To:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.490 ft	**Latitude**	N37°19'52.99905"	**Latitude**	N37°19'52.99905"
Northing	1947026.623 ft	**Longitude**	W122°04'59.34526"	**Longitude**	W122°04'59.34526"
Elevation	435.329 ft	**Height**	328.387 ft	**Height**	328.387 ft

Vector					
ΔEasting	34639.653 ft	**NS Fwd Azimuth**	131°20'14.9"	**ΔX**	19736.629 ft
ΔNorthing	-31608.816 ft	**Ellipsoid Dist.**	46896.047 ft	**ΔY**	-34734.491 ft
ΔElevation	117.786 ft	**ΔHeight**	117.744 ft	**ΔZ**	-24561.952 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.006 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.015 ft
σ ΔNorthing	0.006 ft	**σ Ellipsoid Dist.**	0.006 ft	**σ ΔY**	0.022 ft
σ ΔElevation	0.033 ft	**σ ΔHeight**	0.033 ft	**σ ΔZ**	0.021 ft

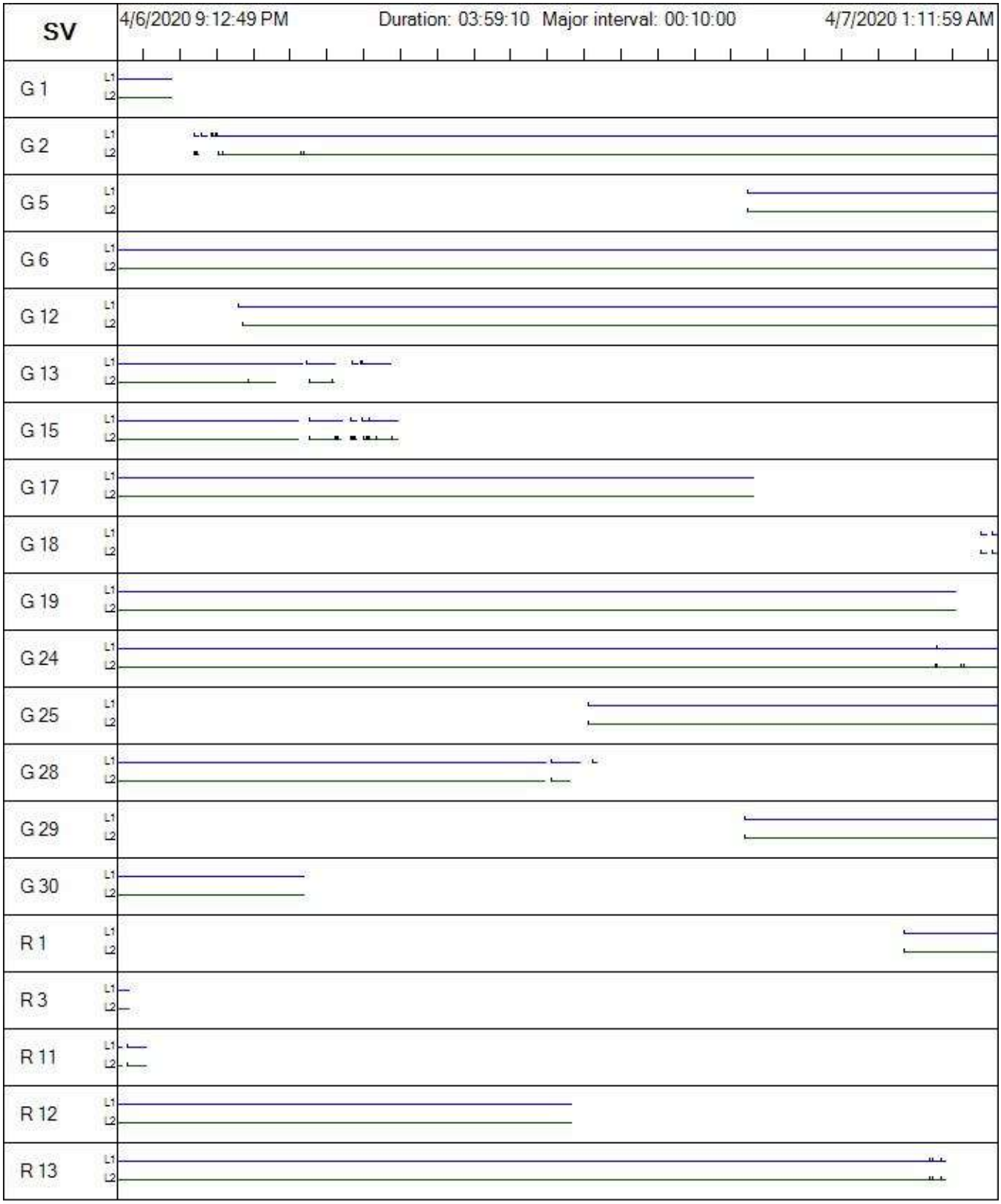
Aposteriori Covariance Matrix (US survey foot²)

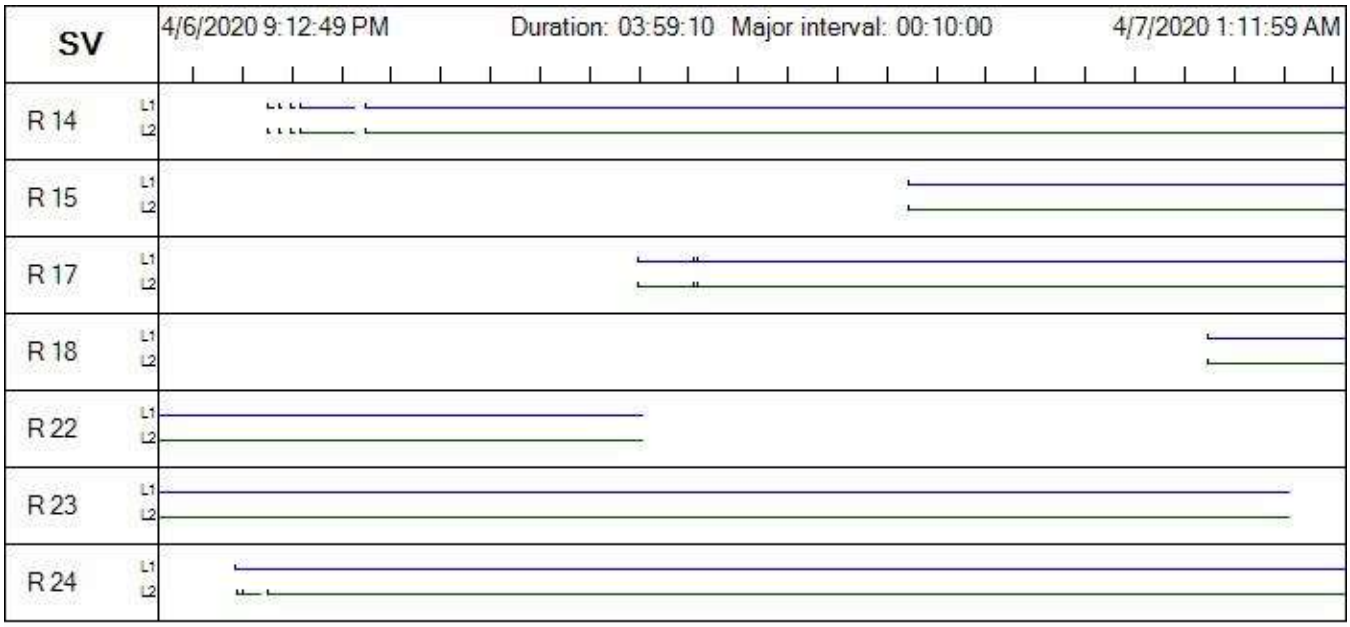
	X	Y	Z
X	0.0002337290		
Y	0.0003069722	0.0005033417	
Z	-0.0002864915	-0.0004364102	0.0004471316

Occupations

	From	To
Point ID:	SLAC	AA1871
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0970.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700970.T01
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5302K56635	4811147470
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
4/6/2020 9:12:49 PM
Duration: 03:59:10
Major interval: 00:10:00
4/7/2020 1:11:59 AM
R 14
R 15
R 17
R 18
R 22
R 23
R 24

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA006 (9:38:15 PM-9:54:37 PM) (S15)

Baseline observation:	SLAC --- VVA006 (B15)
Processed:	5/13/2020 5:59:34 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.039 ft
Vertical precision:	0.066 ft
RMS:	0.042 ft
Maximum PDOP:	1.831
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/6/2020 9:38:42 PM (UTC)
Processing stop time:	4/6/2020 9:54:12 PM (UTC)
Processing duration:	00:15:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.838 ft	**Latitude**	N37°24'59.46093"	**Latitude**	N37°24'59.46093"
Northing	1978635.439 ft	**Longitude**	W122°12'15.30525"	**Longitude**	W122°12'15.30525"
Elevation	317.543 ft	**Height**	210.643 ft	**Height**	210.643 ft

To:	VVA006				
Grid		**Local**		**Global**	
Easting	6086064.386 ft	**Latitude**	N37°26'42.81097"	**Latitude**	N37°26'42.81096"
Northing	1988745.039 ft	**Longitude**	W122°08'18.13730"	**Longitude**	W122°08'18.13730"
Elevation	21.174 ft	**Height**	-85.848 ft	**Height**	-85.848 ft

Vector					
ΔEasting	19312.548 ft	**NS Fwd Azimuth**	61°19'33.3"	**ΔX**	19701.201 ft
ΔNorthing	10109.599 ft	**Ellipsoid Dist.**	21799.795 ft	**ΔY**	-4608.432 ft
ΔElevation	-296.369 ft	**ΔHeight**	-296.491 ft	**ΔZ**	8120.764 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.015 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.022 ft
σ ΔNorthing	0.016 ft	**σ Ellipsoid Dist.**	0.016 ft	**σ ΔY**	0.028 ft
σ ΔElevation	0.034 ft	**σ ΔHeight**	0.034 ft	**σ ΔZ**	0.019 ft

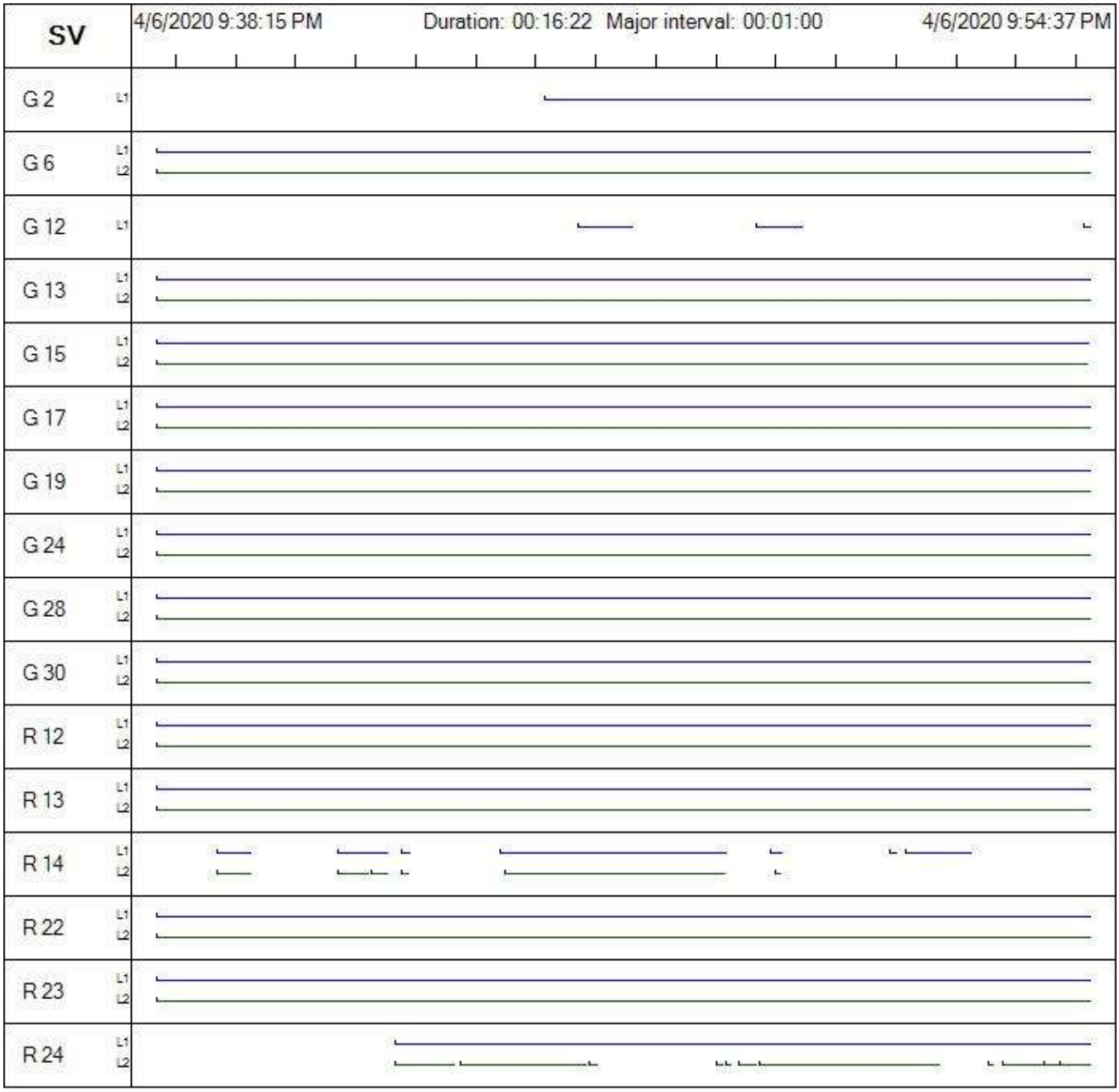
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0004972647		
Y	0.0003733121	0.0007576854	
Z	-0.0002225174	-0.0003007608	0.0003686204

Occupations

	From	To
Point ID:	SLAC	VVA006
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0970.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570970.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5302K56635	4803143756
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA008 (10:12:40 PM-10:28:23 PM) (S14)

Baseline observation:	SLAC --- NVA008 (B14)
Processed:	5/13/2020 5:59:33 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.057 ft
Vertical precision:	0.121 ft
RMS:	0.056 ft
Maximum PDOP:	2.589
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/6/2020 10:12:42 PM (UTC)
Processing stop time:	4/6/2020 10:28:12 PM (UTC)
Processing duration:	00:15:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.838 ft	**Latitude**	N37°24'59.46093"	**Latitude**	N37°24'59.46093"
Northing	1978635.439 ft	**Longitude**	W122°12'15.30525"	**Longitude**	W122°12'15.30525"
Elevation	317.543 ft	**Height**	210.643 ft	**Height**	210.643 ft

To:	NVA008				
Grid		**Local**		**Global**	
Easting	6081291.214 ft	**Latitude**	N37°25'48.16432"	**Latitude**	N37°25'48.16432"
Northing	1983301.177 ft	**Longitude**	W122°09'16.12568"	**Longitude**	W122°09'16.12568"
Elevation	52.101 ft	**Height**	-54.924 ft	**Height**	-54.924 ft

Vector					
ΔEasting	14539.376 ft	**NS Fwd Azimuth**	71°09'54.3"	**ΔX**	13940.421 ft
ΔNorthing	4665.738 ft	**Ellipsoid Dist.**	15270.494 ft	**ΔY**	-4985.606 ft
ΔElevation	-265.442 ft	**ΔHeight**	-265.567 ft	**ΔZ**	3750.818 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.023 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.037 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.049 ft
σ ΔElevation	0.062 ft	**σ ΔHeight**	0.062 ft	**σ ΔZ**	0.034 ft

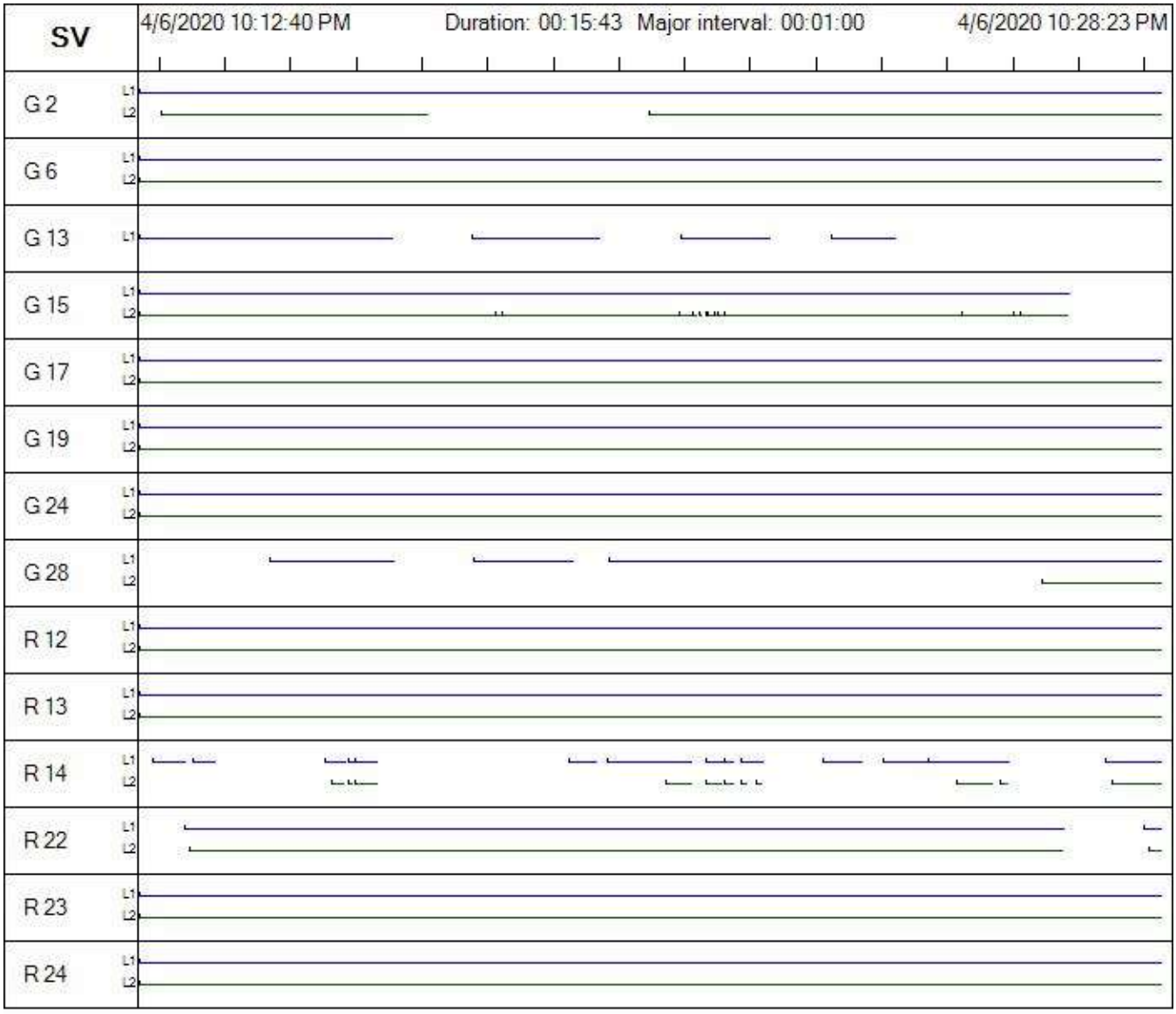
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0013348176		
Y	0.0012169353	0.0023859730	
Z	-0.0007798456	-0.0012391264	0.0011380035

Occupations

	From	To
Point ID:	SLAC	NVA008
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0970.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570971.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5302K56635	4803143756
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA003 (11:11:51 PM-11:27:26 PM) (S13)

Baseline observation:	SLAC --- NVA003 (B13)
Processed:	5/13/2020 5:59:34 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.032 ft
Vertical precision:	0.080 ft
RMS:	0.026 ft
Maximum PDOP:	1.992
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/6/2020 11:12:12 PM (UTC)
Processing stop time:	4/6/2020 11:27:12 PM (UTC)
Processing duration:	00:15:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.838 ft	**Latitude**	N37°24'59.46093"	**Latitude**	N37°24'59.46093"
Northing	1978635.439 ft	**Longitude**	W122°12'15.30525"	**Longitude**	W122°12'15.30525"
Elevation	317.543 ft	**Height**	210.643 ft	**Height**	210.643 ft

To:	NVA003				
Grid		**Local**		**Global**	
Easting	6069217.691 ft	**Latitude**	N37°22'52.38962"	**Latitude**	N37°22'52.38962"
Northing	1965736.512 ft	**Longitude**	W122°11'41.84776"	**Longitude**	W122°11'41.84776"
Elevation	405.080 ft	**Height**	298.325 ft	**Height**	298.325 ft

Vector					
ΔEasting	2465.854 ft	**NS Fwd Azimuth**	168°08'02.8"	**ΔX**	-1912.250 ft
ΔNorthing	-12898.927 ft	**Ellipsoid Dist.**	13133.191 ft	**ΔY**	-8103.294 ft
ΔElevation	87.537 ft	**ΔHeight**	87.682 ft	**ΔZ**	-10157.388 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.010 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.017 ft
σ ΔNorthing	0.013 ft	**σ Ellipsoid Dist.**	0.013 ft	**σ ΔY**	0.025 ft
σ ΔElevation	0.041 ft	**σ ΔHeight**	0.041 ft	**σ ΔZ**	0.032 ft

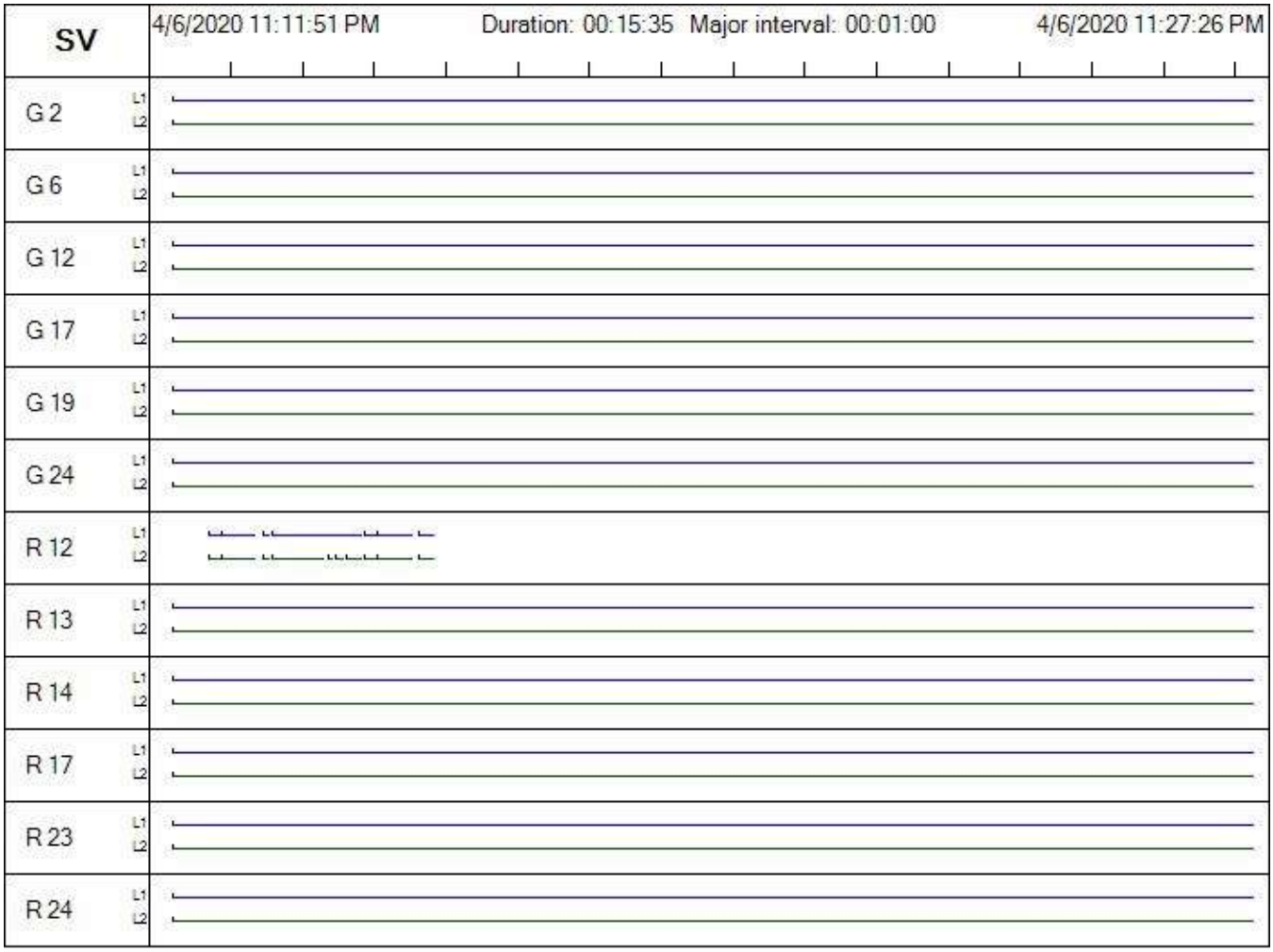
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003056997		
Y	0.0003292076	0.0006033849	
Z	-0.0004501412	-0.0006601900	0.0010168757

Occupations

	From	To
Point ID:	SLAC	NVA003
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0970.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570972.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5302K56635	4803143756
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1871 - VVA036 (11:57:09 PM-12:12:54 AM) (S9)

Baseline observation:	AA1871 --- VVA036 (B9)
Processed:	5/13/2020 5:59:38 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.138 ft
Vertical precision:	0.256 ft
RMS:	0.088 ft
Maximum PDOP:	4.554
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/6/2020 11:57:09 PM (UTC)
Processing stop time:	4/7/2020 12:12:54 AM (UTC)
Processing duration:	00:15:45
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.488 ft	**Latitude**	N37°19'52.99914"	**Latitude**	N37°19'52.99914"
Northing	1947026.632 ft	**Longitude**	W122°04'59.34529"	**Longitude**	W122°04'59.34529"
Elevation	435.274 ft	**Height**	328.332 ft	**Height**	328.332 ft

To:	VVA036				
Grid		**Local**		**Global**	
Easting	6101535.161 ft	**Latitude**	N37°17'40.51011"	**Latitude**	N37°17'40.51011"
Northing	1933622.375 ft	**Longitude**	W122°04'54.76133"	**Longitude**	W122°04'54.76133"
Elevation	569.110 ft	**Height**	462.533 ft	**Height**	462.533 ft

Vector					
ΔEasting	143.673 ft	**NS Fwd Azimuth**	178°24'59.9"	**ΔX**	-4057.421 ft
ΔNorthing	-13404.258 ft	**Ellipsoid Dist.**	13405.587 ft	**ΔY**	-7169.704 ft
ΔElevation	133.836 ft	**ΔHeight**	134.201 ft	**ΔZ**	-10576.732 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.052 ft	**σ NS fwd Azimuth**	0°00'00.8"	**σ ΔX**	0.083 ft
σ ΔNorthing	0.046 ft	**σ Ellipsoid Dist.**	0.046 ft	**σ ΔY**	0.083 ft
σ ΔElevation	0.131 ft	**σ ΔHeight**	0.131 ft	**σ ΔZ**	0.090 ft

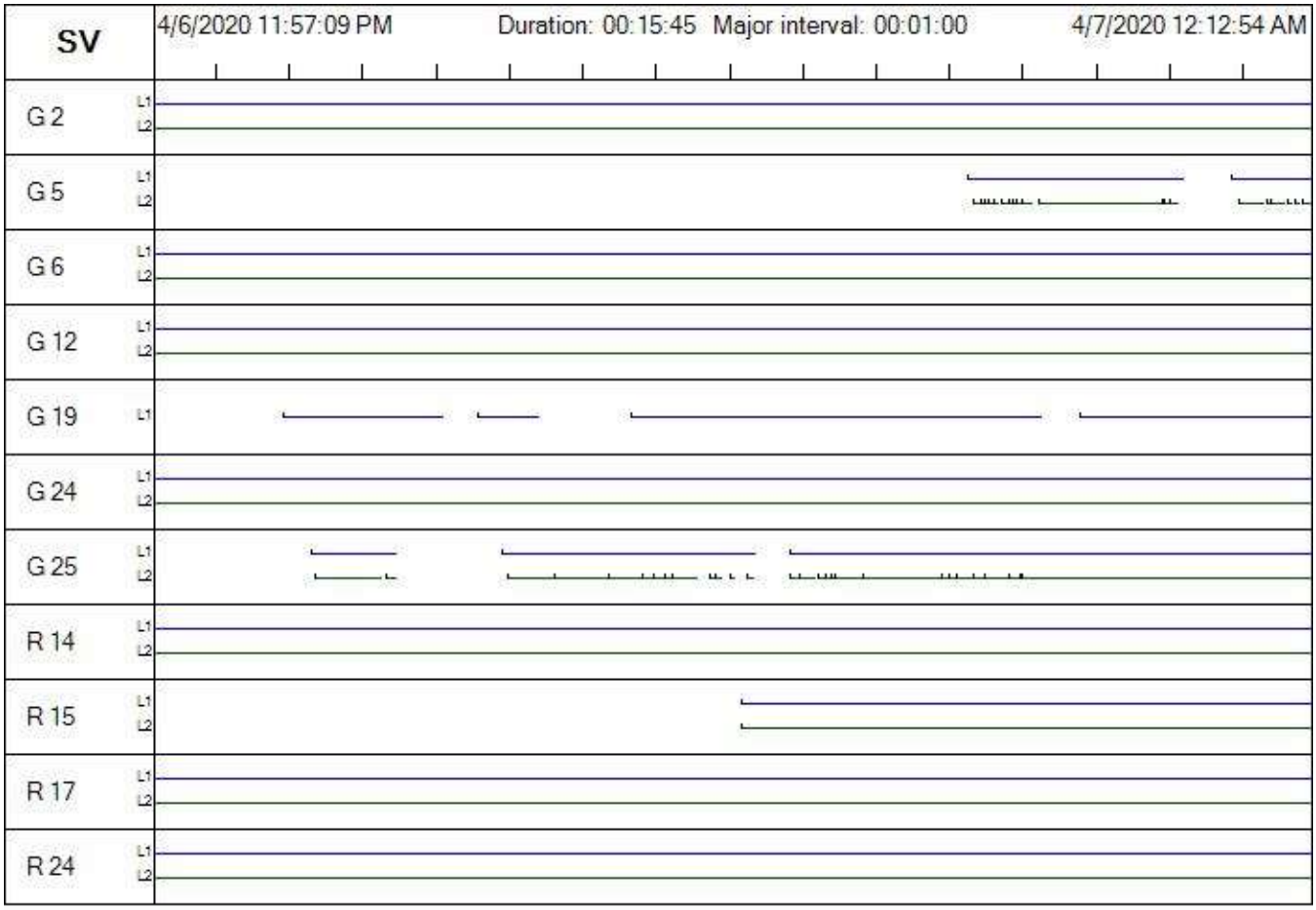
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0069573519		
Y	0.0047564526	0.0069108640	
Z	-0.0060329868	-0.0048676020	0.0080390700

Occupations

	From	To
Point ID:	AA1871	VVA036
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700970.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570973.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1871 - NVA033 (12:30:04 AM-12:40:36 AM) (S10)

Baseline observation:	AA1871 --- NVA033 (B10)
Processed:	5/13/2020 5:59:39 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.083 ft
Vertical precision:	0.109 ft
RMS:	0.026 ft
Maximum PDOP:	1.441
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/7/2020 12:30:04 AM (UTC)
Processing stop time:	4/7/2020 12:40:36 AM (UTC)
Processing duration:	00:10:32
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.488 ft	**Latitude**	N37°19'52.99914"	**Latitude**	N37°19'52.99914"
Northing	1947026.632 ft	**Longitude**	W122°04'59.34529"	**Longitude**	W122°04'59.34529"
Elevation	435.274 ft	**Height**	328.332 ft	**Height**	328.332 ft

To:	NVA033				
Grid		**Local**		**Global**	
Easting	6102206.298 ft	**Latitude**	N37°17'51.38186"	**Latitude**	N37°17'51.38185"
Northing	1934710.759 ft	**Longitude**	W122°04'46.68401"	**Longitude**	W122°04'46.68401"
Elevation	553.063 ft	**Height**	446.433 ft	**Height**	446.433 ft

Vector					
ΔEasting	814.810 ft	**NS Fwd Azimuth**	175°14'44.2"	**ΔX**	-3143.704 ft
ΔNorthing	-12315.873 ft	**Ellipsoid Dist.**	12343.315 ft	**ΔY**	-6940.949 ft
ΔElevation	117.789 ft	**ΔHeight**	118.101 ft	**ΔZ**	-9711.714 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.033 ft	**σ NS fwd Azimuth**	0°00'00.5"	**σ ΔX**	0.036 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.032 ft	**σ ΔY**	0.046 ft
σ ΔElevation	0.055 ft	**σ ΔHeight**	0.055 ft	**σ ΔZ**	0.042 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0012743579		
Y	0.0004839949	0.0021125078	
Z	-0.0005489596	-0.0008366603	0.0017716414

Occupations

	From	To
Point ID:	AA1871	NVA033
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700970.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570980.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1871 - VVA006 (9:38:15 PM-9:54:37 PM) (S6)

Baseline observation:	AA1871 --- VVA006 (B6)
Processed:	5/13/2020 5:59:40 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.052 ft
Vertical precision:	0.089 ft
RMS:	0.043 ft
Maximum PDOP:	1.831
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/6/2020 9:38:15 PM (UTC)
Processing stop time:	4/6/2020 9:54:37 PM (UTC)
Processing duration:	00:16:22
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.488 ft	**Latitude**	N37°19'52.99914"	**Latitude**	N37°19'52.99914"
Northing	1947026.632 ft	**Longitude**	W122°04'59.34529"	**Longitude**	W122°04'59.34529"
Elevation	435.274 ft	**Height**	328.332 ft	**Height**	328.332 ft

To:	VVA006				
Grid		**Local**		**Global**	
Easting	6086064.355 ft	**Latitude**	N37°26'42.81070"	**Latitude**	N37°26'42.81070"
Northing	1988745.012 ft	**Longitude**	W122°08'18.13768"	**Longitude**	W122°08'18.13768"
Elevation	21.136 ft	**Height**	-85.886 ft	**Height**	-85.886 ft

Vector					
ΔEasting	-15327.133 ft	**NS Fwd Azimuth**	338°51'27.0"	**ΔX**	-35.471 ft
ΔNorthing	41718.380 ft	**Ellipsoid Dist.**	44447.100 ft	**ΔY**	30126.044 ft
ΔElevation	-414.138 ft	**ΔHeight**	-414.218 ft	**ΔZ**	32682.697 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.030 ft
σ ΔNorthing	0.021 ft	**σ Ellipsoid Dist.**	0.021 ft	**σ ΔY**	0.037 ft
σ ΔElevation	0.046 ft	**σ ΔHeight**	0.046 ft	**σ ΔZ**	0.026 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0008771279		
Y	0.0006492797	0.0013837998	
Z	-0.0003910798	-0.0005659904	0.0006954869

Occupations

	From	To
Point ID:	AA1871	VVA006
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700970.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570970.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1871 - NVA008 (10:12:40 PM-10:28:23 PM) (S7)

Baseline observation:	AA1871 --- NVA008 (B7)
Processed:	5/13/2020 5:59:39 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.085 ft
Vertical precision:	0.181 ft
RMS:	0.058 ft
Maximum PDOP:	2.589
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/6/2020 10:12:40 PM (UTC)
Processing stop time:	4/6/2020 10:28:23 PM (UTC)
Processing duration:	00:15:43
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.488 ft	**Latitude**	N37°19'52.99914"	**Latitude**	N37°19'52.99914"
Northing	1947026.632 ft	**Longitude**	W122°04'59.34529"	**Longitude**	W122°04'59.34529"
Elevation	435.274 ft	**Height**	328.332 ft	**Height**	328.332 ft

To:	NVA008				
Grid		**Local**		**Global**	
Easting	6081291.167 ft	**Latitude**	N37°25'48.16398"	**Latitude**	N37°25'48.16398"
Northing	1983301.143 ft	**Longitude**	W122°09'16.12625"	**Longitude**	W122°09'16.12625"
Elevation	52.078 ft	**Height**	-54.947 ft	**Height**	-54.947 ft

Vector					
ΔEasting	-20100.321 ft	**NS Fwd Azimuth**	330°02'20.3"	**ΔX**	-5796.272 ft
ΔNorthing	36274.511 ft	**Ellipsoid Dist.**	41473.303 ft	**ΔY**	29748.864 ft
ΔElevation	-383.196 ft	**ΔHeight**	-383.279 ft	**ΔZ**	28312.754 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.034 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.053 ft
σ ΔNorthing	0.031 ft	**σ Ellipsoid Dist.**	0.031 ft	**σ ΔY**	0.071 ft
σ ΔElevation	0.092 ft	**σ ΔHeight**	0.092 ft	**σ ΔZ**	0.053 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0027863764		
Y	0.0025054826	0.0051097727	
Z	-0.0017344267	-0.0028991335	0.0027744769

Occupations

	From	To
Point ID:	AA1871	NVA008
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700970.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570971.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1871 - NVA003 (11:11:51 PM-11:27:26 PM) (S8)

Baseline observation:	AA1871 --- NVA003 (B8)
Processed:	5/13/2020 5:59:39 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.050 ft
Vertical precision:	0.118 ft
RMS:	0.030 ft
Maximum PDOP:	1.992
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/6/2020 11:11:51 PM (UTC)
Processing stop time:	4/6/2020 11:27:26 PM (UTC)
Processing duration:	00:15:35
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.488 ft	**Latitude**	N37°19'52.99914"	**Latitude**	N37°19'52.99914"
Northing	1947026.632 ft	**Longitude**	W122°04'59.34529"	**Longitude**	W122°04'59.34529"
Elevation	435.274 ft	**Height**	328.332 ft	**Height**	328.332 ft

To:	NVA003				
Grid		**Local**		**Global**	
Easting	6069217.673 ft	**Latitude**	N37°22'52.38951"	**Latitude**	N37°22'52.38951"
Northing	1965736.501 ft	**Longitude**	W122°11'41.84799"	**Longitude**	W122°11'41.84799"
Elevation	404.924 ft	**Height**	298.169 ft	**Height**	298.169 ft

Vector					
ΔEasting	-32173.815 ft	**NS Fwd Azimuth**	299°12'34.2"	**ΔX**	-21648.856 ft
ΔNorthing	18709.869 ft	**Ellipsoid Dist.**	37220.214 ft	**ΔY**	26631.263 ft
ΔElevation	-30.350 ft	**ΔHeight**	-30.163 ft	**ΔZ**	14404.486 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.015 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.026 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.037 ft
σ ΔElevation	0.060 ft	**σ ΔHeight**	0.060 ft	**σ ΔZ**	0.047 ft

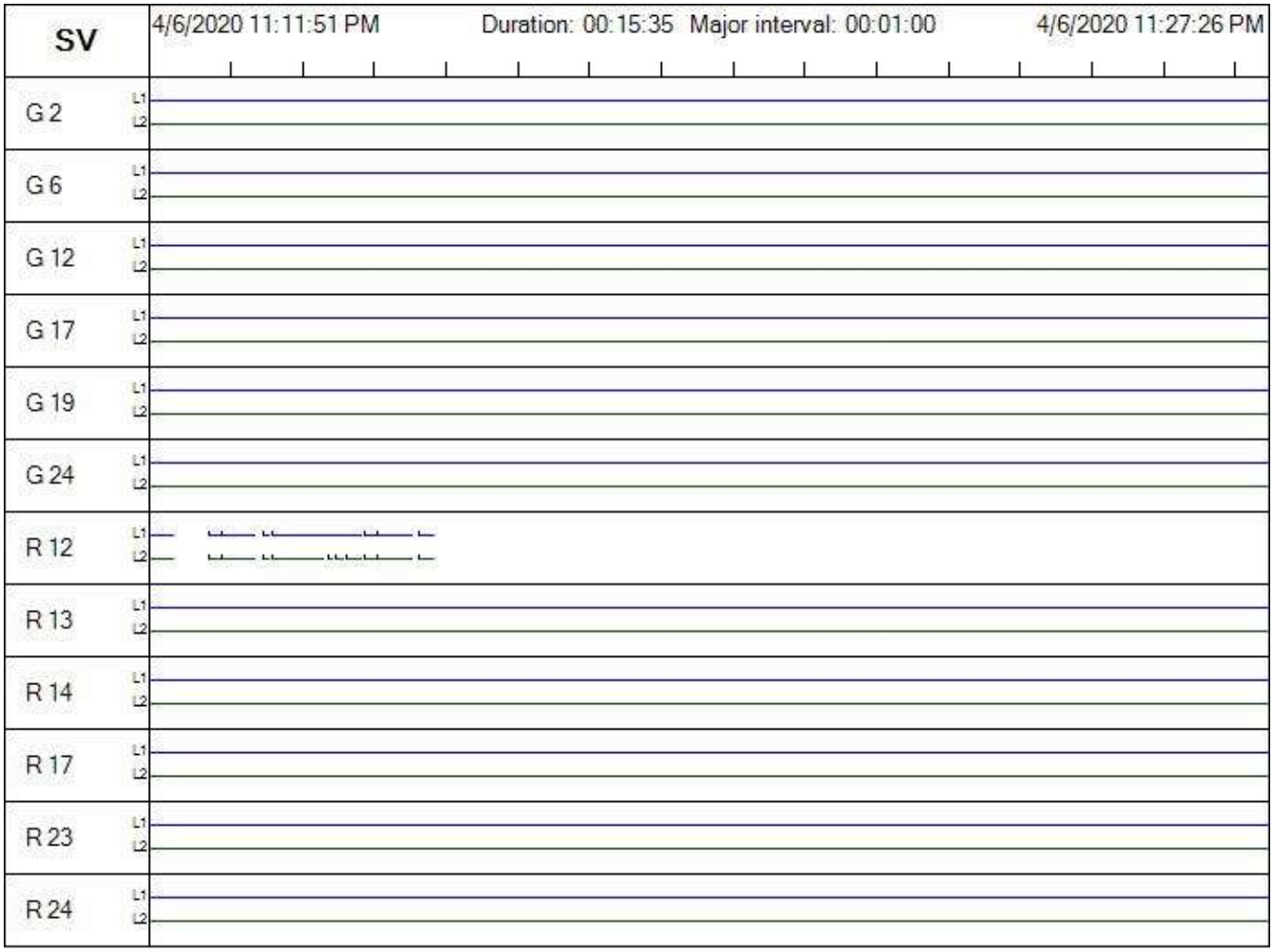
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0006858591		
Y	0.0007184575	0.0013643417	
Z	-0.0009733158	-0.0014294171	0.0022054370

Occupations

	From	To
Point ID:	AA1871	NVA003
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\74700970.T01	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570972.t02
Receiver type:	R8 Model 2	R8 Model 2
Receiver serial number:	4811147470	4803143756
Antenna type:	R8 GNSS/SPS88x Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA036 (11:57:09 PM-12:12:54 AM) (S12)

Baseline observation:	SLAC --- VVA036 (B12)
Processed:	5/13/2020 5:59:39 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.135 ft
Vertical precision:	0.249 ft
RMS:	0.093 ft
Maximum PDOP:	4.554
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/6/2020 11:57:12 PM (UTC)
Processing stop time:	4/7/2020 12:12:42 AM (UTC)
Processing duration:	00:15:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.838 ft	**Latitude**	N37°24'59.46093"	**Latitude**	N37°24'59.46093"
Northing	1978635.439 ft	**Longitude**	W122°12'15.30525"	**Longitude**	W122°12'15.30525"
Elevation	317.543 ft	**Height**	210.643 ft	**Height**	210.643 ft

To:	VVA036				
Grid		**Local**		**Global**	
Easting	6101535.253 ft	**Latitude**	N37°17'40.51042"	**Latitude**	N37°17'40.51041"
Northing	1933622.404 ft	**Longitude**	W122°04'54.76019"	**Longitude**	W122°04'54.76019"
Elevation	569.103 ft	**Height**	462.526 ft	**Height**	462.526 ft

Vector					
ΔEasting	34783.416 ft	**NS Fwd Azimuth**	141°15'43.9"	**ΔX**	15679.322 ft
ΔNorthing	-45013.035 ft	**Ellipsoid Dist.**	56889.043 ft	**ΔY**	-41904.180 ft
ΔElevation	251.560 ft	**ΔHeight**	251.883 ft	**ΔZ**	-35138.689 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.051 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.083 ft
σ ΔNorthing	0.045 ft	**σ Ellipsoid Dist.**	0.054 ft	**σ ΔY**	0.076 ft
σ ΔElevation	0.127 ft	**σ ΔHeight**	0.127 ft	**σ ΔZ**	0.090 ft

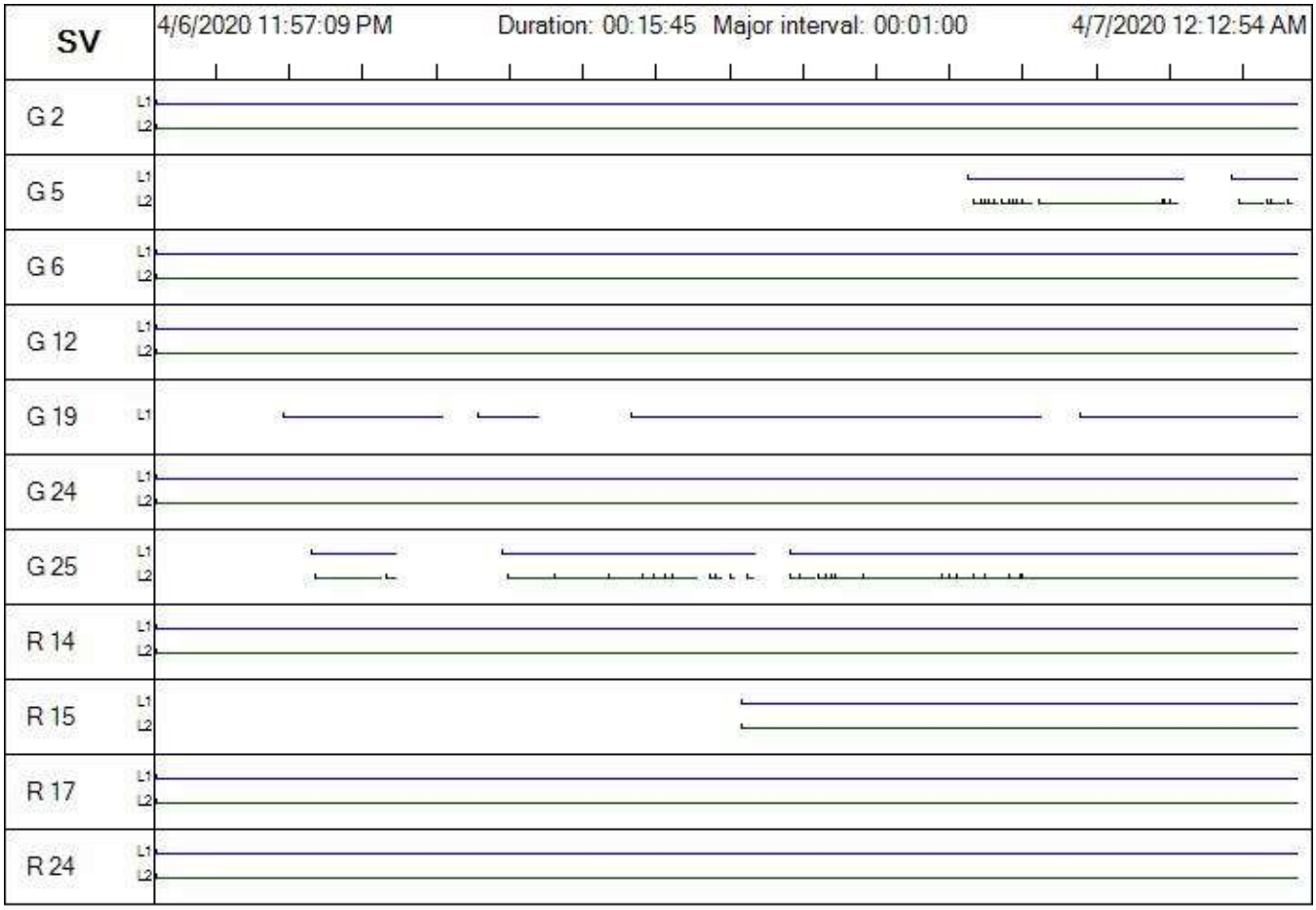
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0068397248		
Y	0.0043654528	0.0057142731	
Z	-0.0060435083	-0.0045319256	0.0081224711

Occupations

	From	To
Point ID:	SLAC	VVA036
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0970.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570973.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5302K56635	4803143756
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA033 (12:30:04 AM-12:40:36 AM) (S11)

Baseline observation:	SLAC --- NVA033 (B11)
Processed:	5/13/2020 5:59:40 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.081 ft
Vertical precision:	0.113 ft
RMS:	0.054 ft
Maximum PDOP:	1.440
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	4/7/2020 12:30:12 AM (UTC)
Processing stop time:	4/7/2020 12:40:12 AM (UTC)
Processing duration:	00:10:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.838 ft	**Latitude**	N37°24'59.46093"	**Latitude**	N37°24'59.46093"
Northing	1978635.439 ft	**Longitude**	W122°12'15.30525"	**Longitude**	W122°12'15.30525"
Elevation	317.543 ft	**Height**	210.643 ft	**Height**	210.643 ft

To:	NVA033				
Grid		**Local**		**Global**	
Easting	6102206.268 ft	**Latitude**	N37°17'51.38188"	**Latitude**	N37°17'51.38188"
Northing	1934710.763 ft	**Longitude**	W122°04'46.68438"	**Longitude**	W122°04'46.68438"
Elevation	553.101 ft	**Height**	446.470 ft	**Height**	446.470 ft

Vector					
ΔEasting	35454.430 ft	**NS Fwd Azimuth**	140°02'51.7"	**ΔX**	16592.909 ft
ΔNorthing	-43924.677 ft	**Ellipsoid Dist.**	56450.813 ft	**ΔY**	-41675.404 ft
ΔElevation	235.558 ft	**ΔHeight**	235.827 ft	**ΔZ**	-34273.666 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.030 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.038 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.033 ft	**σ ΔY**	0.047 ft
σ ΔElevation	0.057 ft	**σ ΔHeight**	0.057 ft	**σ ΔZ**	0.040 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0014217783		
Y	0.0008364017	0.0021838018	
Z	-0.0006908282	-0.0007804654	0.0015875182

Occupations

	From	To
Point ID:	SLAC	NVA033
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac0970.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\95570980.t02
Receiver type:	NetR9	R8 Model 2
Receiver serial number:	5302K56635	4803143756
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA051 (10:25:26 PM-11:30:04 PM) (S7)

Baseline observation:	SLAC --- VVA051 (B7)
Processed:	5/13/2020 8:21:44 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.079 ft
Vertical precision:	0.291 ft
RMS:	0.091 ft
Maximum PDOP:	2.344
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 10:25:42 PM (UTC)
Processing stop time:	5/3/2020 11:29:42 PM (UTC)
Processing duration:	01:04:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.834 ft	**Latitude**	N37°24'59.46106"	**Latitude**	N37°24'59.46106"
Northing	1978635.452 ft	**Longitude**	W122°12'15.30530"	**Longitude**	W122°12'15.30530"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	VVA051				
Grid		**Local**		**Global**	
Easting	6189519.648 ft	**Latitude**	N37°11'16.73114"	**Latitude**	N37°11'16.73113"
Northing	1893458.381 ft	**Longitude**	W121°46'39.19815"	**Longitude**	W121°46'39.19815"
Elevation	481.411 ft	**Height**	375.052 ft	**Height**	375.052 ft

Vector					
ΔEasting	122767.814 ft	**NS Fwd Azimuth**	123°42'39.5"	**ΔX**	78480.155 ft
ΔNorthing	-85177.071 ft	**Ellipsoid Dist.**	149428.385 ft	**ΔY**	-108636.414 ft
ΔElevation	163.885 ft	**ΔHeight**	164.426 ft	**ΔZ**	-66093.830 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.028 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.068 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.031 ft	**σ ΔY**	0.100 ft
σ ΔElevation	0.149 ft	**σ ΔHeight**	0.149 ft	**σ ΔZ**	0.096 ft

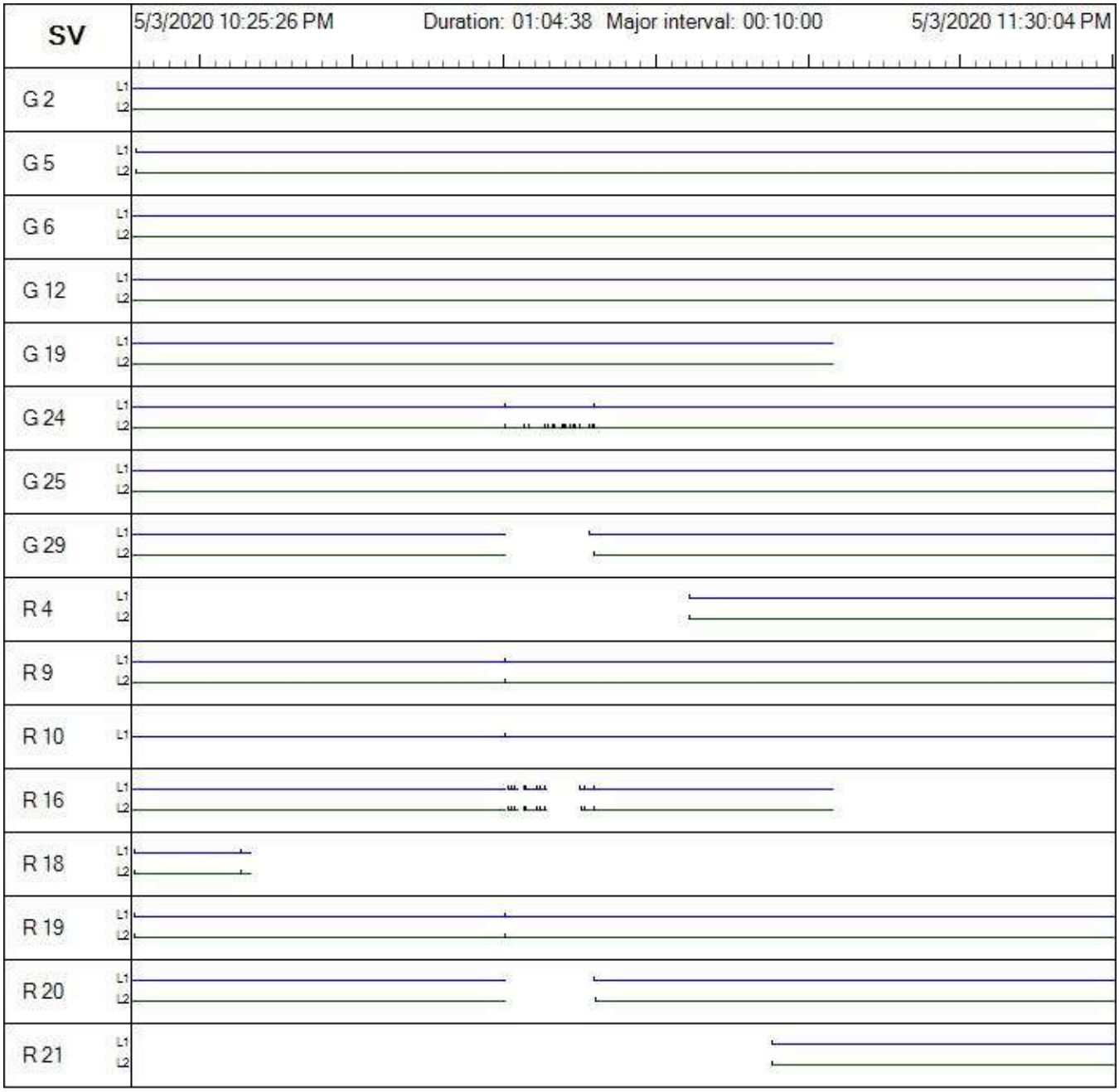
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0046449327		
Y	0.0060009569	0.0100699973	
Z	-0.0056625453	-0.0085610883	0.0091388900

Occupations

	From	To
Point ID:	SLAC	VVA051
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac1240.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741247.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5243499055
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA018 (8:48:54 PM-8:59:11 PM) (S8)

Baseline observation:	SLAC --- VVA018 (B8)
Processed:	5/13/2020 8:21:44 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.118 ft
Vertical precision:	0.307 ft
RMS:	0.067 ft
Maximum PDOP:	2.853
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 8:48:57 PM (UTC)
Processing stop time:	5/3/2020 8:58:57 PM (UTC)
Processing duration:	00:10:00
Processing interval:	15 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.834 ft	**Latitude**	N37°24'59.46106"	**Latitude**	N37°24'59.46106"
Northing	1978635.452 ft	**Longitude**	W122°12'15.30530"	**Longitude**	W122°12'15.30530"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	VVA018				
Grid		**Local**		**Global**	
Easting	6108151.880 ft	**Latitude**	N37°15'08.46801"	**Latitude**	N37°15'08.46801"
Northing	1918131.706 ft	**Longitude**	W122°03'29.69364"	**Longitude**	W122°03'29.69364"
Elevation	726.642 ft	**Height**	620.277 ft	**Height**	620.277 ft

Vector					
ΔEasting	41400.046 ft	**NS Fwd Azimuth**	144°34'29.6"	**ΔX**	16494.314 ft
ΔNorthing	-60503.747 ft	**Ellipsoid Dist.**	73315.363 ft	**ΔY**	-53553.690 ft
ΔElevation	409.116 ft	**ΔHeight**	409.651 ft	**ΔZ**	-47280.635 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.047 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.068 ft
σ ΔNorthing	0.041 ft	**σ Ellipsoid Dist.**	0.046 ft	**σ ΔY**	0.120 ft
σ ΔElevation	0.157 ft	**σ ΔHeight**	0.157 ft	**σ ΔZ**	0.096 ft

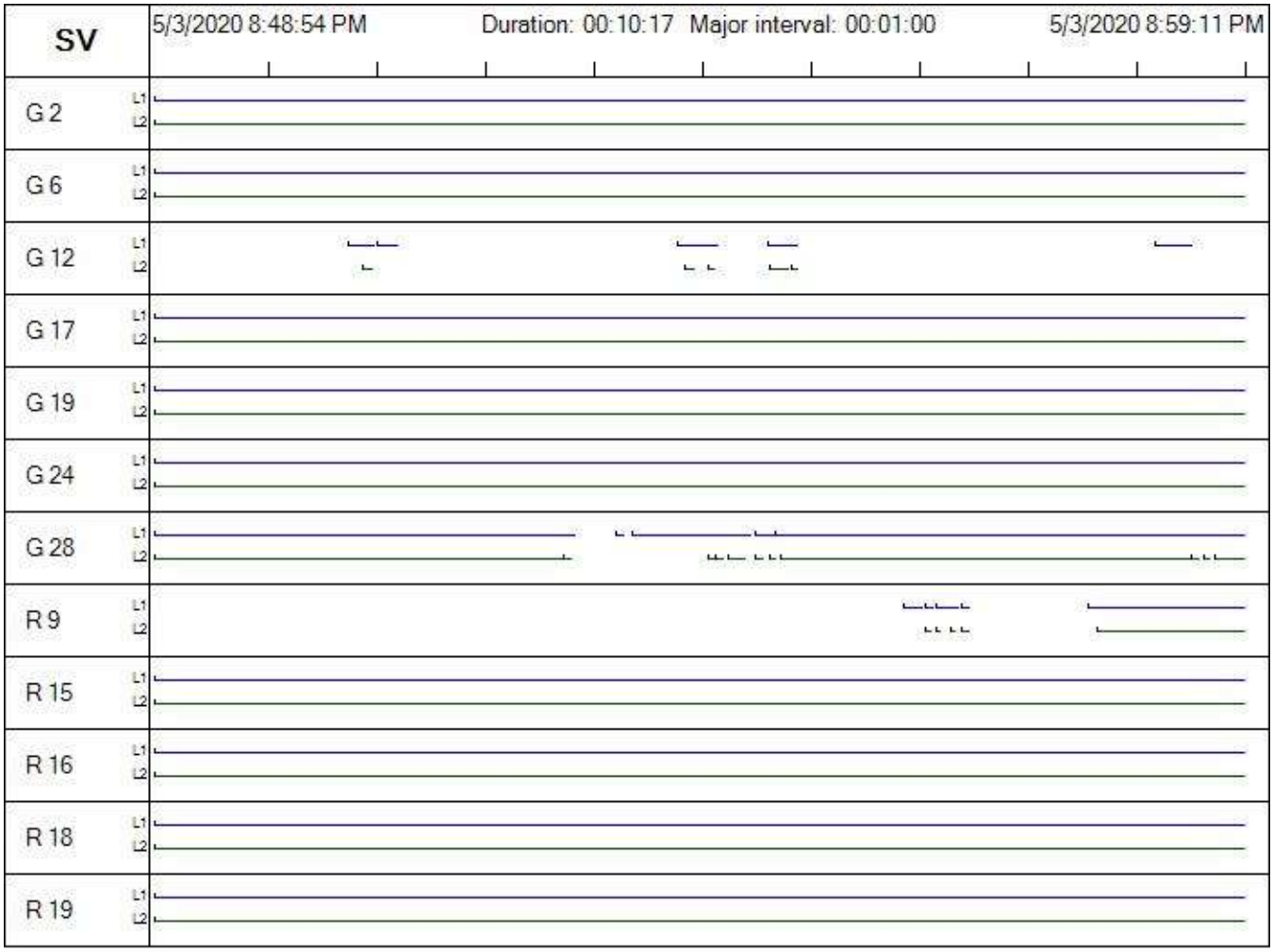
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0046638532		
Y	0.0057792214	0.0144258662	
Z	-0.0048065404	-0.0097530773	0.0092825655

Occupations

	From	To
Point ID:	SLAC	VVA018
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac1240.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741246.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5243499055
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA041 (8:14:59 PM-8:25:14 PM) (S9)

Baseline observation:	SLAC --- NVA041 (B9)
Processed:	5/13/2020 8:21:45 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.129 ft
Vertical precision:	0.227 ft
RMS:	0.041 ft
Maximum PDOP:	1.600
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 8:15:12 PM (UTC)
Processing stop time:	5/3/2020 8:25:12 PM (UTC)
Processing duration:	00:10:00
Processing interval:	15 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.834 ft	**Latitude**	N37°24'59.46106"	**Latitude**	N37°24'59.46106"
Northing	1978635.452 ft	**Longitude**	W122°12'15.30530"	**Longitude**	W122°12'15.30530"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	NVA041				
Grid		**Local**		**Global**	
Easting	6089908.624 ft	**Latitude**	N37°15'28.95183"	**Latitude**	N37°15'28.95183"
Northing	1920513.643 ft	**Longitude**	W122°07'15.81732"	**Longitude**	W122°07'15.81732"
Elevation	2635.894 ft	**Height**	2529.791 ft	**Height**	2529.790 ft

Vector					
ΔEasting	23156.790 ft	**NS Fwd Azimuth**	157°14'00.9"	**ΔX**	863.481 ft
ΔNorthing	-58121.809 ft	**Ellipsoid Dist.**	62567.809 ft	**ΔY**	-44065.895 ft
ΔElevation	2318.368 ft	**ΔHeight**	2319.164 ft	**ΔZ**	-44475.516 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.047 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.073 ft
σ ΔNorthing	0.051 ft	**σ Ellipsoid Dist.**	0.048 ft	**σ ΔY**	0.090 ft
σ ΔElevation	0.116 ft	**σ ΔHeight**	0.116 ft	**σ ΔZ**	0.069 ft

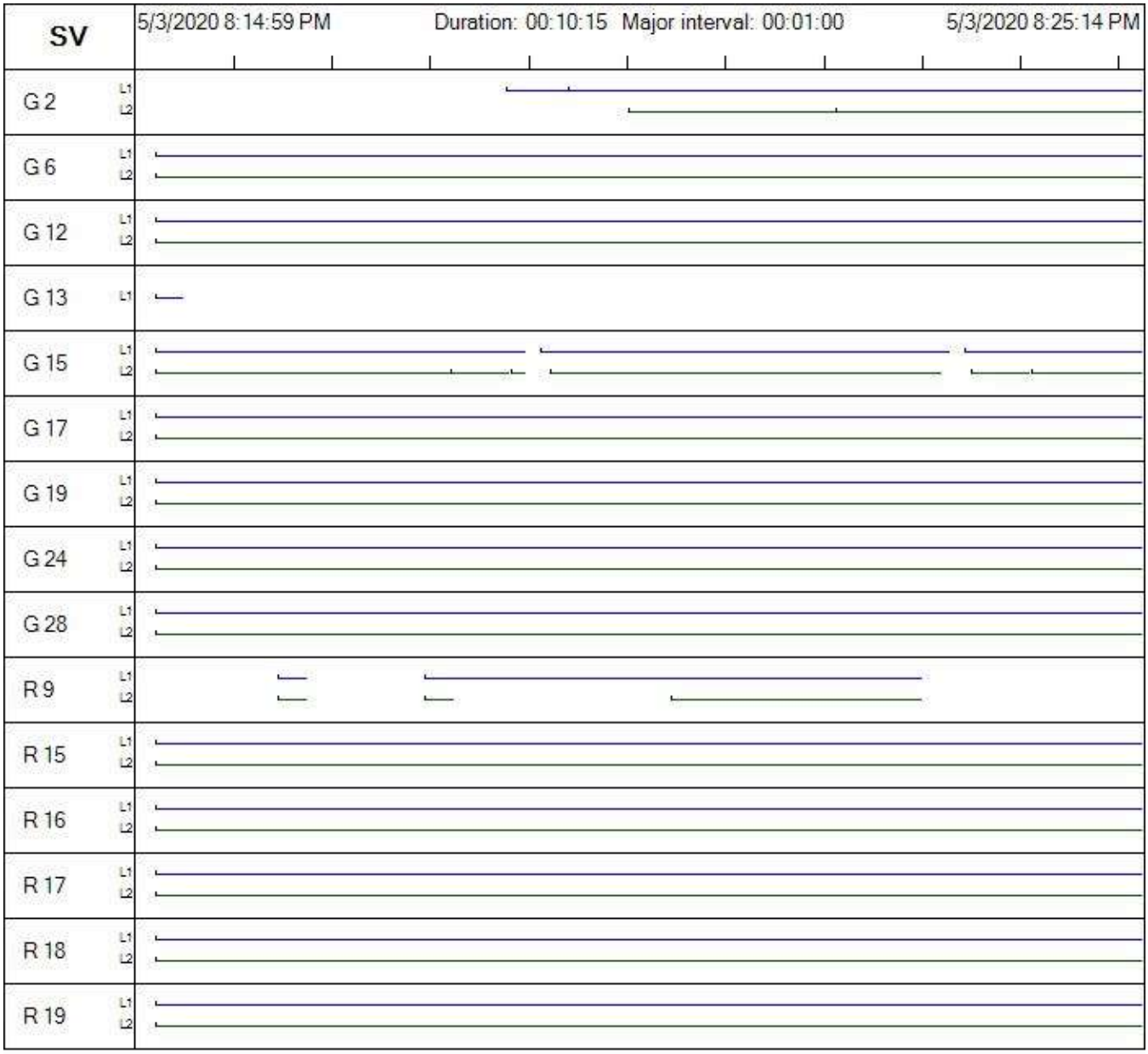
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0053665305		
Y	0.0043658870	0.0080550962	
Z	-0.0026045797	-0.0040032879	0.0048055620

Occupations

	From	To
Point ID:	SLAC	NVA041
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac1240.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741245.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5243499055
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA019 (7:45:40 PM-7:58:16 PM) (S10)

Baseline observation:	SLAC --- VVA019 (B10)
Processed:	5/13/2020 8:21:45 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.116 ft
Vertical precision:	0.138 ft
RMS:	0.056 ft
Maximum PDOP:	2.146
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 7:45:42 PM (UTC)
Processing stop time:	5/3/2020 7:58:12 PM (UTC)
Processing duration:	00:12:30
Processing interval:	15 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.834 ft	**Latitude**	N37°24'59.46106"	**Latitude**	N37°24'59.46106"
Northing	1978635.452 ft	**Longitude**	W122°12'15.30530"	**Longitude**	W122°12'15.30530"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	VVA019				
Grid		**Local**		**Global**	
Easting	6080477.821 ft	**Latitude**	N37°17'25.57511"	**Latitude**	N37°17'25.57510"
Northing	1932475.733 ft	**Longitude**	W122°09'15.07101"	**Longitude**	W122°09'15.07101"
Elevation	2319.670 ft	**Height**	2213.483 ft	**Height**	2213.483 ft

Vector					
ΔEasting	13725.987 ft	**NS Fwd Azimuth**	162°23'47.2"	**ΔX**	-3364.990 ft
ΔNorthing	-46159.720 ft	**Ellipsoid Dist.**	48159.517 ft	**ΔY**	-32674.780 ft
ΔElevation	2002.144 ft	**ΔHeight**	2002.856 ft	**ΔZ**	-35279.661 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.044 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.061 ft
σ ΔNorthing	0.035 ft	**σ Ellipsoid Dist.**	0.031 ft	**σ ΔY**	0.053 ft
σ ΔElevation	0.070 ft	**σ ΔHeight**	0.070 ft	**σ ΔZ**	0.039 ft

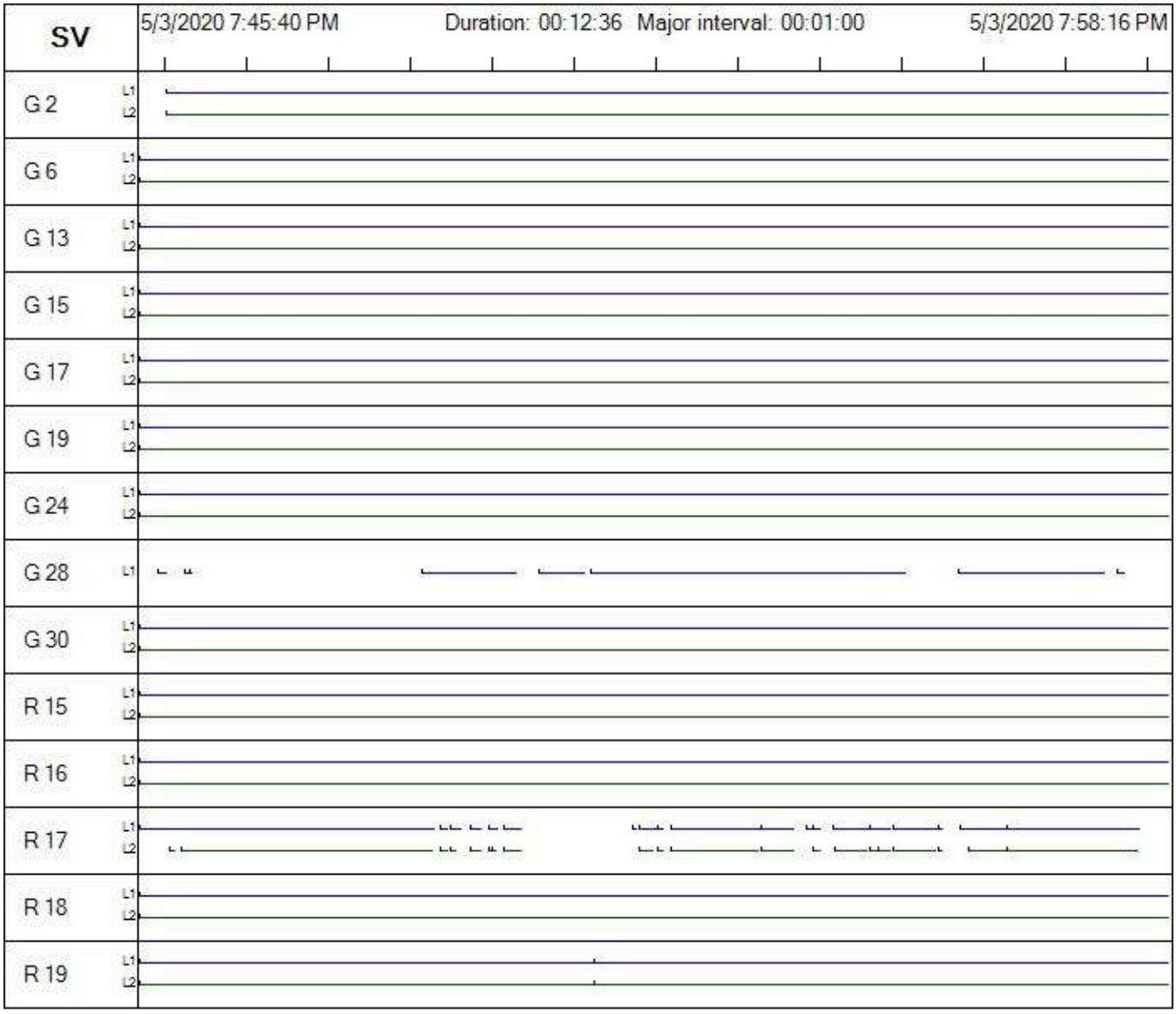
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0037286439		
Y	0.0017341797	0.0028577953	
Z	-0.0009087171	-0.0012174261	0.0015069885

Occupations

	From	To
Point ID:	SLAC	VVA019
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac1240.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741244.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5243499055
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1871 - NVA069 (7:11:39 PM-7:21:41 PM) (S2)

Baseline observation:	AA1871 --- NVA069 (B2)
Processed:	5/13/2020 8:21:45 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.105 ft
Vertical precision:	0.148 ft
RMS:	0.091 ft
Maximum PDOP:	1.455
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 7:11:39 PM (UTC)
Processing stop time:	5/3/2020 7:21:41 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.454 ft	**Latitude**	N37°19'52.99864"	**Latitude**	N37°19'52.99863"
Northing	1947026.582 ft	**Longitude**	W122°04'59.34569"	**Longitude**	W122°04'59.34569"
Elevation	435.300 ft	**Height**	328.359 ft	**Height**	328.358 ft

To:	NVA069				
Grid		**Local**		**Global**	
Easting	6070742.626 ft	**Latitude**	N37°18'55.01403"	**Latitude**	N37°18'55.01402"
Northing	1941696.870 ft	**Longitude**	W122°11'17.58385"	**Longitude**	W122°11'17.58385"
Elevation	2246.773 ft	**Height**	2140.489 ft	**Height**	2140.488 ft

Vector					
ΔEasting	-30648.829 ft	**NS Fwd Azimuth**	259°09'56.1"	**ΔX**	-28531.066 ft
ΔNorthing	-5329.712 ft	**Ellipsoid Dist.**	31110.127 ft	**ΔY**	12020.975 ft
ΔElevation	1811.473 ft	**ΔHeight**	1812.130 ft	**ΔZ**	-3565.409 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.036 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.050 ft
σ ΔNorthing	0.041 ft	**σ Ellipsoid Dist.**	0.034 ft	**σ ΔY**	0.058 ft
σ ΔElevation	0.076 ft	**σ ΔHeight**	0.076 ft	**σ ΔZ**	0.053 ft

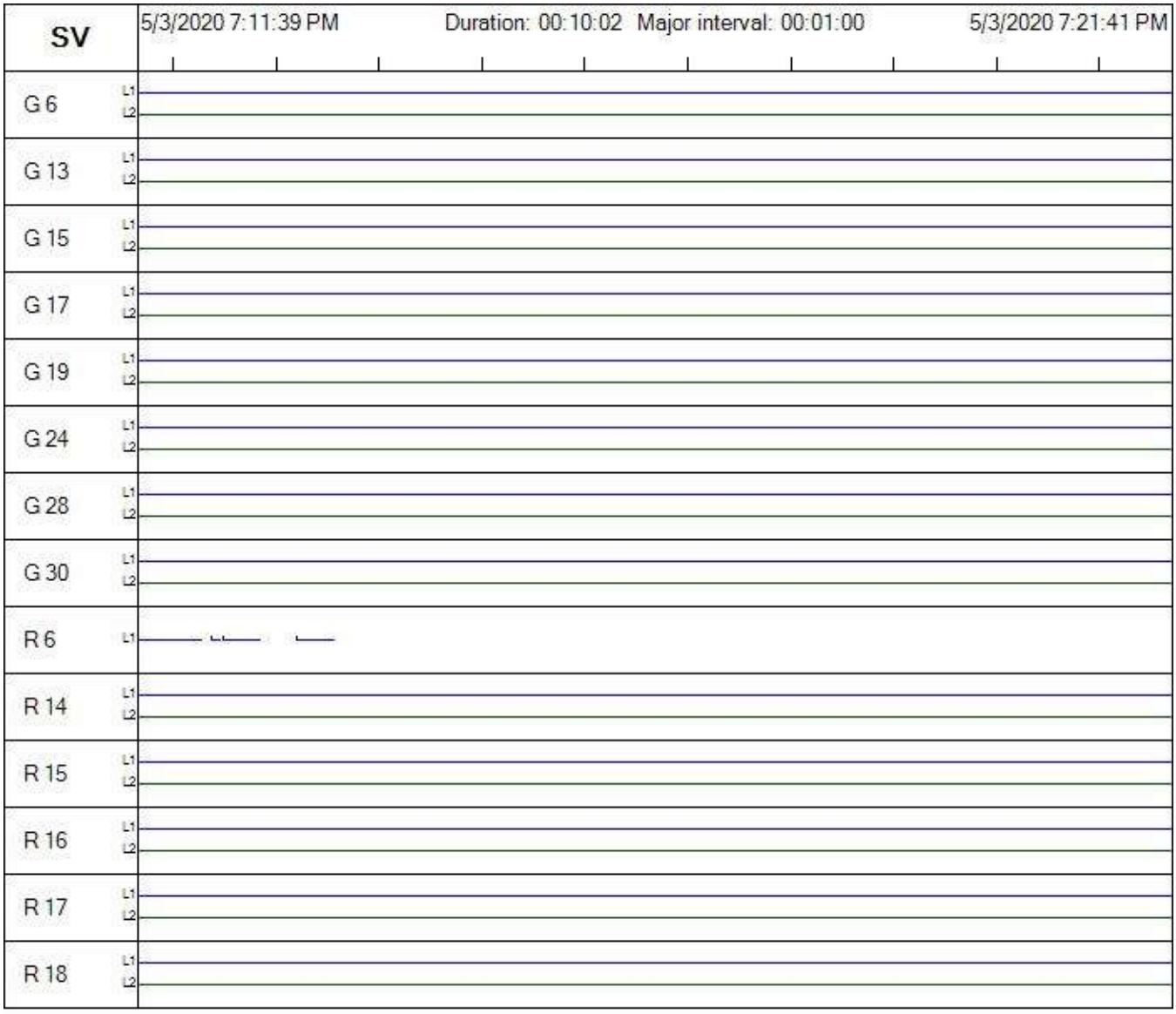
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0024623308		
Y	0.0016106908	0.0033600557	
Z	-0.0015236250	-0.0012536517	0.0028163410

Occupations

	From	To
Point ID:	AA1871	NVA069
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141240.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741243.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1871 - VVA020 (6:40:51 PM-6:51:47 PM) (S1)

Baseline observation:	AA1871 --- VVA020 (B1)
Processed:	5/13/2020 8:21:44 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.045 ft
Vertical precision:	0.072 ft
RMS:	0.034 ft
Maximum PDOP:	1.411
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 6:40:51 PM (UTC)
Processing stop time:	5/3/2020 6:51:47 PM (UTC)
Processing duration:	00:10:56
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.454 ft	**Latitude**	N37°19'52.99864"	**Latitude**	N37°19'52.99863"
Northing	1947026.582 ft	**Longitude**	W122°04'59.34569"	**Longitude**	W122°04'59.34569"
Elevation	435.300 ft	**Height**	328.359 ft	**Height**	328.358 ft

To:	VVA020				
Grid		**Local**		**Global**	
Easting	6074174.847 ft	**Latitude**	N37°20'23.99738"	**Latitude**	N37°20'23.99737"
Northing	1950636.371 ft	**Longitude**	W122°10'37.08537"	**Longitude**	W122°10'37.08537"
Elevation	1849.845 ft	**Height**	1743.473 ft	**Height**	1743.473 ft

Vector					
ΔEasting	-27216.608 ft	**NS Fwd Azimuth**	276°35'08.2"	**ΔX**	-22687.147 ft
ΔNorthing	3609.789 ft	**Ellipsoid Dist.**	27456.178 ft	**ΔY**	15165.125 ft
ΔElevation	1414.544 ft	**ΔHeight**	1415.114 ft	**ΔZ**	3351.270 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.019 ft
σ ΔNorthing	0.018 ft	**σ Ellipsoid Dist.**	0.014 ft	**σ ΔY**	0.027 ft
σ ΔElevation	0.037 ft	**σ ΔHeight**	0.037 ft	**σ ΔZ**	0.028 ft

Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003784886		
Y	0.0003119121	0.0007295675	
Z	-0.0002971898	-0.0004155315	0.0007776411

Occupations

	From	To
Point ID:	AA1871	VVA020
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141240.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741242.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1871 - VVA051 (10:25:26 PM-11:30:04 PM) (S6)

Baseline observation:	AA1871 --- VVA051 (B6)
Processed:	5/13/2020 8:21:42 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.086 ft
Vertical precision:	0.310 ft
RMS:	0.065 ft
Maximum PDOP:	2.344
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 10:25:42 PM (UTC)
Processing stop time:	5/3/2020 11:29:42 PM (UTC)
Processing duration:	01:04:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.454 ft	**Latitude**	N37°19'52.99864"	**Latitude**	N37°19'52.99863"
Northing	1947026.582 ft	**Longitude**	W122°04'59.34569"	**Longitude**	W122°04'59.34569"
Elevation	435.300 ft	**Height**	328.359 ft	**Height**	328.358 ft

To:	VVA051				
Grid		**Local**		**Global**	
Easting	6189519.582 ft	**Latitude**	N37°11'16.73426"	**Latitude**	N37°11'16.73426"
Northing	1893458.698 ft	**Longitude**	W121°46'39.19902"	**Longitude**	W121°46'39.19902"
Elevation	481.627 ft	**Height**	375.268 ft	**Height**	375.268 ft

Vector					
ΔEasting	88128.128 ft	**NS Fwd Azimuth**	120°19'28.8"	**ΔX**	58743.515 ft
ΔNorthing	-53567.884 ft	**Ellipsoid Dist.**	103134.907 ft	**ΔY**	-73901.866 ft
ΔElevation	46.326 ft	**ΔHeight**	46.910 ft	**ΔZ**	-41531.445 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.031 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.074 ft
σ ΔNorthing	0.035 ft	**σ Ellipsoid Dist.**	0.033 ft	**σ ΔY**	0.106 ft
σ ΔElevation	0.158 ft	**σ ΔHeight**	0.158 ft	**σ ΔZ**	0.103 ft

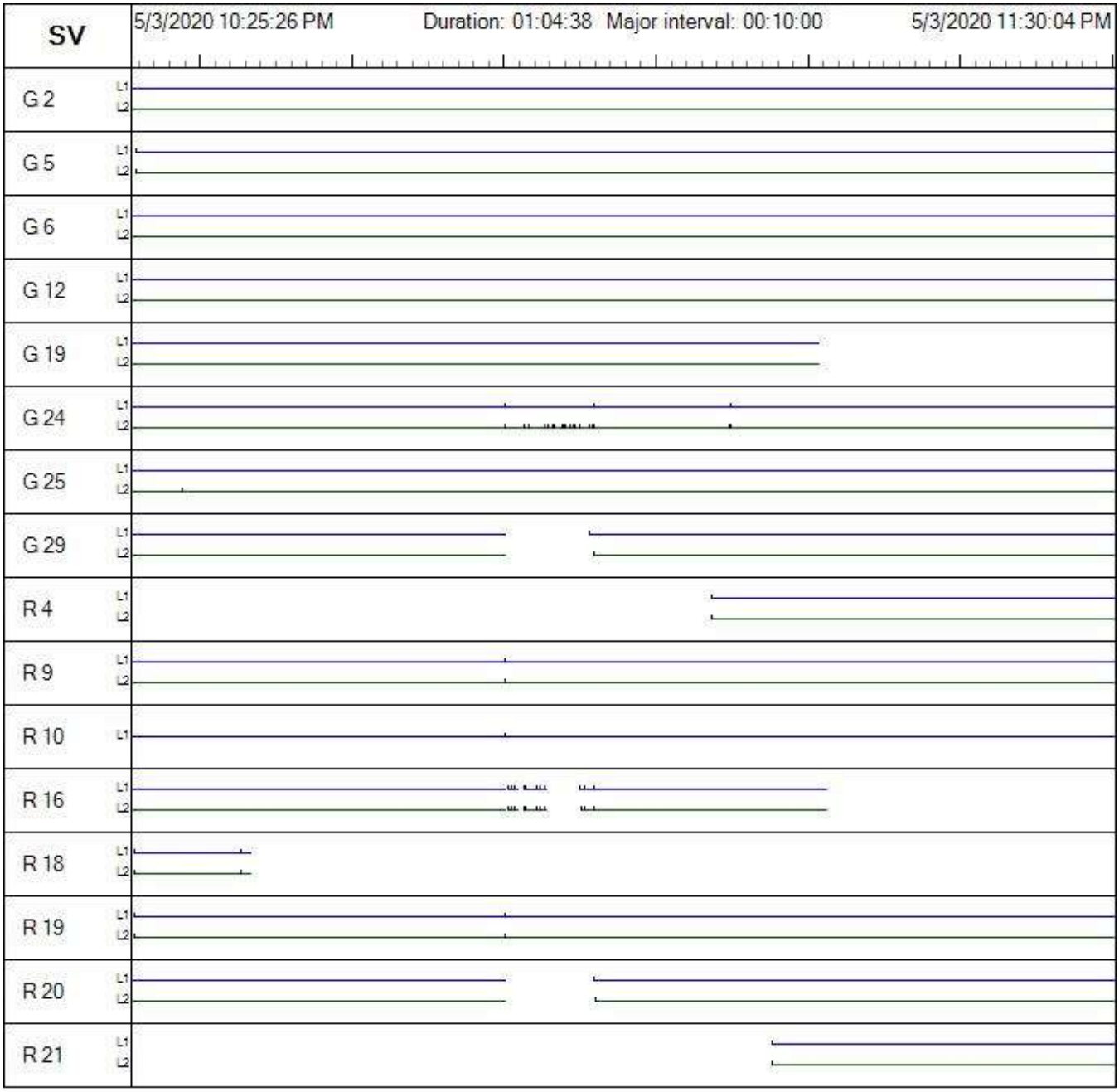
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0054500494		
Y	0.0067917594	0.0111368594	
Z	-0.0065516607	-0.0096811361	0.0106409208

Occupations

	From	To
Point ID:	AA1871	VVA051
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141240.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741247.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1871 - VVA018 (8:48:54 PM-8:59:11 PM) (S5)

Baseline observation:	AA1871 --- VVA018 (B5)
Processed:	5/13/2020 8:21:43 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.094 ft
Vertical precision:	0.215 ft
RMS:	0.114 ft
Maximum PDOP:	2.853
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 8:48:54 PM (UTC)
Processing stop time:	5/3/2020 8:59:11 PM (UTC)
Processing duration:	00:10:17
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.454 ft	**Latitude**	N37°19'52.99864"	**Latitude**	N37°19'52.99863"
Northing	1947026.582 ft	**Longitude**	W122°04'59.34569"	**Longitude**	W122°04'59.34569"
Elevation	435.300 ft	**Height**	328.359 ft	**Height**	328.358 ft

To:	VVA018				
Grid		**Local**		**Global**	
Easting	6108151.928 ft	**Latitude**	N37°15'08.46731"	**Latitude**	N37°15'08.46731"
Northing	1918131.634 ft	**Longitude**	W122°03'29.69303"	**Longitude**	W122°03'29.69303"
Elevation	726.677 ft	**Height**	620.312 ft	**Height**	620.312 ft

Vector					
ΔEasting	6760.473 ft	**NS Fwd Azimuth**	165°51'44.5"	**ΔX**	-3242.271 ft
ΔNorthing	-28894.947 ft	**Ellipsoid Dist.**	29676.428 ft	**ΔY**	-18819.281 ft
ΔElevation	291.376 ft	**ΔHeight**	291.953 ft	**ΔZ**	-22718.667 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.037 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.045 ft
σ ΔNorthing	0.031 ft	**σ Ellipsoid Dist.**	0.033 ft	**σ ΔY**	0.088 ft
σ ΔElevation	0.110 ft	**σ ΔHeight**	0.110 ft	**σ ΔZ**	0.067 ft

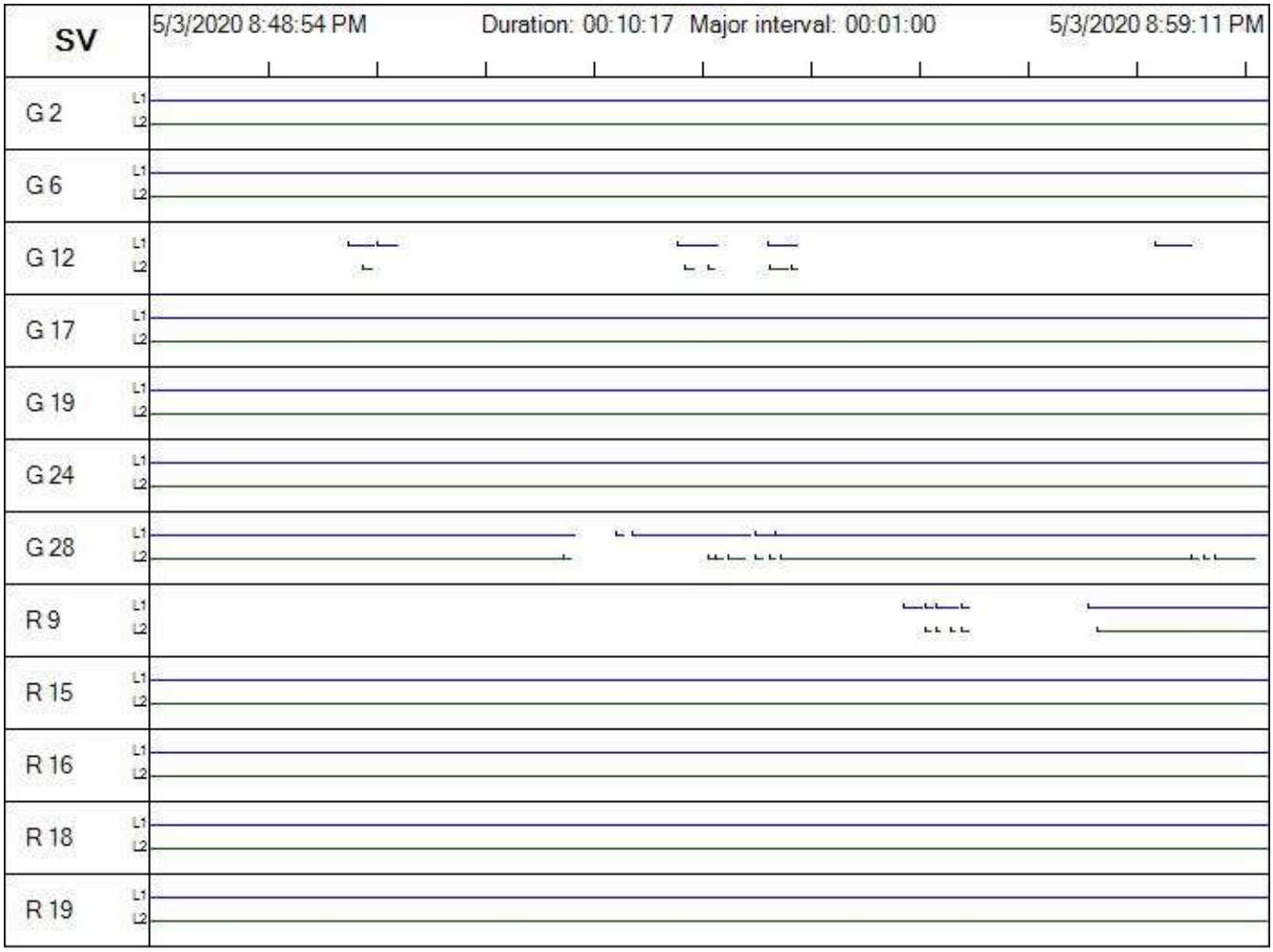
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0020538350		
Y	0.0025459051	0.0078047041	
Z	-0.0020252447	-0.0048874119	0.0045295081

Occupations

	From	To
Point ID:	AA1871	VVA018
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141240.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741246.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1871 - NVA041 (8:14:59 PM-8:25:14 PM) (S4)

Baseline observation:	AA1871 --- NVA041 (B4)
Processed:	5/13/2020 8:21:44 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.063 ft
Vertical precision:	0.105 ft
RMS:	0.036 ft
Maximum PDOP:	1.600
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 8:14:59 PM (UTC)
Processing stop time:	5/3/2020 8:25:14 PM (UTC)
Processing duration:	00:10:15
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.454 ft	**Latitude**	N37°19'52.99864"	**Latitude**	N37°19'52.99863"
Northing	1947026.582 ft	**Longitude**	W122°04'59.34569"	**Longitude**	W122°04'59.34569"
Elevation	435.300 ft	**Height**	328.359 ft	**Height**	328.358 ft

To:	NVA041				
Grid		**Local**		**Global**	
Easting	6089908.606 ft	**Latitude**	N37°15'28.95106"	**Latitude**	N37°15'28.95105"
Northing	1920513.566 ft	**Longitude**	W122°07'15.81752"	**Longitude**	W122°07'15.81752"
Elevation	2635.811 ft	**Height**	2529.707 ft	**Height**	2529.707 ft

Vector					
ΔEasting	-11482.848 ft	**NS Fwd Azimuth**	202°26'53.4"	**ΔX**	-18873.112 ft
ΔNorthing	-26513.016 ft	**Ellipsoid Dist.**	28893.967 ft	**ΔY**	-9331.375 ft
ΔElevation	2200.510 ft	**ΔHeight**	2201.348 ft	**ΔZ**	-19913.626 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.035 ft
σ ΔNorthing	0.024 ft	**σ Ellipsoid Dist.**	0.026 ft	**σ ΔY**	0.041 ft
σ ΔElevation	0.053 ft	**σ ΔHeight**	0.053 ft	**σ ΔZ**	0.032 ft

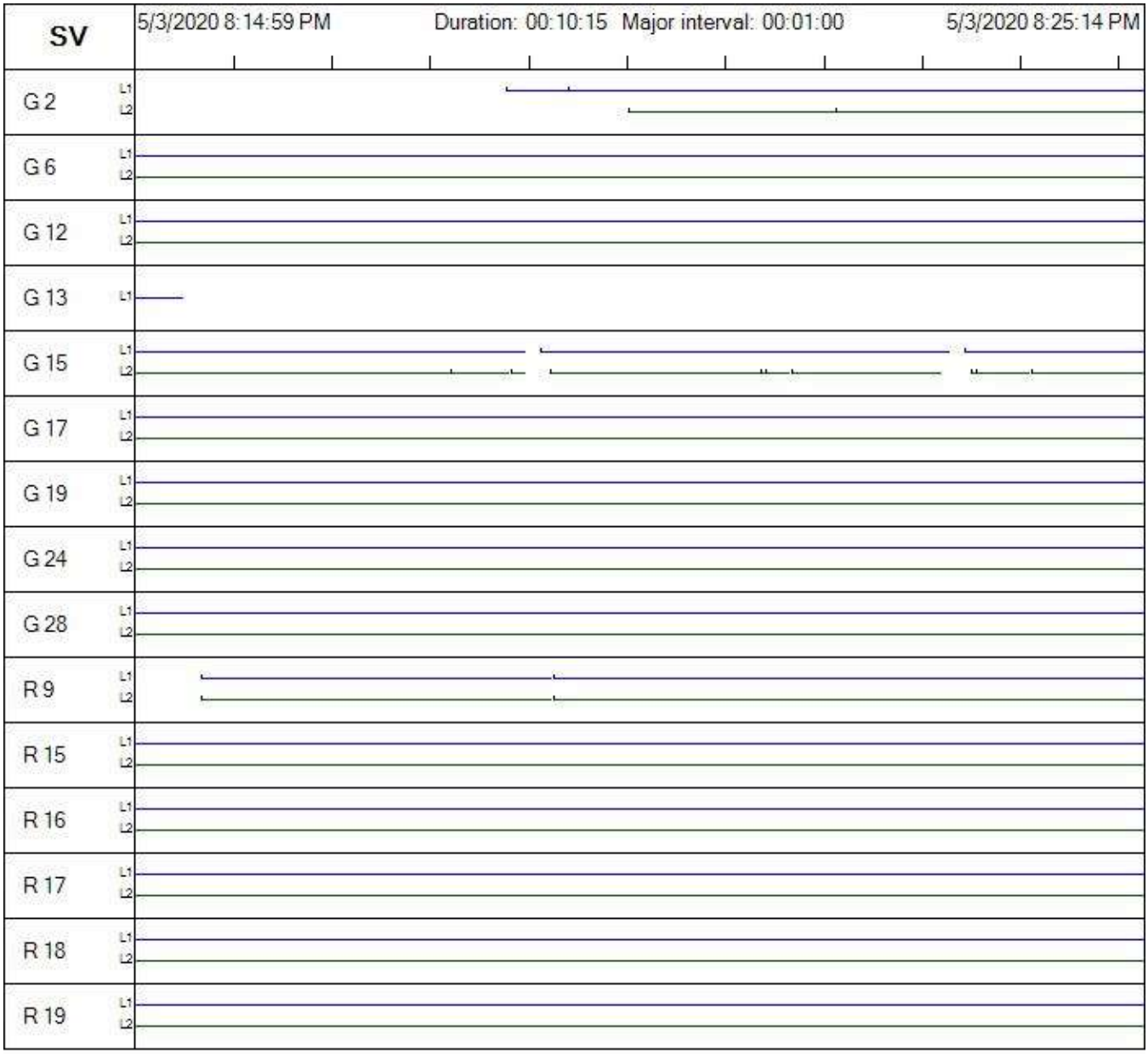
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0012365510		
Y	0.0010206171	0.0016531139	
Z	-0.0005599463	-0.0007932150	0.0009997713

Occupations

	From	To
Point ID:	AA1871	NVA041
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141240.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741245.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1871 - VVA019 (7:45:40 PM-7:58:16 PM) (S3)

Baseline observation:	AA1871 --- VVA019 (B3)
Processed:	5/13/2020 8:21:44 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.170 ft
Vertical precision:	0.235 ft
RMS:	0.103 ft
Maximum PDOP:	2.146
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 7:45:40 PM (UTC)
Processing stop time:	5/3/2020 7:58:16 PM (UTC)
Processing duration:	00:12:36
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.454 ft	**Latitude**	N37°19'52.99864"	**Latitude**	N37°19'52.99863"
Northing	1947026.582 ft	**Longitude**	W122°04'59.34569"	**Longitude**	W122°04'59.34569"
Elevation	435.300 ft	**Height**	328.359 ft	**Height**	328.358 ft

To:	VVA019				
Grid		**Local**		**Global**	
Easting	6080477.757 ft	**Latitude**	N37°17'25.57487"	**Latitude**	N37°17'25.57487"
Northing	1932475.710 ft	**Longitude**	W122°09'15.07180"	**Longitude**	W122°09'15.07180"
Elevation	2319.610 ft	**Height**	2213.423 ft	**Height**	2213.423 ft

Vector					
ΔEasting	-20913.698 ft	**NS Fwd Azimuth**	234°12'07.0"	**ΔX**	-23101.616 ft
ΔNorthing	-14550.872 ft	**Ellipsoid Dist.**	25478.706 ft	**ΔY**	2059.777 ft
ΔElevation	1884.310 ft	**ΔHeight**	1885.064 ft	**ΔZ**	-10717.714 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.064 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.100 ft
σ ΔNorthing	0.056 ft	**σ Ellipsoid Dist.**	0.069 ft	**σ ΔY**	0.090 ft
σ ΔElevation	0.120 ft	**σ ΔHeight**	0.120 ft	**σ ΔZ**	0.059 ft

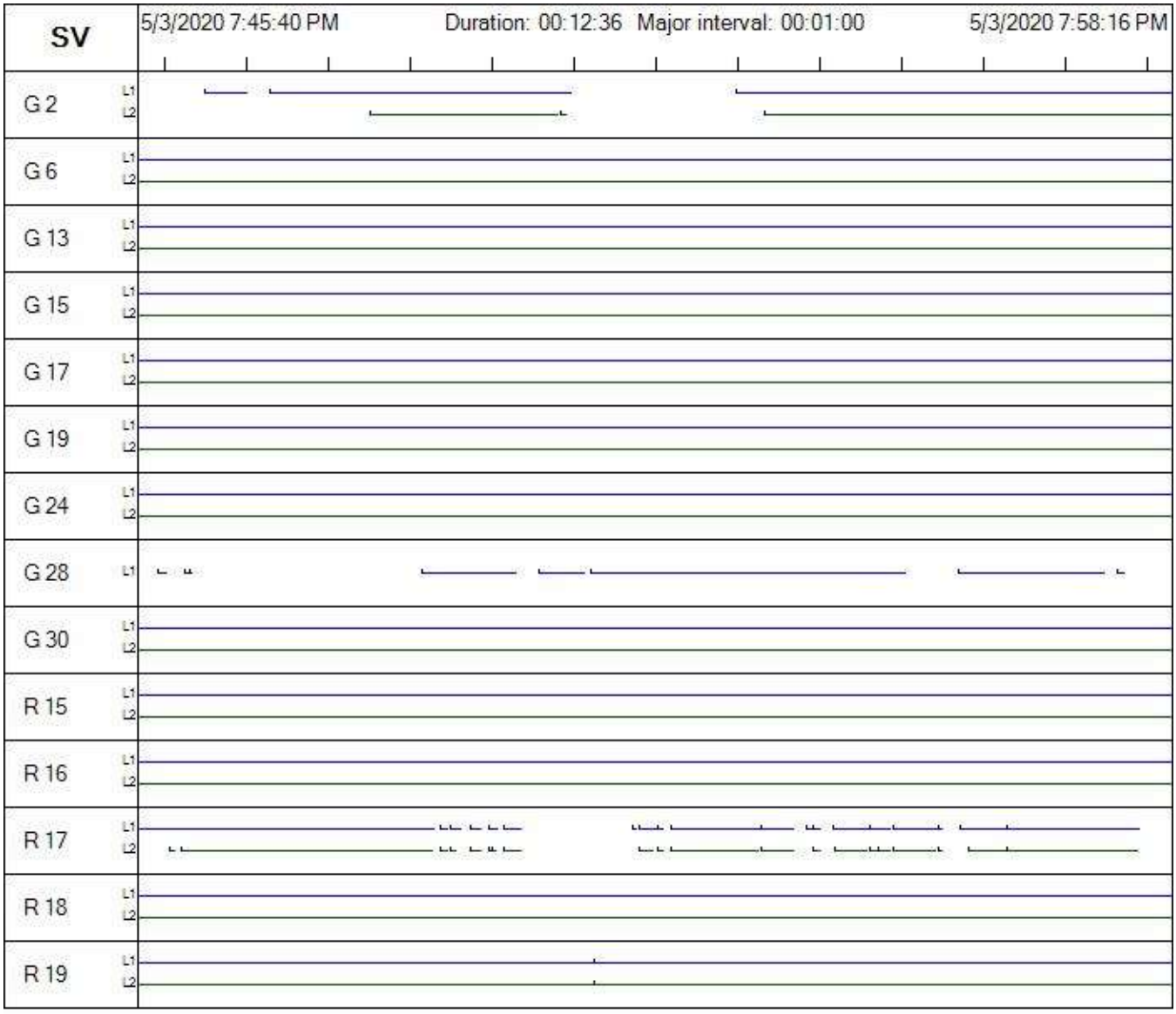
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0099359748		
Y	0.0059707113	0.0081600328	
Z	-0.0033172192	-0.0031231972	0.0034339298

Occupations

	From	To
Point ID:	AA1871	VVA019
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141240.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741244.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - NVA069 (7:11:39 PM-7:21:41 PM) (S11)

Baseline observation:	SLAC --- NVA069 (B11)
Processed:	5/13/2020 8:21:37 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.059 ft
Vertical precision:	0.093 ft
RMS:	0.030 ft
Maximum PDOP:	1.455
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 7:11:42 PM (UTC)
Processing stop time:	5/3/2020 7:21:27 PM (UTC)
Processing duration:	00:09:45
Processing interval:	15 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.834 ft	**Latitude**	N37°24'59.46106"	**Latitude**	N37°24'59.46106"
Northing	1978635.452 ft	**Longitude**	W122°12'15.30530"	**Longitude**	W122°12'15.30530"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	NVA069				
Grid		**Local**		**Global**	
Easting	6070742.632 ft	**Latitude**	N37°18'55.01431"	**Latitude**	N37°18'55.01431"
Northing	1941696.898 ft	**Longitude**	W122°11'17.58379"	**Longitude**	W122°11'17.58379"
Elevation	2246.763 ft	**Height**	2140.479 ft	**Height**	2140.478 ft

Vector					
ΔEasting	3990.798 ft	**NS Fwd Azimuth**	172°47'25.4"	**ΔX**	-8794.458 ft
ΔNorthing	-36938.554 ft	**Ellipsoid Dist.**	37155.301 ft	**ΔY**	-22713.500 ft
ΔElevation	1929.237 ft	**ΔHeight**	1929.852 ft	**ΔZ**	-28127.395 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.022 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.031 ft
σ ΔNorthing	0.024 ft	**σ Ellipsoid Dist.**	0.024 ft	**σ ΔY**	0.035 ft
σ ΔElevation	0.047 ft	**σ ΔHeight**	0.047 ft	**σ ΔZ**	0.032 ft

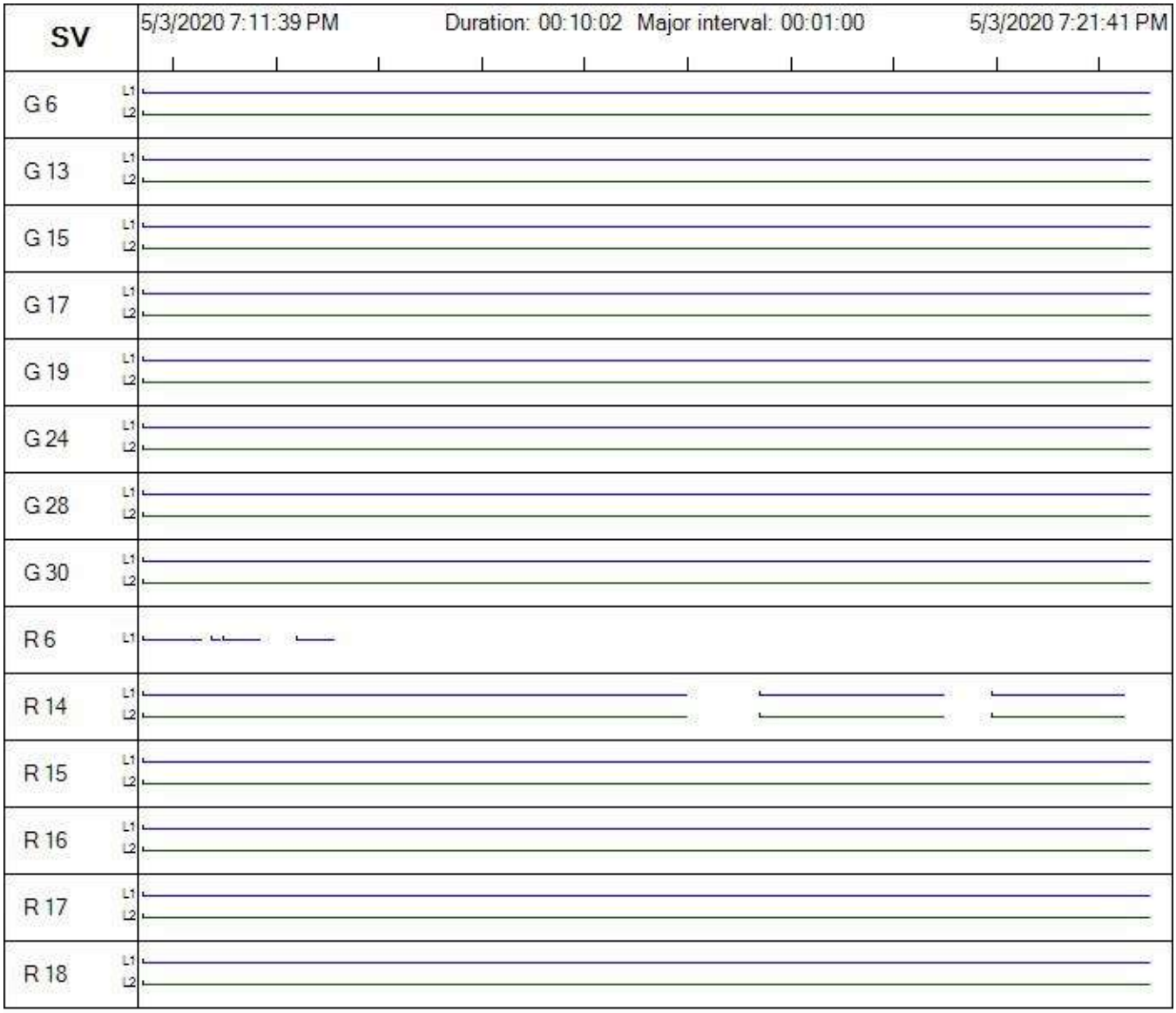
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0009833485		
Y	0.0006561399	0.0012568184	
Z	-0.0005629919	-0.0005653722	0.0010413201

Occupations

	From	To
Point ID:	SLAC	NVA069
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac1240.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741243.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5243499055
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - VVA020 (6:40:51 PM-6:51:47 PM) (S12)

Baseline observation:	SLAC --- VVA020 (B12)
Processed:	5/13/2020 8:21:37 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.054 ft
Vertical precision:	0.097 ft
RMS:	0.060 ft
Maximum PDOP:	1.538
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 6:40:57 PM (UTC)
Processing stop time:	5/3/2020 6:51:42 PM (UTC)
Processing duration:	00:10:45
Processing interval:	15 seconds

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.834 ft	**Latitude**	N37°24'59.46106"	**Latitude**	N37°24'59.46106"
Northing	1978635.452 ft	**Longitude**	W122°12'15.30530"	**Longitude**	W122°12'15.30530"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	VVA020				
Grid		**Local**		**Global**	
Easting	6074174.869 ft	**Latitude**	N37°20'23.99740"	**Latitude**	N37°20'23.99740"
Northing	1950636.373 ft	**Longitude**	W122°10'37.08510"	**Longitude**	W122°10'37.08510"
Elevation	1849.905 ft	**Height**	1743.533 ft	**Height**	1743.533 ft

Vector					
ΔEasting	7423.035 ft	**NS Fwd Azimuth**	164°06'29.4"	**ΔX**	-2950.564 ft
ΔNorthing	-27999.080 ft	**Ellipsoid Dist.**	28967.798 ft	**ΔY**	-19569.420 ft
ΔElevation	1532.379 ft	**ΔHeight**	1532.906 ft	**ΔZ**	-21210.694 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.027 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.034 ft
σ ΔElevation	0.050 ft	**σ ΔHeight**	0.050 ft	**σ ΔZ**	0.037 ft

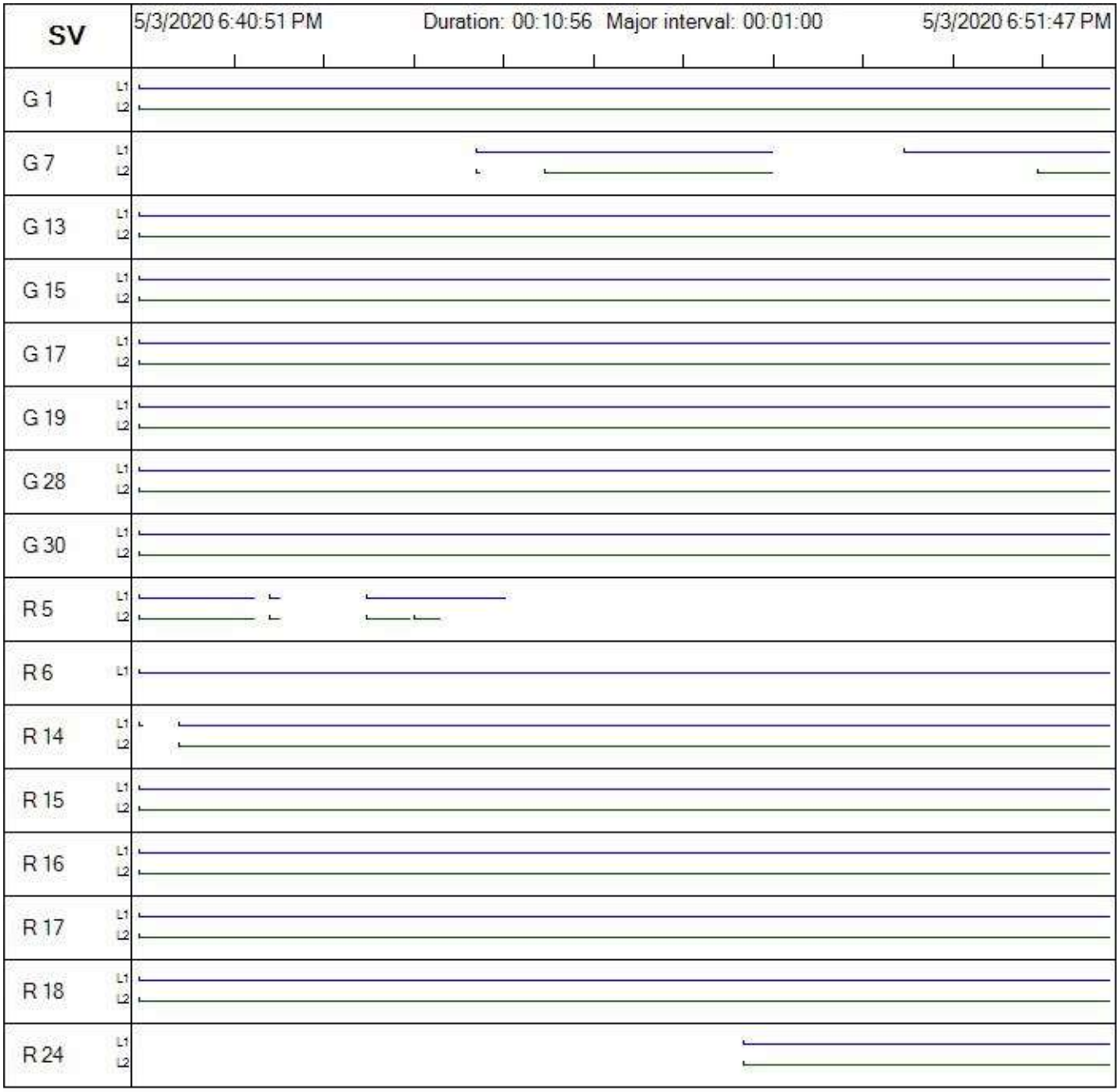
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0007438528		
Y	0.0005862175	0.0011236669	
Z	-0.0006440641	-0.0007824267	0.0013724983

Occupations

	From	To
Point ID:	SLAC	VVA020
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac1240.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741242.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5302K56635	5243499055
Antenna type:	TRM59800-80	R8 GNSS/SPS88x Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

SLAC - AA1871 (5:40:51 PM-12:36:59 AM) (S13)

Baseline observation:	SLAC --- AA1871 (B13)
Processed:	5/13/2020 8:21:39 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.017 ft
Vertical precision:	0.071 ft
RMS:	0.121 ft
Maximum PDOP:	1.810
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/3/2020 5:41:12 PM (UTC)
Processing stop time:	5/4/2020 12:36:42 AM (UTC)
Processing duration:	06:55:30
Processing interval:	3 Minutes

Vector Components (Mark to Mark)

From:	SLAC				
Grid		**Local**		**Global**	
Easting	6066751.834 ft	**Latitude**	N37°24'59.46106"	**Latitude**	N37°24'59.46106"
Northing	1978635.452 ft	**Longitude**	W122°12'15.30530"	**Longitude**	W122°12'15.30530"
Elevation	317.526 ft	**Height**	210.627 ft	**Height**	210.626 ft

To:	AA1871				
Grid		**Local**		**Global**	
Easting	6101391.469 ft	**Latitude**	N37°19'52.99876"	**Latitude**	N37°19'52.99876"
Northing	1947026.594 ft	**Longitude**	W122°04'59.34551"	**Longitude**	W122°04'59.34551"
Elevation	435.344 ft	**Height**	328.402 ft	**Height**	328.402 ft

Vector					
ΔEasting	34639.635 ft	**NS Fwd Azimuth**	131°20'15.1"	**ΔX**	19736.588 ft
ΔNorthing	-31608.859 ft	**Ellipsoid Dist.**	46896.063 ft	**ΔY**	-34734.525 ft
ΔElevation	117.818 ft	**ΔHeight**	117.775 ft	**ΔZ**	-24561.966 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.007 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.017 ft
σ ΔNorthing	0.007 ft	**σ Ellipsoid Dist.**	0.007 ft	**σ ΔY**	0.025 ft
σ ΔElevation	0.036 ft	**σ ΔHeight**	0.036 ft	**σ ΔZ**	0.023 ft

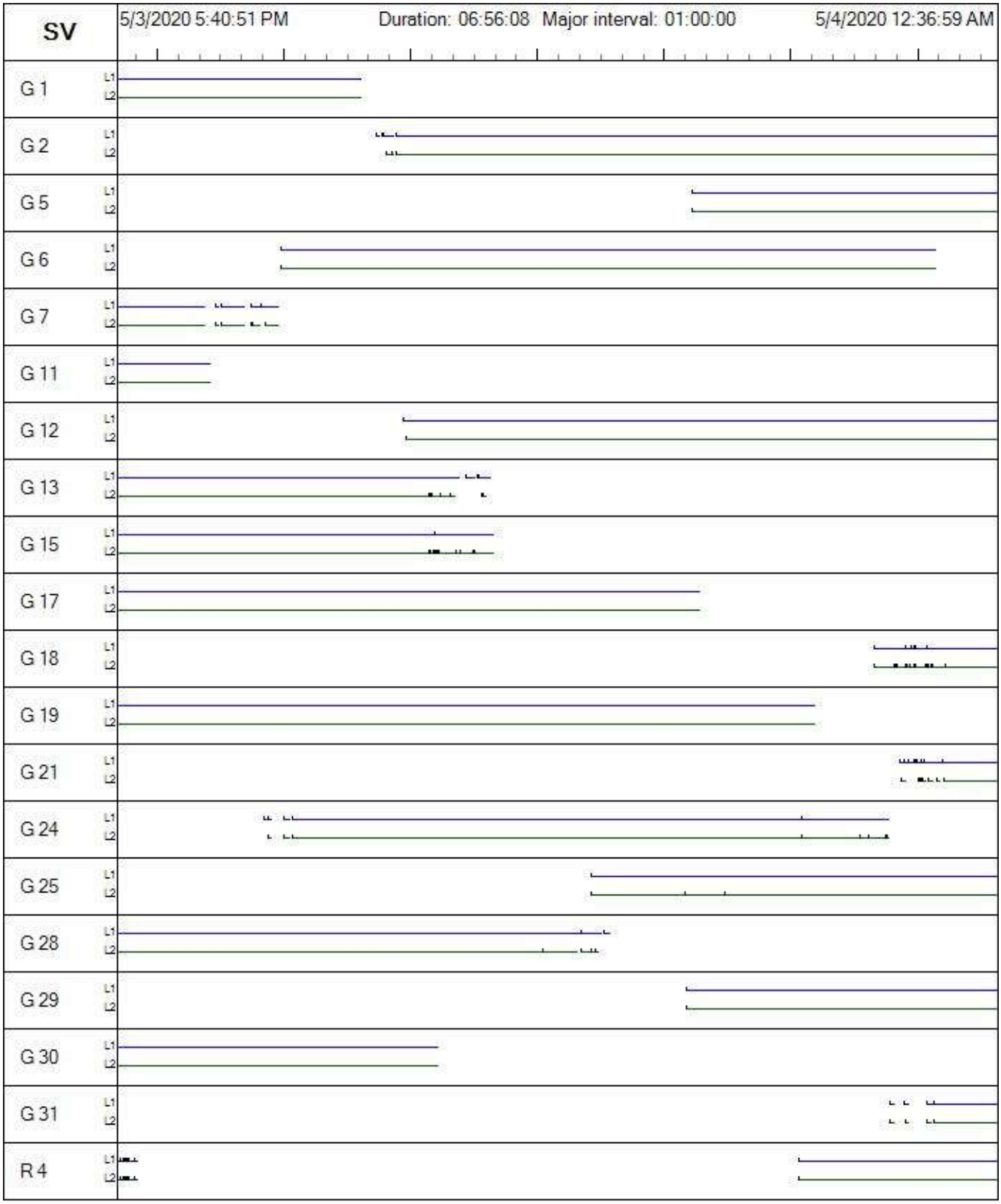
Aposteriori Covariance Matrix (US survey foot²)

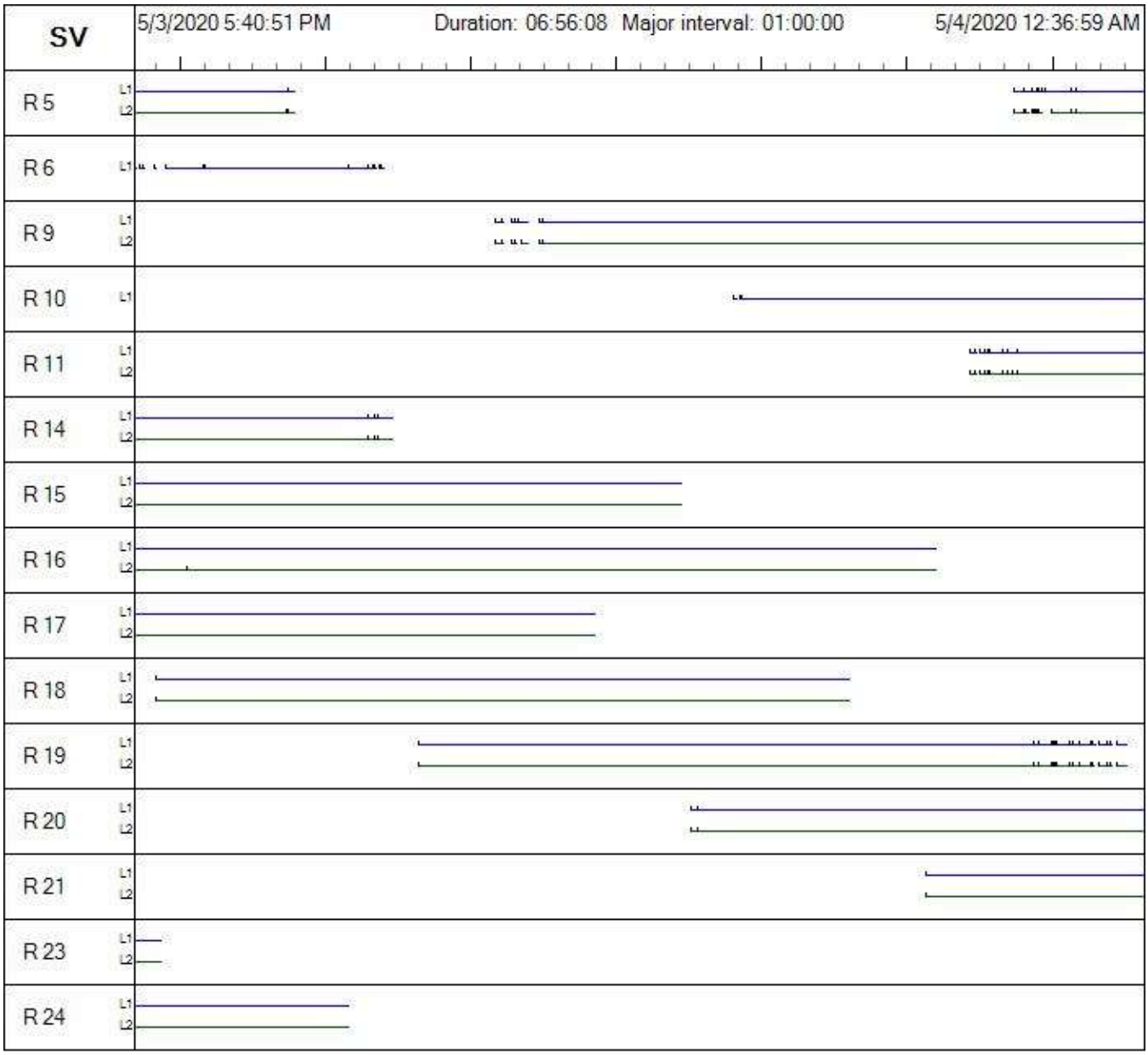
	X	Y	Z
X	0.0002806210		
Y	0.0003662751	0.0006051725	
Z	-0.0003305531	-0.0005067563	0.0005098748

Occupations

	From	To
Point ID:	SLAC	AA1871
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\slac1240.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141240.T02
Receiver type:	NetR9	R8-4
Receiver serial number:	5302K56635	5329440614
Antenna type:	TRM59800-80	R8-4 Internal
Antenna serial number:	0220369855	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
5/3/2020 5:40:51 PM
Duration: 06:56:08 Major interval: 01:00:00
5/4/2020 12:36:59 AM
R 5
R 6
R 9
R 10
R 11
R 14
R 15
R 16
R 17
R 18
R 19
R 20
R 21
R 23
R 24
L1
L2

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - AA1864 (6:11:30 PM-8:13:51 PM) (S12)

Baseline observation:	P217 --- AA1864 (B12)
Processed:	5/13/2020 6:39:17 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.041 ft
Vertical precision:	0.143 ft
RMS:	0.099 ft
Maximum PDOP:	1.678
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 6:11:42 PM (UTC)
Processing stop time:	5/5/2020 8:13:42 PM (UTC)
Processing duration:	02:02:00
Processing interval:	1 Minute

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.574 ft	**Latitude**	N37°06'16.18600"	**Latitude**	N37°06'16.18600"
Northing	1862583.976 ft	**Longitude**	W121°39'02.23315"	**Longitude**	W121°39'02.23315"
Elevation	345.525 ft	**Height**	238.997 ft	**Height**	238.997 ft

To:	AA1864				
Grid		**Local**		**Global**	
Easting	6324914.024 ft	**Latitude**	N37°02'18.86696"	**Latitude**	N37°02'18.86696"
Northing	1837544.793 ft	**Longitude**	W121°18'40.03875"	**Longitude**	W121°18'40.03875"
Elevation	411.766 ft	**Height**	305.552 ft	**Height**	305.551 ft

Vector					
ΔEasting	98794.450 ft	**NS Fwd Azimuth**	103°31'08.8"	**ΔX**	76889.939 ft
ΔNorthing	-25039.183 ft	**Ellipsoid Dist.**	101918.223 ft	**ΔY**	-64111.426 ft
ΔElevation	66.241 ft	**ΔHeight**	66.555 ft	**ΔZ**	-19111.262 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.014 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.034 ft
σ ΔNorthing	0.016 ft	**σ Ellipsoid Dist.**	0.015 ft	**σ ΔY**	0.052 ft
σ ΔElevation	0.073 ft	**σ ΔHeight**	0.073 ft	**σ ΔZ**	0.044 ft

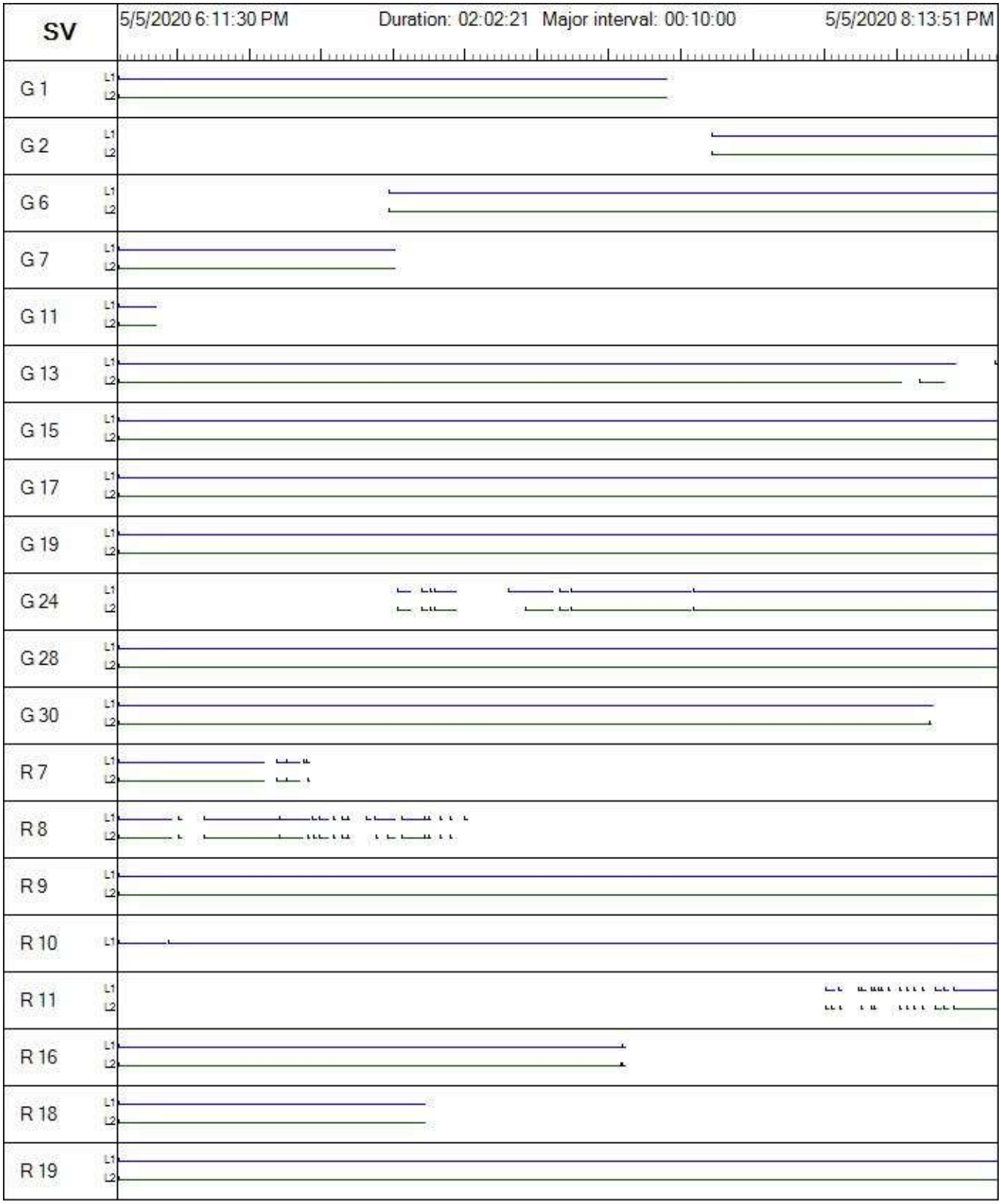
Aposteriori Covariance Matrix (US survey foot²)

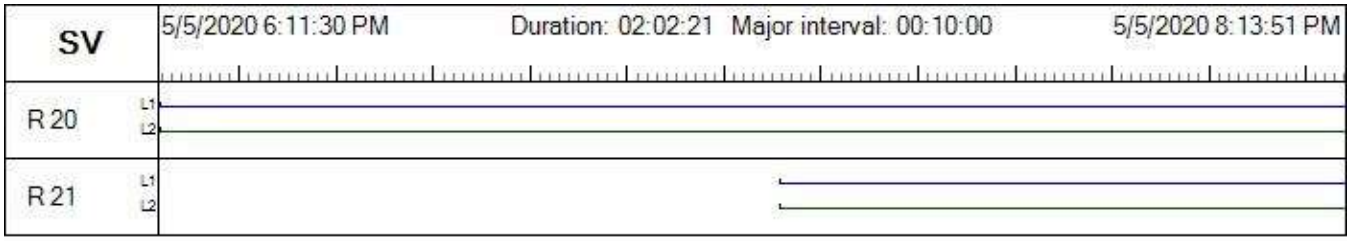
	X	Y	Z
X	0.0011561529		
Y	0.0015264250	0.0026584326	
Z	-0.0013175697	-0.0020155727	0.0019733536

Occupations

	From	To
Point ID:	P217	AA1864
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2171260.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141261.T02
Receiver type:	NetR9	R8-4
Receiver serial number:	5038K70492	5329440614
Antenna type:	TRM59800-80 w/SCIT Dome	R8-4 Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
5/5/2020 6:11:30 PM
Duration: 02:02:21
Major interval: 00:10:00
5/5/2020 8:13:51 PM
R 20
L1
L2
R 21
L1
L2

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA042 (6:36:31 PM-6:46:32 PM) (S10)

Baseline observation:	P217 --- NVA042 (B10)
Processed:	5/13/2020 6:39:17 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.083 ft
Vertical precision:	0.143 ft
RMS:	0.051 ft
Maximum PDOP:	1.501
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 6:36:42 PM (UTC)
Processing stop time:	5/5/2020 6:46:27 PM (UTC)
Processing duration:	00:09:45
Processing interval:	15 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.574 ft	**Latitude**	N37°06'16.18600"	**Latitude**	N37°06'16.18600"
Northing	1862583.976 ft	**Longitude**	W121°39'02.23315"	**Longitude**	W121°39'02.23315"
Elevation	345.525 ft	**Height**	238.997 ft	**Height**	238.997 ft

To:	NVA042				
Grid		**Local**		**Global**	
Easting	6340889.386 ft	**Latitude**	N37°03'00.32936"	**Latitude**	N37°03'00.32936"
Northing	1841604.639 ft	**Longitude**	W121°15'23.41691"	**Longitude**	W121°15'23.41691"
Elevation	996.729 ft	**Height**	890.784 ft	**Height**	890.784 ft

Vector					
ΔEasting	114769.811 ft	**NS Fwd Azimuth**	99°39'23.0"	**ΔX**	91582.681 ft
ΔNorthing	-20979.337 ft	**Ellipsoid Dist.**	116671.767 ft	**ΔY**	-70629.479 ft
ΔElevation	651.204 ft	**ΔHeight**	651.787 ft	**ΔZ**	-15411.493 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.028 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.040 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.030 ft	**σ ΔY**	0.053 ft
σ ΔElevation	0.073 ft	**σ ΔHeight**	0.073 ft	**σ ΔZ**	0.052 ft

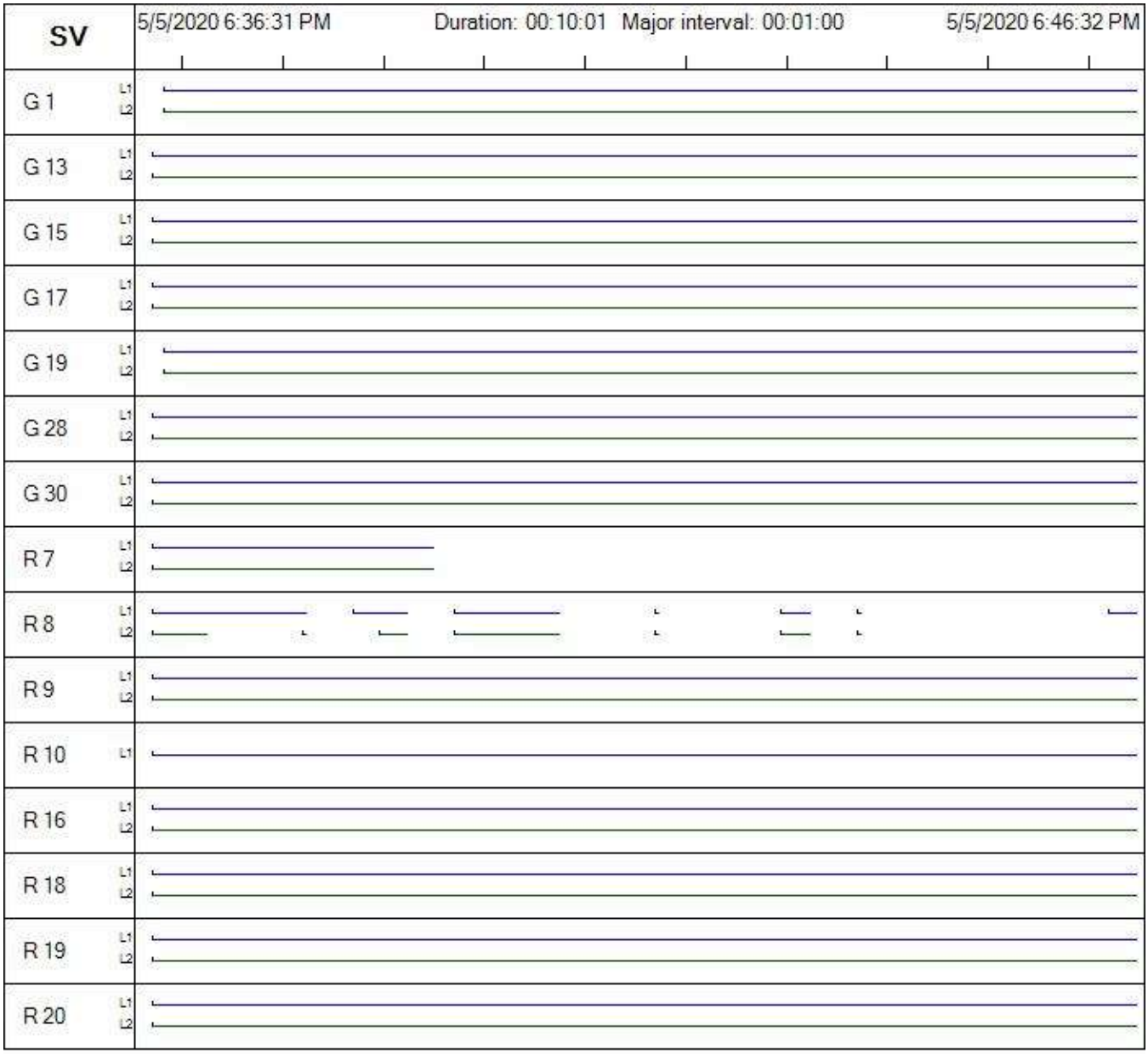
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0015737426		
Y	0.0012656965	0.0028395988	
Z	-0.0013392198	-0.0016683492	0.0027453913

Occupations

	From	To
Point ID:	P217	NVA042
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2171260.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741269.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5243499055
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA029 (6:50:27 PM-7:00:29 PM) (S9)

Baseline observation:	P217 --- VVA029 (B9)
Processed:	5/13/2020 6:39:17 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.105 ft
Vertical precision:	0.158 ft
RMS:	0.057 ft
Maximum PDOP:	1.868
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 6:50:27 PM (UTC)
Processing stop time:	5/5/2020 7:00:27 PM (UTC)
Processing duration:	00:10:00
Processing interval:	15 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.574 ft	**Latitude**	N37°06'16.18600"	**Latitude**	N37°06'16.18600"
Northing	1862583.976 ft	**Longitude**	W121°39'02.23315"	**Longitude**	W121°39'02.23315"
Elevation	345.525 ft	**Height**	238.997 ft	**Height**	238.997 ft

To:	VVA029				
Grid		**Local**		**Global**	
Easting	6340806.423 ft	**Latitude**	N37°02'59.35546"	**Latitude**	N37°02'59.35546"
Northing	1841506.807 ft	**Longitude**	W121°15'24.43050"	**Longitude**	W121°15'24.43050"
Elevation	990.447 ft	**Height**	884.500 ft	**Height**	884.500 ft

Vector					
ΔEasting	114686.849 ft	**NS Fwd Azimuth**	99°42'39.6"	**ΔX**	91484.243 ft
ΔNorthing	-21077.170 ft	**Ellipsoid Dist.**	116607.798 ft	**ΔY**	-70633.290 ft
ΔElevation	644.922 ft	**ΔHeight**	645.503 ft	**ΔZ**	-15493.896 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.034 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.045 ft
σ ΔNorthing	0.039 ft	**σ Ellipsoid Dist.**	0.037 ft	**σ ΔY**	0.061 ft
σ ΔElevation	0.080 ft	**σ ΔHeight**	0.080 ft	**σ ΔZ**	0.058 ft

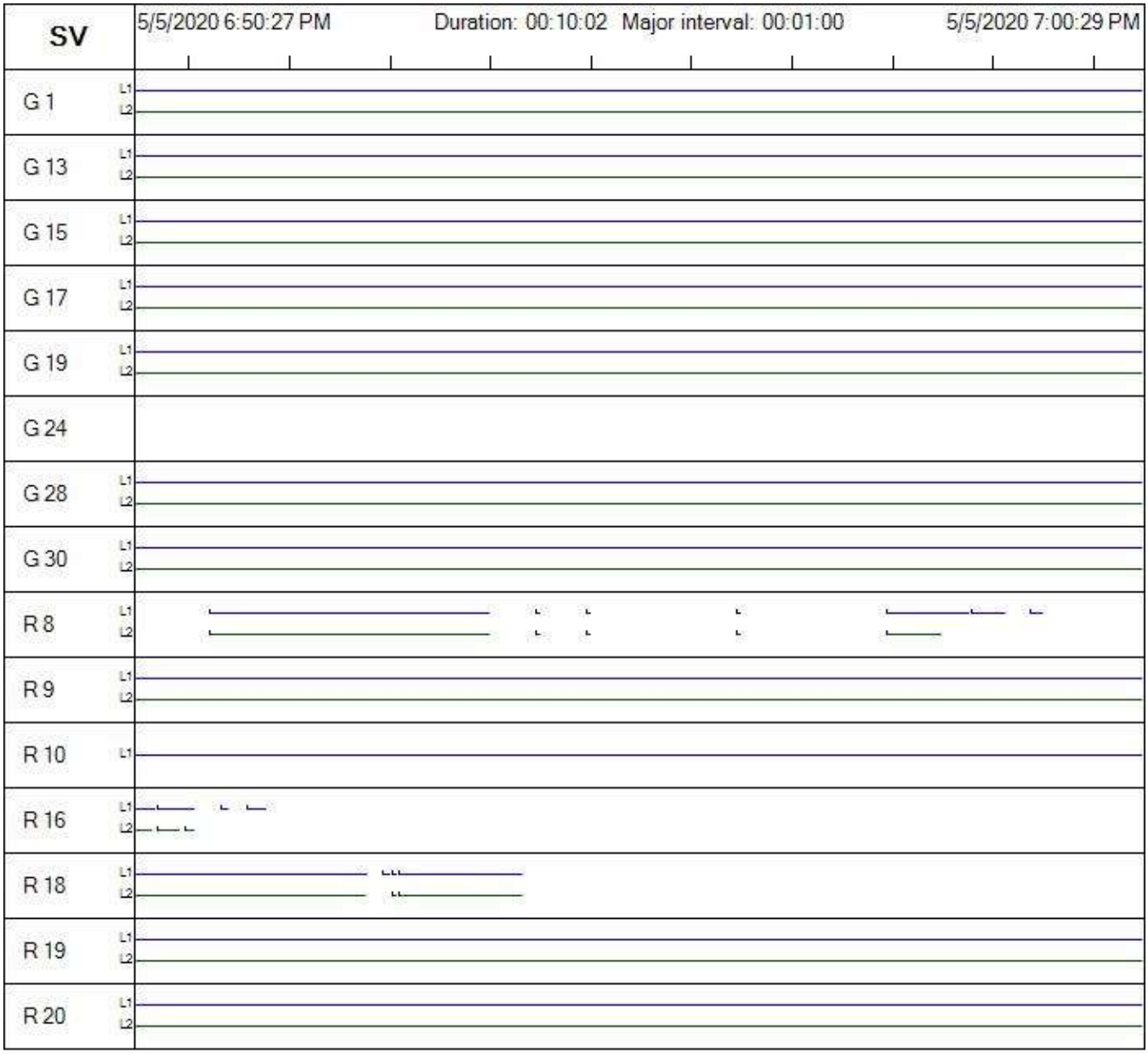
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0020566240		
Y	0.0015050617	0.0037451075	
Z	-0.0017167003	-0.0017569638	0.0033706900

Occupations

	From	To
Point ID:	P217	VVA029
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2171260.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741269.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5243499055
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - HS5407 (9:11:50 PM-12:15:44 AM) (S11)

Baseline observation:	P217 --- HS5407 (B11)
Processed:	5/13/2020 6:39:18 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.020 ft
Vertical precision:	0.075 ft
RMS:	0.088 ft
Maximum PDOP:	1.822
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 9:12:12 PM (UTC)
Processing stop time:	5/6/2020 12:15:42 AM (UTC)
Processing duration:	03:03:30
Processing interval:	1 Minute

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.574 ft	**Latitude**	N37°06'16.18600"	**Latitude**	N37°06'16.18600"
Northing	1862583.976 ft	**Longitude**	W121°39'02.23315"	**Longitude**	W121°39'02.23315"
Elevation	345.525 ft	**Height**	238.997 ft	**Height**	238.997 ft

To:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.532 ft	**Latitude**	N37°11'20.20825"	**Latitude**	N37°11'20.20825"
Northing	1893492.707 ft	**Longitude**	W121°41'42.34891"	**Longitude**	W121°41'42.34891"
Elevation	338.313 ft	**Height**	232.043 ft	**Height**	232.043 ft

Vector					
ΔEasting	-12577.042 ft	**NS Fwd Azimuth**	337°09'12.6"	**ΔX**	-1280.369 ft
ΔNorthing	30908.731 ft	**Ellipsoid Dist.**	33370.139 ft	**ΔY**	22614.347 ft
ΔElevation	-7.212 ft	**ΔHeight**	-6.954 ft	**ΔZ**	24505.980 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.007 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.017 ft
σ ΔNorthing	0.008 ft	**σ Ellipsoid Dist.**	0.008 ft	**σ ΔY**	0.026 ft
σ ΔElevation	0.038 ft	**σ ΔHeight**	0.038 ft	**σ ΔZ**	0.025 ft

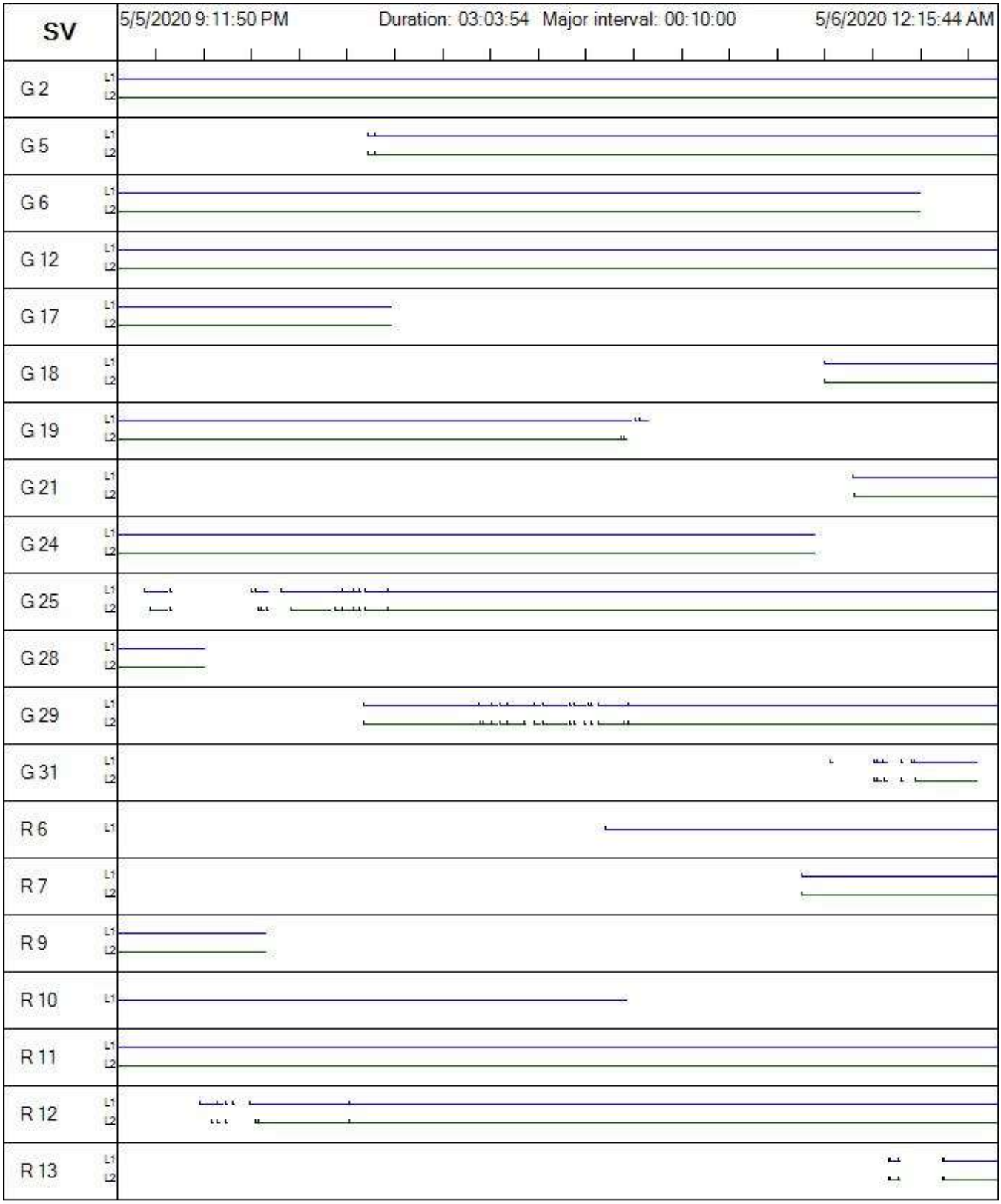
Aposteriori Covariance Matrix (US survey foot²)

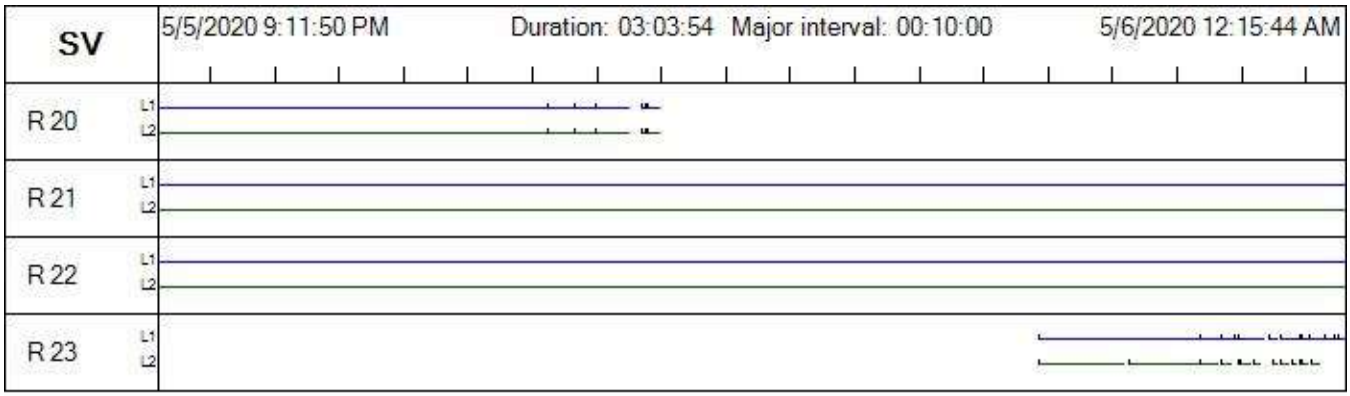
	X	Y	Z
X	0.0002844179		
Y	0.0003754207	0.0006563170	
Z	-0.0003720931	-0.0005786801	0.0006301057

Occupations

	From	To
Point ID:	P217	HS5407
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2171260.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141262.T02
Receiver type:	NetR9	R8-4
Receiver serial number:	5038K70492	5329440614
Antenna type:	TRM59800-80 w/SCIT Dome	R8-4 Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
5/5/2020 9:11:50 PM
Duration: 03:03:54
Major interval: 00:10:00
5/6/2020 12:15:44 AM
R 20
L1
L2
R 21
L1
L2
R 22
L1
L2
R 23
L1
L2

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1864 - NVA042 (6:36:31 PM-6:46:32 PM) (S1)

Baseline observation:	AA1864 --- NVA042 (B1)
Processed:	5/13/2020 6:39:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.065 ft
Vertical precision:	0.116 ft
RMS:	0.087 ft
Maximum PDOP:	2.024
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 6:36:31 PM (UTC)
Processing stop time:	5/5/2020 6:46:32 PM (UTC)
Processing duration:	00:10:01
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1864				
Grid		**Local**		**Global**	
Easting	6324914.008 ft	**Latitude**	N37°02'18.86724"	**Latitude**	N37°02'18.86724"
Northing	1837544.822 ft	**Longitude**	W121°18'40.03896"	**Longitude**	W121°18'40.03896"
Elevation	411.701 ft	**Height**	305.486 ft	**Height**	305.486 ft

To:	NVA042				
Grid		**Local**		**Global**	
Easting	6340889.384 ft	**Latitude**	N37°03'00.32972"	**Latitude**	N37°03'00.32972"
Northing	1841604.676 ft	**Longitude**	W121°15'23.41693"	**Longitude**	W121°15'23.41693"
Elevation	996.698 ft	**Height**	890.753 ft	**Height**	890.753 ft

Vector					
ΔEasting	15975.376 ft	**NS Fwd Azimuth**	75°14'41.4"	**ΔX**	14692.743 ft
ΔNorthing	4059.854 ft	**Ellipsoid Dist.**	16483.098 ft	**ΔY**	-6518.080 ft
ΔElevation	584.997 ft	**ΔHeight**	585.266 ft	**ΔZ**	3699.796 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.022 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.032 ft
σ ΔNorthing	0.025 ft	**σ Ellipsoid Dist.**	0.021 ft	**σ ΔY**	0.042 ft
σ ΔElevation	0.059 ft	**σ ΔHeight**	0.059 ft	**σ ΔZ**	0.043 ft

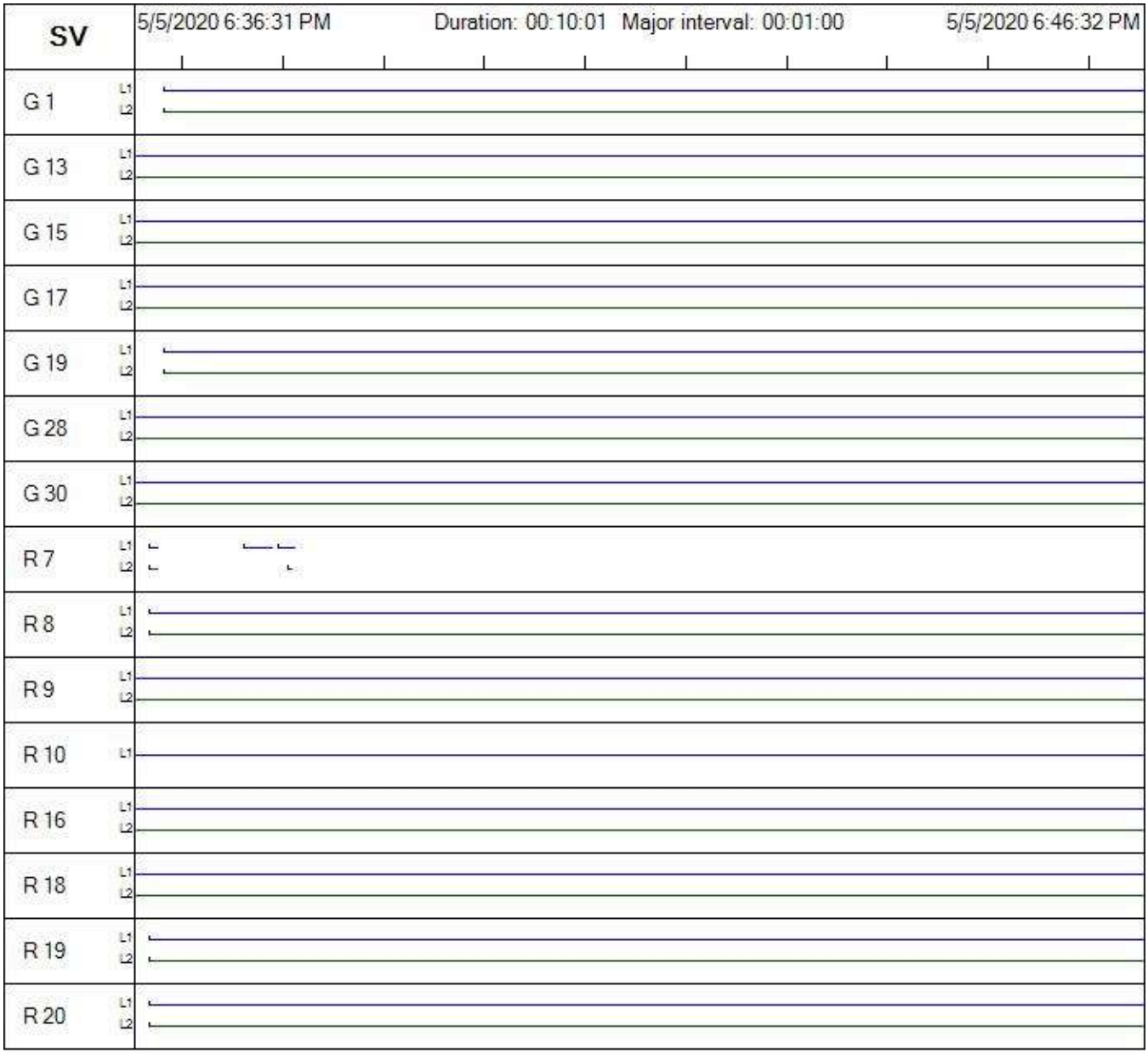
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0010324798		
Y	0.0008406925	0.0017589527	
Z	-0.0008849675	-0.0011028421	0.0018114229

Occupations

	From	To
Point ID:	AA1864	NVA042
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141261.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741269.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AA1864 - VVA029 (6:50:27 PM-7:00:29 PM) (S2)

Baseline observation:	AA1864 --- VVA029 (B2)
Processed:	5/13/2020 6:39:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.067 ft
Vertical precision:	0.104 ft
RMS:	0.063 ft
Maximum PDOP:	1.891
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 6:50:27 PM (UTC)
Processing stop time:	5/5/2020 7:00:29 PM (UTC)
Processing duration:	00:10:02
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AA1864				
Grid		**Local**		**Global**	
Easting	6324914.008 ft	**Latitude**	N37°02'18.86724"	**Latitude**	N37°02'18.86724"
Northing	1837544.822 ft	**Longitude**	W121°18'40.03896"	**Longitude**	W121°18'40.03896"
Elevation	411.701 ft	**Height**	305.486 ft	**Height**	305.486 ft

To:	VVA029				
Grid		**Local**		**Global**	
Easting	6340806.403 ft	**Latitude**	N37°02'59.35602"	**Latitude**	N37°02'59.35602"
Northing	1841506.864 ft	**Longitude**	W121°15'24.43075"	**Longitude**	W121°15'24.43075"
Elevation	990.447 ft	**Height**	884.500 ft	**Height**	884.500 ft

Vector					
ΔEasting	15892.395 ft	**NS Fwd Azimuth**	75°30'17.8"	**ΔX**	14594.283 ft
ΔNorthing	3962.042 ft	**Ellipsoid Dist.**	16378.750 ft	**ΔY**	-6521.892 ft
ΔElevation	578.747 ft	**ΔHeight**	579.014 ft	**ΔZ**	3617.428 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.022 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.030 ft
σ ΔNorthing	0.025 ft	**σ Ellipsoid Dist.**	0.020 ft	**σ ΔY**	0.039 ft
σ ΔElevation	0.053 ft	**σ ΔHeight**	0.053 ft	**σ ΔZ**	0.039 ft

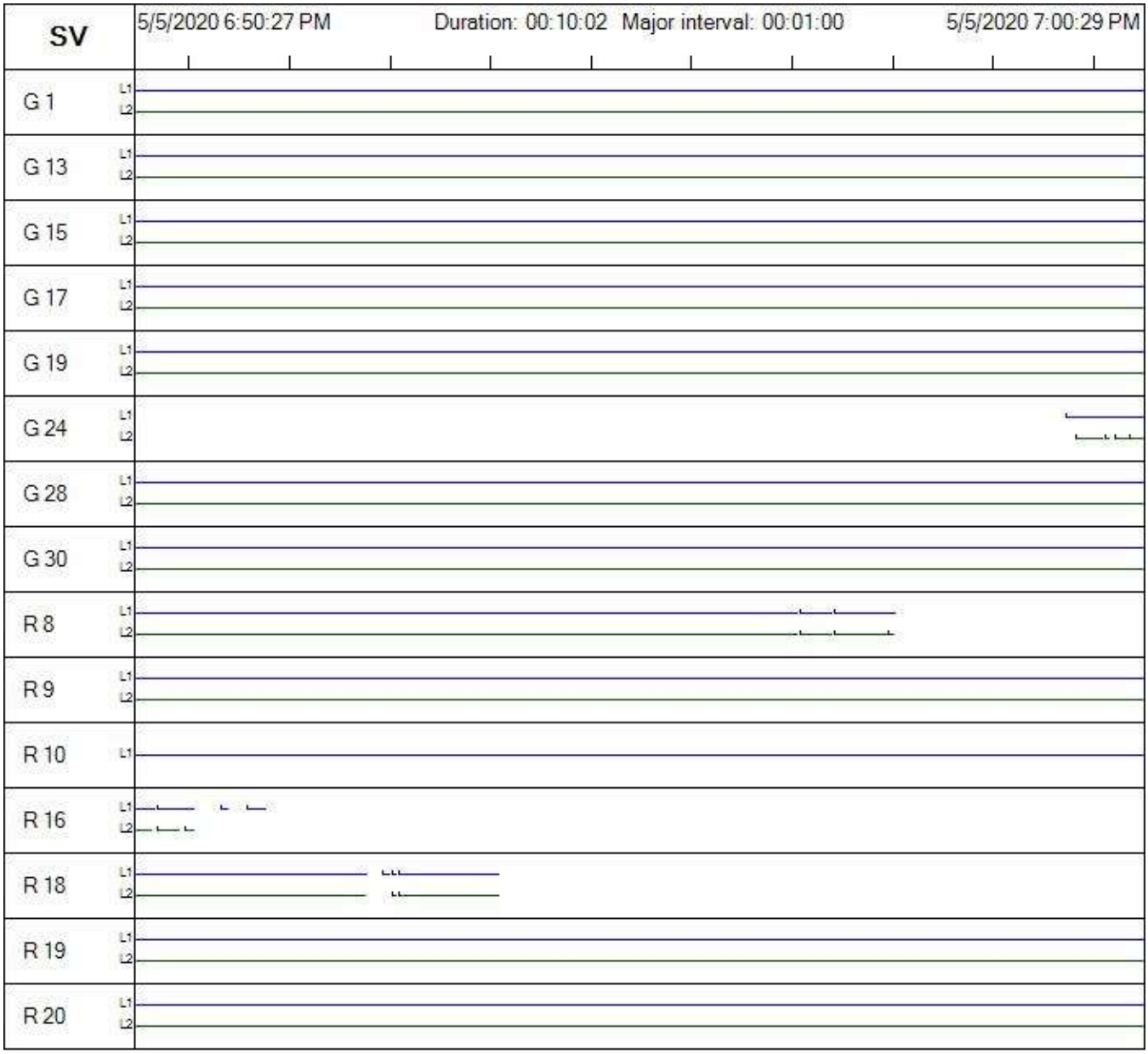
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0009043733		
Y	0.0006682879	0.0015442436	
Z	-0.0007548215	-0.0007948713	0.0014891407

Occupations

	From	To
Point ID:	AA1864	VVA029
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141261.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741269.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA054 (9:51:53 PM-10:13:19 PM) (S3)

Baseline observation:	HS5407 --- NVA054 (B3)
Processed:	5/13/2020 6:39:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.118 ft
Vertical precision:	0.198 ft
RMS:	0.082 ft
Maximum PDOP:	1.825
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 9:52:02 PM (UTC)
Processing stop time:	5/5/2020 10:13:12 PM (UTC)
Processing duration:	00:21:10
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.542 ft	**Latitude**	N37°11'20.20793"	**Latitude**	N37°11'20.20792"
Northing	1893492.675 ft	**Longitude**	W121°41'42.34878"	**Longitude**	W121°41'42.34878"
Elevation	338.240 ft	**Height**	231.970 ft	**Height**	231.970 ft

To:	NVA054				
Grid		**Local**		**Global**	
Easting	6217418.635 ft	**Latitude**	N37°14'59.08486"	**Latitude**	N37°14'59.08486"
Northing	1915582.335 ft	**Longitude**	W121°40'57.90061"	**Longitude**	W121°40'57.90061"
Elevation	1013.733 ft	**Height**	908.132 ft	**Height**	908.132 ft

Vector					
ΔEasting	3876.093 ft	**NS Fwd Azimuth**	9°13'14.9"	**ΔX**	9810.754 ft
ΔNorthing	22089.660 ft	**Ellipsoid Dist.**	22427.781 ft	**ΔY**	9047.546 ft
ΔElevation	675.493 ft	**ΔHeight**	676.162 ft	**ΔZ**	18038.321 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.040 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.061 ft
σ ΔNorthing	0.044 ft	**σ Ellipsoid Dist.**	0.042 ft	**σ ΔY**	0.059 ft
σ ΔElevation	0.101 ft	**σ ΔHeight**	0.101 ft	**σ ΔZ**	0.081 ft

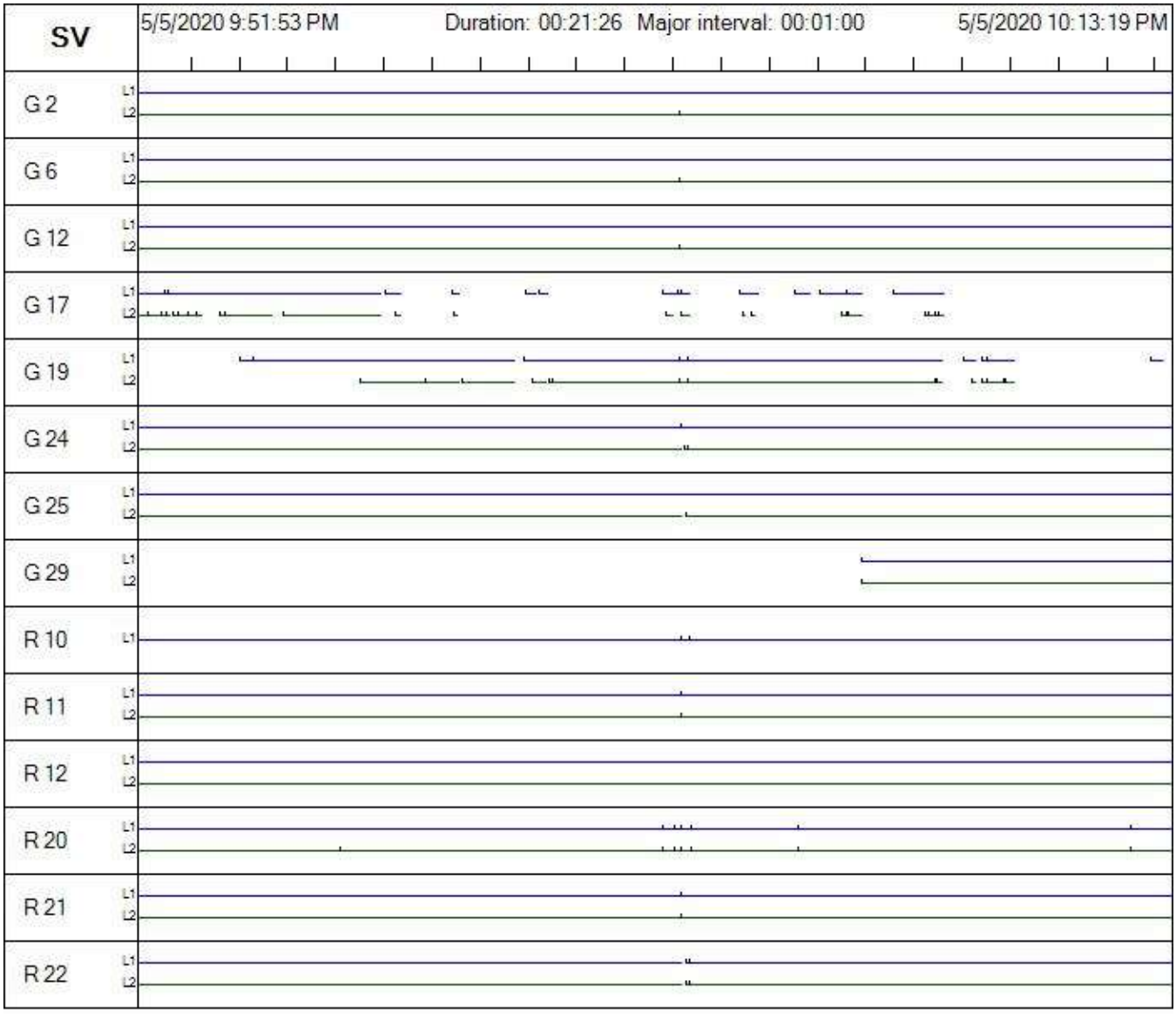
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0036664270		
Y	0.0022546580	0.0034471560	
Z	-0.0036376688	-0.0029455550	0.0065552802

Occupations

	From	To
Point ID:	HS5407	NVA054
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141262.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8574126A.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - VVA030 (10:17:33 PM-10:28:54 PM) (S4)

Baseline observation:	HS5407 --- VVA030 (B4)
Processed:	5/13/2020 6:39:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.067 ft
Vertical precision:	0.095 ft
RMS:	0.069 ft
Maximum PDOP:	1.492
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 10:17:33 PM (UTC)
Processing stop time:	5/5/2020 10:28:54 PM (UTC)
Processing duration:	00:11:21
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.542 ft	**Latitude**	N37°11'20.20793"	**Latitude**	N37°11'20.20792"
Northing	1893492.675 ft	**Longitude**	W121°41'42.34878"	**Longitude**	W121°41'42.34878"
Elevation	338.240 ft	**Height**	231.970 ft	**Height**	231.970 ft

To:	VVA030				
Grid		**Local**		**Global**	
Easting	6217352.757 ft	**Latitude**	N37°14'58.86879"	**Latitude**	N37°14'58.86879"
Northing	1915561.313 ft	**Longitude**	W121°40'58.71207"	**Longitude**	W121°40'58.71207"
Elevation	1013.062 ft	**Height**	907.458 ft	**Height**	907.458 ft

Vector					
ΔEasting	3810.215 ft	**NS Fwd Azimuth**	9°03'50.7"	**ΔX**	9748.254 ft
ΔNorthing	22068.638 ft	**Ellipsoid Dist.**	22395.772 ft	**ΔY**	9071.206 ft
ΔElevation	674.822 ft	**ΔHeight**	675.488 ft	**ΔZ**	18020.516 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.024 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.031 ft
σ ΔNorthing	0.026 ft	**σ Ellipsoid Dist.**	0.025 ft	**σ ΔY**	0.039 ft
σ ΔElevation	0.048 ft	**σ ΔHeight**	0.048 ft	**σ ΔZ**	0.033 ft

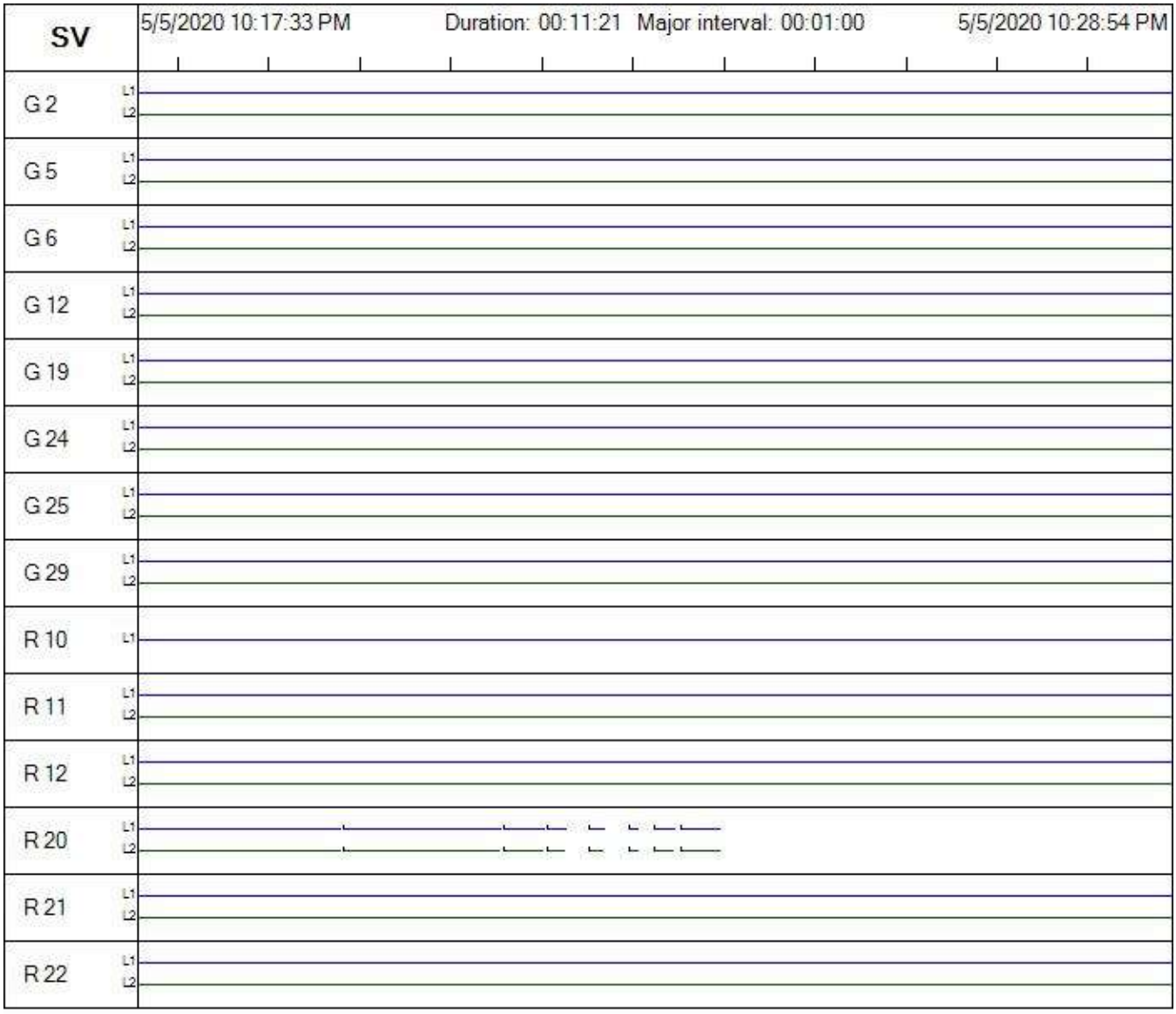
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0009541002		
Y	0.0006071318	0.0015235618	
Z	-0.0005215848	-0.0005561517	0.0011052042

Occupations

	From	To
Point ID:	HS5407	VVA030
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141262.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8574126A.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS5407 - NVA068 (11:35:17 PM-11:55:21 PM) (S5)

Baseline observation:	HS5407 --- NVA068 (B5)
Processed:	5/13/2020 6:39:20 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.082 ft
Vertical precision:	0.152 ft
RMS:	0.117 ft
Maximum PDOP:	1.846
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 11:35:22 PM (UTC)
Processing stop time:	5/5/2020 11:55:12 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS5407				
Grid		**Local**		**Global**	
Easting	6213542.542 ft	**Latitude**	N37°11'20.20793"	**Latitude**	N37°11'20.20792"
Northing	1893492.675 ft	**Longitude**	W121°41'42.34878"	**Longitude**	W121°41'42.34878"
Elevation	338.240 ft	**Height**	231.970 ft	**Height**	231.970 ft

To:	NVA068				
Grid		**Local**		**Global**	
Easting	6176899.383 ft	**Latitude**	N37°16'33.21102"	**Latitude**	N37°16'33.21102"
Northing	1925645.434 ft	**Longitude**	W121°49'20.76662"	**Longitude**	W121°49'20.76662"
Elevation	288.372 ft	**Height**	181.689 ft	**Height**	181.689 ft

Vector					
ΔEasting	-36643.159 ft	**NS Fwd Azimuth**	310°32'00.2"	**ΔX**	-21419.684 ft
ΔNorthing	32152.759 ft	**Ellipsoid Dist.**	48751.038 ft	**ΔY**	35834.391 ft
ΔElevation	-49.869 ft	**ΔHeight**	-50.281 ft	**ΔZ**	25175.499 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.026 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.035 ft
σ ΔNorthing	0.031 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.054 ft
σ ΔElevation	0.078 ft	**σ ΔHeight**	0.078 ft	**σ ΔZ**	0.060 ft

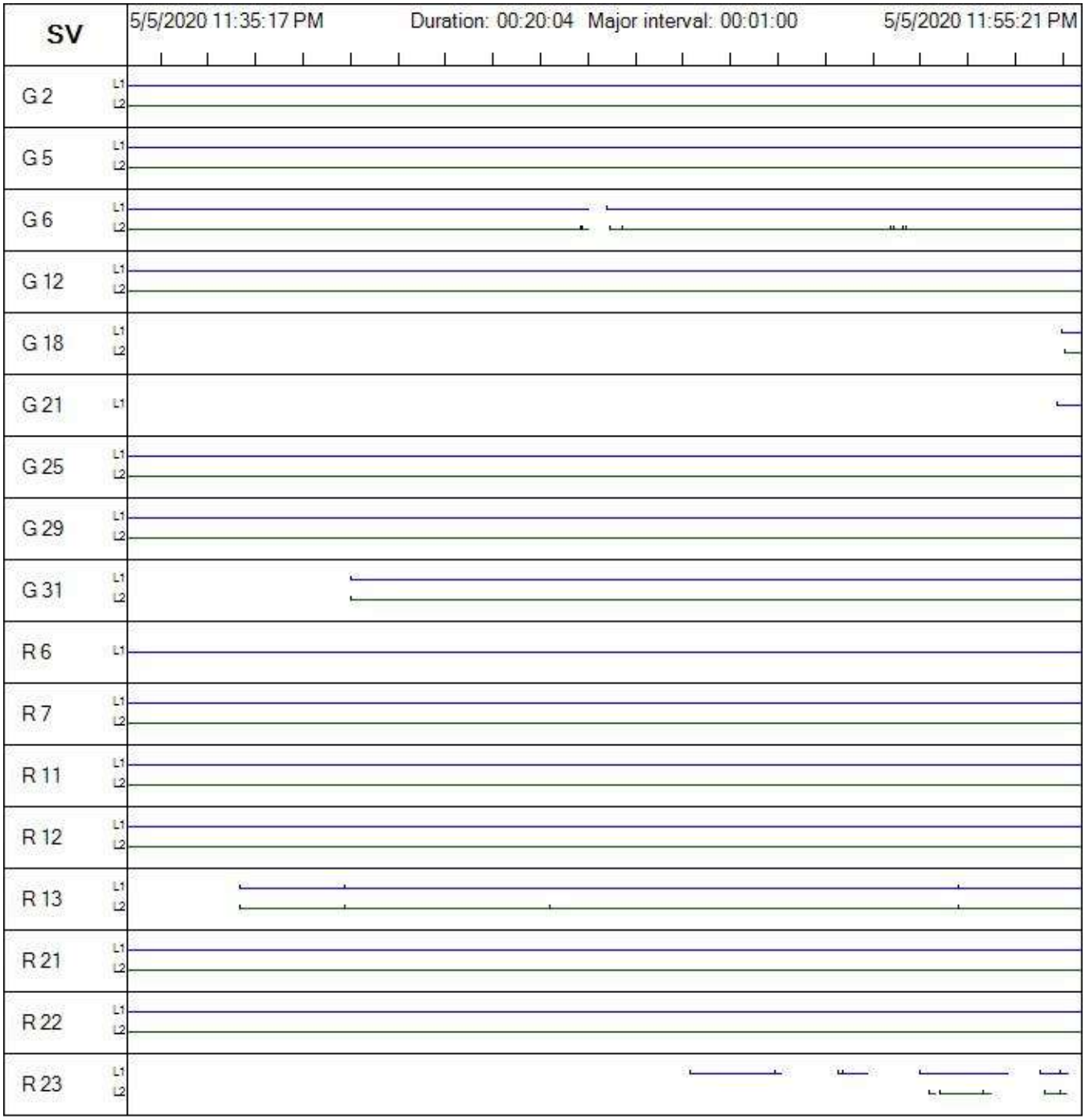
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0012061156		
Y	0.0010912002	0.0029032968	
Z	-0.0009212189	-0.0025454882	0.0035432594

Occupations

	From	To
Point ID:	HS5407	NVA068
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141262.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8574126B.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA054 (9:51:53 PM-10:13:19 PM) (S8)

Baseline observation:	P217 --- NVA054 (B8)
Processed:	5/13/2020 6:39:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.110 ft
Vertical precision:	0.192 ft
RMS:	0.081 ft
Maximum PDOP:	1.820
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 9:52:12 PM (UTC)
Processing stop time:	5/5/2020 10:13:12 PM (UTC)
Processing duration:	00:21:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.574 ft	**Latitude**	N37°06'16.18600"	**Latitude**	N37°06'16.18600"
Northing	1862583.976 ft	**Longitude**	W121°39'02.23315"	**Longitude**	W121°39'02.23315"
Elevation	345.525 ft	**Height**	238.997 ft	**Height**	238.997 ft

To:	NVA054				
Grid		**Local**		**Global**	
Easting	6217418.582 ft	**Latitude**	N37°14'59.08395"	**Latitude**	N37°14'59.08395"
Northing	1915582.244 ft	**Longitude**	W121°40'57.90126"	**Longitude**	W121°40'57.90126"
Elevation	1013.811 ft	**Height**	908.211 ft	**Height**	908.210 ft

Vector					
ΔEasting	-8700.993 ft	**NS Fwd Azimuth**	349°58'19.4"	**ΔX**	8530.307 ft
ΔNorthing	52998.268 ft	**Ellipsoid Dist.**	53708.875 ft	**ΔY**	31661.847 ft
ΔElevation	668.286 ft	**ΔHeight**	669.214 ft	**ΔZ**	42544.205 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.038 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.053 ft
σ ΔNorthing	0.042 ft	**σ Ellipsoid Dist.**	0.043 ft	**σ ΔY**	0.065 ft
σ ΔElevation	0.098 ft	**σ ΔHeight**	0.098 ft	**σ ΔZ**	0.076 ft

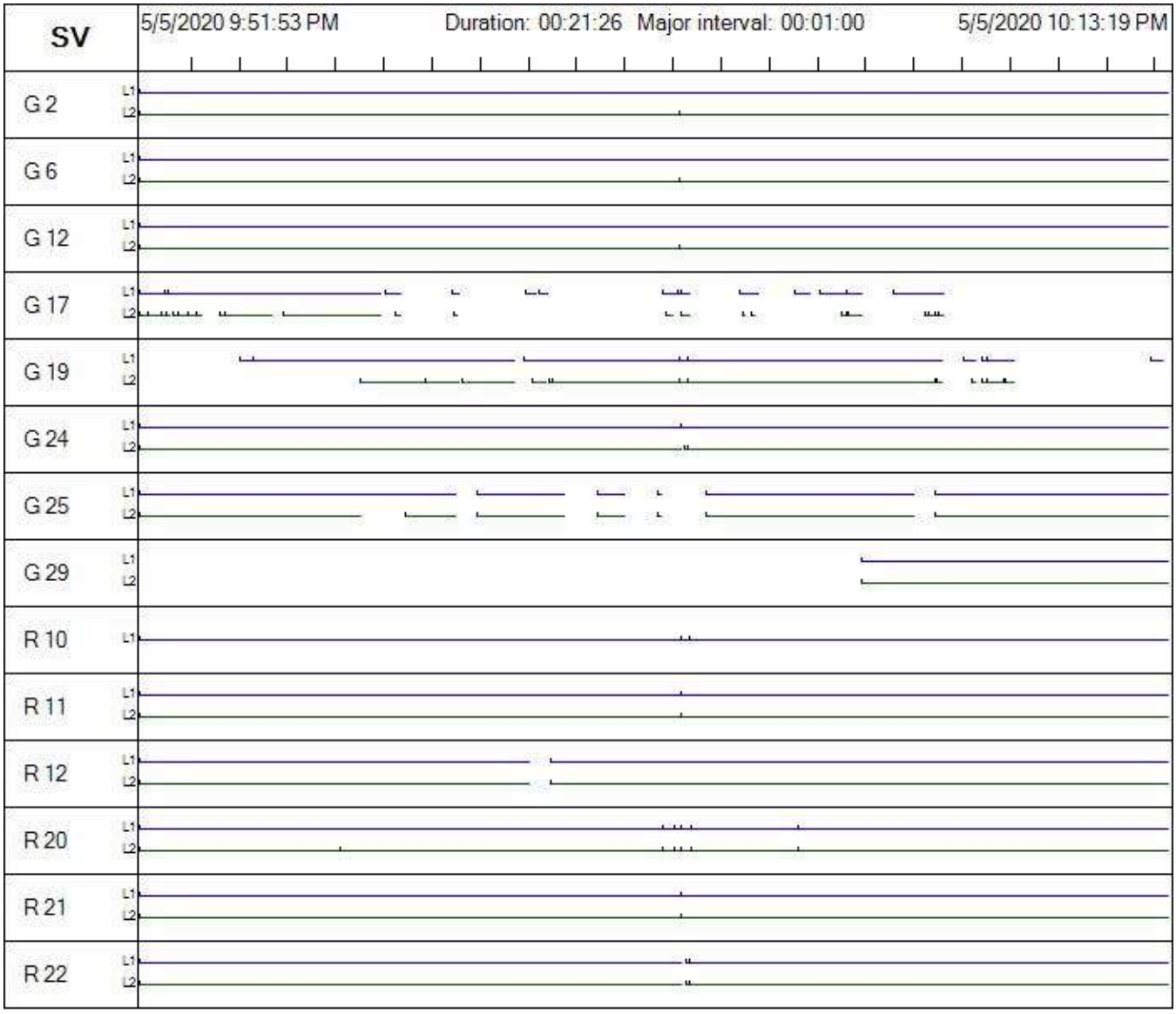
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0028226690		
Y	0.0019490228	0.0042269365	
Z	-0.0027453077	-0.0031230205	0.0057388516

Occupations

	From	To
Point ID:	P217	NVA054
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2171260.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8574126A.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5243499055
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - VVA030 (10:17:33 PM-10:28:54 PM) (S7)

Baseline observation:	P217 --- VVA030 (B7)
Processed:	5/13/2020 6:39:22 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.087 ft
Vertical precision:	0.126 ft
RMS:	0.058 ft
Maximum PDOP:	1.514
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 10:17:42 PM (UTC)
Processing stop time:	5/5/2020 10:28:42 PM (UTC)
Processing duration:	00:11:00
Processing interval:	15 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.574 ft	**Latitude**	N37°06'16.18600"	**Latitude**	N37°06'16.18600"
Northing	1862583.976 ft	**Longitude**	W121°39'02.23315"	**Longitude**	W121°39'02.23315"
Elevation	345.525 ft	**Height**	238.997 ft	**Height**	238.997 ft

To:	VVA030				
Grid		**Local**		**Global**	
Easting	6217352.740 ft	**Latitude**	N37°14'58.86846"	**Latitude**	N37°14'58.86846"
Northing	1915561.280 ft	**Longitude**	W121°40'58.71227"	**Longitude**	W121°40'58.71227"
Elevation	1013.088 ft	**Height**	907.484 ft	**Height**	907.484 ft

Vector					
ΔEasting	-8766.834 ft	**NS Fwd Azimuth**	349°53'56.8"	**ΔX**	8467.879 ft
ΔNorthing	52977.303 ft	**Ellipsoid Dist.**	53698.897 ft	**ΔY**	31685.553 ft
ΔElevation	667.562 ft	**ΔHeight**	668.487 ft	**ΔZ**	42526.415 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.032 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.040 ft
σ ΔNorthing	0.033 ft	**σ Ellipsoid Dist.**	0.034 ft	**σ ΔY**	0.051 ft
σ ΔElevation	0.064 ft	**σ ΔHeight**	0.064 ft	**σ ΔZ**	0.045 ft

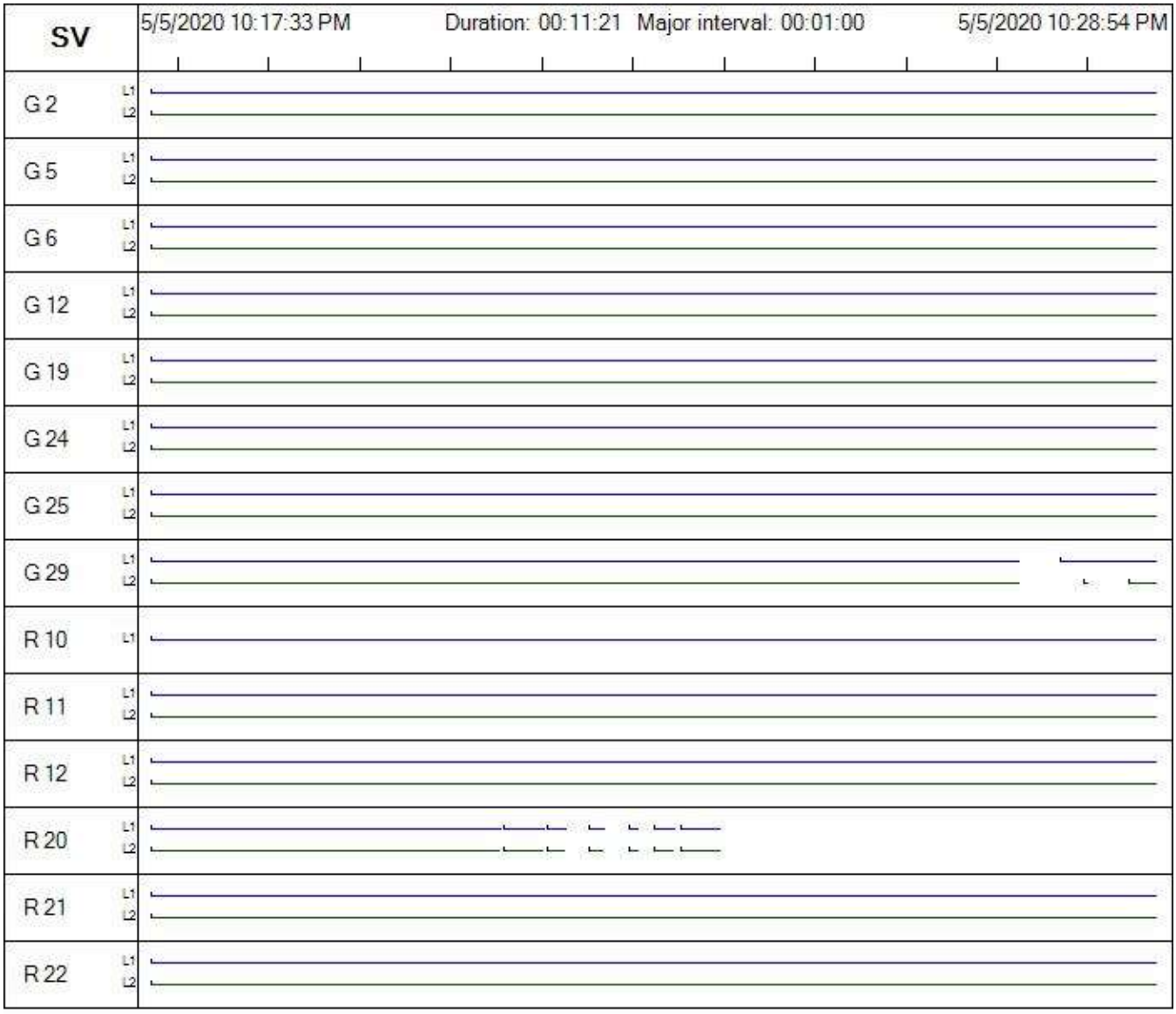
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0016285694		
Y	0.0009645403	0.0026407887	
Z	-0.0009292638	-0.0010761834	0.0020212056

Occupations

	From	To
Point ID:	P217	VVA030
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2171260.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8574126A.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5243499055
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P217 - NVA068 (11:35:17 PM-11:55:21 PM) (S6)

Baseline observation:	P217 --- NVA068 (B6)
Processed:	5/13/2020 6:39:21 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.106 ft
Vertical precision:	0.195 ft
RMS:	0.072 ft
Maximum PDOP:	1.844
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/5/2020 11:35:42 PM (UTC)
Processing stop time:	5/5/2020 11:55:12 PM (UTC)
Processing duration:	00:19:30
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P217				
Grid		**Local**		**Global**	
Easting	6226119.574 ft	**Latitude**	N37°06'16.18600"	**Latitude**	N37°06'16.18600"
Northing	1862583.976 ft	**Longitude**	W121°39'02.23315"	**Longitude**	W121°39'02.23315"
Elevation	345.525 ft	**Height**	238.997 ft	**Height**	238.997 ft

To:	NVA068				
Grid		**Local**		**Global**	
Easting	6176899.362 ft	**Latitude**	N37°16'33.21117"	**Latitude**	N37°16'33.21117"
Northing	1925645.450 ft	**Longitude**	W121°49'20.76689"	**Longitude**	W121°49'20.76689"
Elevation	288.493 ft	**Height**	181.811 ft	**Height**	181.810 ft

Vector					
ΔEasting	-49220.213 ft	**NS Fwd Azimuth**	321°19'20.6"	**ΔX**	-22700.089 ft
ΔNorthing	63061.474 ft	**Ellipsoid Dist.**	79997.947 ft	**ΔY**	58448.702 ft
ΔElevation	-57.032 ft	**ΔHeight**	-57.186 ft	**ΔZ**	49681.495 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.034 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.039 ft
σ ΔNorthing	0.040 ft	**σ Ellipsoid Dist.**	0.031 ft	**σ ΔY**	0.070 ft
σ ΔElevation	0.099 ft	**σ ΔHeight**	0.099 ft	**σ ΔZ**	0.078 ft

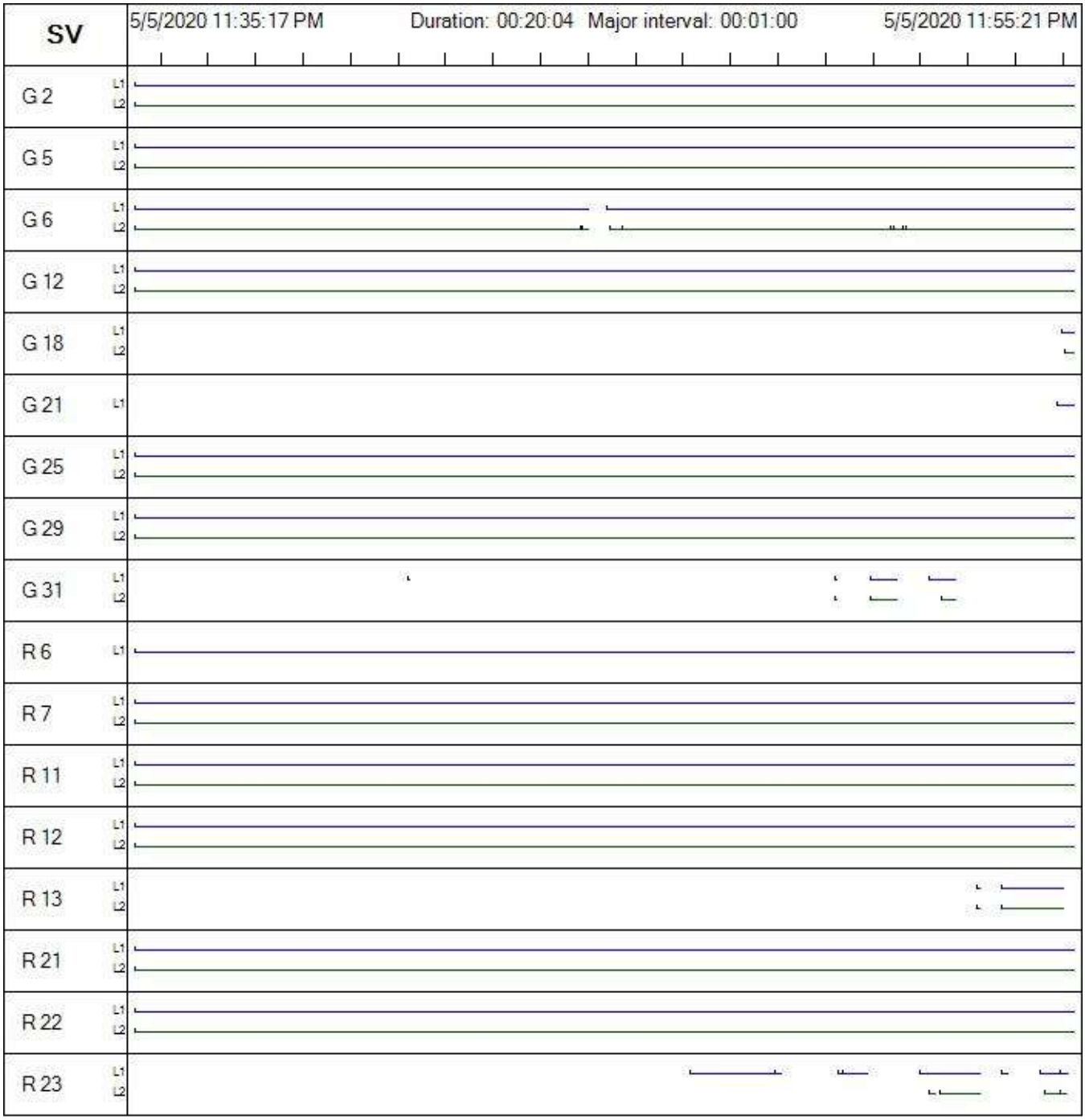
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0015587541		
Y	0.0014813356	0.0049449207	
Z	-0.0013017061	-0.0044092595	0.0061332194

Occupations

	From	To
Point ID:	P217	NVA068
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2171260.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\8574126B.t02
Receiver type:	NetR9	R8 Model 3
Receiver serial number:	5038K70492	5243499055
Antenna type:	TRM59800-80 w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	0220367057	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - AI8013 (7:00:49 PM-11:07:21 PM) (S11)

Baseline observation:	MHCB --- AI8013 (B11)
Processed:	5/13/2020 8:03:56 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.003 ft
Vertical precision:	0.015 ft
RMS:	0.021 ft
Maximum PDOP:	3.103
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/6/2020 7:01:12 PM (UTC)
Processing stop time:	5/6/2020 11:07:12 PM (UTC)
Processing duration:	04:06:00
Processing interval:	2 Minutes

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229517.799 ft	**Latitude**	N37°20'29.52255"	**Latitude**	N37°20'29.52254"
Northing	1948854.970 ft	**Longitude**	W121°38'33.28905"	**Longitude**	W121°38'33.28905"
Elevation	4243.149 ft	**Height**	4139.647 ft	**Height**	4139.647 ft

To:	AI8013				
Grid		**Local**		**Global**	
Easting	6225944.505 ft	**Latitude**	N37°20'23.31989"	**Latitude**	N37°20'23.31989"
Northing	1948271.449 ft	**Longitude**	W121°39'17.44663"	**Longitude**	W121°39'17.44663"
Elevation	3495.411 ft	**Height**	3391.723 ft	**Height**	3391.723 ft

Vector					
ΔEasting	-3573.294 ft	**NS Fwd Azimuth**	260°01'33.2"	**ΔX**	-2923.929 ft
ΔNorthing	-583.520 ft	**Ellipsoid Dist.**	3620.789 ft	**ΔY**	2053.667 ft
ΔElevation	-747.738 ft	**ΔHeight**	-747.924 ft	**ΔZ**	-952.527 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.001 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.003 ft
σ ΔNorthing	0.001 ft	**σ Ellipsoid Dist.**	0.001 ft	**σ ΔY**	0.005 ft
σ ΔElevation	0.008 ft	**σ ΔHeight**	0.008 ft	**σ ΔZ**	0.005 ft

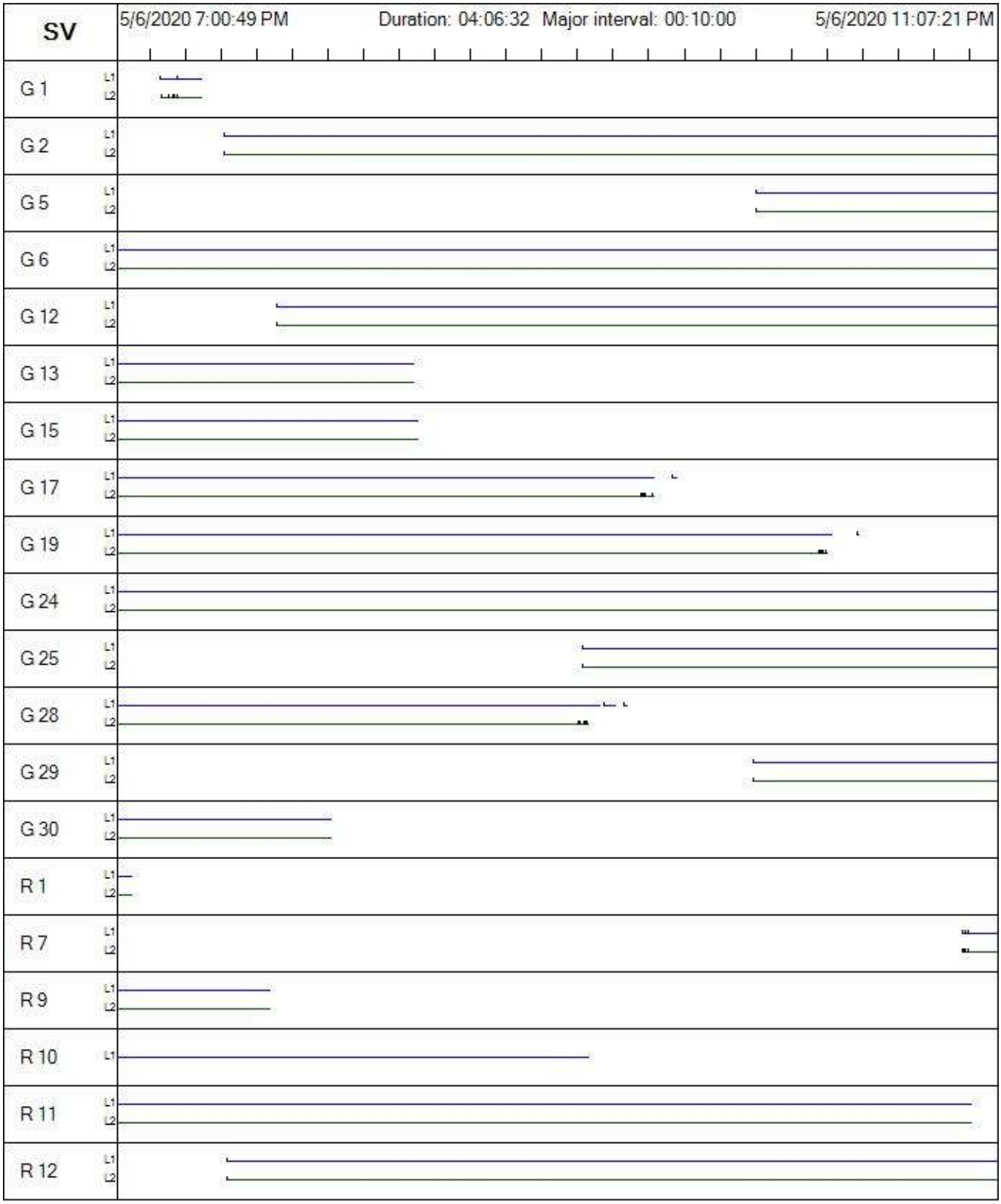
Aposteriori Covariance Matrix (US survey foot²)

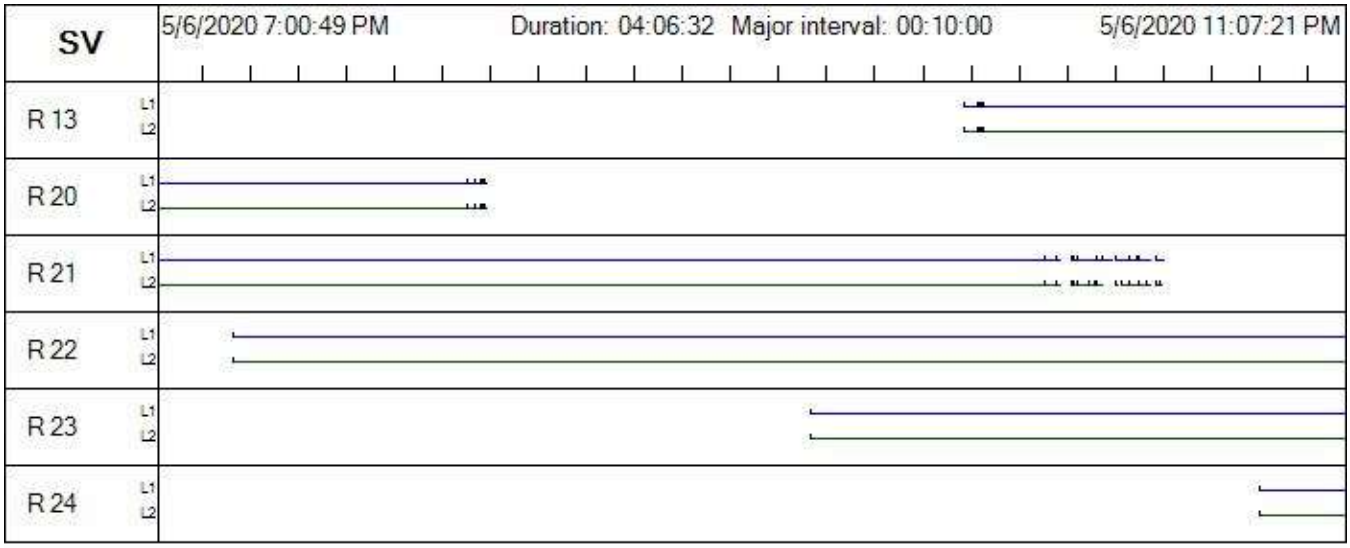
	X	Y	Z
X	0.0000109516		
Y	0.0000153875	0.0000265294	
Z	-0.0000145374	-0.0000236034	0.0000244422

Occupations

	From	To
Point ID:	MHCB	AI8013
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb1270.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141270.T02
Receiver type:	PolaRx5	R8-4
Receiver serial number:	4502928	5329440614
Antenna type:	700936 D/M Choke w/SCIS Dome	R8-4 Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
5/6/2020 7:00:49 PM
Duration: 04:06:32
Major interval: 00:10:00
5/6/2020 11:07:21 PM
R 13
R 20
R 21
R 22
R 23
R 24

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA067 (8:58:45 PM-9:08:58 PM) (S8)

Baseline observation:	MHCB --- NVA067 (B8)
Processed:	5/13/2020 8:03:57 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.111 ft
Vertical precision:	0.251 ft
RMS:	0.024 ft
Maximum PDOP:	3.439
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/6/2020 8:58:45 PM (UTC)
Processing stop time:	5/6/2020 9:08:58 PM (UTC)
Processing duration:	00:10:13
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229517.799 ft	**Latitude**	N37°20'29.52255"	**Latitude**	N37°20'29.52254"
Northing	1948854.970 ft	**Longitude**	W121°38'33.28905"	**Longitude**	W121°38'33.28905"
Elevation	4243.149 ft	**Height**	4139.647 ft	**Height**	4139.647 ft

To:	NVA067				
Grid		**Local**		**Global**	
Easting	6245212.026 ft	**Latitude**	N37°21'23.44536"	**Latitude**	N37°21'23.44535"
Northing	1954121.996 ft	**Longitude**	W121°35'19.71055"	**Longitude**	W121°35'19.71055"
Elevation	2203.264 ft	**Height**	2100.118 ft	**Height**	2100.118 ft

Vector					
ΔEasting	15694.228 ft	**NS Fwd Azimuth**	70°44'55.4"	**ΔX**	15897.836 ft
ΔNorthing	5267.026 ft	**Ellipsoid Dist.**	16555.233 ft	**ΔY**	-3996.497 ft
ΔElevation	-2039.886 ft	**ΔHeight**	-2039.529 ft	**ΔZ**	3099.015 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.032 ft	**σ NS fwd Azimuth**	0°00'00.6"	**σ ΔX**	0.057 ft
σ ΔNorthing	0.045 ft	**σ Ellipsoid Dist.**	0.032 ft	**σ ΔY**	0.074 ft
σ ΔElevation	0.128 ft	**σ ΔHeight**	0.128 ft	**σ ΔZ**	0.103 ft

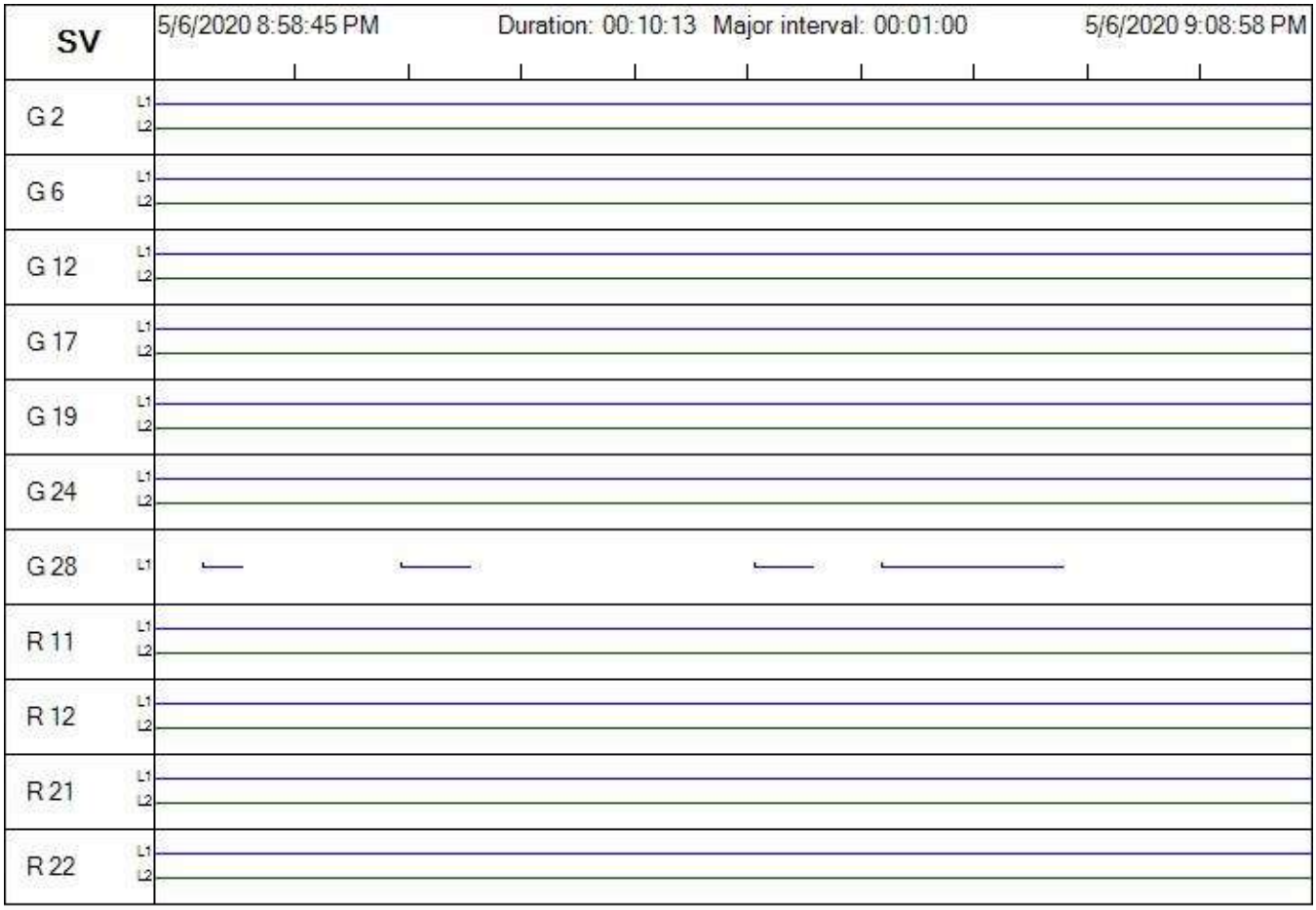
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0032908062		
Y	0.0032577058	0.0055271151	
Z	-0.0045703315	-0.0064188776	0.0106800093

Occupations

	From	To
Point ID:	MHCB	NVA067
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb1270.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741272.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5243499055
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA053 (9:31:54 PM-9:55:25 PM) (S7)

Baseline observation:	MHCB --- VVA053 (B7)
Processed:	5/13/2020 8:03:56 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.082 ft
Vertical precision:	0.141 ft
RMS:	0.035 ft
Maximum PDOP:	2.994
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/6/2020 9:32:02 PM (UTC)
Processing stop time:	5/6/2020 9:55:22 PM (UTC)
Processing duration:	00:23:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229517.799 ft	**Latitude**	N37°20'29.52255"	**Latitude**	N37°20'29.52254"
Northing	1948854.970 ft	**Longitude**	W121°38'33.28905"	**Longitude**	W121°38'33.28905"
Elevation	4243.149 ft	**Height**	4139.647 ft	**Height**	4139.647 ft

To:	VVA053				
Grid		**Local**		**Global**	
Easting	6273716.540 ft	**Latitude**	N37°19'47.54256"	**Latitude**	N37°19'47.54255"
Northing	1944105.141 ft	**Longitude**	W121°29'25.35904"	**Longitude**	W121°29'25.35904"
Elevation	2346.917 ft	**Height**	2243.723 ft	**Height**	2243.723 ft

Vector					
ΔEasting	44198.742 ft	**NS Fwd Azimuth**	95°26'04.8"	**ΔX**	37150.756 ft
ΔNorthing	-4749.828 ft	**Ellipsoid Dist.**	44455.217 ft	**ΔY**	-24078.945 ft
ΔElevation	-1896.232 ft	**ΔHeight**	-1895.924 ft	**ΔZ**	-4526.373 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.022 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.035 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.023 ft	**σ ΔY**	0.040 ft
σ ΔElevation	0.072 ft	**σ ΔHeight**	0.072 ft	**σ ΔZ**	0.063 ft

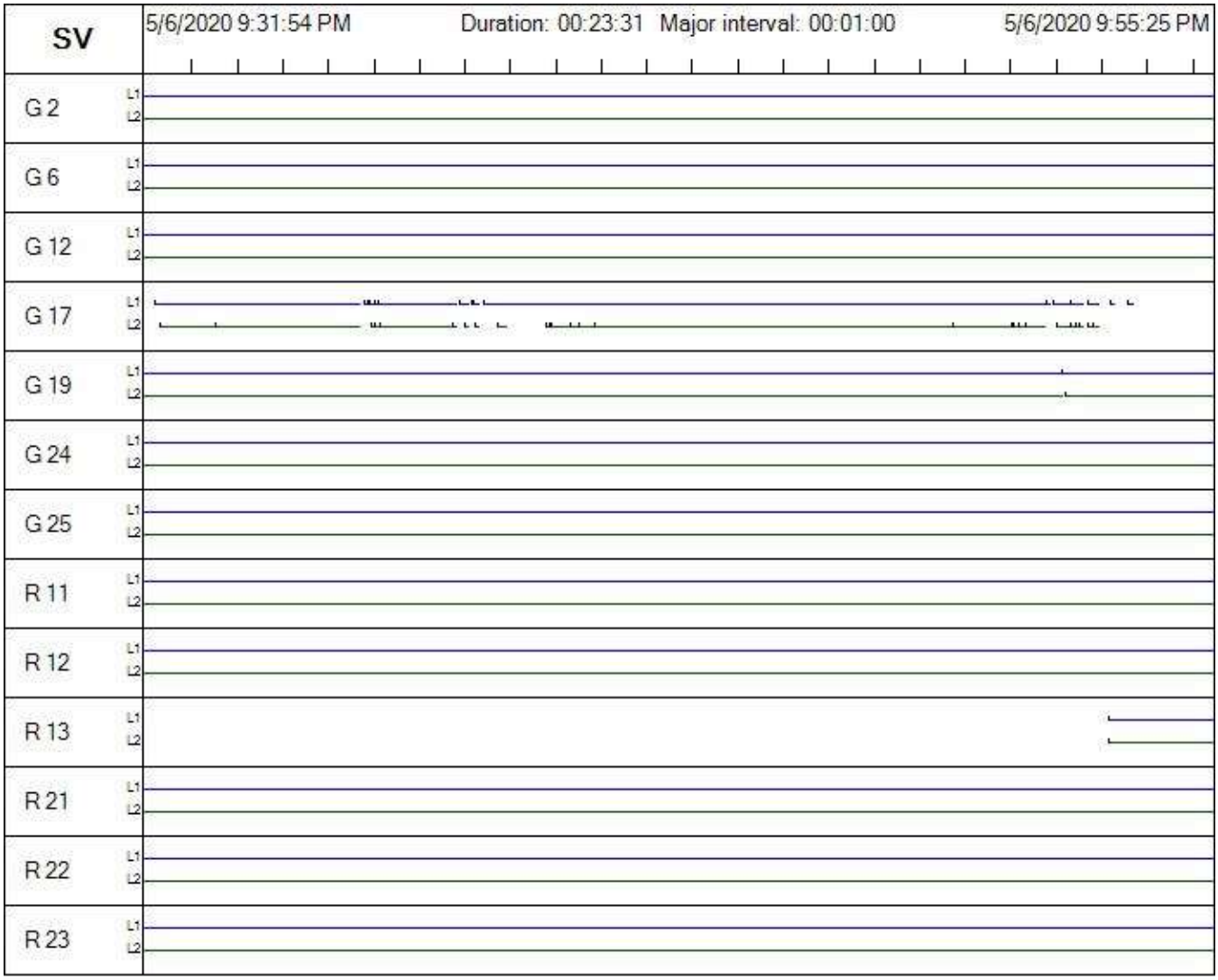
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0011927898		
Y	0.0009198875	0.0015882697	
Z	-0.0016283412	-0.0017661923	0.0039101565

Occupations

	From	To
Point ID:	MHCB	VVA053
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb1270.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741273.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5243499055
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA051 (10:02:50 PM-10:23:20 PM) (S6)

Baseline observation:	MHCB --- NVA051 (B6)
Processed:	5/13/2020 8:03:56 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.051 ft
Vertical precision:	0.072 ft
RMS:	0.026 ft
Maximum PDOP:	1.793
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/6/2020 10:02:52 PM (UTC)
Processing stop time:	5/6/2020 10:23:12 PM (UTC)
Processing duration:	00:20:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229517.799 ft	**Latitude**	N37°20'29.52255"	**Latitude**	N37°20'29.52254"
Northing	1948854.970 ft	**Longitude**	W121°38'33.28905"	**Longitude**	W121°38'33.28905"
Elevation	4243.149 ft	**Height**	4139.647 ft	**Height**	4139.647 ft

To:	NVA051				
Grid		**Local**		**Global**	
Easting	6274079.661 ft	**Latitude**	N37°19'46.08134"	**Latitude**	N37°19'46.08134"
Northing	1943953.505 ft	**Longitude**	W121°29'20.84342"	**Longitude**	W121°29'20.84342"
Elevation	2328.720 ft	**Height**	2225.523 ft	**Height**	2225.523 ft

Vector					
ΔEasting	44561.863 ft	**NS Fwd Azimuth**	95°34'40.0"	**ΔX**	37422.539 ft
ΔNorthing	-4901.464 ft	**Ellipsoid Dist.**	44832.617 ft	**ΔY**	-24333.567 ft
ΔElevation	-1914.429 ft	**ΔHeight**	-1914.124 ft	**ΔZ**	-4654.942 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.023 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.018 ft	**σ ΔY**	0.029 ft
σ ΔElevation	0.037 ft	**σ ΔHeight**	0.037 ft	**σ ΔZ**	0.026 ft

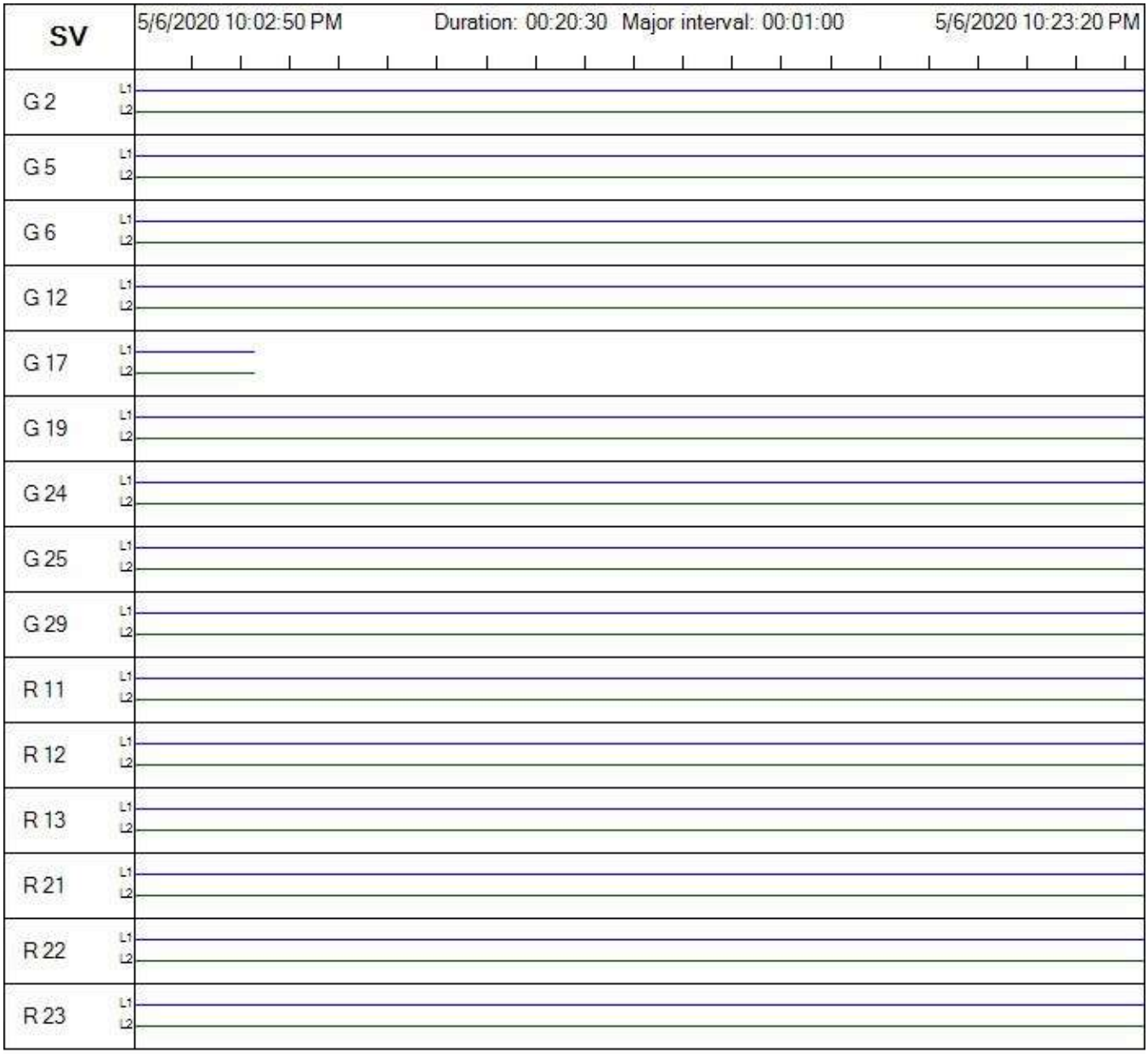
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0005394206		
Y	0.0003412251	0.0008267705	
Z	-0.0003145462	-0.0003173862	0.0006974659

Occupations

	From	To
Point ID:	MHCB	NVA051
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb1270.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741274.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5243499055
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AI8013 - VVA013 (7:18:51 PM-7:34:06 PM) (S1)

Baseline observation:	AI8013 --- VVA013 (B1)
Processed:	5/13/2020 8:03:59 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.042 ft
Vertical precision:	0.060 ft
RMS:	0.077 ft
Maximum PDOP:	1.734
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/6/2020 7:18:51 PM (UTC)
Processing stop time:	5/6/2020 7:34:06 PM (UTC)
Processing duration:	00:15:15
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AI8013				
Grid		**Local**		**Global**	
Easting	6225948.800 ft	**Latitude**	N37°20'23.30784"	**Latitude**	N37°20'23.30784"
Northing	1948270.177 ft	**Longitude**	W121°39'17.39325"	**Longitude**	W121°39'17.39325"
Elevation	3497.172 ft	**Height**	3393.483 ft	**Height**	3393.483 ft

To:	VVA013				
Grid		**Local**		**Global**	
Easting	6226345.393 ft	**Latitude**	N37°20'11.85273"	**Latitude**	N37°20'11.85273"
Northing	1947106.630 ft	**Longitude**	W121°39'12.30492"	**Longitude**	W121°39'12.30492"
Elevation	3384.866 ft	**Height**	3281.164 ft	**Height**	3281.164 ft

Vector					
ΔEasting	396.593 ft	**NS Fwd Azimuth**	160°28'17.1"	**ΔX**	27.874 ft
ΔNorthing	-1163.548 ft	**Ellipsoid Dist.**	1229.335 ft	**ΔY**	-737.948 ft
ΔElevation	-112.306 ft	**ΔHeight**	-112.319 ft	**ΔZ**	-989.454 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.016 ft	**σ NS fwd Azimuth**	0°00'02.5"	**σ ΔX**	0.021 ft
σ ΔNorthing	0.017 ft	**σ Ellipsoid Dist.**	0.017 ft	**σ ΔY**	0.026 ft
σ ΔElevation	0.031 ft	**σ ΔHeight**	0.031 ft	**σ ΔZ**	0.019 ft

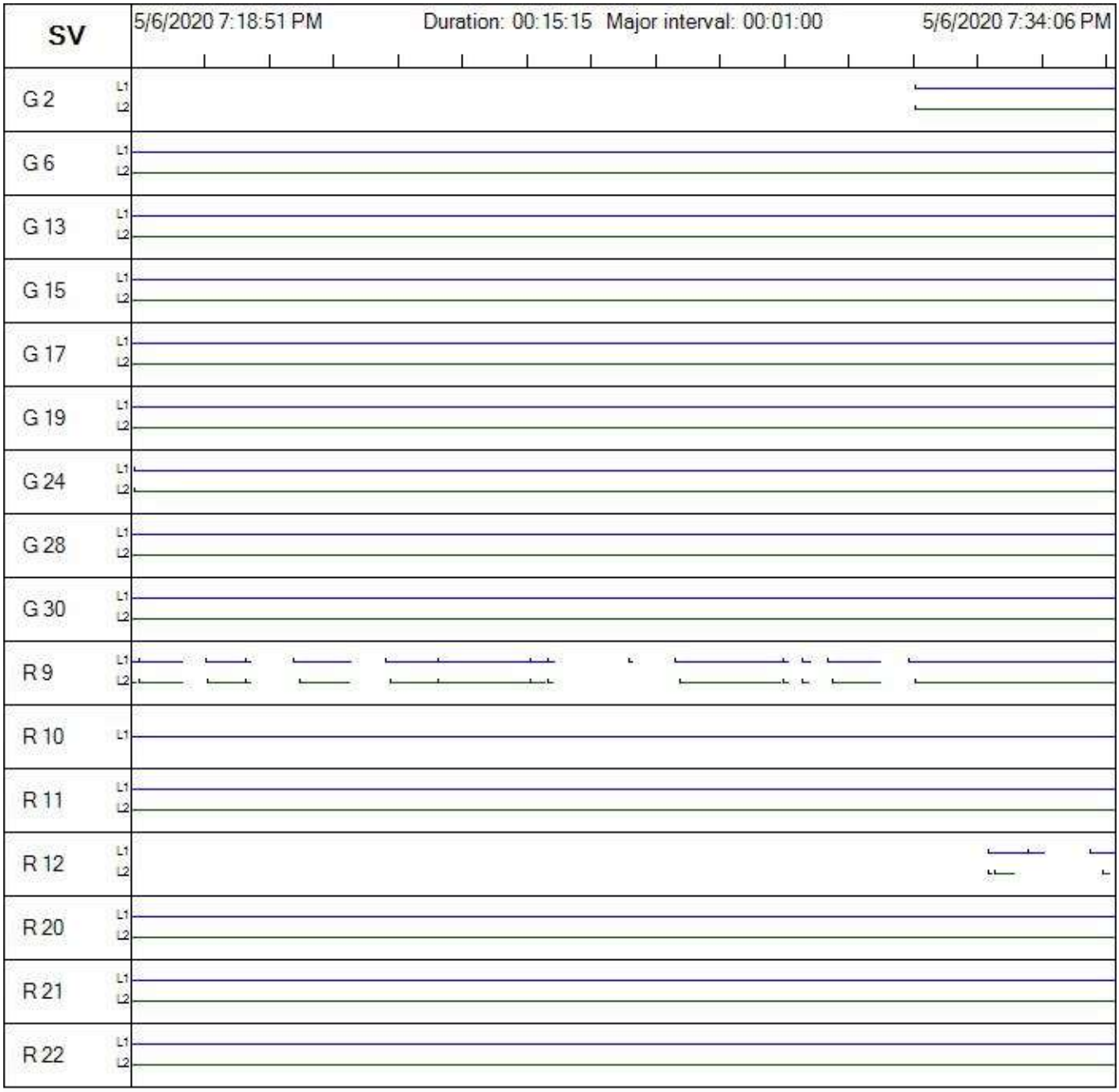
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0004351437		
Y	0.0002790694	0.0006534643	
Z	-0.0001991034	-0.0002021135	0.0003681715

Occupations

	From	To
Point ID:	AI8013	VVA013
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141270.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741270.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AI8013 - NVA016 (7:57:27 PM-8:07:53 PM) (S2)

Baseline observation:	AI8013 --- NVA016 (B2)
Processed:	5/13/2020 8:04:00 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.033 ft
Vertical precision:	0.057 ft
RMS:	0.028 ft
Maximum PDOP:	1.654
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/6/2020 7:57:27 PM (UTC)
Processing stop time:	5/6/2020 8:07:53 PM (UTC)
Processing duration:	00:10:26
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AI8013				
Grid		**Local**		**Global**	
Easting	6225948.800 ft	**Latitude**	N37°20'23.30784"	**Latitude**	N37°20'23.30784"
Northing	1948270.177 ft	**Longitude**	W121°39'17.39325"	**Longitude**	W121°39'17.39325"
Elevation	3497.172 ft	**Height**	3393.483 ft	**Height**	3393.483 ft

To:	NVA016				
Grid		**Local**		**Global**	
Easting	6218198.359 ft	**Latitude**	N37°19'44.61834"	**Latitude**	N37°19'44.61834"
Northing	1944453.563 ft	**Longitude**	W121°40'52.76489"	**Longitude**	W121°40'52.76489"
Elevation	2354.025 ft	**Height**	2249.745 ft	**Height**	2249.745 ft

Vector					
ΔEasting	-7750.441 ft	**NS Fwd Azimuth**	243°04'31.8"	**ΔX**	-7325.230 ft
ΔNorthing	-3816.614 ft	**Ellipsoid Dist.**	8639.591 ft	**ΔY**	2798.206 ft
ΔElevation	-1143.146 ft	**ΔHeight**	-1143.738 ft	**ΔZ**	-3805.501 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.012 ft	**σ NS fwd Azimuth**	0°00'00.3"	**σ ΔX**	0.020 ft
σ ΔNorthing	0.013 ft	**σ Ellipsoid Dist.**	0.013 ft	**σ ΔY**	0.023 ft
σ ΔElevation	0.029 ft	**σ ΔHeight**	0.029 ft	**σ ΔZ**	0.015 ft

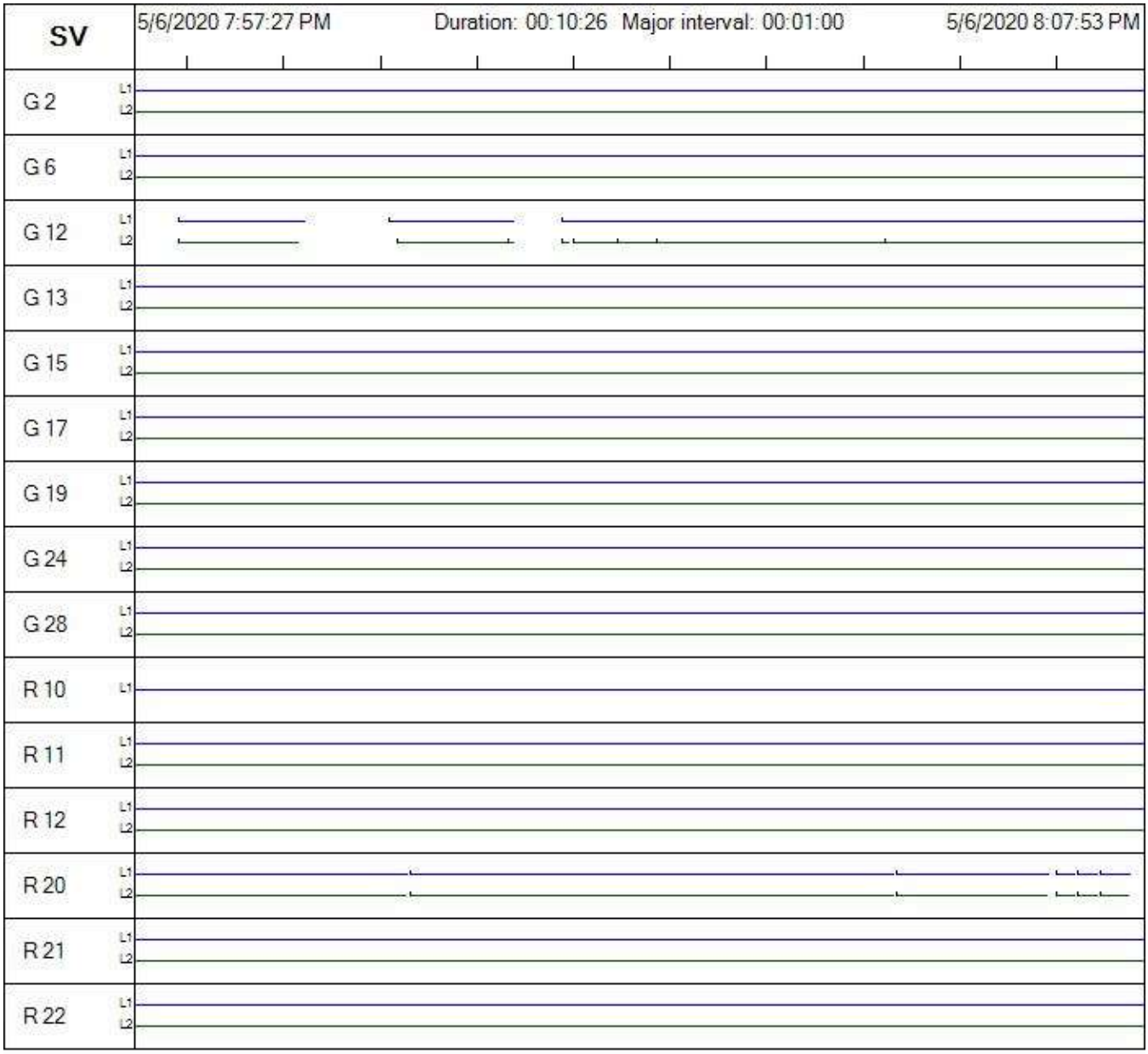
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0003999180		
Y	0.0003350624	0.0005334811	
Z	-0.0001788026	-0.0002215046	0.0002276165

Occupations

	From	To
Point ID:	AI8013	NVA016
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141270.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741271.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AI8013 - NVA067 (8:58:45 PM-9:08:58 PM) (S3)

Baseline observation:	AI8013 --- NVA067 (B3)
Processed:	5/13/2020 8:04:00 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.102 ft
Vertical precision:	0.234 ft
RMS:	0.015 ft
Maximum PDOP:	3.439
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/6/2020 8:58:45 PM (UTC)
Processing stop time:	5/6/2020 9:08:58 PM (UTC)
Processing duration:	00:10:13
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AI8013				
Grid		**Local**		**Global**	
Easting	6225948.800 ft	**Latitude**	N37°20'23.30784"	**Latitude**	N37°20'23.30784"
Northing	1948270.177 ft	**Longitude**	W121°39'17.39325"	**Longitude**	W121°39'17.39325"
Elevation	3497.172 ft	**Height**	3393.483 ft	**Height**	3393.483 ft

To:	NVA067				
Grid		**Local**		**Global**	
Easting	6245216.335 ft	**Latitude**	N37°21'23.43333"	**Latitude**	N37°21'23.43332"
Northing	1954120.728 ft	**Longitude**	W121°35'19.65700"	**Longitude**	W121°35'19.65700"
Elevation	2205.016 ft	**Height**	2101.871 ft	**Height**	2101.871 ft

Vector					
ΔEasting	19267.535 ft	**NS Fwd Azimuth**	72°24'08.4"	**ΔX**	18821.785 ft
ΔNorthing	5850.551 ft	**Ellipsoid Dist.**	20137.139 ft	**ΔY**	-6050.161 ft
ΔElevation	-1292.156 ft	**ΔHeight**	-1291.613 ft	**ΔZ**	4051.539 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.029 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.053 ft
σ ΔNorthing	0.041 ft	**σ Ellipsoid Dist.**	0.030 ft	**σ ΔY**	0.070 ft
σ ΔElevation	0.119 ft	**σ ΔHeight**	0.119 ft	**σ ΔZ**	0.095 ft

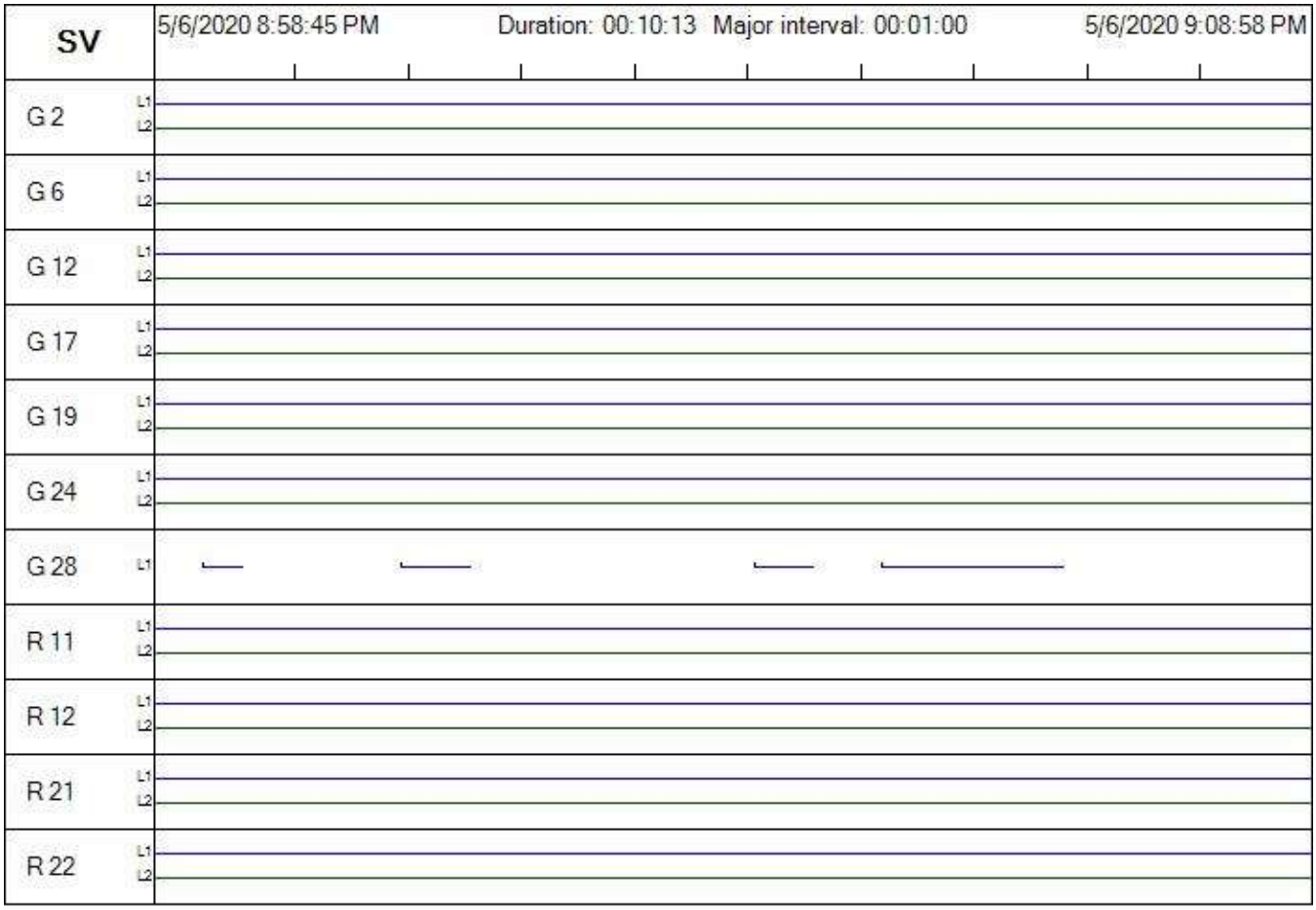
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0028051043		
Y	0.0028190551	0.0048988826	
Z	-0.0038998985	-0.0055767602	0.0090933794

Occupations

	From	To
Point ID:	AI8013	NVA067
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141270.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741272.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AI8013 - VVA053 (9:31:54 PM-9:55:25 PM) (S4)

Baseline observation:	AI8013 --- VVA053 (B4)
Processed:	5/13/2020 8:03:58 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.081 ft
Vertical precision:	0.153 ft
RMS:	0.130 ft
Maximum PDOP:	1.811
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/6/2020 9:32:02 PM (UTC)
Processing stop time:	5/6/2020 9:55:22 PM (UTC)
Processing duration:	00:23:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	AI8013				
Grid		**Local**		**Global**	
Easting	6225948.800 ft	**Latitude**	N37°20'23.30784"	**Latitude**	N37°20'23.30784"
Northing	1948270.177 ft	**Longitude**	W121°39'17.39325"	**Longitude**	W121°39'17.39325"
Elevation	3497.172 ft	**Height**	3393.483 ft	**Height**	3393.483 ft

To:	VVA053				
Grid		**Local**		**Global**	
Easting	6273720.839 ft	**Latitude**	N37°19'47.52979"	**Latitude**	N37°19'47.52978"
Northing	1944103.804 ft	**Longitude**	W121°29'25.30565"	**Longitude**	W121°29'25.30565"
Elevation	2348.630 ft	**Height**	2245.436 ft	**Height**	2245.436 ft

Vector					
ΔEasting	47772.038 ft	**NS Fwd Azimuth**	94°16'40.1"	**ΔX**	40074.694 ft
ΔNorthing	-4166.373 ft	**Ellipsoid Dist.**	47955.515 ft	**ΔY**	-26132.611 ft
ΔElevation	-1148.542 ft	**ΔHeight**	-1148.047 ft	**ΔZ**	-3573.932 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.027 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.041 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.027 ft	**σ ΔY**	0.048 ft
σ ΔElevation	0.078 ft	**σ ΔHeight**	0.078 ft	**σ ΔZ**	0.062 ft

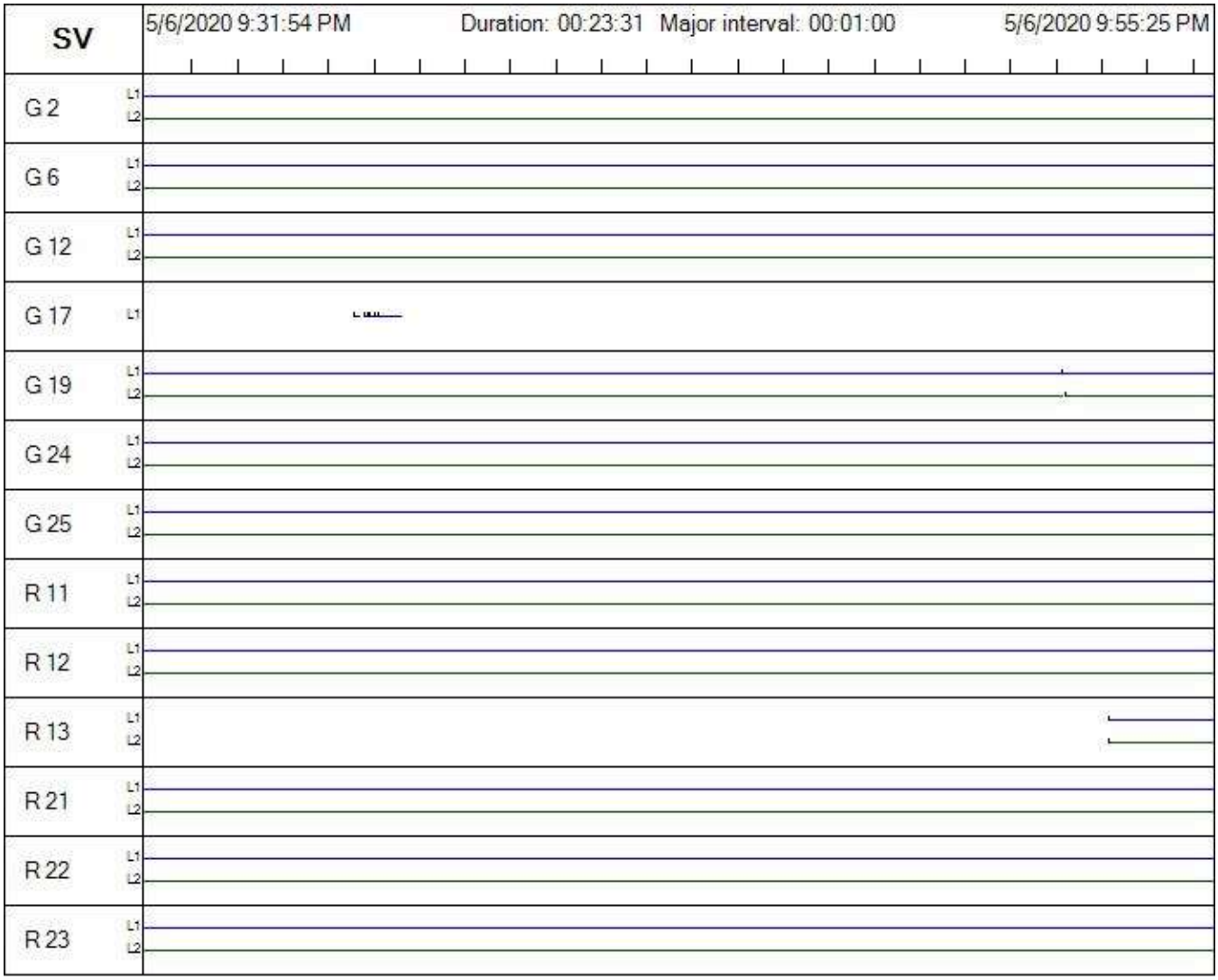
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0016821912		
Y	0.0012690047	0.0023033942	
Z	-0.0018024030	-0.0020971969	0.0038766132

Occupations

	From	To
Point ID:	AI8013	VVA053
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141270.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741273.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AI8013 - NVA051 (10:02:50 PM-10:23:20 PM) (S5)

Baseline observation:	AI8013 --- NVA051 (B5)
Processed:	5/13/2020 8:03:58 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.078 ft
Vertical precision:	0.120 ft
RMS:	0.107 ft
Maximum PDOP:	1.789
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/6/2020 10:02:52 PM (UTC)
Processing stop time:	5/6/2020 10:23:12 PM (UTC)
Processing duration:	00:20:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	AI8013				
Grid		**Local**		**Global**	
Easting	6225948.800 ft	**Latitude**	N37°20'23.30784"	**Latitude**	N37°20'23.30784"
Northing	1948270.177 ft	**Longitude**	W121°39'17.39325"	**Longitude**	W121°39'17.39325"
Elevation	3497.172 ft	**Height**	3393.483 ft	**Height**	3393.483 ft

To:	NVA051				
Grid		**Local**		**Global**	
Easting	6274083.979 ft	**Latitude**	N37°19'46.06895"	**Latitude**	N37°19'46.06895"
Northing	1943952.207 ft	**Longitude**	W121°29'20.78979"	**Longitude**	W121°29'20.78979"
Elevation	2330.454 ft	**Height**	2227.257 ft	**Height**	2227.257 ft

Vector					
ΔEasting	48135.179 ft	**NS Fwd Azimuth**	94°25'10.0"	**ΔX**	40346.497 ft
ΔNorthing	-4317.970 ft	**Ellipsoid Dist.**	48330.617 ft	**ΔY**	-26387.237 ft
ΔElevation	-1166.718 ft	**ΔHeight**	-1166.227 ft	**ΔZ**	-3702.458 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.030 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.041 ft
σ ΔNorthing	0.031 ft	**σ Ellipsoid Dist.**	0.031 ft	**σ ΔY**	0.047 ft
σ ΔElevation	0.061 ft	**σ ΔHeight**	0.061 ft	**σ ΔZ**	0.042 ft

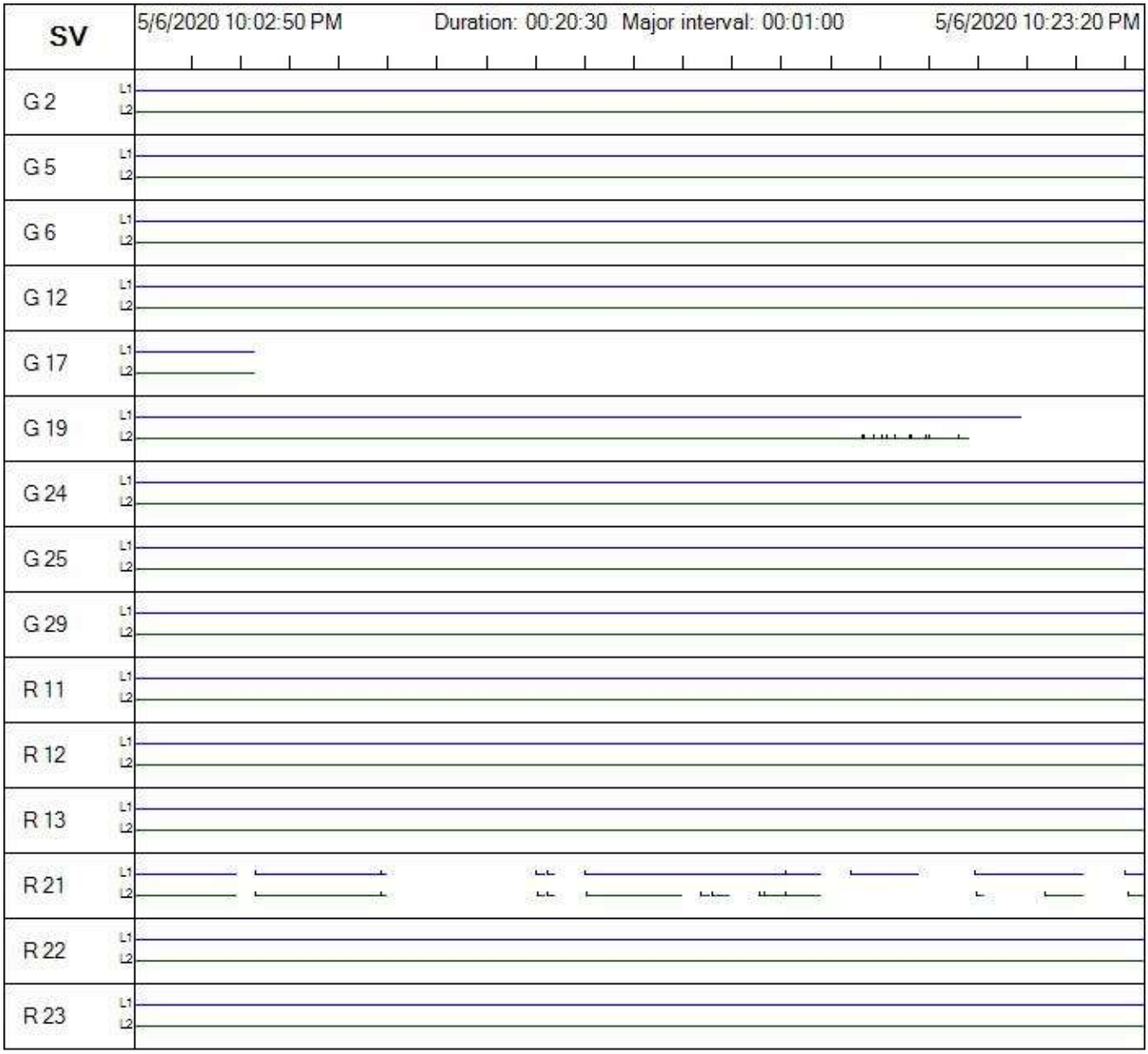
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0016828268		
Y	0.0009978948	0.0021637603	
Z	-0.0008955442	-0.0009510154	0.0017491797

Occupations

	From	To
Point ID:	AI8013	NVA051
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141270.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741274.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - VVA013 (7:18:51 PM-7:34:06 PM) (S10)

Baseline observation:	MHCB --- VVA013 (B10)
Processed:	5/13/2020 8:04:02 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.027 ft
Vertical precision:	0.039 ft
RMS:	0.034 ft
Maximum PDOP:	2.232
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/6/2020 7:18:51 PM (UTC)
Processing stop time:	5/6/2020 7:34:06 PM (UTC)
Processing duration:	00:15:15
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229517.799 ft	**Latitude**	N37°20'29.52255"	**Latitude**	N37°20'29.52254"
Northing	1948854.970 ft	**Longitude**	W121°38'33.28905"	**Longitude**	W121°38'33.28905"
Elevation	4243.149 ft	**Height**	4139.647 ft	**Height**	4139.647 ft

To:	VVA013				
Grid		**Local**		**Global**	
Easting	6226341.111 ft	**Latitude**	N37°20'11.86504"	**Latitude**	N37°20'11.86504"
Northing	1947107.927 ft	**Longitude**	W121°39'12.35814"	**Longitude**	W121°39'12.35814"
Elevation	3383.033 ft	**Height**	3279.331 ft	**Height**	3279.331 ft

Vector					
ΔEasting	-3176.688 ft	**NS Fwd Azimuth**	240°29'29.5"	**ΔX**	-2896.005 ft
ΔNorthing	-1747.042 ft	**Ellipsoid Dist.**	3625.560 ft	**ΔY**	1315.775 ft
ΔElevation	-860.117 ft	**ΔHeight**	-860.316 ft	**ΔZ**	-1942.005 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.010 ft	**σ NS fwd Azimuth**	0°00'00.6"	**σ ΔX**	0.014 ft
σ ΔNorthing	0.011 ft	**σ Ellipsoid Dist.**	0.010 ft	**σ ΔY**	0.017 ft
σ ΔElevation	0.020 ft	**σ ΔHeight**	0.020 ft	**σ ΔZ**	0.012 ft

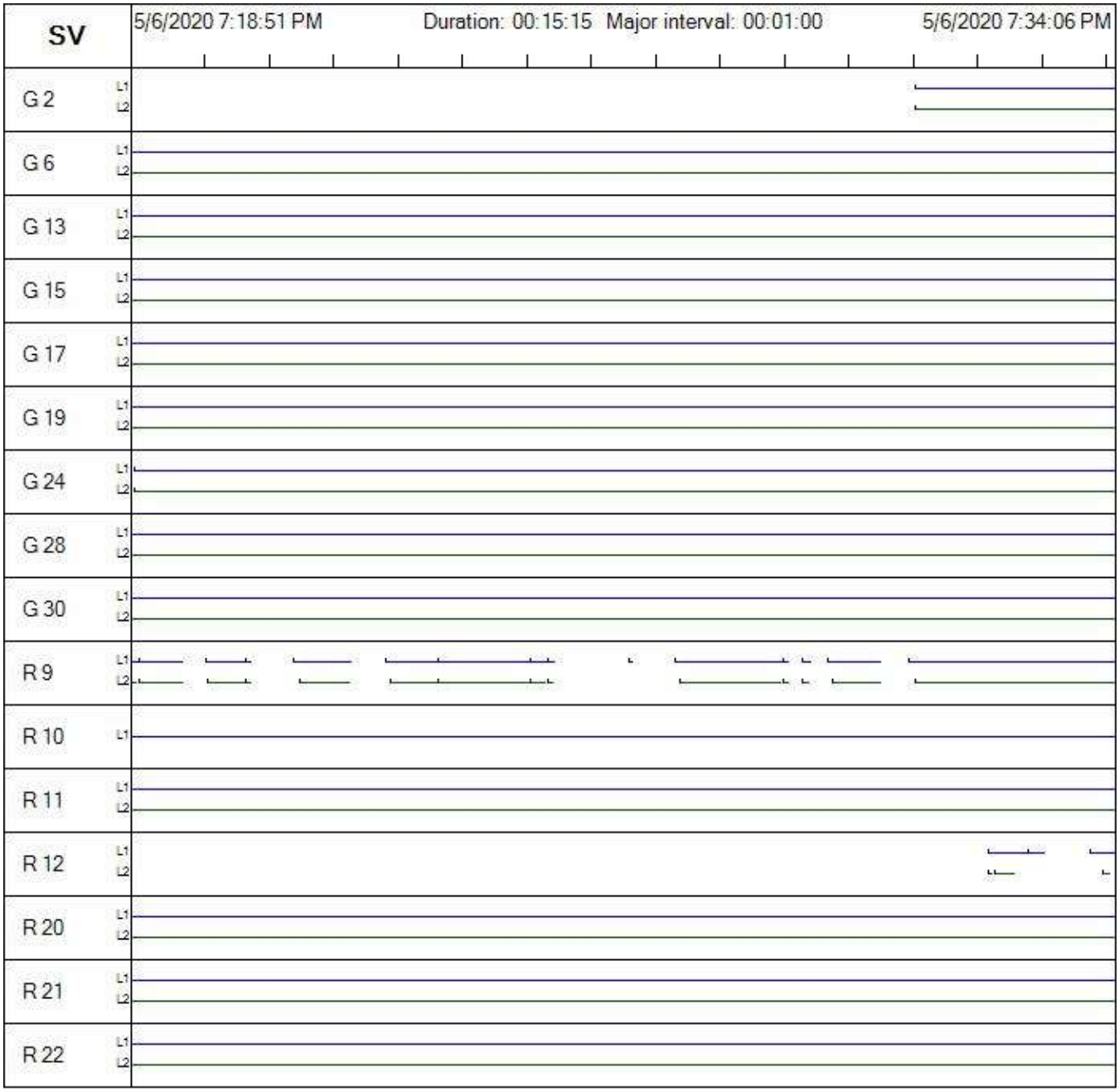
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0001960366		
Y	0.0001370362	0.0002787978	
Z	-0.0000778317	-0.0000774089	0.0001384358

Occupations

	From	To
Point ID:	MHCB	VVA013
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb1270.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741270.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5243499055
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

MHCB - NVA016 (7:57:27 PM-8:07:53 PM) (S9)

Baseline observation:	MHCB --- NVA016 (B9)
Processed:	5/13/2020 8:04:03 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.038 ft
Vertical precision:	0.066 ft
RMS:	0.030 ft
Maximum PDOP:	2.299
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/6/2020 7:57:27 PM (UTC)
Processing stop time:	5/6/2020 8:07:53 PM (UTC)
Processing duration:	00:10:26
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	MHCB				
Grid		**Local**		**Global**	
Easting	6229517.799 ft	**Latitude**	N37°20'29.52255"	**Latitude**	N37°20'29.52254"
Northing	1948854.970 ft	**Longitude**	W121°38'33.28905"	**Longitude**	W121°38'33.28905"
Elevation	4243.149 ft	**Height**	4139.647 ft	**Height**	4139.647 ft

To:	NVA016				
Grid		**Local**		**Global**	
Easting	6218194.057 ft	**Latitude**	N37°19'44.63024"	**Latitude**	N37°19'44.63024"
Northing	1944454.821 ft	**Longitude**	W121°40'52.81835"	**Longitude**	W121°40'52.81835"
Elevation	2352.262 ft	**Height**	2247.982 ft	**Height**	2247.982 ft

Vector					
ΔEasting	-11323.742 ft	**NS Fwd Azimuth**	248°03'55.3"	**ΔX**	-10249.166 ft
ΔNorthing	-4400.149 ft	**Ellipsoid Dist.**	12149.140 ft	**ΔY**	4851.872 ft
ΔElevation	-1890.887 ft	**ΔHeight**	-1891.665 ft	**ΔZ**	-4758.042 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.013 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.023 ft
σ ΔNorthing	0.015 ft	**σ Ellipsoid Dist.**	0.015 ft	**σ ΔY**	0.027 ft
σ ΔElevation	0.034 ft	**σ ΔHeight**	0.034 ft	**σ ΔZ**	0.017 ft

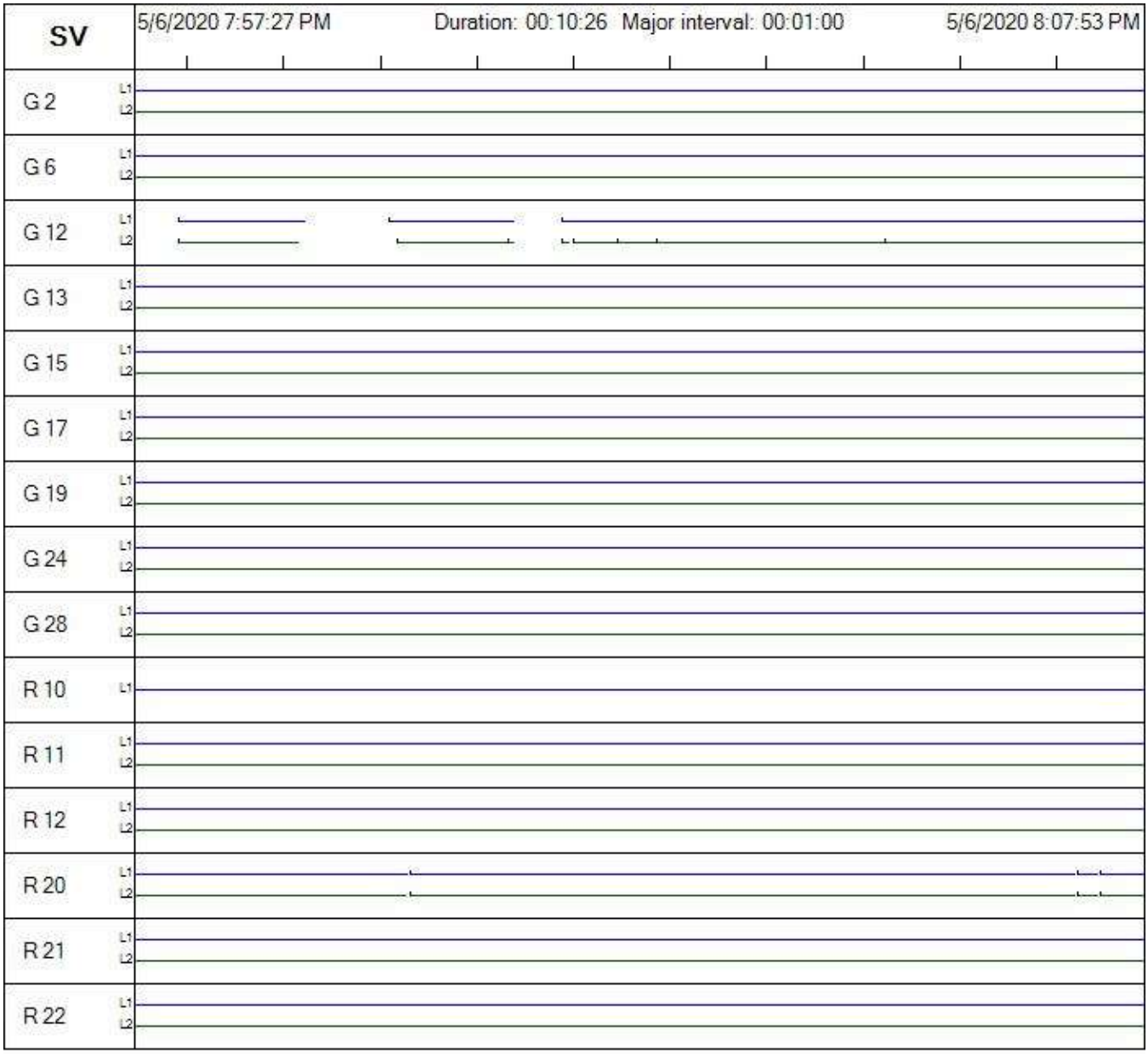
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0005317405		
Y	0.0004467467	0.0007109580	
Z	-0.0002383208	-0.0002952746	0.0003022602

Occupations

	From	To
Point ID:	MHCB	NVA016
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\mhcb1270.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741271.t02
Receiver type:	PolaRx5	R8 Model 3
Receiver serial number:	4502928	5243499055
Antenna type:	700936 D/M Choke w/SCIS Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	12756	--------
Antenna height (measured):	0.225 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P254 - AI8013 (5:55:08 PM-12:13:23 AM) (S9)

Baseline observation:	P254 --- AI8013 (B9)
Processed:	5/13/2020 7:51:45 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.013 ft
Vertical precision:	0.052 ft
RMS:	0.035 ft
Maximum PDOP:	3.095
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/7/2020 5:55:12 PM (UTC)
Processing stop time:	5/8/2020 12:13:12 AM (UTC)
Processing duration:	06:18:00
Processing interval:	3 Minutes

Vector Components (Mark to Mark)

From:	P254				
Grid		**Local**		**Global**	
Easting	6280481.151 ft	**Latitude**	N37°29'22.66799"	**Latitude**	N37°29'22.66799"
Northing	2002205.875 ft	**Longitude**	W121°28'09.05651"	**Longitude**	W121°28'09.05651"
Elevation	3634.963 ft	**Height**	3532.597 ft	**Height**	3532.597 ft

To:	AI8013				
Grid		**Local**		**Global**	
Easting	6225948.738 ft	**Latitude**	N37°20'23.30764"	**Latitude**	N37°20'23.30763"
Northing	1948270.157 ft	**Longitude**	W121°39'17.39401"	**Longitude**	W121°39'17.39401"
Elevation	3497.153 ft	**Height**	3393.465 ft	**Height**	3393.465 ft

Vector					
ΔEasting	-54532.413 ft	**NS Fwd Azimuth**	224°43'17.1"	**ΔX**	-63245.447 ft
ΔNorthing	-53935.718 ft	**Ellipsoid Dist.**	76703.808 ft	**ΔY**	74.095 ft
ΔElevation	-137.810 ft	**ΔHeight**	-139.132 ft	**ΔZ**	-43421.702 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.005 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.012 ft
σ ΔNorthing	0.005 ft	**σ Ellipsoid Dist.**	0.005 ft	**σ ΔY**	0.018 ft
σ ΔElevation	0.026 ft	**σ ΔHeight**	0.026 ft	**σ ΔZ**	0.017 ft

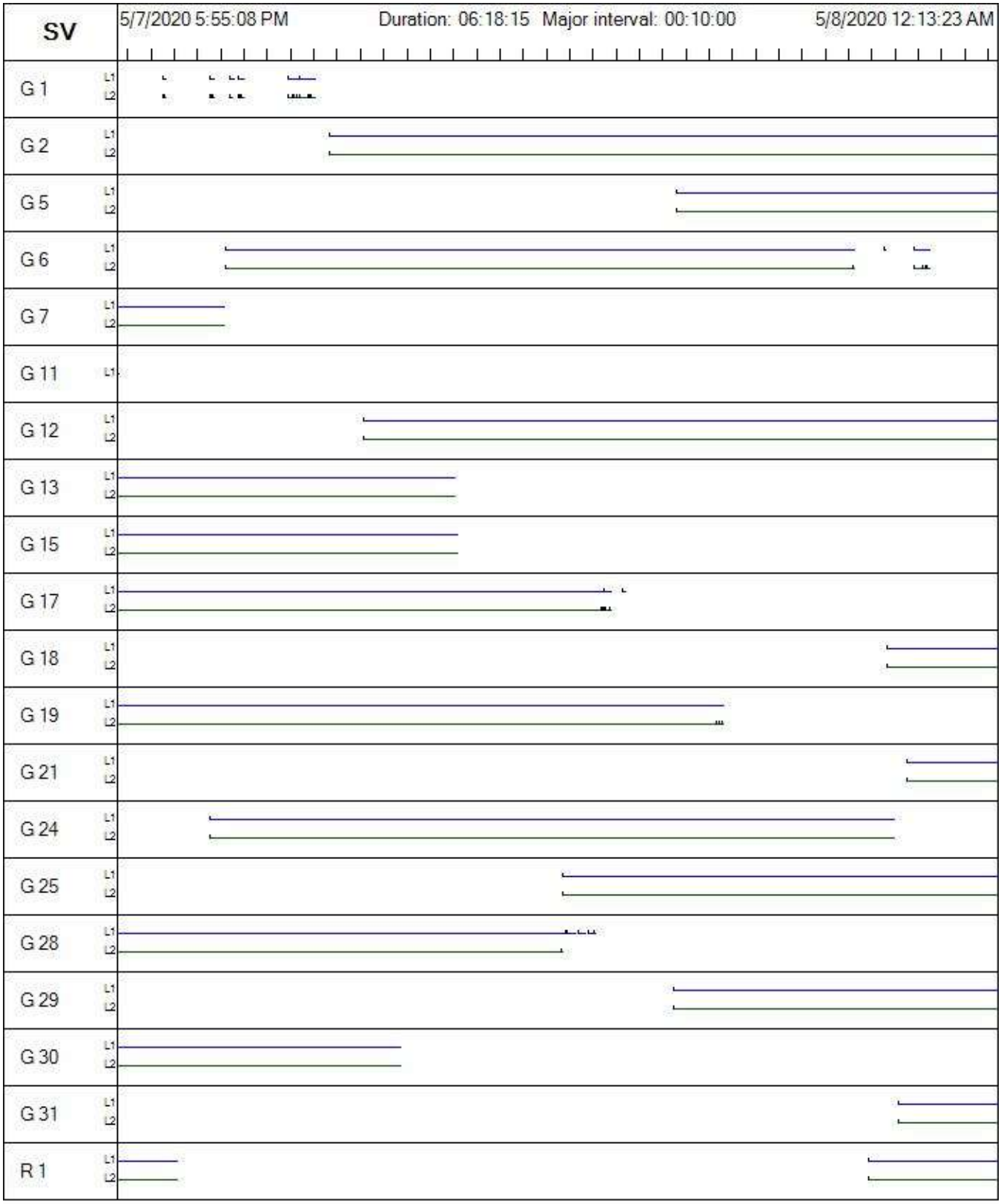
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0001346841		
Y	0.0001844742	0.0003207400	
Z	-0.0001702690	-0.0002783411	0.0002900541

Occupations

	From	To
Point ID:	P254	AI8013
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2541280.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\0614128 0.T02
Receiver type:	NetRS	R8-4
Receiver serial number:	4549261229	5329440614
Antenna type:	Choke Ring w/SCIT Dome	R8-4 Internal
Antenna serial number:	4623A16441	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
5/7/2020 5:55:08 PM
Duration: 06:18:15 Major interval: 00:10:00
5/8/2020 12:13:23 AM
R 2
R 7
R 8
R 10
R 11
R 12
R 13
R 14
R 15
R 17
R 20
R 21
R 22
R 23
R 24

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P254 - VVA009 (6:56:46 PM-7:17:30 PM) (S8)

Baseline observation:	P254 --- VVA009 (B8)
Processed:	5/13/2020 7:51:44 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.085 ft
Vertical precision:	0.109 ft
RMS:	0.033 ft
Maximum PDOP:	1.591
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/7/2020 6:57:12 PM (UTC)
Processing stop time:	5/7/2020 7:17:12 PM (UTC)
Processing duration:	00:20:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P254				
Grid		**Local**		**Global**	
Easting	6280481.151 ft	**Latitude**	N37°29'22.66799"	**Latitude**	N37°29'22.66799"
Northing	2002205.875 ft	**Longitude**	W121°28'09.05651"	**Longitude**	W121°28'09.05651"
Elevation	3634.963 ft	**Height**	3532.597 ft	**Height**	3532.597 ft

To:	VVA009				
Grid		**Local**		**Global**	
Easting	6274133.358 ft	**Latitude**	N37°23'30.71518"	**Latitude**	N37°23'30.71518"
Northing	1966673.674 ft	**Longitude**	W121°29'23.15372"	**Longitude**	W121°29'23.15372"
Elevation	2183.544 ft	**Height**	2080.746 ft	**Height**	2080.746 ft

Vector					
ΔEasting	-6347.793 ft	**NS Fwd Azimuth**	189°32'08.1"	**ΔX**	-15797.903 ft
ΔNorthing	-35532.201 ft	**Ellipsoid Dist.**	36096.787 ft	**ΔY**	-14355.192 ft
ΔElevation	-1451.419 ft	**ΔHeight**	-1451.851 ft	**ΔZ**	-29151.172 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.029 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.037 ft
σ ΔNorthing	0.033 ft	**σ Ellipsoid Dist.**	0.032 ft	**σ ΔY**	0.046 ft
σ ΔElevation	0.056 ft	**σ ΔHeight**	0.056 ft	**σ ΔZ**	0.039 ft

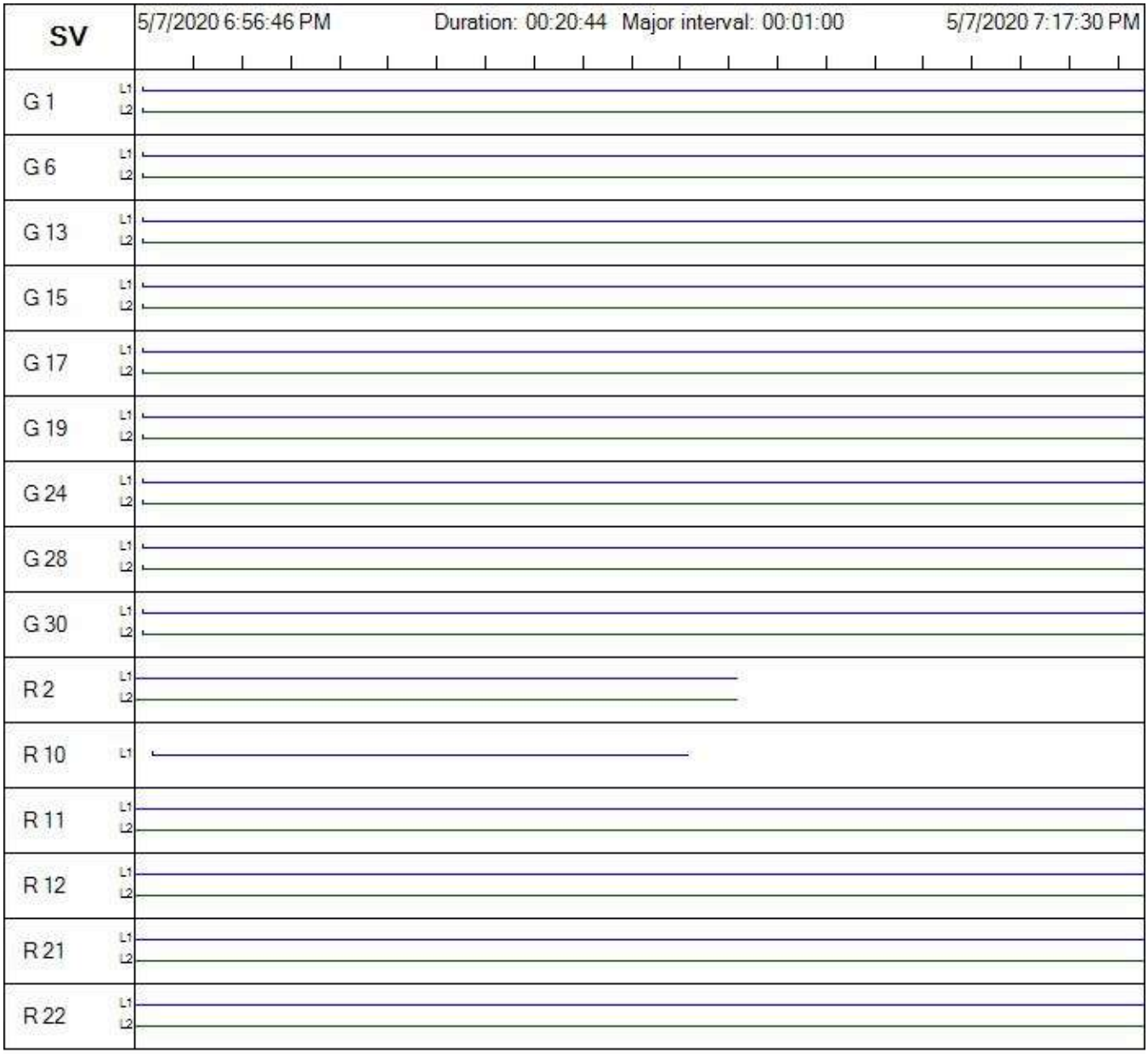
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0013872796		
Y	0.0008166821	0.0021003662	
Z	-0.0007125767	-0.0006019540	0.0015395394

Occupations

	From	To
Point ID:	P254	VVA009
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2541280.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741280.t02
Receiver type:	NetRS	R8 Model 3
Receiver serial number:	4549261229	5243499055
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	4623A16441	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P254 - NVA045 (7:27:58 PM-7:53:29 PM) (S7)

Baseline observation:	P254 --- NVA045 (B7)
Processed:	5/13/2020 7:51:44 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.035 ft
Vertical precision:	0.058 ft
RMS:	0.041 ft
Maximum PDOP:	2.353
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/7/2020 7:28:12 PM (UTC)
Processing stop time:	5/7/2020 7:53:12 PM (UTC)
Processing duration:	00:25:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P254				
Grid		**Local**		**Global**	
Easting	6280481.151 ft	**Latitude**	N37°29'22.66799"	**Latitude**	N37°29'22.66799"
Northing	2002205.875 ft	**Longitude**	W121°28'09.05651"	**Longitude**	W121°28'09.05651"
Elevation	3634.963 ft	**Height**	3532.597 ft	**Height**	3532.597 ft

To:	NVA045				
Grid		**Local**		**Global**	
Easting	6275069.564 ft	**Latitude**	N37°24'13.63869"	**Latitude**	N37°24'13.63869"
Northing	1971005.322 ft	**Longitude**	W121°29'12.11892"	**Longitude**	W121°29'12.11892"
Elevation	2257.594 ft	**Height**	2154.912 ft	**Height**	2154.912 ft

Vector					
ΔEasting	-5411.587 ft	**NS Fwd Azimuth**	189°14'47.0"	**ΔX**	-13691.861 ft
ΔNorthing	-31200.553 ft	**Ellipsoid Dist.**	31668.178 ft	**ΔY**	-12621.836 ft
ΔElevation	-1377.369 ft	**ΔHeight**	-1377.685 ft	**ΔZ**	-25656.713 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.012 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.021 ft
σ ΔNorthing	0.014 ft	**σ Ellipsoid Dist.**	0.014 ft	**σ ΔY**	0.024 ft
σ ΔElevation	0.030 ft	**σ ΔHeight**	0.030 ft	**σ ΔZ**	0.015 ft

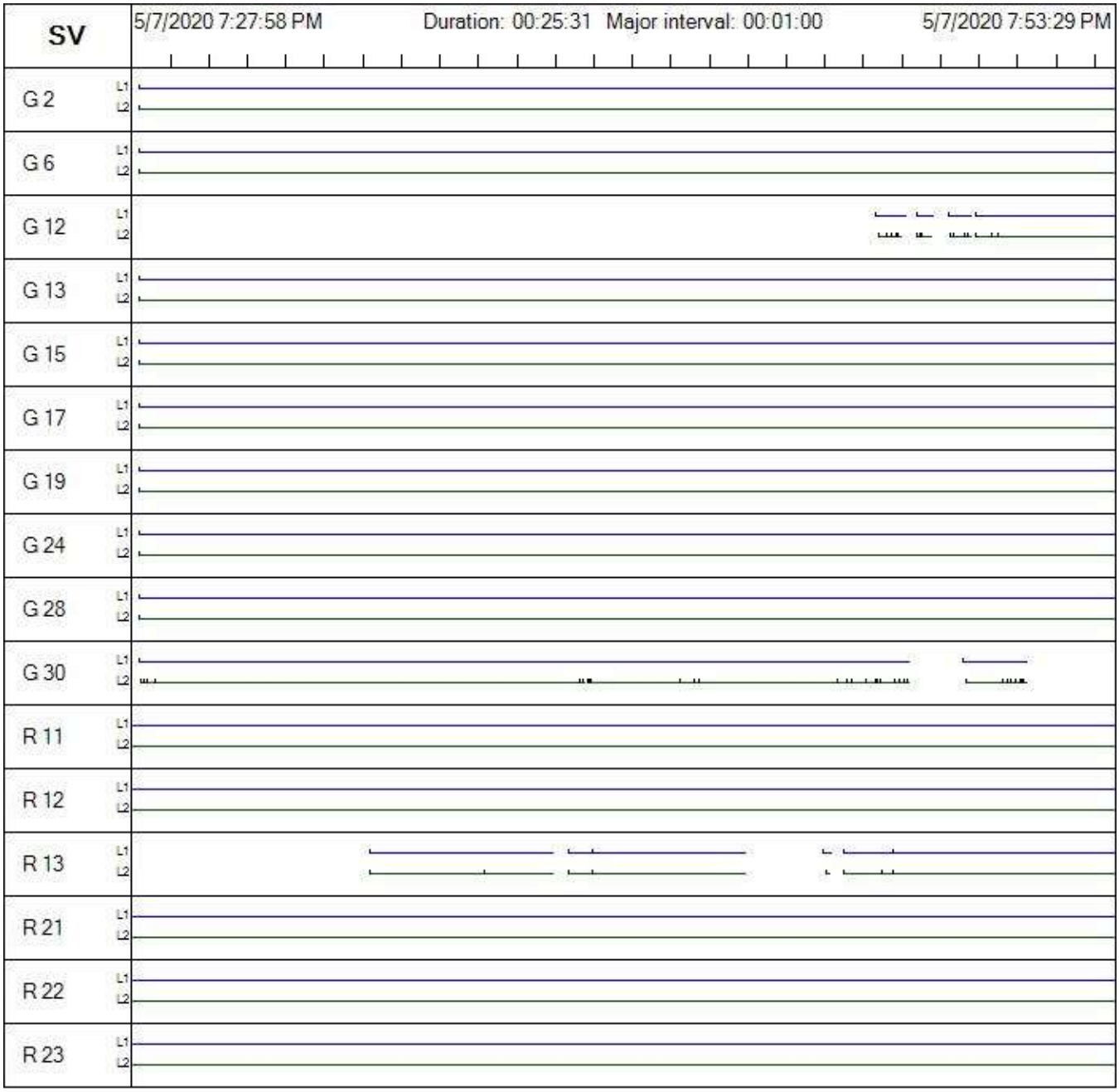
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0004297769		
Y	0.0003591580	0.0005805966	
Z	-0.0001827936	-0.0002064452	0.0002234789

Occupations

	From	To
Point ID:	P254	NVA045
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2541280.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741281.t02
Receiver type:	NetRS	R8 Model 3
Receiver serial number:	4549261229	5243499055
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	4623A16441	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P254 - VVA024 (8:16:25 PM-8:37:47 PM) (S6)

Baseline observation:	P254 --- VVA024 (B6)
Processed:	5/13/2020 7:51:44 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.023 ft
Vertical precision:	0.053 ft
RMS:	0.022 ft
Maximum PDOP:	2.486
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/7/2020 8:16:42 PM (UTC)
Processing stop time:	5/7/2020 8:37:42 PM (UTC)
Processing duration:	00:21:00
Processing interval:	30 seconds

Vector Components (Mark to Mark)

From:	P254				
Grid		**Local**		**Global**	
Easting	6280481.151 ft	**Latitude**	N37°29'22.66799"	**Latitude**	N37°29'22.66799"
Northing	2002205.875 ft	**Longitude**	W121°28'09.05651"	**Longitude**	W121°28'09.05651"
Elevation	3634.963 ft	**Height**	3532.597 ft	**Height**	3532.597 ft

To:	VVA024				
Grid		**Local**		**Global**	
Easting	6264149.433 ft	**Latitude**	N37°28'25.17476"	**Latitude**	N37°28'25.17476"
Northing	1996564.665 ft	**Longitude**	W121°31'30.92406"	**Longitude**	W121°31'30.92406"
Elevation	2604.505 ft	**Height**	2502.289 ft	**Height**	2502.289 ft

Vector					
ΔEasting	-16331.718 ft	**NS Fwd Azimuth**	250°21'03.2"	**ΔX**	-15298.164 ft
ΔNorthing	-5641.211 ft	**Ellipsoid Dist.**	17279.583 ft	**ΔY**	6181.902 ft
ΔElevation	-1030.458 ft	**ΔHeight**	-1030.308 ft	**ΔZ**	-5242.309 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.009 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.014 ft
σ ΔNorthing	0.009 ft	**σ Ellipsoid Dist.**	0.009 ft	**σ ΔY**	0.020 ft
σ ΔElevation	0.027 ft	**σ ΔHeight**	0.027 ft	**σ ΔZ**	0.017 ft

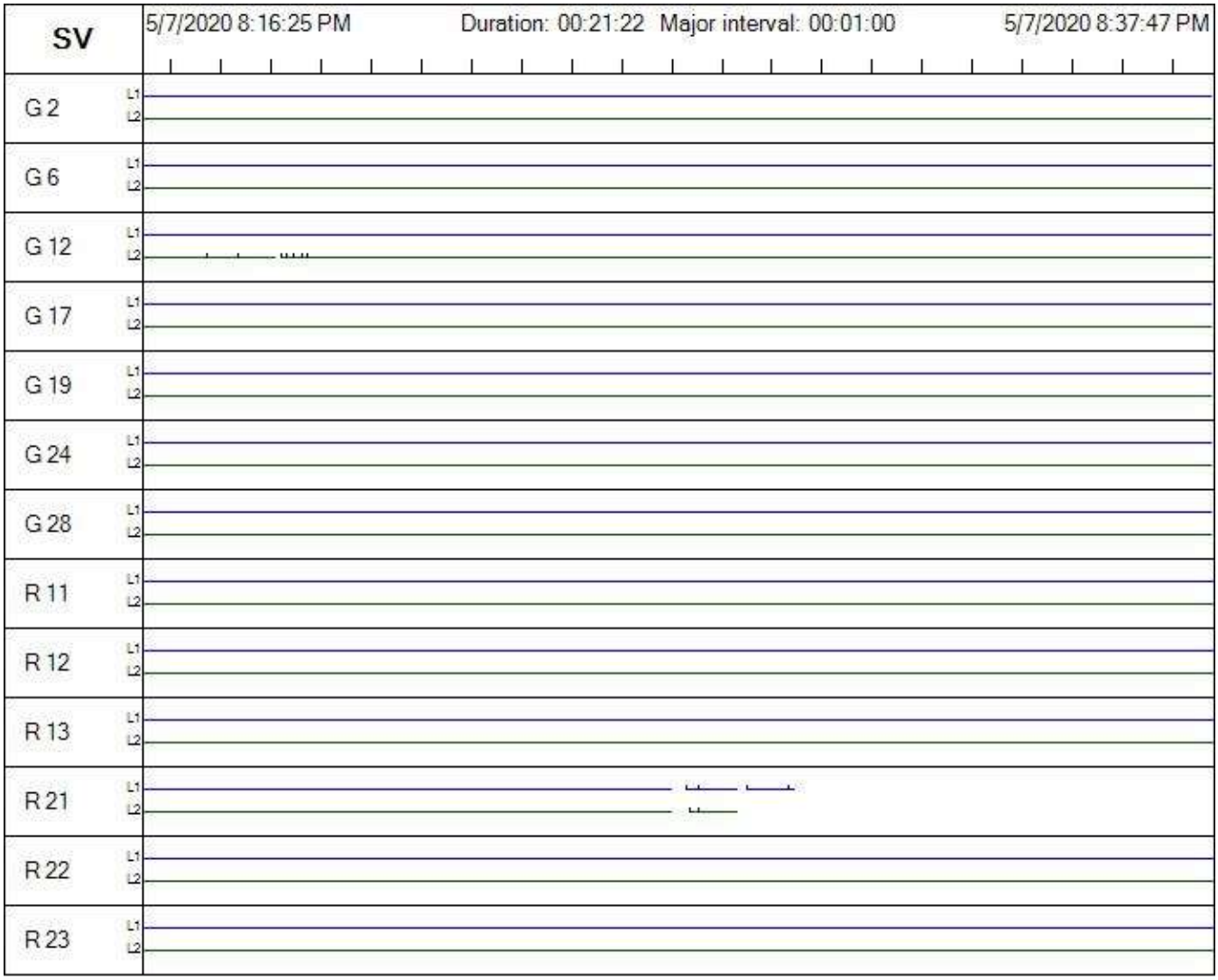
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0001987312		
Y	0.0001988432	0.0003944283	
Z	-0.0001509025	-0.0002610679	0.0002816022

Occupations

	From	To
Point ID:	P254	VVA024
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2541280.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741282.t02
Receiver type:	NetRS	R8 Model 3
Receiver serial number:	4549261229	5243499055
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	4623A16441	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

P254 - VVA031 (11:42:53 PM-11:52:56 PM) (S5)

Baseline observation:	P254 --- VVA031 (B5)
Processed:	5/13/2020 7:51:44 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.106 ft
Vertical precision:	0.174 ft
RMS:	0.045 ft
Maximum PDOP:	2.139
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/7/2020 11:42:57 PM (UTC)
Processing stop time:	5/7/2020 11:52:42 PM (UTC)
Processing duration:	00:09:45
Processing interval:	15 seconds

Vector Components (Mark to Mark)

From:	P254				
Grid		**Local**		**Global**	
Easting	6280481.151 ft	**Latitude**	N37°29'22.66799"	**Latitude**	N37°29'22.66799"
Northing	2002205.875 ft	**Longitude**	W121°28'09.05651"	**Longitude**	W121°28'09.05651"
Elevation	3634.963 ft	**Height**	3532.597 ft	**Height**	3532.597 ft

To:	VVA031				
Grid		**Local**		**Global**	
Easting	6245156.104 ft	**Latitude**	N37°21'23.26993"	**Latitude**	N37°21'23.26993"
Northing	1954104.903 ft	**Longitude**	W121°35'20.40069"	**Longitude**	W121°35'20.40069"
Elevation	2207.121 ft	**Height**	2103.975 ft	**Height**	2103.975 ft

Vector					
ΔEasting	-35325.047 ft	**NS Fwd Azimuth**	215°41'58.9"	**ΔX**	-44480.894 ft
ΔNorthing	-48100.973 ft	**Ellipsoid Dist.**	59682.069 ft	**ΔY**	-5954.612 ft
ΔElevation	-1427.842 ft	**ΔHeight**	-1428.622 ft	**ΔZ**	-39381.996 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.029 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.039 ft
σ ΔNorthing	0.042 ft	**σ Ellipsoid Dist.**	0.042 ft	**σ ΔY**	0.056 ft
σ ΔElevation	0.089 ft	**σ ΔHeight**	0.089 ft	**σ ΔZ**	0.077 ft

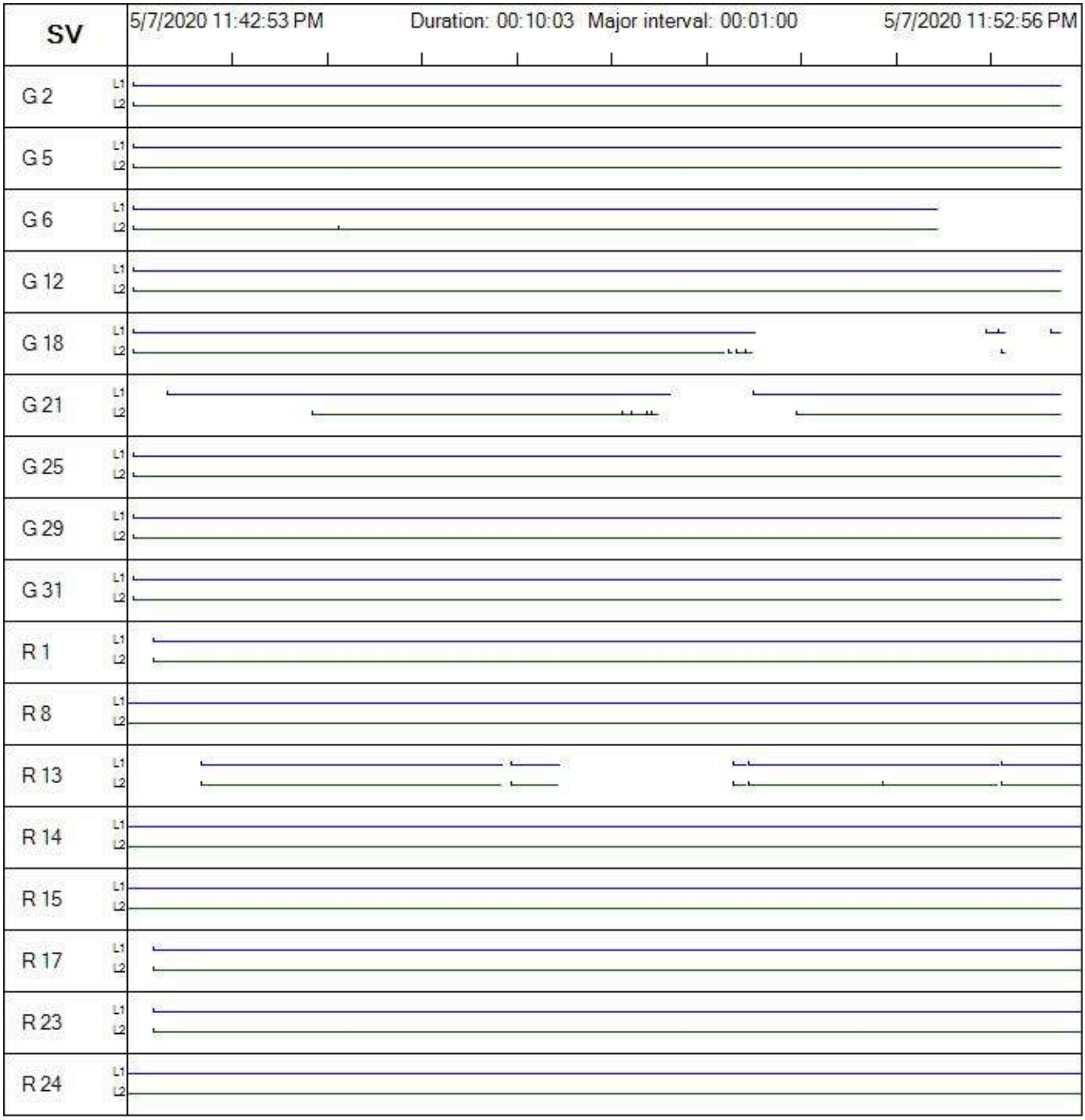
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0014911508		
Y	0.0012119842	0.0031101053	
Z	-0.0012978525	-0.0032456296	0.0058602655

Occupations

	From	To
Point ID:	P254	VVA031
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\p2541280.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741283.t02
Receiver type:	NetRS	R8 Model 3
Receiver serial number:	4549261229	5243499055
Antenna type:	Choke Ring w/SCIT Dome	R8 GNSS/SPS88x Internal
Antenna serial number:	4623A16441	--------
Antenna height (measured):	0.027 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AI8013 - VVA009 (6:56:46 PM-7:17:30 PM) (S1)

Baseline observation:	AI8013 --- VVA009 (B1)
Processed:	5/13/2020 7:51:47 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.047 ft
Vertical precision:	0.067 ft
RMS:	0.025 ft
Maximum PDOP:	1.826
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/7/2020 6:56:52 PM (UTC)
Processing stop time:	5/7/2020 7:17:22 PM (UTC)
Processing duration:	00:20:30
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	AI8013				
Grid		**Local**		**Global**	
Easting	6225948.739 ft	**Latitude**	N37°20'23.30755"	**Latitude**	N37°20'23.30755"
Northing	1948270.149 ft	**Longitude**	W121°39'17.39400"	**Longitude**	W121°39'17.39400"
Elevation	3497.149 ft	**Height**	3393.460 ft	**Height**	3393.460 ft

To:	VVA009				
Grid		**Local**		**Global**	
Easting	6274133.355 ft	**Latitude**	N37°23'30.71525"	**Latitude**	N37°23'30.71524"
Northing	1966673.681 ft	**Longitude**	W121°29'23.15376"	**Longitude**	W121°29'23.15376"
Elevation	2183.512 ft	**Height**	2080.714 ft	**Height**	2080.713 ft

Vector					
ΔEasting	48184.616 ft	**NS Fwd Azimuth**	68°23'22.8"	**ΔX**	47447.556 ft
ΔNorthing	18403.532 ft	**Ellipsoid Dist.**	51582.016 ft	**ΔY**	-14429.258 ft
ΔElevation	-1313.637 ft	**ΔHeight**	-1312.747 ft	**ΔZ**	14270.525 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.017 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.023 ft
σ ΔNorthing	0.018 ft	**σ Ellipsoid Dist.**	0.016 ft	**σ ΔY**	0.027 ft
σ ΔElevation	0.034 ft	**σ ΔHeight**	0.034 ft	**σ ΔZ**	0.023 ft

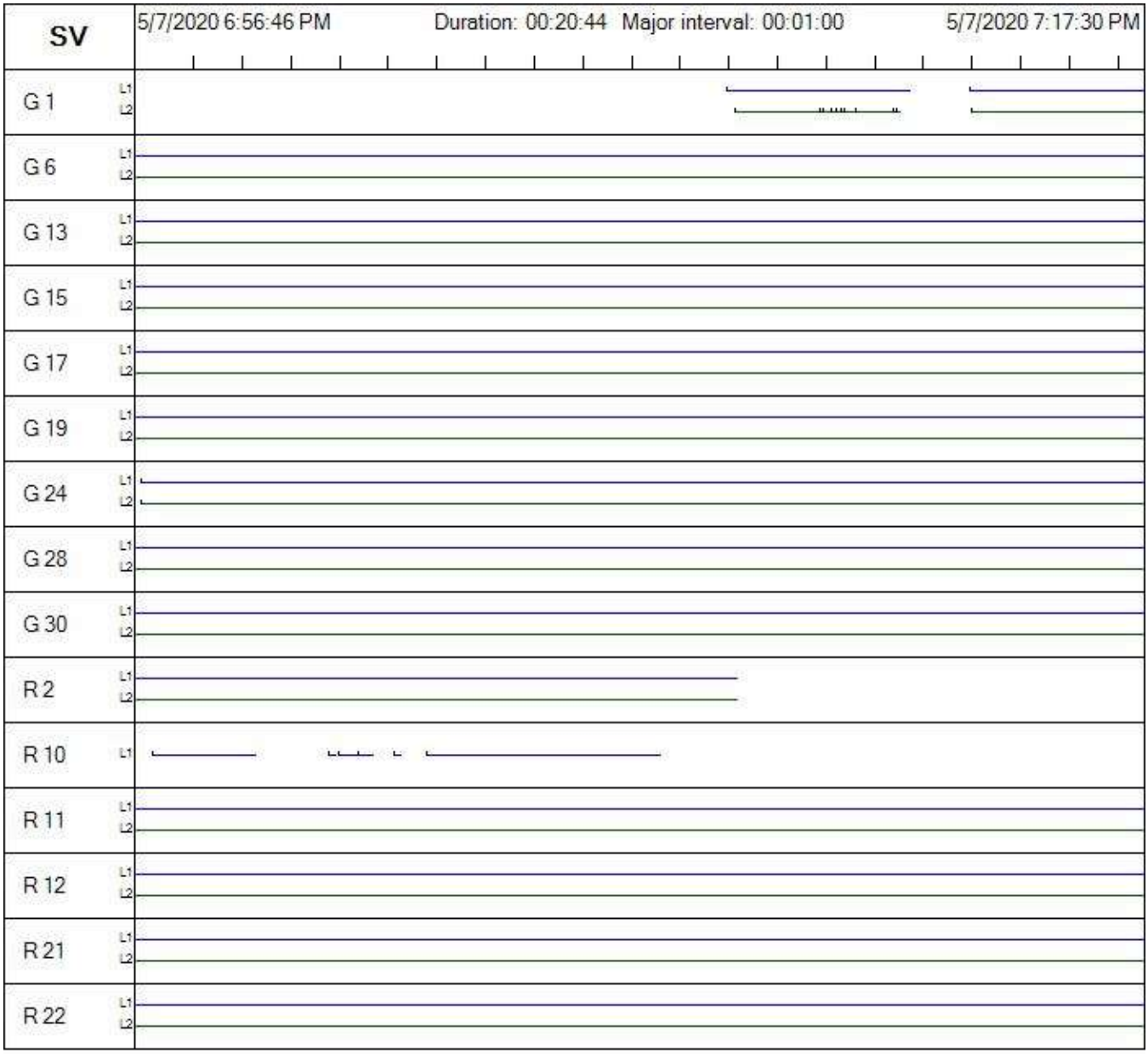
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0005195849		
Y	0.0003410640	0.0007452953	
Z	-0.0002793885	-0.0002619285	0.0005192173

Occupations

	From	To
Point ID:	AI8013	VVA009
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141280.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741280.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AI8013 - NVA045 (7:27:58 PM-7:53:29 PM) (S2)

Baseline observation:	AI8013 --- NVA045 (B2)
Processed:	5/13/2020 7:51:47 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.049 ft
Vertical precision:	0.078 ft
RMS:	0.035 ft
Maximum PDOP:	1.741
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/7/2020 7:28:02 PM (UTC)
Processing stop time:	5/7/2020 7:53:22 PM (UTC)
Processing duration:	00:25:20
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	AI8013				
Grid		**Local**		**Global**	
Easting	6225948.739 ft	**Latitude**	N37°20'23.30755"	**Latitude**	N37°20'23.30755"
Northing	1948270.149 ft	**Longitude**	W121°39'17.39400"	**Longitude**	W121°39'17.39400"
Elevation	3497.149 ft	**Height**	3393.460 ft	**Height**	3393.460 ft

To:	NVA045				
Grid		**Local**		**Global**	
Easting	6275069.566 ft	**Latitude**	N37°24'13.63877"	**Latitude**	N37°24'13.63877"
Northing	1971005.331 ft	**Longitude**	W121°29'12.11890"	**Longitude**	W121°29'12.11890"
Elevation	2257.512 ft	**Height**	2154.830 ft	**Height**	2154.830 ft

Vector					
ΔEasting	49120.826 ft	**NS Fwd Azimuth**	64°27'24.3"	**ΔX**	49553.623 ft
ΔNorthing	22735.182 ft	**Ellipsoid Dist.**	54129.762 ft	**ΔY**	-12695.869 ft
ΔElevation	-1239.636 ft	**ΔHeight**	-1238.630 ft	**ΔZ**	17764.956 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.018 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.028 ft
σ ΔNorthing	0.020 ft	**σ Ellipsoid Dist.**	0.019 ft	**σ ΔY**	0.033 ft
σ ΔElevation	0.040 ft	**σ ΔHeight**	0.040 ft	**σ ΔZ**	0.022 ft

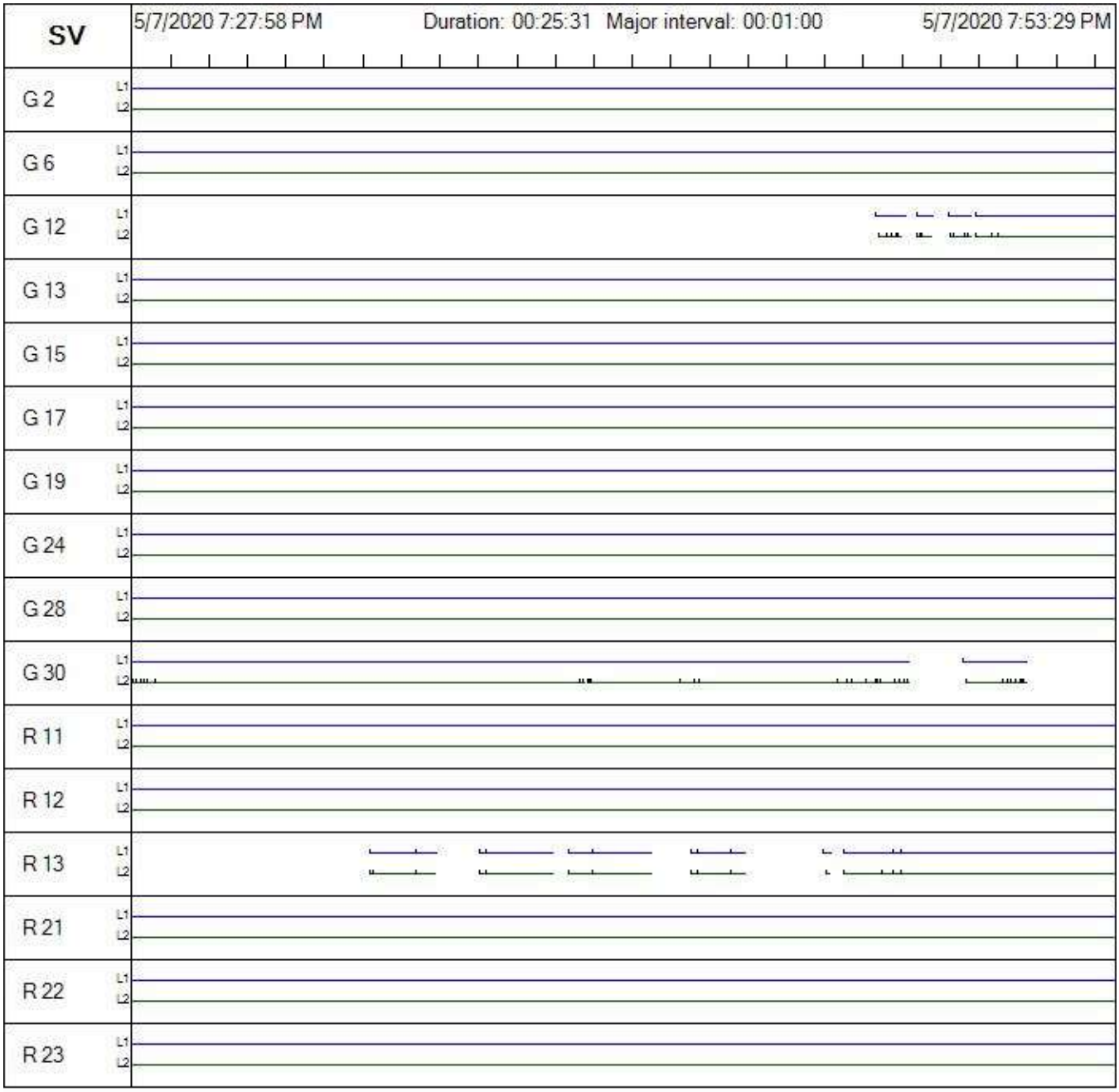
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0008087950		
Y	0.0006052365	0.0010647680	
Z	-0.0003231065	-0.0003628830	0.0004632069

Occupations

	From	To
Point ID:	AI8013	NVA045
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141280.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741281.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AI8013 - VVA024 (8:16:25 PM-8:37:47 PM) (S3)

Baseline observation:	AI8013 --- VVA024 (B3)
Processed:	5/13/2020 7:51:47 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.077 ft
Vertical precision:	0.169 ft
RMS:	0.139 ft
Maximum PDOP:	1.819
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/7/2020 8:16:32 PM (UTC)
Processing stop time:	5/7/2020 8:37:42 PM (UTC)
Processing duration:	00:21:10
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	AI8013				
Grid		**Local**		**Global**	
Easting	6225948.739 ft	**Latitude**	N37°20'23.30755"	**Latitude**	N37°20'23.30755"
Northing	1948270.149 ft	**Longitude**	W121°39'17.39400"	**Longitude**	W121°39'17.39400"
Elevation	3497.149 ft	**Height**	3393.460 ft	**Height**	3393.460 ft

To:	VVA024				
Grid		**Local**		**Global**	
Easting	6264149.421 ft	**Latitude**	N37°28'25.17450"	**Latitude**	N37°28'25.17449"
Northing	1996564.638 ft	**Longitude**	W121°31'30.92422"	**Longitude**	W121°31'30.92422"
Elevation	2604.311 ft	**Height**	2502.095 ft	**Height**	2502.095 ft

Vector					
ΔEasting	38200.681 ft	**NS Fwd Azimuth**	37°38'13.6"	**ΔX**	47947.343 ft
ΔNorthing	48294.489 ft	**Ellipsoid Dist.**	61579.615 ft	**ΔY**	6107.933 ft
ΔElevation	-892.838 ft	**ΔHeight**	-891.365 ft	**ΔZ**	38179.263 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.030 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.048 ft
σ ΔNorthing	0.030 ft	**σ Ellipsoid Dist.**	0.031 ft	**σ ΔY**	0.065 ft
σ ΔElevation	0.086 ft	**σ ΔHeight**	0.086 ft	**σ ΔZ**	0.052 ft

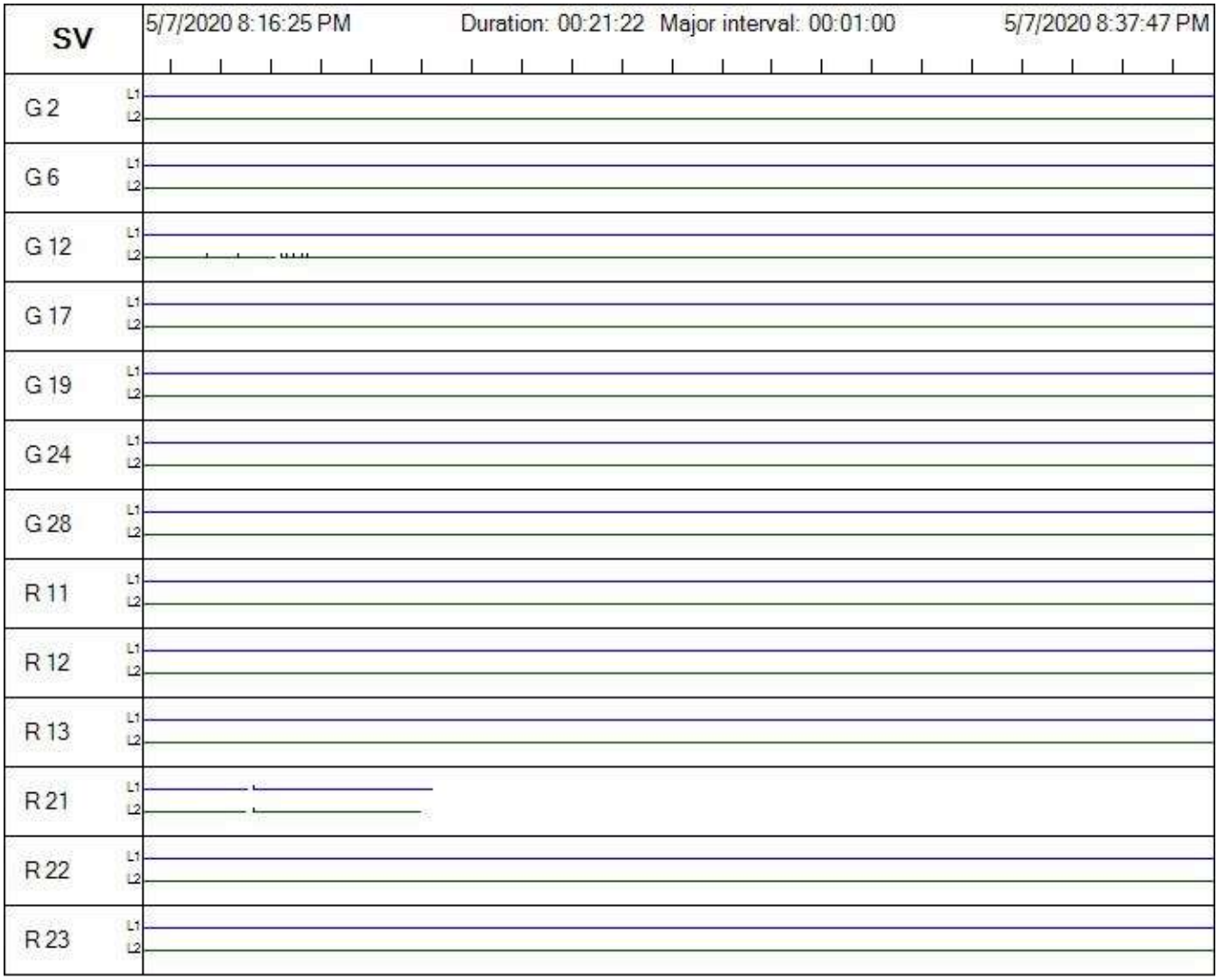
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0022860797		
Y	0.0021835052	0.0042423143	
Z	-0.0015377870	-0.0025321470	0.0026905578

Occupations

	From	To
Point ID:	AI8013	VVA024
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141280.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741282.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

AI8013 - VVA031 (11:42:53 PM-11:52:56 PM) (S4)

Baseline observation:	AI8013 --- VVA031 (B4)
Processed:	5/13/2020 7:51:50 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.101 ft
Vertical precision:	0.171 ft
RMS:	0.118 ft
Maximum PDOP:	2.863
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/7/2020 11:42:53 PM (UTC)
Processing stop time:	5/7/2020 11:52:56 PM (UTC)
Processing duration:	00:10:03
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	AI8013				
Grid		**Local**		**Global**	
Easting	6225948.739 ft	**Latitude**	N37°20'23.30755"	**Latitude**	N37°20'23.30755"
Northing	1948270.149 ft	**Longitude**	W121°39'17.39400"	**Longitude**	W121°39'17.39400"
Elevation	3497.149 ft	**Height**	3393.460 ft	**Height**	3393.460 ft

To:	VVA031				
Grid		**Local**		**Global**	
Easting	6245156.126 ft	**Latitude**	N37°21'23.27041"	**Latitude**	N37°21'23.27041"
Northing	1954104.951 ft	**Longitude**	W121°35'20.40043"	**Longitude**	W121°35'20.40043"
Elevation	2207.105 ft	**Height**	2103.960 ft	**Height**	2103.959 ft

Vector					
ΔEasting	19207.386 ft	**NS Fwd Azimuth**	72°23'43.7"	**ΔX**	18764.592 ft
ΔNorthing	5834.802 ft	**Ellipsoid Dist.**	20075.006 ft	**ΔY**	-6028.680 ft
ΔElevation	-1290.043 ft	**ΔHeight**	-1289.501 ft	**ΔZ**	4039.745 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.032 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.046 ft
σ ΔNorthing	0.041 ft	**σ Ellipsoid Dist.**	0.034 ft	**σ ΔY**	0.060 ft
σ ΔElevation	0.087 ft	**σ ΔHeight**	0.087 ft	**σ ΔZ**	0.068 ft

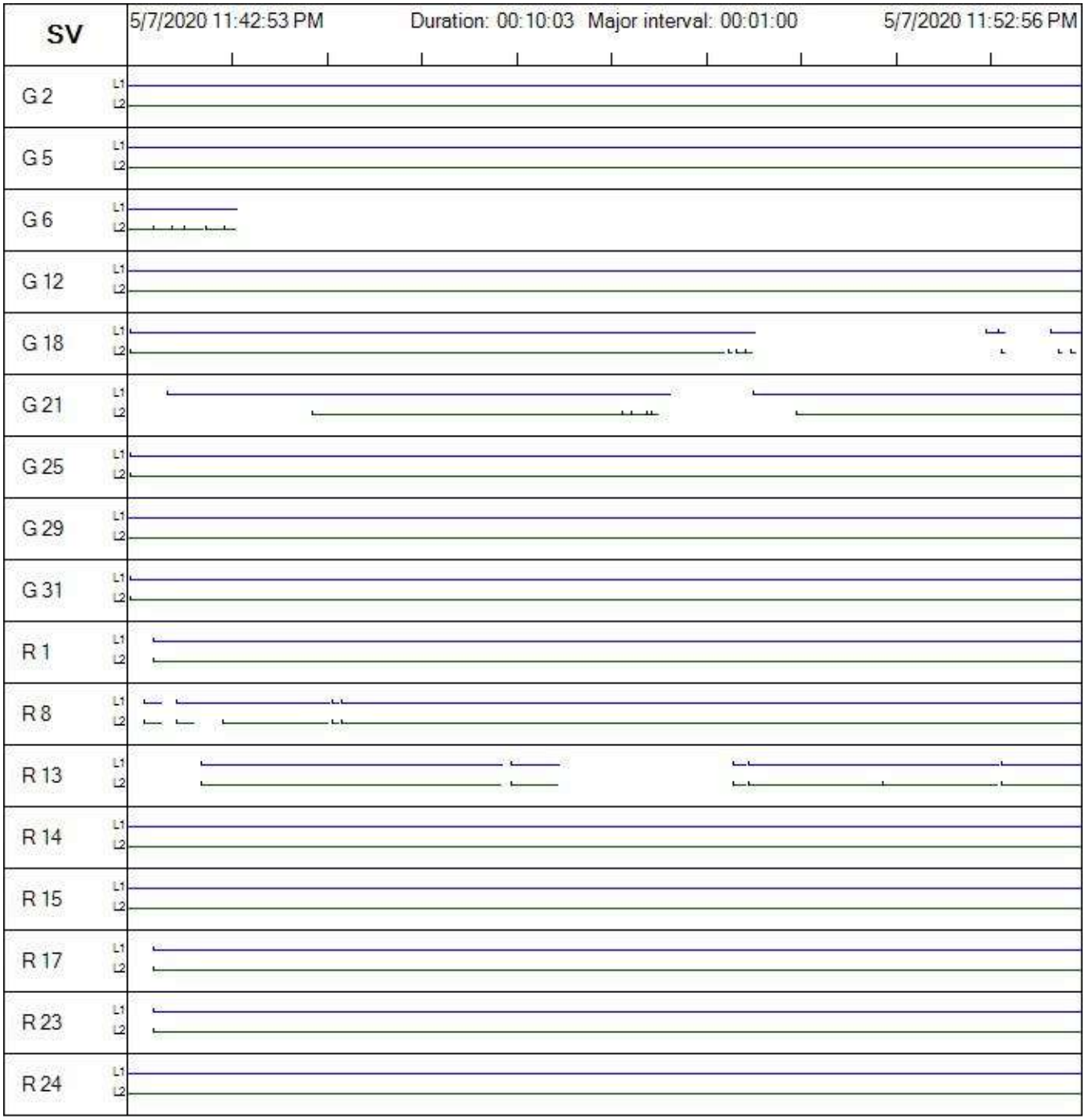
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0020944467		
Y	0.0016819243	0.0035601289	
Z	-0.0015157884	-0.0026659630	0.0046151777

Occupations

	From	To
Point ID:	AI8013	VVA031
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141280.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741283.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

ZOA1 - HS4392 (4:05:01 PM-10:07:14 PM) (S11)

Baseline observation:	ZOA1 --- HS4392 (B11)
Processed:	5/13/2020 7:54:24 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.009 ft
Vertical precision:	0.042 ft
RMS:	0.032 ft
Maximum PDOP:	3.104
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/8/2020 4:05:12 PM (UTC)
Processing stop time:	5/8/2020 10:07:12 PM (UTC)
Processing duration:	06:02:00
Processing interval:	3 Minutes

Vector Components (Mark to Mark)

From:	ZOA1				
Grid		**Local**		**Global**	
Easting	6122180.567 ft	**Latitude**	N37°32'34.98905"	**Latitude**	N37°32'34.98904"
Northing	2023761.014 ft	**Longitude**	W122°00'57.36083"	**Longitude**	W122°00'57.36083"
Elevation	95.382 ft	**Height**	-11.202 ft	**Height**	-11.202 ft

To:	HS4392				
Grid		**Local**		**Global**	
Easting	6145361.304 ft	**Latitude**	N37°29'00.81087"	**Latitude**	N37°29'00.81086"
Northing	2001730.620 ft	**Longitude**	W121°56'05.36431"	**Longitude**	W121°56'05.36431"
Elevation	31.066 ft	**Height**	-75.526 ft	**Height**	-75.526 ft

Vector					
ΔEasting	23180.737 ft	**NS Fwd Azimuth**	132°36'52.3"	**ΔX**	12998.195 ft
ΔNorthing	-22030.394 ft	**Ellipsoid Dist.**	31981.433 ft	**ΔY**	-23605.699 ft
ΔElevation	-64.317 ft	**ΔHeight**	-64.324 ft	**ΔZ**	-17222.940 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.003 ft	**σ NS fwd Azimuth**	0°00'00.0"	**σ ΔX**	0.010 ft
σ ΔNorthing	0.004 ft	**σ Ellipsoid Dist.**	0.004 ft	**σ ΔY**	0.015 ft
σ ΔElevation	0.021 ft	**σ ΔHeight**	0.021 ft	**σ ΔZ**	0.013 ft

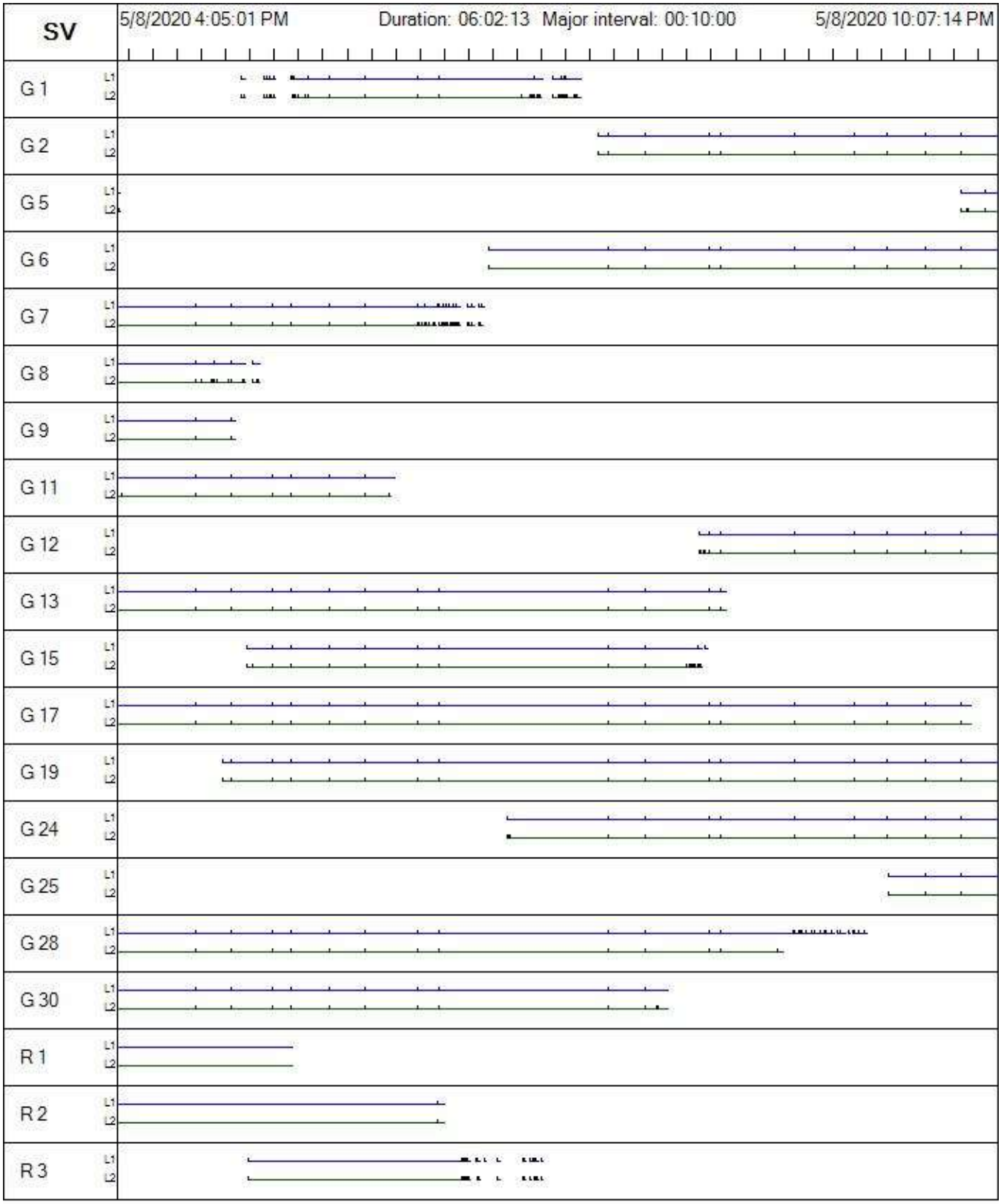
Aposteriori Covariance Matrix (US survey foot²)

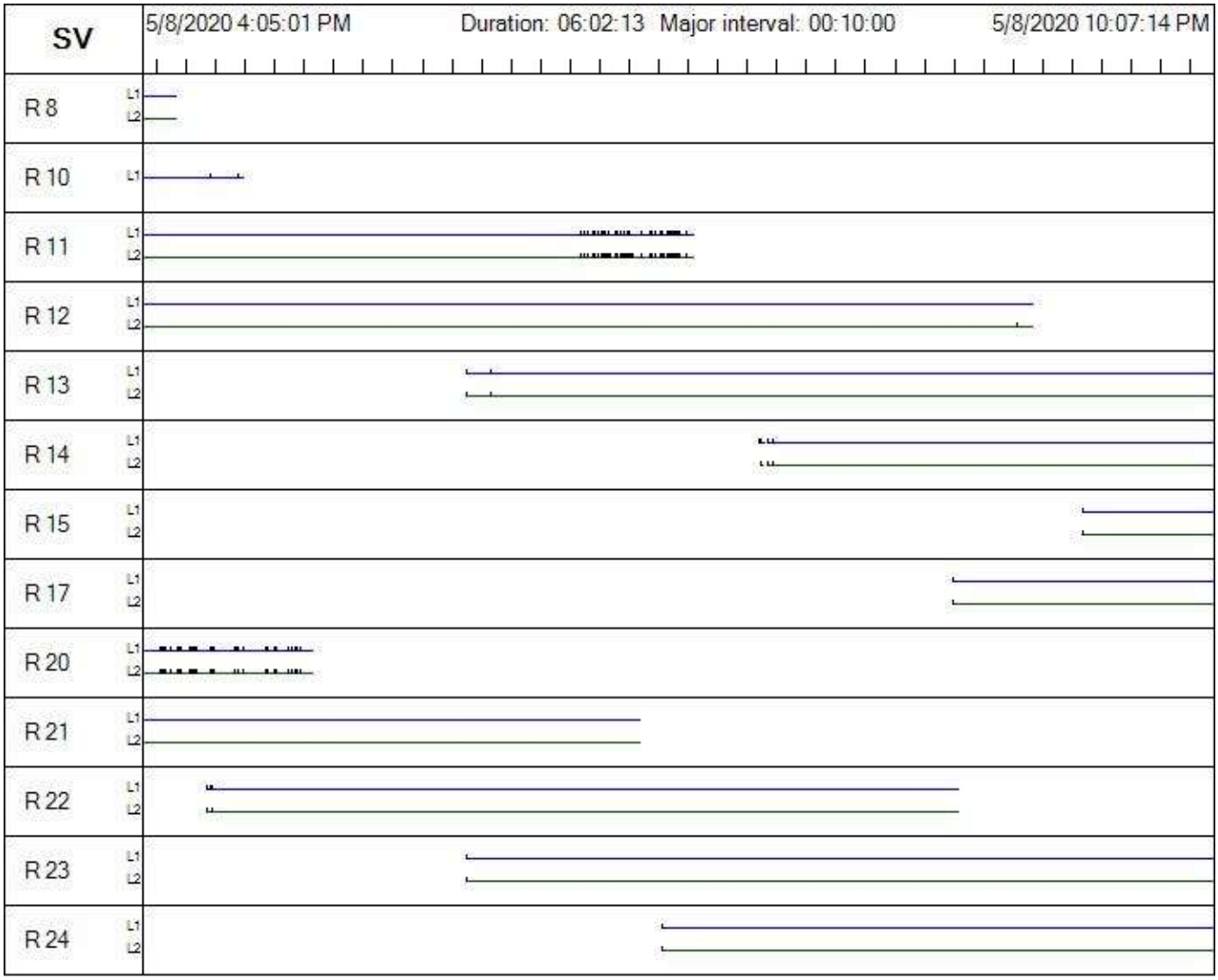
	X	Y	Z
X	0.0000960190		
Y	0.0001310391	0.0002135594	
Z	-0.0001174483	-0.0001807079	0.0001781472

Occupations

	From	To
Point ID:	ZOA1	HS4392
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\zoa11290.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141290.T02
Receiver type:	Unknown	R8-4
Receiver serial number:	7DC1	5329440614
Antenna type:	MPLWAAS+L5	R8-4 Internal
Antenna serial number:	Unknown	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary




SV
5/8/2020 4:05:01 PM
Duration: 06:02:13 Major interval: 00:10:00
5/8/2020 10:07:14 PM
R 8
R 10
R 11
R 12
R 13
R 14
R 15
R 17
R 20
R 21
R 22
R 23
R 24

Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

ZOA1 - NVA026 (8:53:48 PM-9:13:51 PM) (S7)

Baseline observation:	ZOA1 --- NVA026 (B7)
Processed:	5/13/2020 7:54:23 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.079 ft
Vertical precision:	0.171 ft
RMS:	0.061 ft
Maximum PDOP:	2.518
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/8/2020 8:53:52 PM (UTC)
Processing stop time:	5/8/2020 9:13:42 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	ZOA1				
Grid		**Local**		**Global**	
Easting	6122180.567 ft	**Latitude**	N37°32'34.98905"	**Latitude**	N37°32'34.98904"
Northing	2023761.014 ft	**Longitude**	W122°00'57.36083"	**Longitude**	W122°00'57.36083"
Elevation	95.382 ft	**Height**	-11.202 ft	**Height**	-11.202 ft

To:	NVA026				
Grid		**Local**		**Global**	
Easting	6175108.362 ft	**Latitude**	N37°30'15.07006"	**Latitude**	N37°30'15.07006"
Northing	2008802.216 ft	**Longitude**	W121°49'57.57488"	**Longitude**	W121°49'57.57488"
Elevation	929.307 ft	**Height**	824.253 ft	**Height**	824.253 ft

Vector					
ΔEasting	52927.795 ft	**NS Fwd Azimuth**	104°51'13.9"	**ΔX**	40205.292 ft
ΔNorthing	-14958.798 ft	**Ellipsoid Dist.**	55004.528 ft	**ΔY**	-35986.384 ft
ΔElevation	833.925 ft	**ΔHeight**	835.455 ft	**ΔZ**	-10715.711 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.022 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.036 ft
σ ΔNorthing	0.032 ft	**σ Ellipsoid Dist.**	0.024 ft	**σ ΔY**	0.053 ft
σ ΔElevation	0.087 ft	**σ ΔHeight**	0.087 ft	**σ ΔZ**	0.071 ft

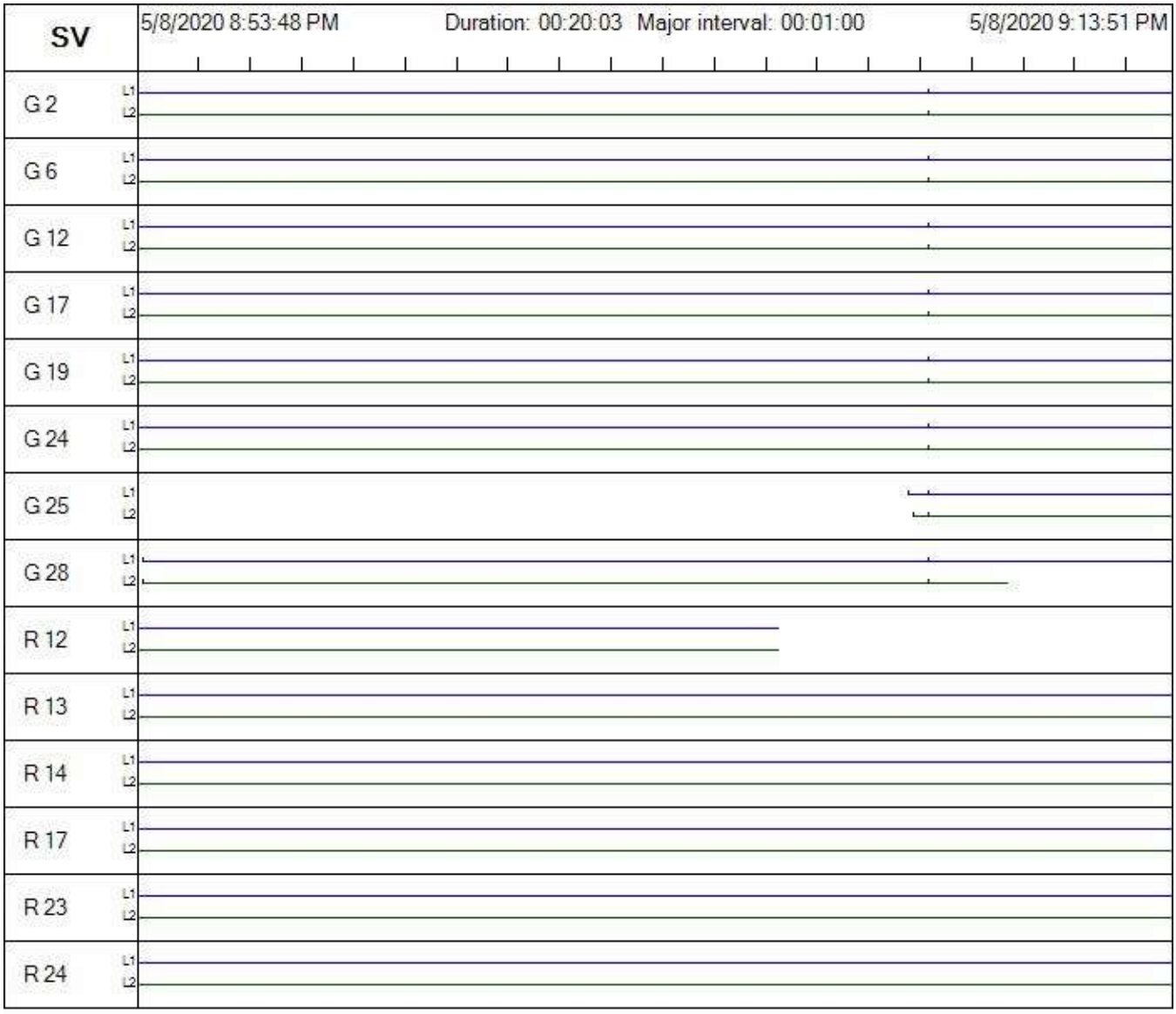
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0012945200		
Y	0.0013734381	0.0028431431	
Z	-0.0018859388	-0.0030739305	0.0050659024

Occupations

	From	To
Point ID:	ZOA1	NVA026
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\zoa11290.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741293.t02
Receiver type:	Unknown	R8 Model 3
Receiver serial number:	7DC1	5243499055
Antenna type:	MPLWAAS+L5	R8 GNSS/SPS88x Internal
Antenna serial number:	Unknown	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

ZOA1 - VVA023 (9:21:47 PM-9:41:49 PM) (S6)

Baseline observation:	ZOA1 --- VVA023 (B6)
Processed:	5/13/2020 7:54:23 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.125 ft
Vertical precision:	0.214 ft
RMS:	0.052 ft
Maximum PDOP:	3.041
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/8/2020 9:21:52 PM (UTC)
Processing stop time:	5/8/2020 9:41:42 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	ZOA1				
Grid		**Local**		**Global**	
Easting	6122180.567 ft	**Latitude**	N37°32'34.98905"	**Latitude**	N37°32'34.98904"
Northing	2023761.014 ft	**Longitude**	W122°00'57.36083"	**Longitude**	W122°00'57.36083"
Elevation	95.382 ft	**Height**	-11.202 ft	**Height**	-11.202 ft

To:	VVA023				
Grid		**Local**		**Global**	
Easting	6175245.161 ft	**Latitude**	N37°30'03.54768"	**Latitude**	N37°30'03.54768"
Northing	2007634.764 ft	**Longitude**	W121°49'55.67107"	**Longitude**	W121°49'55.67107"
Elevation	864.470 ft	**Height**	759.413 ft	**Height**	759.413 ft

Vector					
ΔEasting	53064.594 ft	**NS Fwd Azimuth**	105°58'34.1"	**ΔX**	39988.524 ft
ΔNorthing	-16126.250 ft	**Ellipsoid Dist.**	55464.346 ft	**ΔY**	-36626.435 ft
ΔElevation	769.087 ft	**ΔHeight**	770.615 ft	**ΔZ**	-11679.808 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.032 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.049 ft
σ ΔNorthing	0.050 ft	**σ Ellipsoid Dist.**	0.037 ft	**σ ΔY**	0.061 ft
σ ΔElevation	0.109 ft	**σ ΔHeight**	0.109 ft	**σ ΔZ**	0.096 ft

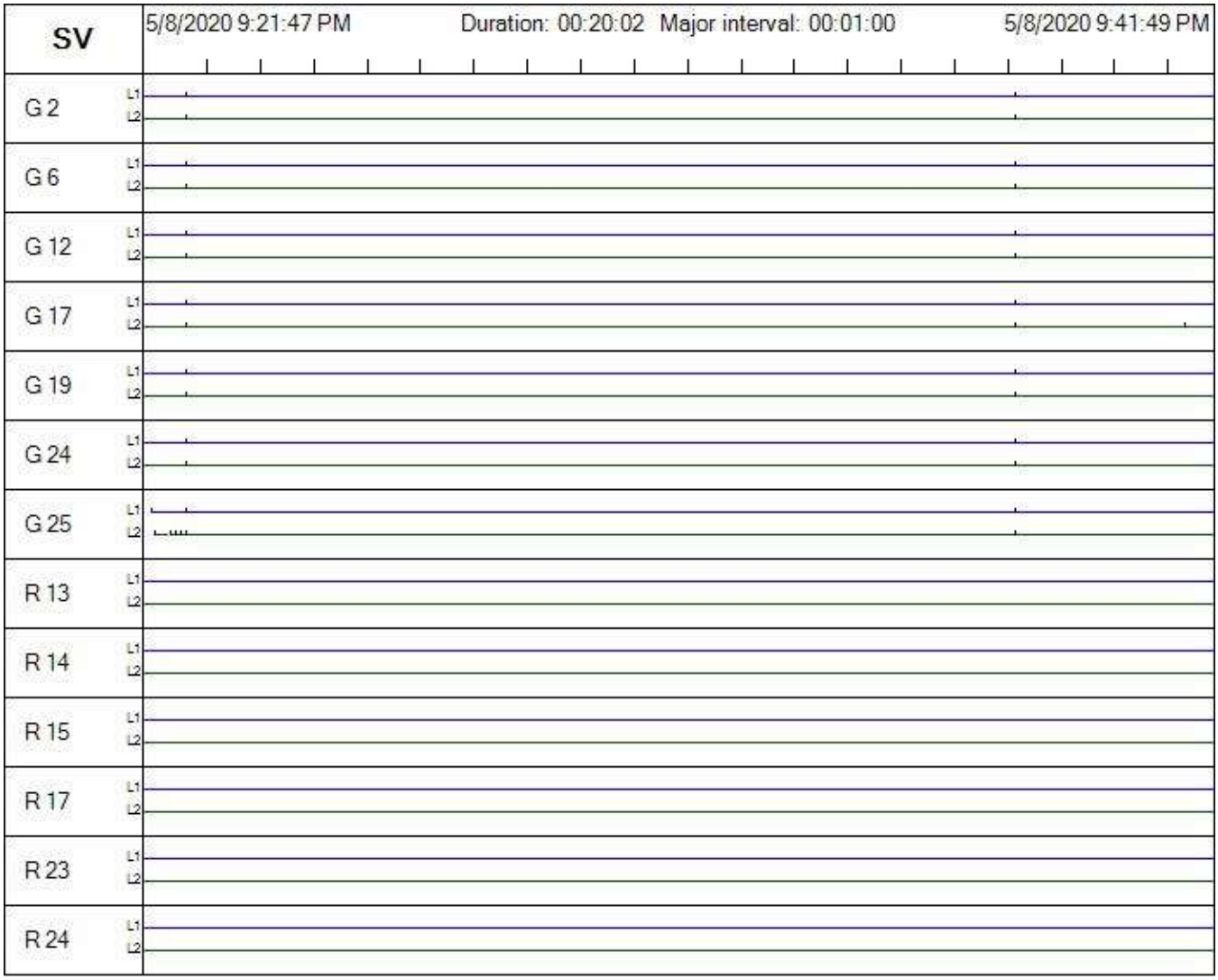
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0024372919		
Y	0.0019716892	0.0037054344	
Z	-0.0035448699	-0.0041869780	0.0092790005

Occupations

	From	To
Point ID:	ZOA1	VVA023
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\zoa11290.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741294.t02
Receiver type:	Unknown	R8 Model 3
Receiver serial number:	7DC1	5243499055
Antenna type:	MPLWAAS+L5	R8 GNSS/SPS88x Internal
Antenna serial number:	Unknown	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS4392 - NVA027 (4:21:17 PM-4:33:03 PM) (S1)

Baseline observation:	HS4392 --- NVA027 (B1)
Processed:	5/13/2020 7:54:27 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.023 ft
Vertical precision:	0.034 ft
RMS:	0.042 ft
Maximum PDOP:	1.818
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/8/2020 4:21:17 PM (UTC)
Processing stop time:	5/8/2020 4:33:03 PM (UTC)
Processing duration:	00:11:46
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS4392				
Grid		**Local**		**Global**	
Easting	6145361.290 ft	**Latitude**	N37°29'00.81083"	**Latitude**	N37°29'00.81083"
Northing	2001730.616 ft	**Longitude**	W121°56'05.36448"	**Longitude**	W121°56'05.36448"
Elevation	31.044 ft	**Height**	-75.548 ft	**Height**	-75.548 ft

To:	NVA027				
Grid		**Local**		**Global**	
Easting	6148718.499 ft	**Latitude**	N37°29'12.89869"	**Latitude**	N37°29'12.89868"
Northing	2002902.066 ft	**Longitude**	W121°55'23.93695"	**Longitude**	W121°55'23.93695"
Elevation	81.216 ft	**Height**	-25.247 ft	**Height**	-25.247 ft

Vector					
ΔEasting	3357.209 ft	**NS Fwd Azimuth**	69°53'09.2"	**ΔX**	3206.320 ft
ΔNorthing	1171.449 ft	**Ellipsoid Dist.**	3555.934 ft	**ΔY**	-1168.356 ft
ΔElevation	50.172 ft	**ΔHeight**	50.301 ft	**ΔZ**	1000.794 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.008 ft	**σ NS fwd Azimuth**	0°00'00.6"	**σ ΔX**	0.009 ft
σ ΔNorthing	0.009 ft	**σ Ellipsoid Dist.**	0.008 ft	**σ ΔY**	0.015 ft
σ ΔElevation	0.017 ft	**σ ΔHeight**	0.017 ft	**σ ΔZ**	0.011 ft

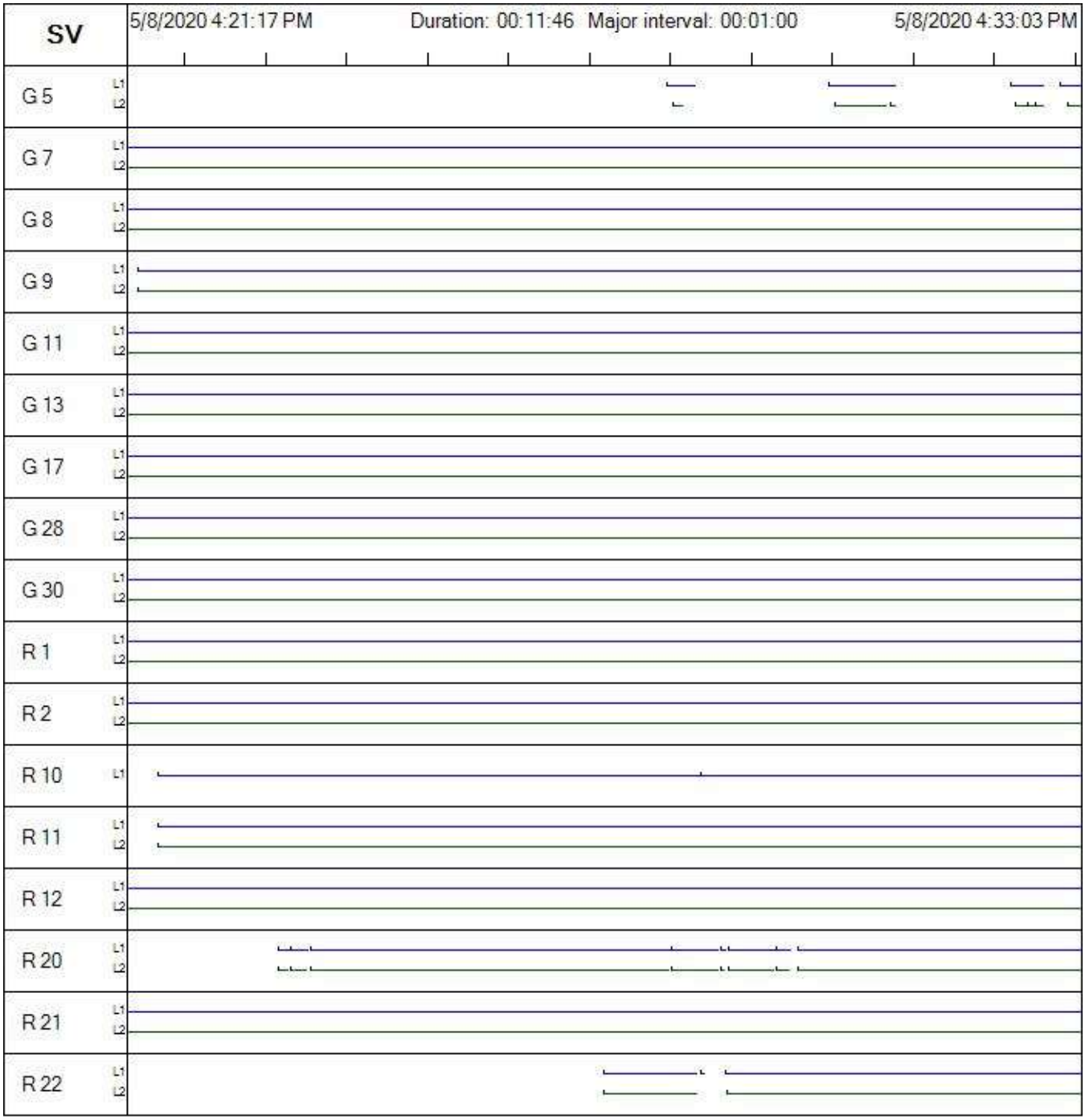
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0000860587		
Y	0.0000761484	0.0002292515	
Z	-0.0000337597	-0.0000828259	0.0001267087

Occupations

	From	To
Point ID:	HS4392	NVA027
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141290.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741290.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS4392 - VVA040 (4:57:39 PM-5:08:14 PM) (S2)

Baseline observation:	HS4392 --- VVA040 (B2)
Processed:	5/13/2020 7:54:27 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.067 ft
Vertical precision:	0.115 ft
RMS:	0.053 ft
Maximum PDOP:	1.949
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/8/2020 4:57:39 PM (UTC)
Processing stop time:	5/8/2020 5:08:14 PM (UTC)
Processing duration:	00:10:35
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	HS4392				
Grid		**Local**		**Global**	
Easting	6145361.290 ft	**Latitude**	N37°29'00.81083"	**Latitude**	N37°29'00.81083"
Northing	2001730.616 ft	**Longitude**	W121°56'05.36448"	**Longitude**	W121°56'05.36448"
Elevation	31.044 ft	**Height**	-75.548 ft	**Height**	-75.548 ft

To:	VVA040				
Grid		**Local**		**Global**	
Easting	6166053.620 ft	**Latitude**	N37°27'24.87865"	**Latitude**	N37°27'24.87864"
Northing	1991717.546 ft	**Longitude**	W121°51'46.84958"	**Longitude**	W121°51'46.84958"
Elevation	622.225 ft	**Height**	516.309 ft	**Height**	516.309 ft

Vector					
ΔEasting	20692.329 ft	**NS Fwd Azimuth**	114°56'38.9"	**ΔX**	14326.237 ft
ΔNorthing	-10013.070 ft	**Ellipsoid Dist.**	22989.047 ft	**ΔY**	-16423.267 ft
ΔElevation	591.182 ft	**ΔHeight**	591.858 ft	**ΔZ**	-7341.178 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.021 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.033 ft
σ ΔNorthing	0.027 ft	**σ Ellipsoid Dist.**	0.021 ft	**σ ΔY**	0.049 ft
σ ΔElevation	0.059 ft	**σ ΔHeight**	0.059 ft	**σ ΔZ**	0.033 ft

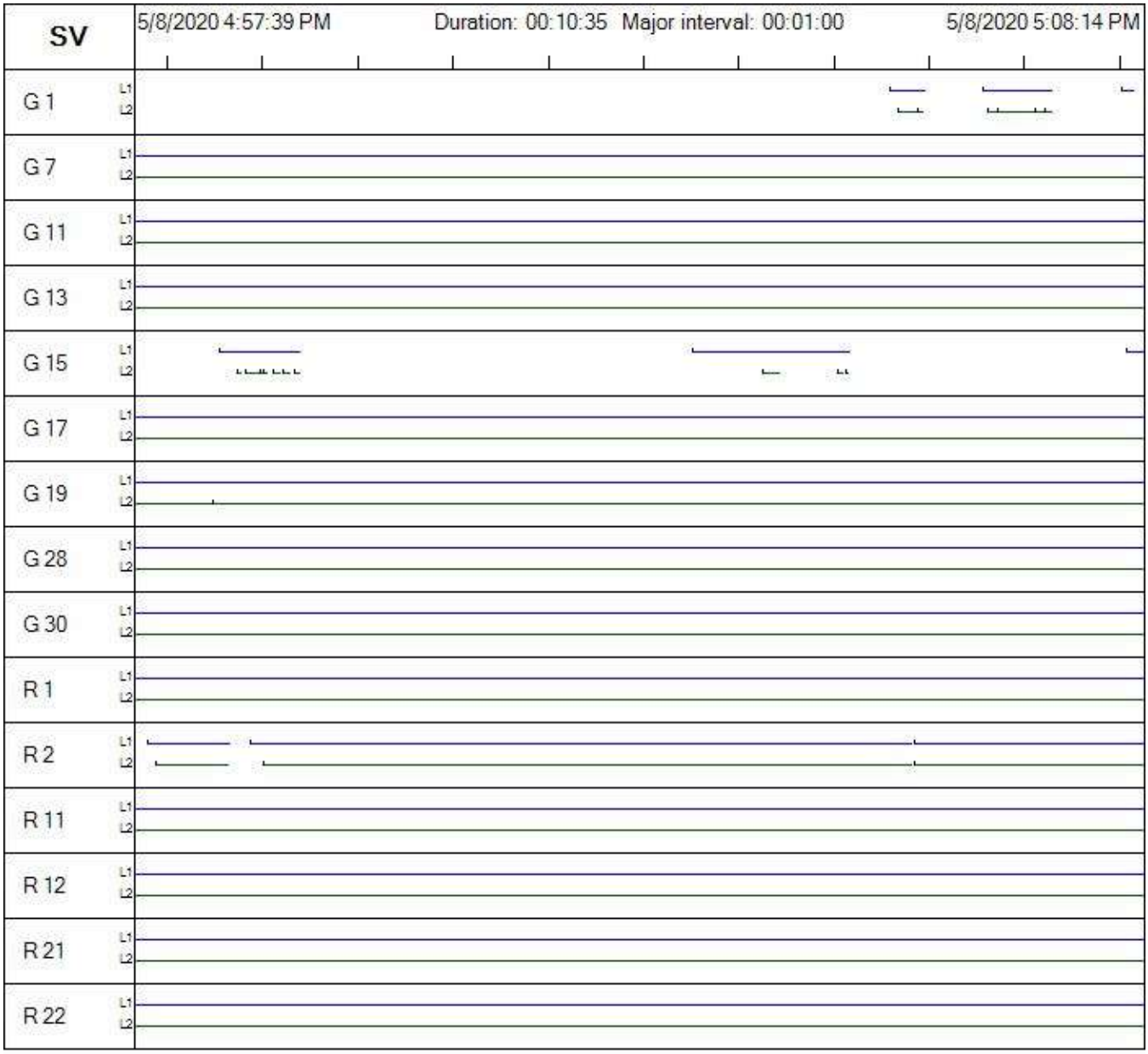
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0010832930		
Y	0.0011442306	0.0024291608	
Z	-0.0004724019	-0.0010404869	0.0011048538

Occupations

	From	To
Point ID:	HS4392	VVA040
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141290.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741291.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS4392 - NVA013 (5:36:58 PM-5:57:41 PM) (S3)

Baseline observation:	HS4392 --- NVA013 (B3)
Processed:	5/13/2020 7:54:27 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.055 ft
Vertical precision:	0.121 ft
RMS:	0.038 ft
Maximum PDOP:	1.488
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/8/2020 5:37:02 PM (UTC)
Processing stop time:	5/8/2020 5:57:32 PM (UTC)
Processing duration:	00:20:30
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS4392				
Grid		**Local**		**Global**	
Easting	6145361.290 ft	**Latitude**	N37°29'00.81083"	**Latitude**	N37°29'00.81083"
Northing	2001730.616 ft	**Longitude**	W121°56'05.36448"	**Longitude**	W121°56'05.36448"
Elevation	31.044 ft	**Height**	-75.548 ft	**Height**	-75.548 ft

To:	NVA013				
Grid		**Local**		**Global**	
Easting	6192916.537 ft	**Latitude**	N37°25'20.92681"	**Latitude**	N37°25'20.92680"
Northing	1978801.856 ft	**Longitude**	W121°46'11.53350"	**Longitude**	W121°46'11.53350"
Elevation	2290.285 ft	**Height**	2185.790 ft	**Height**	2185.790 ft

Vector					
ΔEasting	47555.247 ft	**NS Fwd Azimuth**	114°51'46.5"	**ΔX**	32590.398 ft
ΔNorthing	-22928.761 ft	**Ellipsoid Dist.**	52797.245 ft	**ΔY**	-38284.777 ft
ΔElevation	2259.241 ft	**ΔHeight**	2261.338 ft	**ΔZ**	-16281.403 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.019 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.033 ft
σ ΔNorthing	0.023 ft	**σ Ellipsoid Dist.**	0.019 ft	**σ ΔY**	0.049 ft
σ ΔElevation	0.061 ft	**σ ΔHeight**	0.061 ft	**σ ΔZ**	0.033 ft

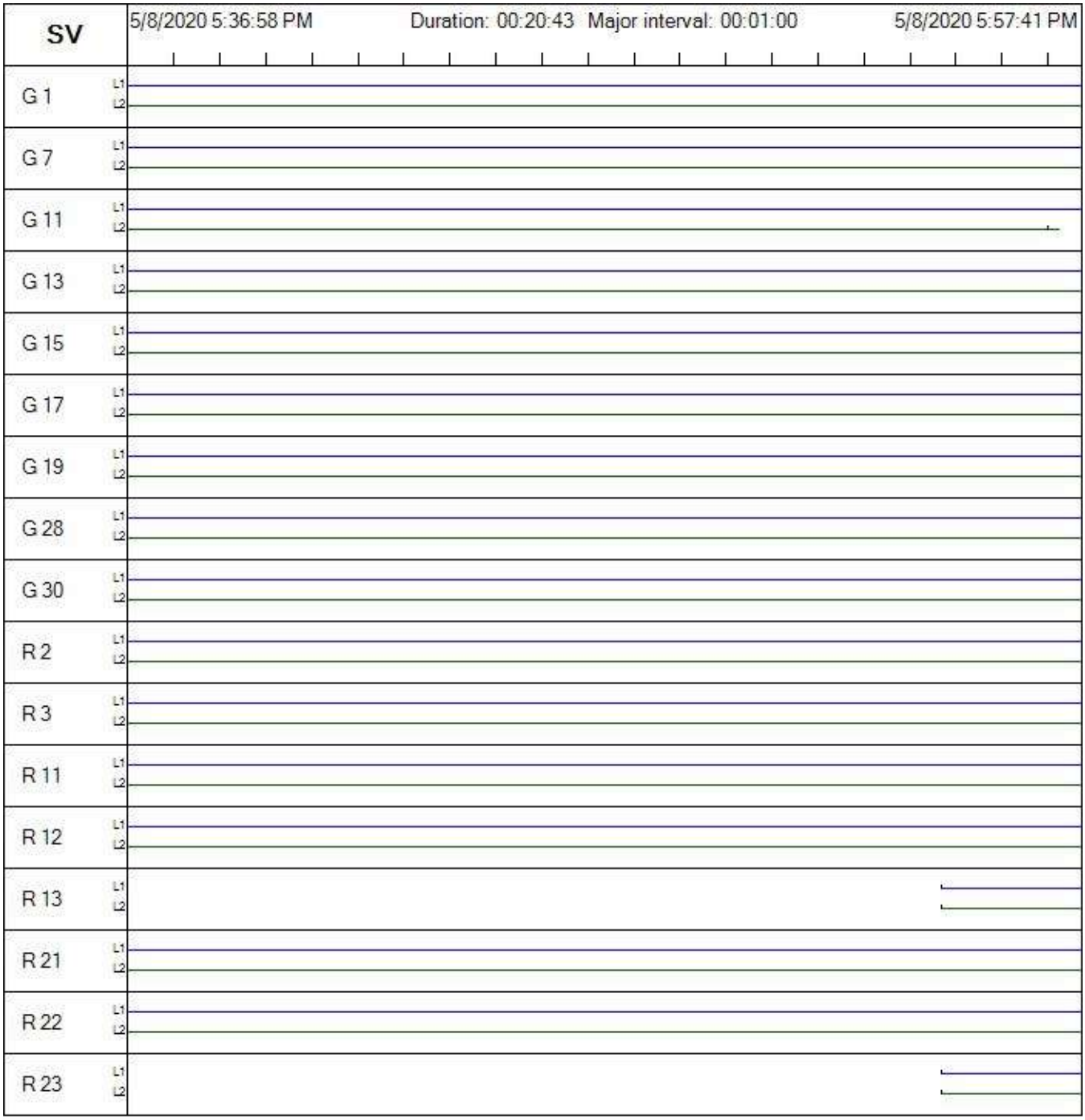
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0011209085		
Y	0.0012698241	0.0024333388	
Z	-0.0006918670	-0.0012294246	0.0010808571

Occupations

	From	To
Point ID:	HS4392	NVA013
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141290.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741292.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS4392 - VVA023 (9:21:47 PM-9:41:49 PM) (S5)

Baseline observation:	HS4392 --- VVA023 (B5)
Processed:	5/13/2020 7:54:27 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.163 ft
Vertical precision:	0.286 ft
RMS:	0.036 ft
Maximum PDOP:	1.973
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/8/2020 9:21:52 PM (UTC)
Processing stop time:	5/8/2020 9:41:42 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS4392				
Grid		**Local**		**Global**	
Easting	6145361.290 ft	**Latitude**	N37°29'00.81083"	**Latitude**	N37°29'00.81083"
Northing	2001730.616 ft	**Longitude**	W121°56'05.36448"	**Longitude**	W121°56'05.36448"
Elevation	31.044 ft	**Height**	-75.548 ft	**Height**	-75.548 ft

To:	VVA023				
Grid		**Local**		**Global**	
Easting	6175245.172 ft	**Latitude**	N37°30'03.54769"	**Latitude**	N37°30'03.54769"
Northing	2007634.766 ft	**Longitude**	W121°49'55.67094"	**Longitude**	W121°49'55.67094"
Elevation	864.392 ft	**Height**	759.336 ft	**Height**	759.336 ft

Vector					
ΔEasting	29883.881 ft	**NS Fwd Azimuth**	77°56'44.7"	**ΔX**	26990.374 ft
ΔNorthing	5904.149 ft	**Ellipsoid Dist.**	30463.387 ft	**ΔY**	-13020.708 ft
ΔElevation	833.349 ft	**ΔHeight**	834.884 ft	**ΔZ**	5543.103 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.042 ft	**σ NS fwd Azimuth**	0°00'00.4"	**σ ΔX**	0.066 ft
σ ΔNorthing	0.065 ft	**σ Ellipsoid Dist.**	0.040 ft	**σ ΔY**	0.081 ft
σ ΔElevation	0.146 ft	**σ ΔHeight**	0.146 ft	**σ ΔZ**	0.127 ft

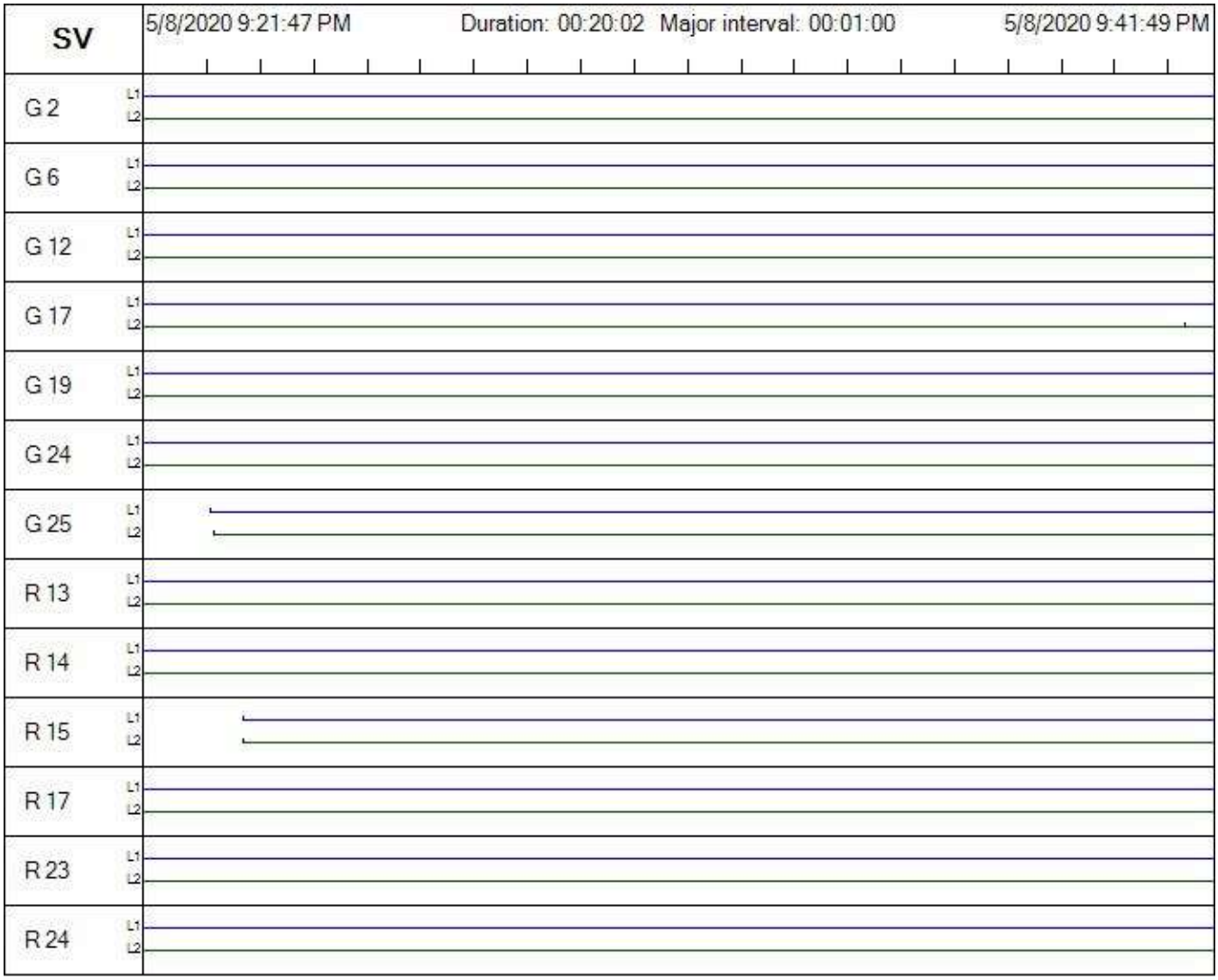
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0043301056		
Y	0.0035455284	0.0066299662	
Z	-0.0063327428	-0.0075633761	0.0162529206

Occupations

	From	To
Point ID:	HS4392	VVA023
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141290.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741294.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

HS4392 - NVA026 (8:53:48 PM-9:13:51 PM) (S4)

Baseline observation:	HS4392 --- NVA026 (B4)
Processed:	5/13/2020 7:54:26 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.073 ft
Vertical precision:	0.161 ft
RMS:	0.110 ft
Maximum PDOP:	1.957
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/8/2020 8:53:52 PM (UTC)
Processing stop time:	5/8/2020 9:13:42 PM (UTC)
Processing duration:	00:19:50
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	HS4392				
Grid		**Local**		**Global**	
Easting	6145361.290 ft	**Latitude**	N37°29'00.81083"	**Latitude**	N37°29'00.81083"
Northing	2001730.616 ft	**Longitude**	W121°56'05.36448"	**Longitude**	W121°56'05.36448"
Elevation	31.044 ft	**Height**	-75.548 ft	**Height**	-75.548 ft

To:	NVA026				
Grid		**Local**		**Global**	
Easting	6175108.360 ft	**Latitude**	N37°30'15.06973"	**Latitude**	N37°30'15.06973"
Northing	2008802.183 ft	**Longitude**	W121°49'57.57490"	**Longitude**	W121°49'57.57490"
Elevation	929.024 ft	**Height**	823.970 ft	**Height**	823.970 ft

Vector					
ΔEasting	29747.070 ft	**NS Fwd Azimuth**	75°44'57.9"	**ΔX**	27207.207 ft
ΔNorthing	7071.566 ft	**Ellipsoid Dist.**	30577.915 ft	**ΔY**	-12380.531 ft
ΔElevation	897.980 ft	**ΔHeight**	899.518 ft	**ΔZ**	6507.046 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.025 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.038 ft
σ ΔNorthing	0.030 ft	**σ Ellipsoid Dist.**	0.024 ft	**σ ΔY**	0.053 ft
σ ΔElevation	0.082 ft	**σ ΔHeight**	0.082 ft	**σ ΔZ**	0.064 ft

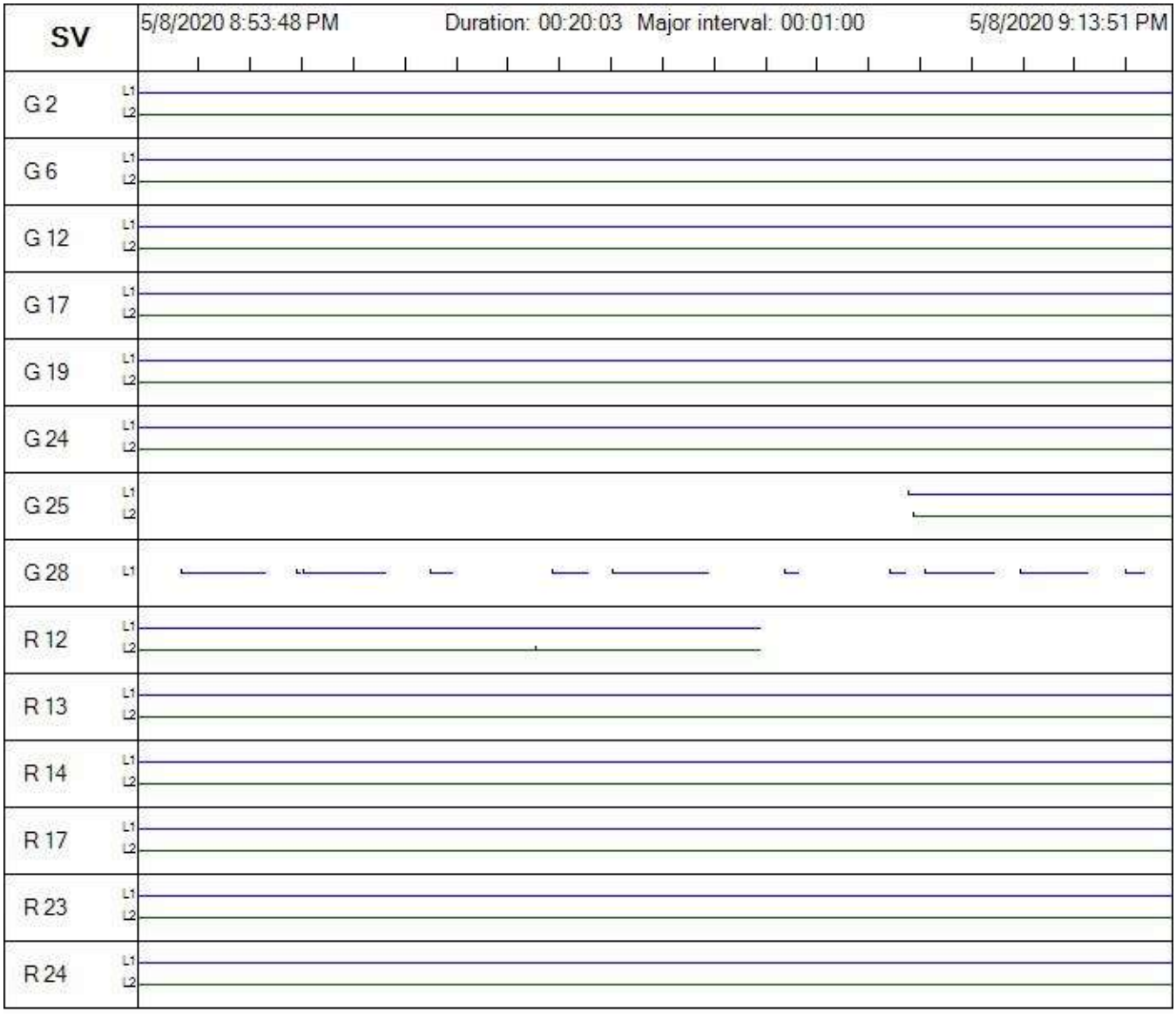
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0014353651		
Y	0.0013494391	0.0027927981	
Z	-0.0017249088	-0.0025977806	0.0040366596

Occupations

	From	To
Point ID:	HS4392	NVA026
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\06141290.T02	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741293.t02
Receiver type:	R8-4	R8 Model 3
Receiver serial number:	5329440614	5243499055
Antenna type:	R8-4 Internal	R8 GNSS/SPS88x Internal
Antenna serial number:	--------	--------
Antenna height (measured):	6.562 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

ZOA1 - NVA027 (4:21:17 PM-4:33:03 PM) (S10)

Baseline observation:	ZOA1 --- NVA027 (B10)
Processed:	5/13/2020 7:54:29 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.055 ft
Vertical precision:	0.083 ft
RMS:	0.029 ft
Maximum PDOP:	1.818
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/8/2020 4:21:17 PM (UTC)
Processing stop time:	5/8/2020 4:33:03 PM (UTC)
Processing duration:	00:11:46
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	ZOA1				
Grid		**Local**		**Global**	
Easting	6122180.567 ft	**Latitude**	N37°32'34.98905"	**Latitude**	N37°32'34.98904"
Northing	2023761.014 ft	**Longitude**	W122°00'57.36083"	**Longitude**	W122°00'57.36083"
Elevation	95.382 ft	**Height**	-11.202 ft	**Height**	-11.202 ft

To:	NVA027				
Grid		**Local**		**Global**	
Easting	6148718.505 ft	**Latitude**	N37°29'12.89886"	**Latitude**	N37°29'12.89886"
Northing	2002902.083 ft	**Longitude**	W121°55'23.93688"	**Longitude**	W121°55'23.93688"
Elevation	81.303 ft	**Height**	-25.160 ft	**Height**	-25.160 ft

Vector					
ΔEasting	26537.938 ft	**NS Fwd Azimuth**	127°14'22.3"	**ΔX**	16204.486 ft
ΔNorthing	-20858.931 ft	**Ellipsoid Dist.**	33756.469 ft	**ΔY**	-24774.088 ft
ΔElevation	-14.079 ft	**ΔHeight**	-13.958 ft	**ΔZ**	-16222.096 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.020 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.023 ft
σ ΔNorthing	0.022 ft	**σ Ellipsoid Dist.**	0.022 ft	**σ ΔY**	0.038 ft
σ ΔElevation	0.042 ft	**σ ΔHeight**	0.042 ft	**σ ΔZ**	0.028 ft

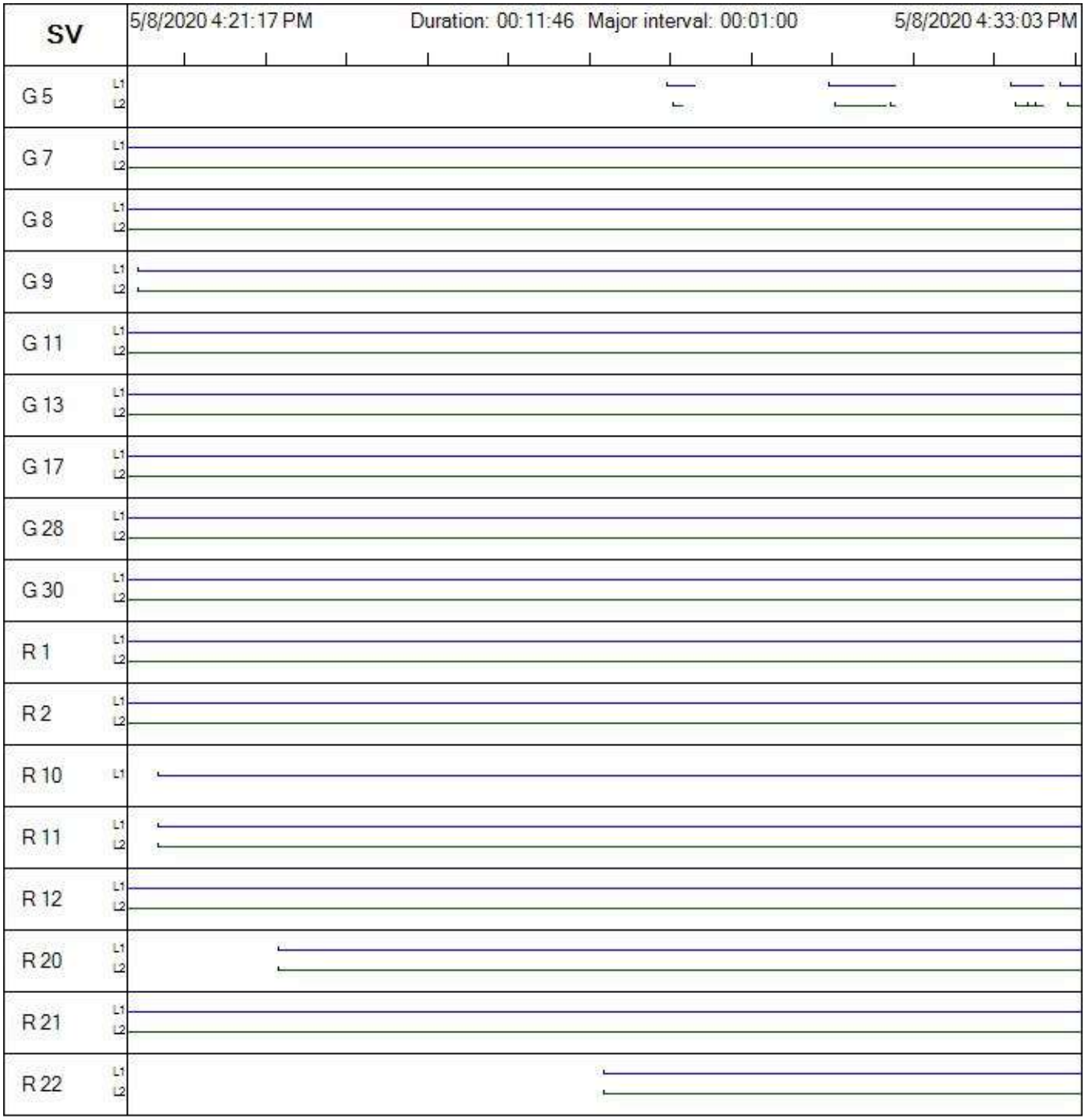
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0005137266		
Y	0.0004265087	0.0014154352	
Z	-0.0001985682	-0.0005455608	0.0007591141

Occupations

	From	To
Point ID:	ZOA1	NVA027
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\zoa11290.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741290.t02
Receiver type:	Unknown	R8 Model 3
Receiver serial number:	7DC1	5243499055
Antenna type:	MPLWAAS+L5	R8 GNSS/SPS88x Internal
Antenna serial number:	Unknown	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

ZOA1 - VVA040 (4:57:39 PM-5:08:14 PM) (S9)

Baseline observation:	ZOA1 --- VVA040 (B9)
Processed:	5/13/2020 7:54:30 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.139 ft
Vertical precision:	0.227 ft
RMS:	0.051 ft
Maximum PDOP:	1.949
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/8/2020 4:57:39 PM (UTC)
Processing stop time:	5/8/2020 5:08:14 PM (UTC)
Processing duration:	00:10:35
Processing interval:	1 second

Vector Components (Mark to Mark)

From:	ZOA1				
Grid		**Local**		**Global**	
Easting	6122180.567 ft	**Latitude**	N37°32'34.98905"	**Latitude**	N37°32'34.98904"
Northing	2023761.014 ft	**Longitude**	W122°00'57.36083"	**Longitude**	W122°00'57.36083"
Elevation	95.382 ft	**Height**	-11.202 ft	**Height**	-11.202 ft

To:	VVA040				
Grid		**Local**		**Global**	
Easting	6166053.616 ft	**Latitude**	N37°27'24.87853"	**Latitude**	N37°27'24.87852"
Northing	1991717.534 ft	**Longitude**	W121°51'46.84962"	**Longitude**	W121°51'46.84962"
Elevation	622.234 ft	**Height**	516.318 ft	**Height**	516.318 ft

Vector					
ΔEasting	43873.048 ft	**NS Fwd Azimuth**	125°12'55.3"	**ΔX**	27324.418 ft
ΔNorthing	-32043.480 ft	**Ellipsoid Dist.**	54332.220 ft	**ΔY**	-40028.956 ft
ΔElevation	526.851 ft	**ΔHeight**	527.520 ft	**ΔZ**	-24564.139 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.045 ft	**σ NS fwd Azimuth**	0°00'00.2"	**σ ΔX**	0.066 ft
σ ΔNorthing	0.057 ft	**σ Ellipsoid Dist.**	0.048 ft	**σ ΔY**	0.099 ft
σ ΔElevation	0.116 ft	**σ ΔHeight**	0.116 ft	**σ ΔZ**	0.067 ft

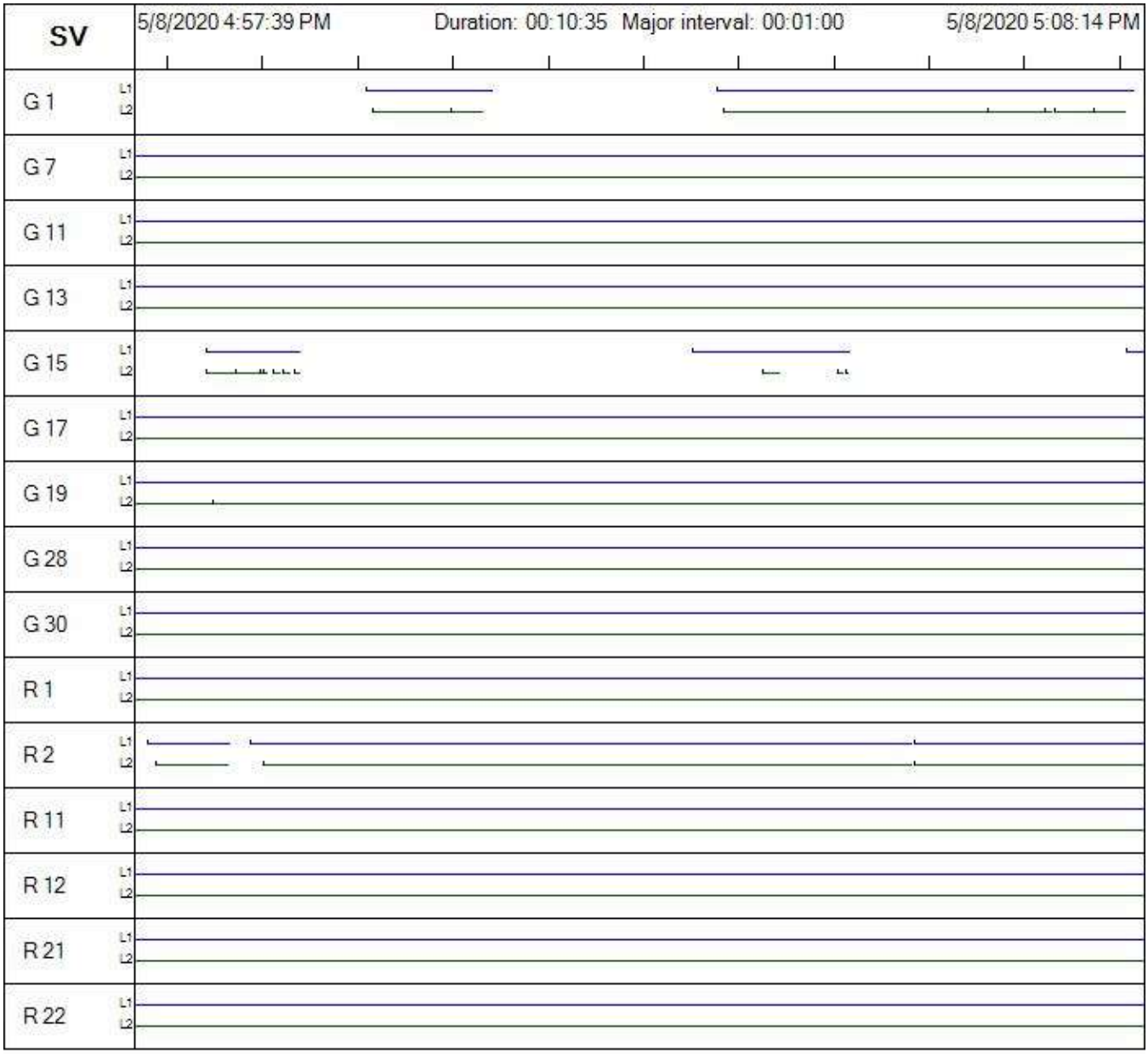
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0043734590		
Y	0.0042868756	0.0098492204	
Z	-0.0016952396	-0.0039485766	0.0044457617

Occupations

	From	To
Point ID:	ZOA1	VVA040
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\zoa11290.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741291.t02
Receiver type:	Unknown	R8 Model 3
Receiver serial number:	7DC1	5243499055
Antenna type:	MPLWAAS+L5	R8 GNSS/SPS88x Internal
Antenna serial number:	Unknown	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

ZOA1 - NVA013 (5:36:58 PM-5:57:41 PM) (S8)

Baseline observation:	ZOA1 --- NVA013 (B8)
Processed:	5/13/2020 7:54:29 PM
Solution type:	Fixed
Frequency used:	Dual Frequency (L1, L2)
Horizontal precision:	0.072 ft
Vertical precision:	0.161 ft
RMS:	0.039 ft
Maximum PDOP:	1.942
Ephemeris used:	Broadcast
Antenna model:	NGS Absolute
Processing start time:	5/8/2020 5:37:02 PM (UTC)
Processing stop time:	5/8/2020 5:57:32 PM (UTC)
Processing duration:	00:20:30
Processing interval:	10 seconds

Vector Components (Mark to Mark)

From:	ZOA1				
Grid		**Local**		**Global**	
Easting	6122180.567 ft	**Latitude**	N37°32'34.98905"	**Latitude**	N37°32'34.98904"
Northing	2023761.014 ft	**Longitude**	W122°00'57.36083"	**Longitude**	W122°00'57.36083"
Elevation	95.382 ft	**Height**	-11.202 ft	**Height**	-11.202 ft

To:	NVA013				
Grid		**Local**		**Global**	
Easting	6192916.550 ft	**Latitude**	N37°25'20.92667"	**Latitude**	N37°25'20.92667"
Northing	1978801.842 ft	**Longitude**	W121°46'11.53333"	**Longitude**	W121°46'11.53333"
Elevation	2290.355 ft	**Height**	2185.860 ft	**Height**	2185.859 ft

Vector					
ΔEasting	70735.983 ft	**NS Fwd Azimuth**	121°30'43.2"	**ΔX**	45588.567 ft
ΔNorthing	-44959.173 ft	**Ellipsoid Dist.**	83819.722 ft	**ΔY**	-61890.518 ft
ΔElevation	2194.972 ft	**ΔHeight**	2197.062 ft	**ΔZ**	-33504.327 ft

Standard Errors

Vector errors:					
σ ΔEasting	0.023 ft	**σ NS fwd Azimuth**	0°00'00.1"	**σ ΔX**	0.044 ft
σ ΔNorthing	0.029 ft	**σ Ellipsoid Dist.**	0.024 ft	**σ ΔY**	0.066 ft
σ ΔElevation	0.082 ft	**σ ΔHeight**	0.082 ft	**σ ΔZ**	0.042 ft

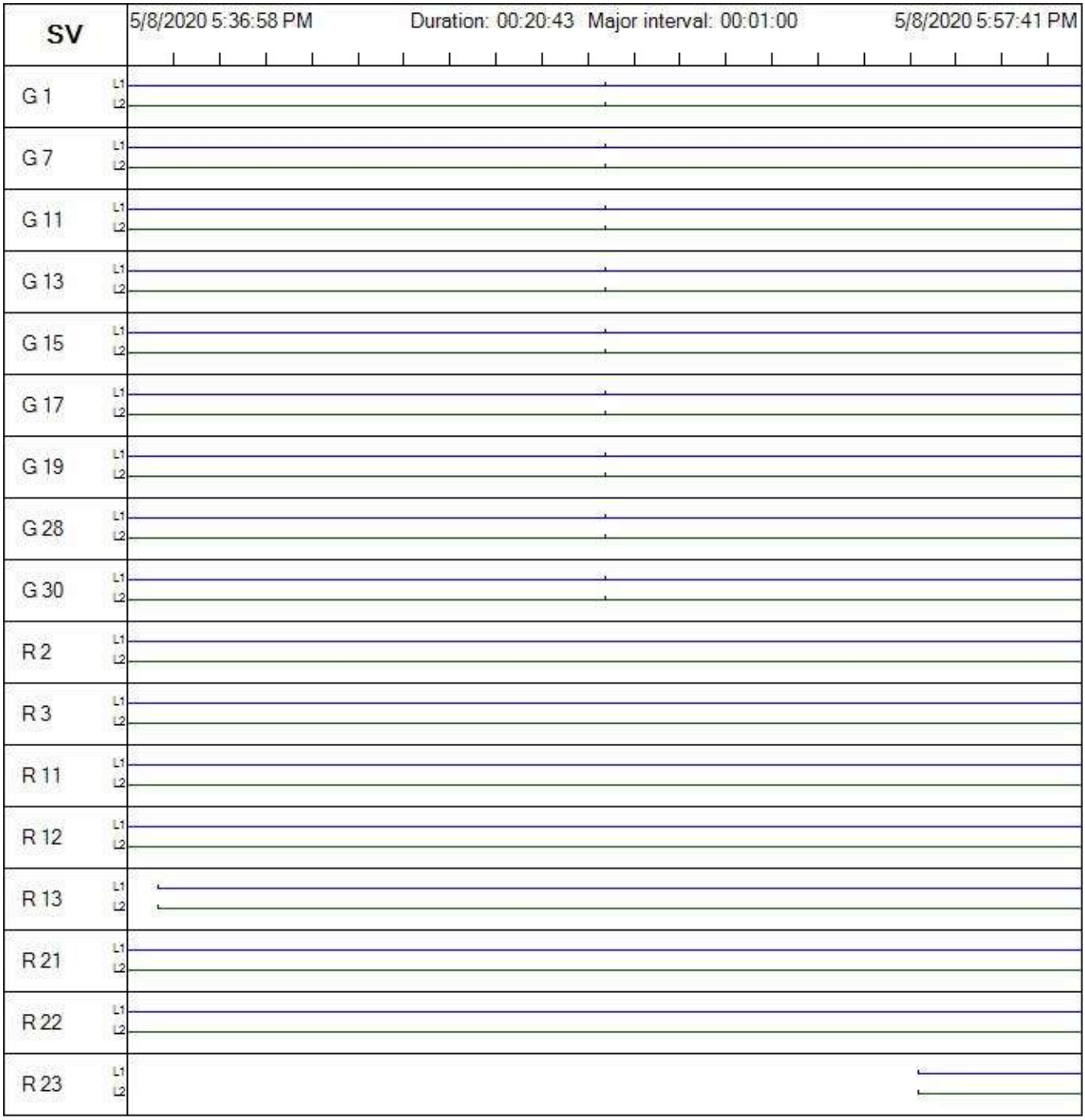
Aposteriori Covariance Matrix (US survey foot²)

	X	Y	Z
X	0.0019546507		
Y	0.0023399281	0.0044052644	
Z	-0.0012351485	-0.0021865137	0.0017733473

Occupations

	From	To
Point ID:	ZOA1	NVA013
Data file:	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\zoa11290.20o	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5\85741292.t02
Receiver type:	Unknown	R8 Model 3
Receiver serial number:	7DC1	5243499055
Antenna type:	MPLWAAS+L5	R8 GNSS/SPS88x Internal
Antenna serial number:	Unknown	--------
Antenna height (measured):	0.000 ft	6.562 ft
Antenna method:	Bottom of antenna mount	Bottom of antenna mount

Tracking Summary



Processing style

Elevation mask:	10°00'00.0"
Auto start processing:	Yes
Start automatic ID numbering:	AUTO0001
Continuous vectors:	No
Generate residuals:	Yes
Antenna model:	Automatic
Ephemeris type:	Automatic
Frequency:	Multiple Frequencies
Processing Interval:	Automatic
Force float:	No
GIS processing type:	Automatic Carrier and Code Processing

Acceptance Criteria

Vector Component	Flag	Fail
Horizontal Precision >	0.164 ft + 1.000 ppm	0.328 ft + 1.000 ppm
Vertical Precision >	0.328 ft + 1.000 ppm	0.656 ft + 1.000 ppm

5/14/2020 11:44:58 AM	A:\GroundSurvey\312020310_SantaClaraCAYear5\03_Survey_Project\312020310_SantaClaraCAYear5.vce	Trimble Business Center