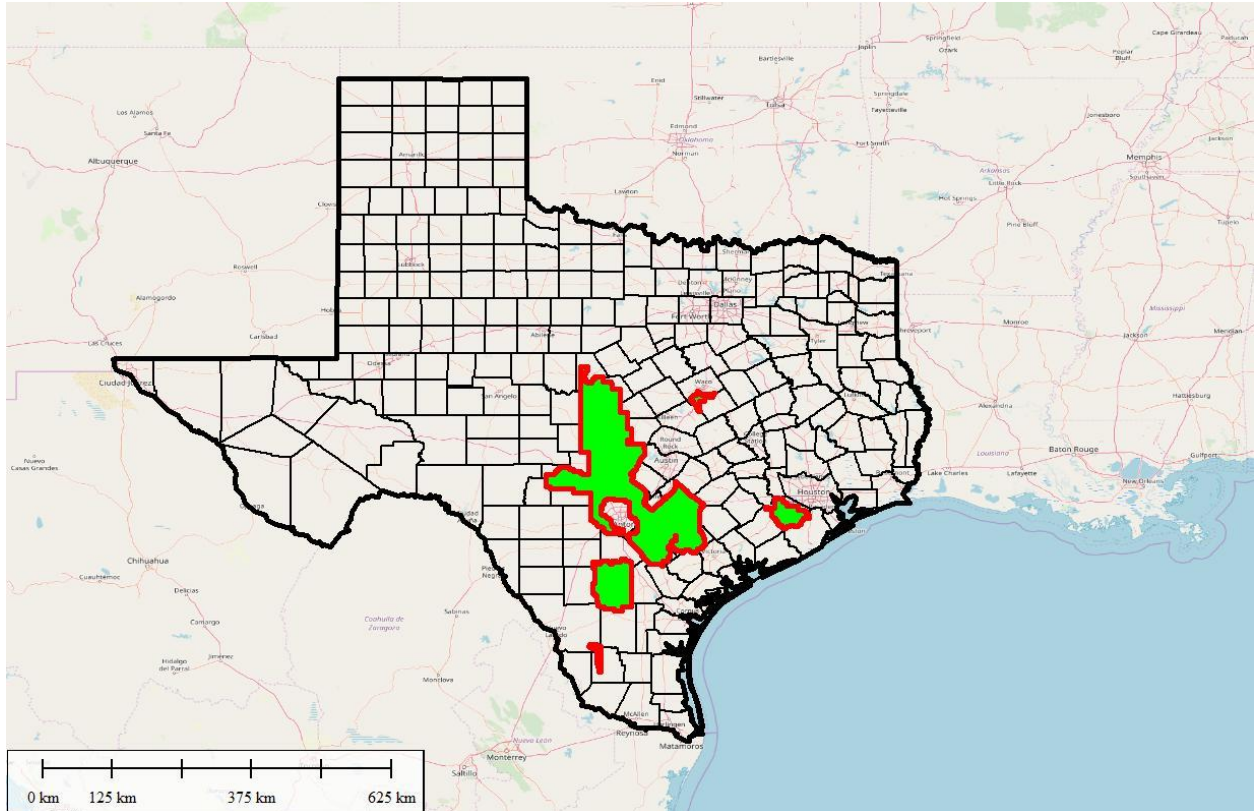


**REPORT OF SURVEY**  
**United States Geological Survey**  
**TEXAS POST HARVEY**  
**Ground Control Report**



**Performed by:**

**TerraSurv**

**For:**

**Fugro Geospatial**

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# REPORT OF SURVEY

## USGS TX POST HARVEY LIDAR

### INTRODUCTION

Terrasurv, Inc of Pittsburgh, PA was tasked by Fugro Geospatial with performing a control survey in support of LiDAR data collection covering multiple discrete areas in southeast Texas covering approximately 14,500 square miles (37,600 km<sup>2</sup>). The project consisted of two parts: ground control (GCP, 115 points) and quality control (VVA/NVA, 455 points). The map below in figure 1 shows the location of the project. Figure 2 is a zoomed in map of the project area.

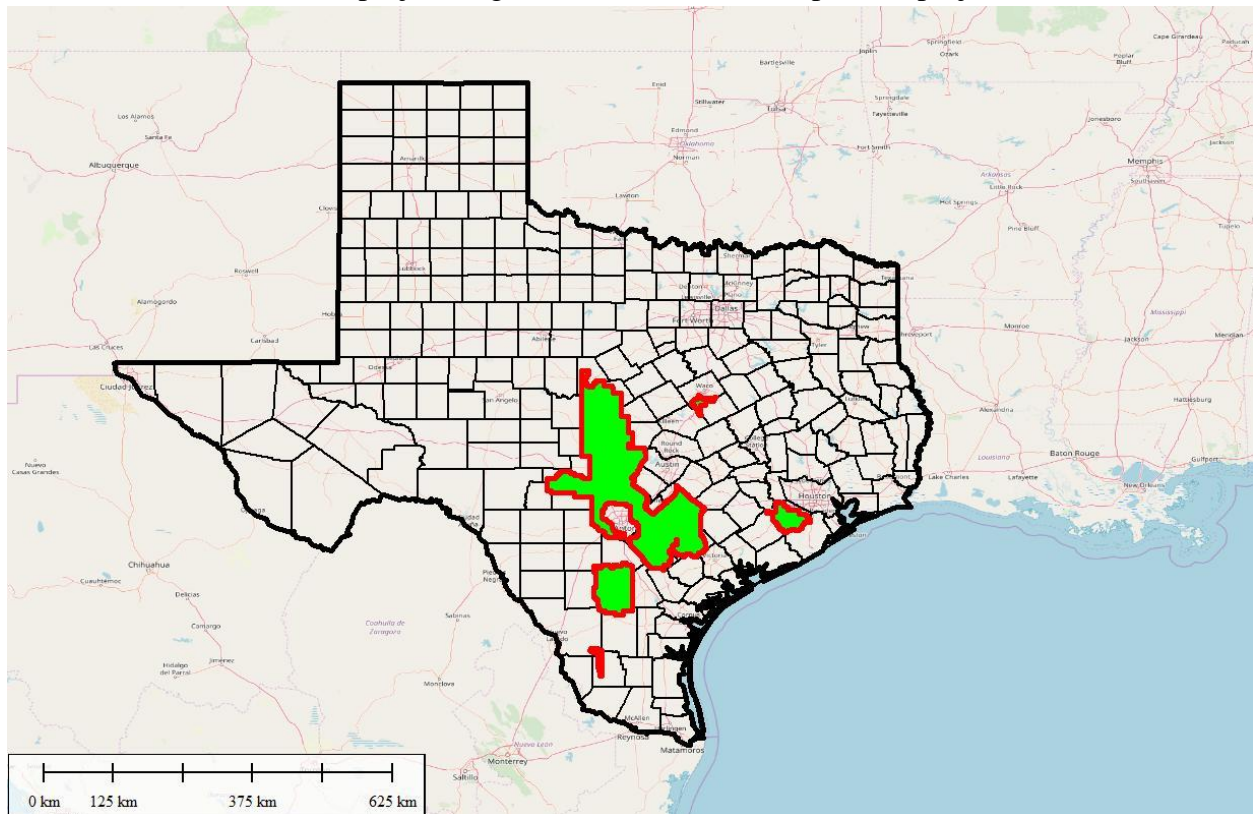


Figure 1 – Project Location

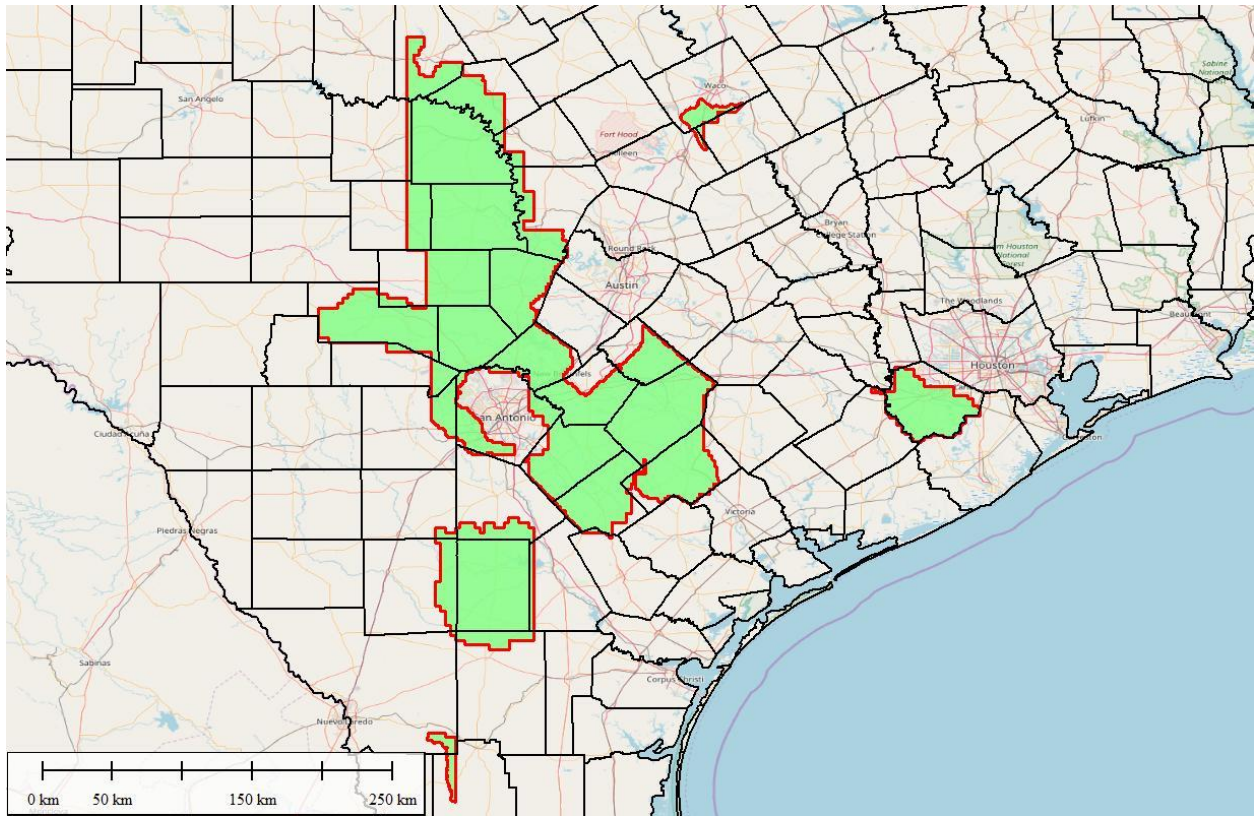


Figure 2 - Project Areas

## CONTROL

The horizontal datum was the North American Datum of 1983 – NAD83 (2011), epoch 2010.0. The vertical datum was the North American Vertical Datum of 1988 (NAVD88), realized with GEOID12B.

The [RTKNet](#) Virtual Reference System (VRS) was used along with the [Trimble Centerpoint RTX](#) service to position the stations.

## STATIONS

There were 115 GCP stations requested, which are shown in figure 3.

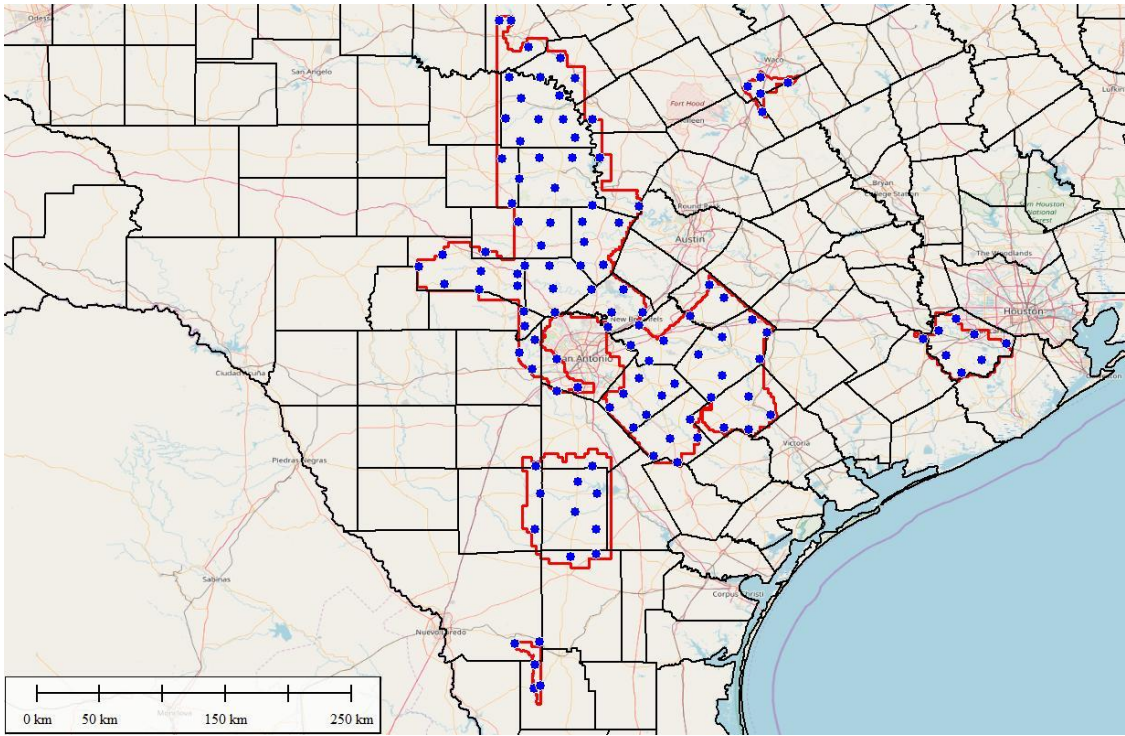


Figure 3 - GCP Stations

A total of 455 CA/QC checkpoints were requested, consisting of 268 NVA, 137 VVA, and 50 VVA Forest.

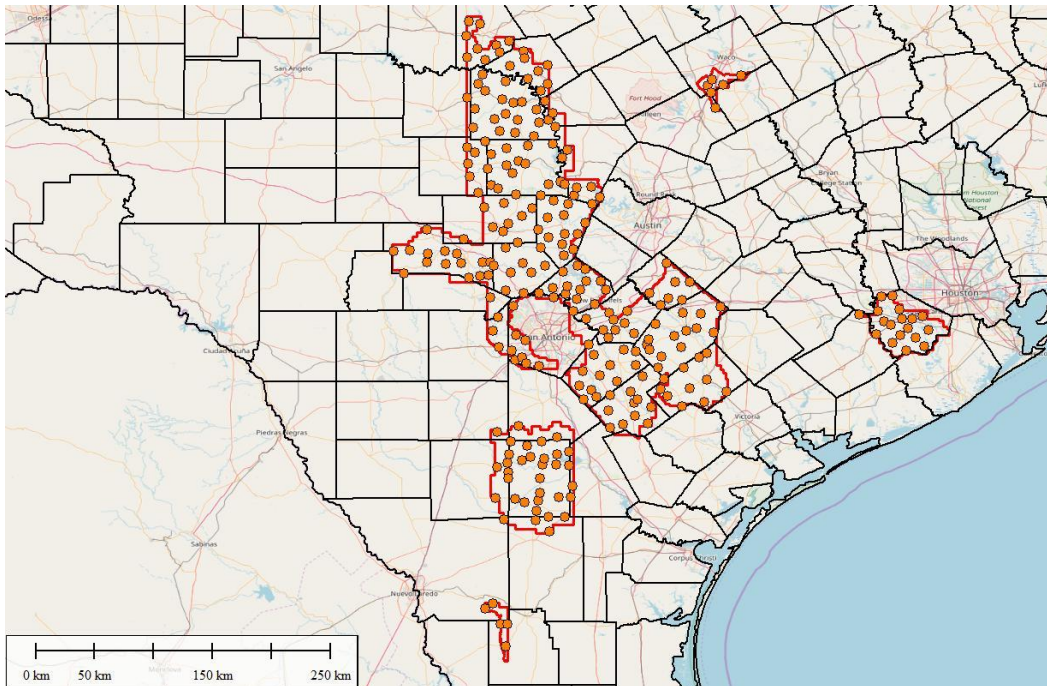


Figure 4- NVA Points

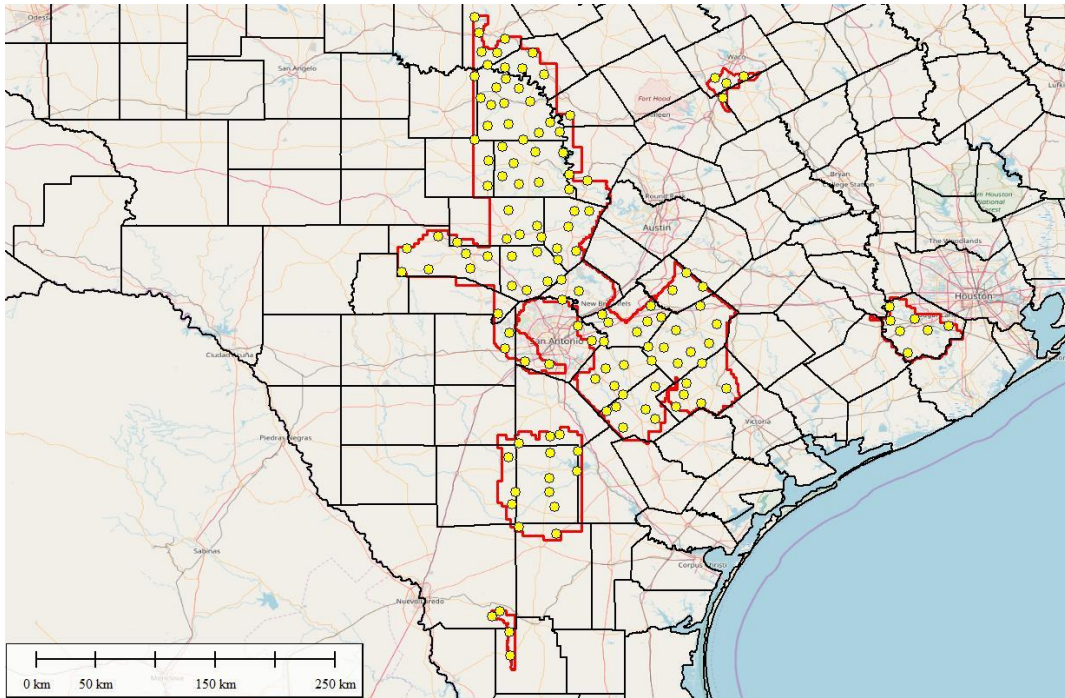


Figure 5 - VVA Points

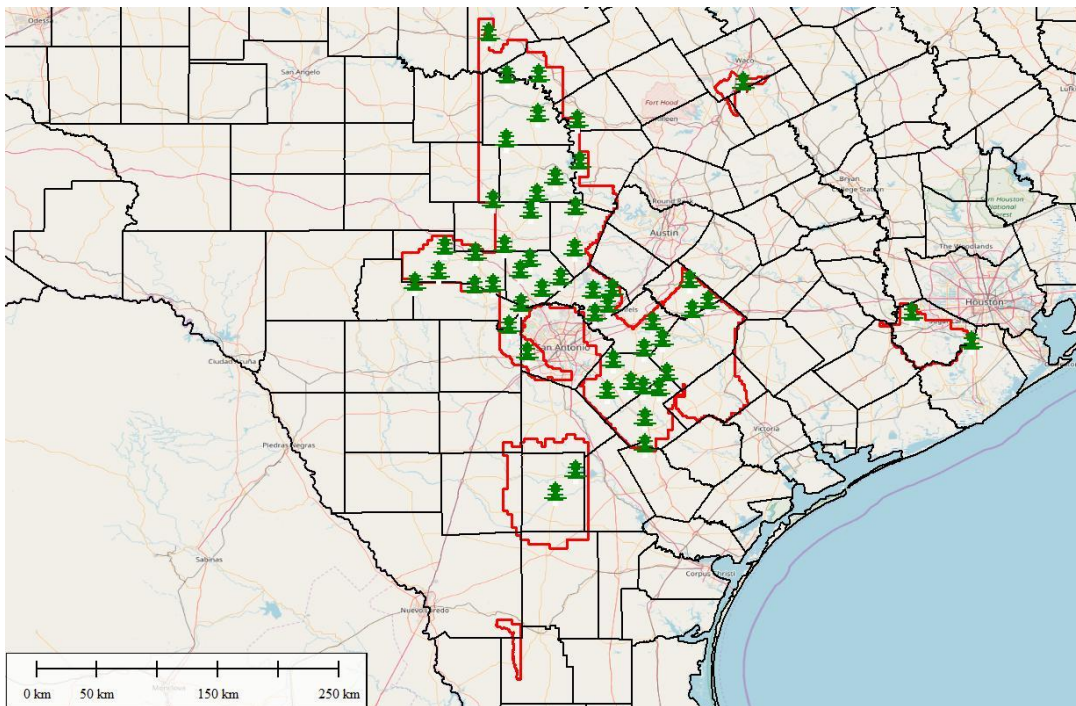


Figure 6 - VVA Forest points

Table 1 lists the stations established in this survey, including traverse stations that were set to enable survey of VVA-Forest points and VRS Continuously Operating Reference Stations (CORS).

Table 1 – Station Summary

Station Name	GPSID	USGS Quad	Description
GCP001	19009JFW	GARVEN STORE	dirt/gravel
GCP002	19009JGA	LIVE OAK RANCH	pavement
GCP004	19009JFN	KERRVILLE	pavement
GCP005	19009JFL	FALL CREEK	hard packed drive
GCP006	19009JGF	NOTT BRANCH	pavement
GCP007	19009TDB	LAKE BROWNWOOD	BARE=centerline of Newcastle Drive and the east side of Killarnery Trail
GCP008	19009TFO	FLY GAP	pavement
GCP009	19009TES	LOST CREEK	dirt
GCP010	19009TDV	ELM GROVE	BARE=asphalt centerline of CR266 and on the south side of TX 765
GCP011	19009TCZ	LAKE BROWNWOOD	BARE=asphalt centerline of Jane Ellen Street and south side of CR617
GCP012	19009JLT	LOYAL VALLEY	rough pavement
GCP013	19009JCY	OILTON	C/L dirt road
GCP014	19009JGJ	CYPRESS CREEK	dirt/gravel
GCP015	19009JGL	COMFORT	dirt/sparse grass
GCP016	19009JLR	CHERRY MOUNTAIN	pavement
GCP017	19009TFT	CASTELL	BARE=asphalt south side of CR 104 just west of FM 2768
GCP018	19009JES	RIOMEDINA	dirt road
GCP019	19009TEY	PONTOTOC	dirt
GCP020	19009TDZ	RICHLAND SPRINGS	BARE=asphalt centerline of a road on the west side of Highway 45
GCP021	19009JFE	TURKEY KNOB	gravel/dirt
GCP022	19009JGP	CYPRESS CREEK	gravel/dirt road
GCP023	19009JEY	PIPE CREEK	bare ground/rock/dirt
GCP024	19009TDI	BROWNWOOD	BARE=gravel centerline of Gate 5 access drive to Camp Bowie and on the west side of CR267
GCP025	19009JEK	LACOSTE	dirt road/sparse grass
GCP026	19009JET	SAN GERONIMO	oil and chips surface in cul-de-sac
GCP027	19009JDL	PIEDRA CREEK NE	dirt road
GCP028	19009JCR	SAN PABLO RANCH	paved shoulder
GCP029	19009JCT	ARMSTRONG RANCH	dirt road/shoulder
GCP030	19009JDW	HINDES	dirt road
GCP031	19009TET	ALGERITA	pavement
GCP032	19009TFH	VALLEY SPRING	BARE=gravel drive to the east of TX 71
GCP033	19009TDM	REGENCY	BARE=gravel centerline of a drive to the east of CR432
GCP034	19009JCZ	BRUNI	dirt/gravel road
GCP035	19009JDO	FOWLERTON	dirt
GCP036	19009JCO	SAN PABLO RANCH	dirt/gravel drive
GCP037	19009JKC	CAIN CITY	gravel
GCP038	19009JJZ	WHITWORTH RANCH	new concrete pavement
GCP039	19009JLO	WILLOW CITY	dirt road
GCP040	19009JHR	SISTERDALE	gravel
GCP041	19009JGW	BOERNE	pavement
GCP042	19009TFX	LLANO SOUTH	BARE=asphalt drive apron on the west side of TX 16
GCP043	19009JEO	CULEBRA HILL	pavement in road bulb
GCP044	19009JEF	SOMERSET	dirt/sparse grass
GCP045	19009TEG	BIG VALLEY SOUTH	pavement

Station Name	GPSID	USGS Quad	Description
GCP046	19009TCV	MULLIN	BARE=east side of 3rd Street just south of US183
GCP047	19009TEL	SAN SABA	BARE=asphalt/gravel centerline of a dirt road to the north of Highway 1031
GCP048	19009TBZ	LONE GROVE	BARE=gravel south side of CR216
GCP049	19009JDA	LOMA ALTA	dirt/gravel/sparse short grass
GCP050	19009TCQ	GOLDTHWAITE	BARE=asphalt centerline of CR403 and on the US183
GCP051	19009TCE	INDIAN HILLS	BARE=east side of CR452 and a dirt road to the southeast
GCP052	19009JCB	FITZPATRICK HOLLOW	gravel/dirt
GCP053	19009JBN	CROSS	old pavement/dirt/gravel
GCP054	19009JEB	THELMA	pavement
GCP055	19009JJW	CRABAPPLE CREEK	pavement
GCP056	19009JLL	BLOWOUT	pavement
GCP057	19009JKM	JOHNSON CITY	sparse grass
GCP058	19009TCL	LOMETA	BARE=northeast area of a gravel private drive to Booker Ranch on the south side of FM580
GCP059	19009JHM	SPRING BRANCH	dirt
GCP060	19009JLI	DUNMAN MOUNTAIN	sparse grass/dirt
GCP061	19009JCF	LA CHUSA HILL	C/L dirt/gravel drive
GCP062	19009JCJ	CLEGG SW	pavement
GCP063	19009JBV	CALLIHAM NW	dirt/gravel/old asphalt
GCP064	19009TBV	LAKE BUCHANAN	BARE=asphalt north end of a parking lot for East Shore grocery and on the east side of FM2341
GCP065	19009JJQ	PAYTON	pavement
GCP066	19009JBK	CABALLOS CREEK	dirt/broken pavement
GCP067	19009JHY	BAT CAVE	pavement in cul-de-sac
GCP068	19009TBI	SASPAMCO SE	BARE=asphalt centerline of CR111 and on the west side of Fm2505
GCP069	19009JHW	SMITHSON VALLEY	gravel/dirt
GCP070	19009JKT	ROUND MOUNTAIN	gravel access drive
GCP071	19009JHI	DEVILS BACKBONE	dirt/grass
GCP072	19009TBJ	FLORESVILLE	BARE=asphalt apron on the north side of FM1303
GCP073	19009JIC	MARION	pavement
GCP074	19009TBD	THREE OAKS	BARE=asphalt south side of the intersection of FM1344 and CR209
GCP075	19009JLB	TRAVIS PEAK	pavement
GCP076	19009JMB	NEW BRAUNFELS EAST	pavement in cul-de-sac
GCP077	19009TBS	LA VERNIA	BARE=asphalt centerline of Quail Crest Drive and south side of CR307
GCP078	19009JHE	HUNTER	pavement
GCP079	19009TAY	POTH	BARE=gravel pull off on the south side of CR202W and just west from US181
GCP080	19009JIN	NEW BERLIN	dirt/gravel drive
GCP081	19009JNK	PAWNEE	gravel/sand parking area
GCP082	19009TBP	STOCKDALE	BARE=gravel/asphalt traffic island at TX123 and FM 1347
GCP083	19009JIG	SEGUIN	pavement
GCP084	19009JNN	LENZ	gravel/sparse grass
GCP085	19009TAO	GILLETT	BARE=centerline of CR458 and south side of Highway 1347
GCP086	19009JNI	TULSITA	gravel/old road
GCP087	19009JMF	LULING	pavement
GCP088	19009TAS	RUNGE	BARE=asphalt centerline of CR303 on the east side of FM627



Station Name	GPSID	USGS Quad	Description
GCP089	19009TAK	LEESVILLE	SPARSE=grass dirt intersection of CR104 and CR105
GCP090	19009JNR	CHOATE	paved/gravel road
GCP091	19009JJI	DALE	pavement in cul-de-sac
GCP092	19009TAN	SAMPLE	BARE=northwest side of a concrete drive apron to a well pad on the northeast side of Highway 108
GCP093	19009JIT	OTTINE	bare dirt drive
GCP094	19009JMQ	PILGRIM	gravel drive
GCP095	19009JJE	MCPAHAN	dirt drives
GCP096	19009JNG	YORKTOWN EAST	pavement
GCP097	19009JOF	MOODY	pavement
GCP098	19009JMW	CONCRETE	pavement
GCP099	19009JNC	MEYERSVILLE	old pavement
GCP100	19009JIZ	WAEJDER	asphalt pavement
GCP101	19009JOH	BRUCEVILLE	brick pavers
GCP102	19009JOD	LORENA	pavement
GCP103	19009JOK	BELFALLS	old pavement
GCP104	19009JMK	SHINER	gravel road
GCP105	19009JIX	MOULTON	dirt/gravel road
GCP106	19009JMZ	VERHELLE	pavement in crossover
GCP107	19009JNY	ROBINSON	pavement
GCP108	19009JAK	EAST BERNARD	eastbound travel lane of CR 276 just west of Hwy 60
GCP109	19009JAN	ORCHARD	center of eastbound travel lane of Reinecker Road west of Hwy 1489
GCP110	19009JAI	KENDLETON	middle of NW bound travel lane of Meyer Road just to the SE of Wernecke Road
GCP111	19009JBD	RICHMOND NE	concrete road surface at intersection of Knox Prairie Lane and Amherst Farms Lane
GCP112	19009JAB	GUY	macadam road surface of Maroul Road
GCP113	19009JAX	SUGAR LAND	center of dirt/gravel road to RR crossing on north side of Hwy 90 ALT
GCP114	19009JAE	SMITHERS LAKE	dirt/gravel in pull off on NE side of Tadpole Road
GCP115	19009JBA	ALMEDA	concrete pavement in cul-de-sac for Cable Car Court
NVA001	19009JFX	GARVEN STORE	pavement
NVA002	19009JFU	WELL HOLLOW	sparse grass
NVA003	19009JFZ	BONEYARD DRAW	oil and chip surface in cul-de-sac
NVA004	19009JFQ	DIAMOND S RANCH	hard ground/dirt/gravel
NVA005	19009JGB	CONTRARY CREEK	C/L paved road
NVA006	19009JFP	BEE CAVES CREEK	pavement
NVA007	19009JFO	HUNT	pavement
NVA008	19009JFM	ECHO HILL RANCH	pavement
NVA009	19009JGH	KERRVILLE	pavement
NVA010	19009JFK	FALL CREEK	mowed grass (LCRA monument flush with ground)
NVA011	19009JGE	NOTT BRANCH	pavement in cul-de-sac
NVA012	19009TDE	BANGS EAST	BARE=asphalt centerline of Switzer Street and Elm Street
NVA013	19009TEB	LOST CREEK	BARE=asphalt/gravel on CR426 and on the north side of US190
NVA014	19009TDT	BROOKESMITH	BARE=asphalt north side of CR204 in the corner
NVA015	19009TFN	FLY GAP	dirt
NVA016	19009TFR	ART	pavement
NVA017	19009JFH	BANDERA PASS	mowed grass
NVA018	19009TDA	LAKE BROWNWOOD	BARE=asphalt north edge of Emerald Drive and a gravel drive to the north
NVA019	19009TFS	ART	pavement
NVA020	19009TFA	PECAN SPRINGS	dirt

Station Name	GPSID	USGS Quad	Description
NVA021	19009TER	LOST CREEK	dirt
NVA022	19009TFP	FLY GAP	pavement
NVA023	19009TDR	BROOKESMITH	BARE=asphalt northeast of the intersection of US377 and CR232
NVA024	19009TDX	HALL	BARE=mud centerline of CR270 and on the west side of CR266
NVA025	19009JLU	LOYAL VALLEY	dirt road
NVA026	19009JFF	CENTER POINT	dirt/sparse grass
NVA027	19009TCY	LAKE BROWNWOOD	BARE=gravel centerline of #343 drive to the north of Circle Heights Road
NVA028	19009JGK	CENTER POINT	pavement
NVA029	19009TDW	BOWSER	BARE=asphalt centerline of CR249 and on the north side of TX765
NVA030	19009JLS	CHERRY MOUNTAIN	gravel/old pavement
NVA031	19009TDP	INDIAN CREEK	BARE=gravel shoulder of the intersection of TX586 and CR228
NVA032	19009TDY	RICHLAND SPRINGS	BARE=southeast of the intersection of CR262 and CR256
NVA033	19009JCX	ALBERCAS RANCH	gravel/dirt
NVA034	19009TFL	PONTOTOC	BARE=southeast corner of FM 501 at TX 71
NVA035	19009TFU	CASTELL	BARE=asphalt south side of the intersection of FM 152 and FM 2768
NVA036	19009JGM	COMFORT	pavement
NVA037	19009JGO	COMFORT	rough pavement/dirt/gravel
NVA038	19009JFD	PIPE CREEK	rough pavement
NVA039	19009JLW	HOUSE MOUNTAIN	dirt road
NVA040	19009TFJ	SMOOTHINGIRON MOUNTAIN	BARE=dirt centerline of CR 405 and north side of CR 409
NVA041	19009JKF	FREDERICKSBURG WEST	pavement
NVA042	19009JFI	FALL CREEK	dirt/gravel
NVA043	19009JER	RIOMEDINA	dirt road
NVA044	19009JGN	COMFORT	pavement
NVA045	19009TEV	BRADY MOUNTAIN	dirt
NVA046	19009TDH	BROWNWOOD	BARE=gravel centerline of a field track to the east of CR267
NVA047	19009JDK	PIEDRA CREEK NW	mowed grass
NVA048	19009JDV	LAS FLORES	dirt road
NVA049	19009JDU	DULL	dirt
NVA050	19009JLX	HOUSE MOUNTAIN	gravel field entrance
NVA051	19009JEU	MEDINA LAKE	dirt/gravel cul-de-sac
NVA052	19009TEX	MAGILL MOUNTAIN	BARE=dirt centerline of Wimberly Lane and west side of CR 310
NVA053	19009JEL	LACOSTE	pavement in cul-de-sac
NVA054	19009TDJ	BLANKET SPRINGS	BARE=southeast intersection of CR267 and CR268
NVA055	19009JCS	ARMSTRONG RANCH	dirt/gravel
NVA056	19009TEO	ALGERITA	BARE=northeast of the intersection of CR 226 and Cr 204
NVA057	19009JKD	CAIN CITY	dirt/gravel
NVA058	19009JLP	CRABAPPLE	pavement
NVA059	19009JCN	PIEDRA CREEK SE	dirt road
NVA060	19009TEU	BUFFALO KNOB	dirt
NVA061	19009TEE	BLUCHER MOUNTAIN	pavement
NVA062	19009JFB	RANGER CREEK	pavement in cul-de-sac

Station Name	GPSID	USGS Quad	Description
NVA063	19009JGQ	RAFTER HOLLOW	oil and chips road surface
NVA064	19009TFI	VALLEY SPRING	BARE=asphalt east side of TX 71 and Highway 1659
NVA065	19009TFG	SCOTTS CROSSING	BARE=asphalt east side of CR 102 at a gravel drive to a field
NVA066	19009JCP	SAN PABLO RANCH	pavement
NVA067	19009JCV	ARMSTRONG RANCH	dirt/gravel
NVA068	19009JDT	FOWLERTON	pavement
NVA069	19009JKG	FREDERICKSBURG EAST	pavement on shoulder
NVA070	19009JDN	FOWLERTON	dirt road
NVA071	19009JDM	BRISCOE RANCH	dirt road
NVA072	19009TDF	ZEPHYR	BARE=asphalt centerline intersection of CR280 and CR273
NVA073	19009TDK	REGENCY	BARE=gravel/asphalt area in the northwest quad of CR574 and CR573
NVA074	19009JDR	ZELLA	dirt/sparse grass
NVA075	19009JGT	WARING	pavement
NVA076	19009JDX	HINDES	gravel/dirt
NVA077	19009JEJ	LACOSTE	pavement in cul-de-sac
NVA078	19009TEN	ALGERITA	BARE=centerline of an asphalt drive apron on the north side of US190
NVA079	19009TFW	SCOTTS CROSSING	BARE=asphalt pull off for mailboxes on the north side of FM 2323 and just east of CR 104
NVA080	19009JFC	JACK MOUNTAIN	pavement
NVA081	19009TFB	MAGILL MOUNTAIN	BARE=asphalt drive apron on the north side of FM 501
NVA082	19009JLZ	OXFORD	gravel pull-off
NVA083	19009JDH	PIEDRA CREEK NE	gravel/old pavement
NVA084	19009JEP	CULEBRA HILL	pavement in cul-de-sac
NVA085	19009JEI	MACDONA	dirt/gravel
NVA086	19009TEM	BEAR HOLLOW	BARE=asphalt centerline of CR 405 and on the east side of TX 16
NVA087	19009JKA	STONEWALL	pavement
NVA088	19009TFE	LLANO NORTH	BARE=asphalt center of the Lagitos Lane cul-de-sac
NVA089	19009JDZ	SAN MIGUEL RANCH	dirt road
NVA090	19009JKH	CAVE CREEK SCHOOL	pavement/gravel
NVA091	19009TEJ	SAN SABA	asphalt/gravel
NVA092	19009JDQ	ROCKAWAY CREEK	sparse grass
NVA093	19009TCX	MULLIN	BARE=south side of a dirt road on the west side of US183
NVA094	19009JEG	MACDONA	concrete drive
NVA095	19009JHP	SISTERDALE	gravel
NVA096	19009JGX	BOERNE	pavement
NVA097	19009TCU	MULLIN	BARE=gravel on the west side of CR529 just south of the intersection with FM 573
NVA098	19009JDG	LOMA ALTA NW	dirt road
NVA099	19009TFD	LLANO SOUTH	BARE=center of the Marshall Ave cul-de-sac
NVA100	19009JEN	CULEBRA HILL	pavement in cul-de-sac
NVA101	19009JEE	SOMERSET	mowed grass
NVA102	19009TCB	CHEROKEE	BARE=asphalt CR226 on the east side of TX16
NVA103	19009TEH	BIG VALLEY NORTH	pavement
NVA104	19009JEA	PERTLE CREEK	sparse grass/dirt
NVA105	19009JDP	PERTLE CREEK	dirt
NVA106	19009JHS	SISTERDALE	pavement in cul-de-sac

Station Name	GPSID	USGS Quad	Description
NVA107	19009JLN	BLOWOUT	gravel drive
NVA108	19009TCD	INDIAN HILLS	BARE=dirt west side of CR449 and a dirt track to the south
NVA109	19009TEK	WOLF RIDGE	BARE=asphalt centerline of a drive on the south side of FM 580
NVA110	19009JDB	LOMA ALTA	gravel road
NVA111	19009TCS	GOLDTHWAITE	BARE=asphalt center of the intersection of Edwin Street and Mockingbird Lane
NVA112	19009JDC	LOMA ALTA	dirt/gravel
NVA113	19009TCG	BEND	BARE=asphalt centerline of the drive to Chappell Cemetery on the west side of Highway 501
NVA114	19009JKK	HYE	pavement
NVA115	19009JDF	LOMA ALTA NE	dirt/gravel
NVA116	19009JGY	BERGHEIM	pavement
NVA117	19009JED	THELMA	pavement
NVA118	19009TCO	SAN SABA PEAK	BARE=centerline of a dirt drive to #581 CR423
NVA119	19009JLJ	BLOWOUT	gravel drive
NVA120	19009JJX	CRABAPPLE CREEK	dirt/gravel
NVA121	19009JCD	LOMA ALTA NE	gravel/dirt
NVA122	19009JCA	FITZPATRICK HOLLOW	gravel road
NVA123	19009JBJ	CROSS NE	pavement
NVA124	19009JBQ	TILDEN	dirt/gravel
NVA125	19009TCN	WOLF RIDGE	BARE=asphalt centerline of a drive on the south side of US190
NVA126	19009JHO	KENDALIA	dirt/gravel
NVA127	19009JBO	CROSS	pavement
NVA128	19009TCT	GOLDTHWAITE	BARE=gravel intersection of CR 220 just south of Highway 2005
NVA129	19009TCP	SAN SABA PEAK	BARE=asphalt centerline of a drive to the west of US183
NVA130	19009JLM	ROCKY CREEK	pavement
NVA131	19009TCI	GORMAN FALLS	BARE=dirt centerline of CR442 and on the north side of CR446
NVA132	19009JLF	DUNMAN MOUNTAIN	rough pavement/gravel
NVA133	19009JKL	MONUMENT HILL	short grass
NVA134	19009JDD	CLEGG SW	dirt road
NVA135	19009JCL	ROSITA NW	dirt road
NVA136	19009TCK	GORMAN FALLS	BARE=dirt centerline of a private road to the south of FM580
NVA137	19009TBY	TOW	BARE=centerline of CR221A and south side on CR221
NVA138	19009JGZ	ANHALT	pavement in cul-de-sac
NVA139	19009JLK	HOWELL MOUNTAIN	pavement
NVA140	19009JHA	BULVERDE	pavement in cul-de-sac
NVA141	19009TCJ	GORMAN FALLS	BARE=dirt parking for Colorado Bend State Park Boat Ramp
NVA142	19009JBR	CALLIHAM NW	dirt/gravel
NVA143	19009JBP	CROWTHER	dirt/gravel
NVA144	19009JBL	CABALLOS CREEK	rough pavement
NVA145	19009JLG	DUNMAN MOUNTAIN	pavement in cul-de-sac
NVA146	19009JCE	LA CHUSA HILL	dirt/gravel
NVA147	19009TBW	LAKE BUCHANAN	BARE=center of the Sunset Circle cul-de-sac
NVA148	19009JJU	MONUMENT HILL	gravel/dirt
NVA149	19009JHL	SPRING BRANCH	pavement in cul-de-sac
NVA150	19009JJP	BLANCO	rough pavement in cul-de-sac

Station Name	GPSID	USGS Quad	Description
NVA151	19009JKR	JOHNSON CITY	bare ground
NVA152	19009JKO	MONUMENT HILL	dirt/gravel drive
NVA153	19009JLE	MARBLE FALLS	pavement in cul-de-sac
NVA154	19009JHC	BAT CAVE	pavement in cul-de-sac
NVA155	19009JCI	CLEGG SW	dirt/gravel drive
NVA156	19009TBU	COUNCIL CREEK	BARE=asphalt centerline of Wolf Creek Ranch Drive on the north side of FM2341
NVA157	19009JKV	ROUND MOUNTAIN	graveled cul-de-sac
NVA158	19009JHU	SMITHSON VALLEY	pavement in cul-de-sac
NVA159	19009JBS	WILLOW HOLLOW TANK	pavement
NVA160	19009JBW	CALLIHAM	gravel
NVA161	19009JCG	CLEGG NE	gravel/dirt drive
NVA162	19009JHZ	SCHERTZ	pavement in cul-de-sac
NVA163	19009JJS	PAYTON	pavement
NVA164	19009JCH	LIVE OAK HOLLOW	C/L dirt/gravel road
NVA165	19009JKW	MARBLE FALLS	pavement
NVA166	19009JKZ	MARBLE FALLS	pavement in cul-de-sac
NVA167	19009JHX	BAT CAVE	pavement in cul-de-sac
NVA168	19009JKP	YEAGER CREEK	gravel shoulder
NVA169	19009JHK	FISCHER	pavement
NVA170	19009TBH	SASPAMCO SE	BARE=asphalt centerline of CR136 and on the west side of FM2505
NVA171	19009JHV	SMITHSON VALLEY	pavement
NVA172	19009TBK	FLORESVILLE	BARE=gravel center of a cul-de-sac on Bluehill Road
NVA173	19009TBG	THREE OAKS	BARE=asphalt centerline of CR218 and on the west side of FM2505
NVA174	19009JKQ	HAMMETTS CROSSING	bare ground
NVA175	19009JHJ	DEVILS BACKBONE	oil and chips pavement in cul-de-sac
NVA176	19009JHH	SATTLER	pavement in cul-de-sac
NVA177	19009JIB	MARION	dirt/gravel
NVA178	19009TAA	LA VERNIA SW	BARE=center of the Homecrest Drive cul-de-sac
NVA179	19009JLA	SMITHWICK	rough pavement
NVA180	19009JKX	SPICEWOOD	pavement and gravel
NVA181	19009TBF	DEWEES	BARE=concrete drive apron on the west side of FM1344
NVA182	19009JMA	NEW BRAUNFELS WEST	pavement in cul-de-sac
NVA183	19009TBT	LA VERNIA SW	BARE=center of the cul-de-sac of Rose Blossom Loop
NVA184	19009TBE	THREE OAKS	BARE=asphalt centerline of CR209 at FM1344
NVA185	19009JKY	PACE BEND	pavement/gravel
NVA186	19009TBM	MARCELINAS HILLS	BARE=gravel centerline of a dirt drive to the north of Highway 537
NVA187	19009JHG	HUNTER	pavement in cul-de-sac
NVA188	19009JID	NEW BERLIN	dirt/gravel
NVA189	19009JHF	HUNTER	pavement in cul-de-sac
NVA190	19009JIM	NEW BERLIN	pavement
NVA191	19009TBB	COY CITY	BARE=dirt on the north side of CR210 and southwest side of FM1144
NVA192	19009JMC	MCQUEENEY	pavement
NVA193	19009TBQ	MARCELINAS HILLS	BARE=asphalt north side of Old Floresville Road and Dismuke Drive
NVA194	19009TAZ	FALLS CITY	BARE=asphalt north side of Riviere Drive and in front of #802
NVA195	19009JNL	PAWNEE	rough pavement

Station Name	GPSID	USGS Quad	Description
NVA196	19009JIH	MCQUEENEY	pavement in cul-de-sac
NVA197	19009JIE	THOMAS SPRINGS	pavement
NVA198	19009TBO	KOSCIUSKO	BARE=northeast side of CR228
NVA199	19009TAC	ALUM	BARE=center of dirt road intersection of 437 and 434
NVA200	19009JNJ	LENZ	gravel/dirt road
NVA201	19009JIF	SEGUIN	gravel
NVA202	19009JMD	SEGUIN	pavement
NVA203	19009TAW	ECLETO	BARE=dirt intersection of roads on the east side of FM2724
NVA204	19009JIO	DEWVILLE	dirt/gravel
NVA205	19009TAV	HELENA	BARE=asphalt centerline of a drive apron to a well pad on the south side of FM80
NVA206	19009JNO	KENEDY	concrete in small cul-de-sac
NVA207	19009TAP	GILLETT	BARE=centerline of a dirt drive to the south side of CR458
NVA208	19009TAD	NIXON	BARE=asphalt centerline of CR475 and south edge of Highway 1681
NVA209	19009TAT	HELENA	BARE=asphalt centerline of CR299 and south side of CR298
NVA210	19009TAQ	GILLETT	BARE=asphalt drive apron on the west side of an access road just north of Fm887 and on the west side of TX80
NVA211	19009TAI	NIXON	BARE=dirt pull-off on the south side of CR157 and east of Highway 80
NVA212	19009TAJ	LEESVILLE	BARE=east side of CR158A just north of CR1682
NVA213	19009JMG	LOCKHART SOUTH	gravel road
NVA214	19009JNP	CHOATE	pavement
NVA215	19009TAG	SMILEY	BARE=centerline of a dirt track to the south side of CR131
NVA216	19009JNS	RUNGE	gravel/dirt
NVA217	19009JIR	BELMONT	dirt/gravel
NVA218	19009TAL	BALD MOUND	BARE=centerline of a dirt road on the west side of CR212
NVA219	19009JJL	LULING	pavement
NVA220	19009JNV	GARFIELD	dirt/gravel road
NVA221	19009JMS	SMILEY	pavement
NVA222	19009TAM	NEW DAVY	BARE=center of a dirt road on the south side of Nelson Road
NVA223	19009JJH	DALE	pavement in cul-de-sac
NVA224	19009JJK	HARWOOD	pavement
NVA225	19009JNU	YORKTOWN WEST	dirt/gravel entrance road
NVA226	19009JMN	COST	old asphalt
NVA227	19009JJF	MCMAHAN	mowed sparse grass
NVA228	19009JJB	SANDY FORK	bare dirt
NVA229	19009JMO	CHEAPSIDE	gravel road
NVA230	19009JIU	GONZALES NORTH	dirt/gravel road
NVA231	19009JNH	YORKTOWN EAST	gravel drive
NVA232	19009JMT	WESTHOFF	dirt/sand/gravel
NVA233	19009JMH	GONZALES SOUTH	pavement
NVA234	19009JJD	DELHI	dirt/gravel drive
NVA235	19009JNE	BLACKWELL LAKE	sparse grass/dirt
NVA236	19009JMI	HAMON	gravel/pavement
NVA237	19009JMV	HOCHHEIM	gravel
NVA238	19009JIV	DILWORTH	bare ground
NVA239	19009JOG	MOODY	pavement
NVA240	19009JNB	MEYERSVILLE	gravel
NVA241	19009JML	HOCHHEIM	dirt/gravel road
NVA242	19009JOI	MOODY	packed dirt road

Station Name	GPSID	USGS Quad	Description
NVA243	19009JOC	SOUTH BOSQUE	pavement in cul-de-sac
NVA244	19009JMX	CUERO	concrete pavement in cul-de-sac
NVA245	19009JOL	BELFALLS	gravel road
NVA246	19009JMJ	SHINER	pavement on shoulder
NVA247	19009JOA	BRUCEVILLE	dirt/gravel road
NVA248	19009JIY	FLATONIA NW	dirt shoulder
NVA249	19009JNA	VERHELLE	gravel at edge of road
NVA250	19009JNX	ROBINSON	dirt/gravel road
NVA251	19009JAL	LISSIE	dirt road surface in intersection of CO Rd 287 and CO Rd 264
NVA252	19009JAJ	HUNGERFORD	concrete road surface at C/L drive to new house on NW side of Willie Melton Boulevard
NVA253	19009JAM	ORCHARD	pavement on southbound lane of Johnson Road just north of Reinecker Road
NVA254	19009JBF	FULSHEAR	asphalt pavement in cul-de-sac at north end of Pecan Hill Drive
NVA255	19009JAP	ORCHARD	center of graveled field entrance road on east side of Marick Road just south of Hwy 90 ALT
NVA256	19009JAR	ORCHARD	center of gravel/dirt field entrance road on NE side of Daily Road
NVA257	19009JBE	FULSHEAR	concrete road surface in vacant subdivision at intersection of Tamarron Parkway and Coles Canyon
NVA258	19009JAH	KENDLETON	middle of graveled field entrance on SE side of Mayberry Road
NVA259	19009JBC	RICHMOND NE	concrete road surface in cul-de-sac at east end of Palmer Place
NVA260	19009JAG	NEEDVILLE	pavement on NE side of Jeske Road in middle of Tejas Lakes Boulevard. Original location is inside gated community
NVA261	19009JAS	RICHMOND	asphalt pavement in parking lot for park on east side of Mulcahy Street
NVA262	19009JAC	GUY	pavement in Quail Covey Lane just NW of cul-de-sac
NVA263	19009JAT	NEEDVILLE	pavement in cul-de-sac at NE end of Mourning Dove Drive
NVA264	19009JAW	SUGAR LAND	concrete pavement in cul-de-sac at SE end of Indigo Bunting Court
NVA265	19009JAF	SMITHERS LAKE	dirt/pavement in middle of field access road on SE side of FM 1994
NVA266	19009JAY	SUGAR LAND	concrete pavement in circular drive at west end of Brisbane Court in undeveloped area on NW side of Hwy 59
NVA267	19009JAD	DAMON	graveled area in middle of grass island formed by Cow Micham Road and Tadpole Road
NVA268	19009JAV	THOMPSONS	pavement in intersection of Calle Escondido and Sun Ranch Drive
VVA001	19009JMY	VERHELLE	high weeds
VVA002	19009TAH	SMILEY	BRUSH=on the south side of Highway 97
VVA003	19009JFY	BONEYARD DRAW	high grass
VVA004	19009JLQ	CRABAPPLE	high grass
VVA005	19009JIP	THOMAS SPRINGS	weeds
VVA006	19009JBY	TILDEN	high grass/weeds
VVA007	19009TEF	BLUCHER MOUNTAIN	grass
VVA008	19009JGD	NOTT BRANCH	high grass in picnic area
VVA009	19009JKS	ROUND MOUNTAIN	high weeds/grass
VVA010	19009JNT	YORKTOWN WEST	high grass/weeds
VVA011	19009JAA	GUY	high grass/fallow field on SE side of CO Rd 442
VVA012	19009JKB	CAIN CITY	high grass/weeds
VVA013	19009JCK	ROSITA NW	high grass/weeds
VVA014	19009JIK	SAINT HEDWIG	high grass
VVA015	19009JIL	SAINT HEDWIG	weeds

Station Name	GPSID	USGS Quad	Description
VVA016	19009JMR	PILGRIM	high weeds
VVA017	19009JLD	KINGSLAND	high grass/weeds
VVA018	19009TCF	BEND	GRASS=on the west shoulder of Highway 501
VVA019	19009TAE	DEWVILLE	BRUSH=on the southeast side of CR121
VVA020	19009JNQ	KENEDY	high grass/weeds
VVA021	19009JEX	PIPE CREEK	brush
VVA022	19009JMP	CHEAPSIDE	high weeds
VVA023	19009JJM	LULING	weeds/wildflowers in vacant lot
VVA024	19009JDE	LOMA ALTA NE	high grass/weeds
VVA025	19009JAZ	MISSOURI CITY	high grass at top of bank on south side of drainage canal between Chandler Hollow Lane and Stevenson Drive
VVA026	19009TCH	BEND	GRASS=on the northeast side of CR432B
VVA027	19009TDD	BANGS EAST	GRASS=on the south side of CR136
VVA029	19009JGC	CONTRARY CREEK	high grass
VVA030	19009JKI	CAVE CREEK SCHOOL	high grass/weeds
VVA031	19009TBC	FALLS CITY	BRUSH/TREES=on the south side of TX791 and north side of CR199
VVA032	19009TDL	REGENCY	GRASS=on the southwest quad of the intersection of CR574 and CR432
VVA033	19009TED	BOWSER	grass
VVA034	19009TBX	LAKE BUCHANAN	BRUSH=center of tall grass on the south side of CR225 at a small pull off area
VVA035	19009TAX	KOSCIUSKO	BRUSH=flowers on the north side of FM887 and east and south side of CR229 and a pull off area
VVA036	19009TAF	NIXON	BRUSH=on the south side of Highway 1681 and south of a field track and gate
VVA037	19009JFV	HILLCREST RANCH	high grass
VVA038	19009JII	MCQUEENEY	high grass
VVA039	19009JBM	CROSS	high weeds
VVA040	19009TBL	FLORESVILLE	BRUSH=southern quad of the intersection of FM1303 and CR117
VVA041	19009TCC	CHEROKEE	GRASS=on the north side of TX501 and south of a drive and CR447
VVA042	19009JBT	WILLOW HOLLOW TANK	high grass/weeds
VVA043	19009TFV	CASTELL	GRASS=on the north side of CR 105
VVA044	19009JKU	ROUND MOUNTAIN	high grass/weeds
VVA045	19009TCR	GOLDTHWAITE	GRASS=on the west shoulder of TX3035
VVA046	19009JEC	THELMA	pasture
VVA047	19009JII	MARION	high grass/weeds
VVA048	19009JAU	SUGAR LAND	high weeds in fallow field adjacent to new subdivision under construction
VVA049	19009JEM	CASTROVILLE	high grass
VVA050	19009JBB	RICHMOND	high grass/weeds in NE quadrant of intersection of Oxford Lake Drive and Farm to Market 723
VVA051	19009TEP	BAKER SPRING	grass
VVA052	19009TFY	OXFORD	FLOWERS=on the north side of CR 312 and opposite a drive
VVA053	19009TCM	GORMAN FALLS	GRASS=on the north side of FM580
VVA054	19009JNM	LENZ	high weeds/grass
VVA055	19009JOB	BRUCEVILLE	high grass/weeds
VVA056	19009JCW	ALBERCAS RANCH	high grass/weeds
VVA057	19009JNW	NEW DAVY	high grass/weeds
VVA058	19009TAU	HELENA	GRASS=high grass on the west shoulder of FM792
VVA059	19009TDC	LAKE BROWNWOOD	GRASS=on the west side of TX279 at 5 tanks and a dirt drive
VVA060	19009JIW	DILWORTH	high grass/weeds



Station Name	GPSID	USGS Quad	Description
VVA061	19009JIQ	DARST CREEK	weeds
VVA062	19009JCU	ARMSTRONG RANCH	high grass/weeds
VVA063	19009JFS	DIAMOND S RANCH	high grass
GCP003	19009JFT	DIAMOND S RANCH	paved entrance road
VVA064	19009JDJ	PIEDRA CREEK NE	high weeds
VVA065	19009JMU	CHEAPSIDE	weeds
VVA066	19009TFK	PONTOTOC	GRASS=on the south side of TX 71 and just east of a cemetery
VVA067	19009TEQ	BAKER SPRING	grass
VVA068	19009JJG	DALE	high grass/brush
VVA069	19009JGU	RANGER CREEK	high grass/weeds
VVA070	19009TEZ	FREDONIA	grass/brush/cactus
VVA071	19009JCC	FITZPATRICK HOLLOW	high grass
VVA072	19009JKE	CAIN CITY	grass
VVA073	19009TBA	FALLS CITY	BRUSH=on the south side of CR198 on an access track to the south
VVA074	19009JLY	ENCHANTED ROCK	weeds/vegetation
VVA075	19009TCA	LLANO NORTH	BRUSH=on the east side of TX10
VVA076	19009JHN	SPRING BRANCH	weeds
VVA077	19009JKJ	HYE	high weeds
VVA078	19009JJA	SANDY FORK	high grass/weeds
VVA079	19009JGR	RAFTER HOLLOW	grass
VVA080	19009TAB	STOCKDALE	BRUSH=south shoulder of Highway 97
VVA080	19009JHD	SMITHSON VALLEY	high grass/weeds
VVA081	19009JDY	HINDES	high weeds/grass
VVA082	19009JDI	BRISCOE RANCH	high weeds
VVA083	19009TEW	BUFFALO KNOB	brush
VVA084	19009JJC	DELHI	high grass/weeds
VVA085	19009JAO	ORCHARD	high grass in area between Farm to Market 1952 and Farm to Market 1489
VVA086	19009JJY	WHITWORTH RANCH	high vegetation
VVA087	19009JLH	DUNMAN MOUNTAIN	high grass/weeds
VVA088	19009JEH	MACDONA	high grass
VVA089	19009TFE	VALLEY SPRING	GRASS=north shoulder of TX 29 and west of CR 403
VVA090	19009JOJ	BELFALLS	weeds
VVA091	19009JGG	KERVILLE	high grass in vacant lot
VVA092	19009JBH	CABALLOS CREEK	high weeds
VVA093	19009JBX	CALLIHAM	high weeds/brush
VVA094	19009TEC	RICHLAND SPRINGS	grass
VVA095	19009JJJ	LOCKHART SOUTH	high grass/weeds
VVA096	19009TFM	FREDONIA	grass
VVA097	19009JJV	BLANCO	high weeds
VVA098	19009TBN	POTH	BRUSH=grass/flowers in an island at the intersection of Highway 541 and CR224
VVA099	19009JFJ	FALL CREEK	dirt/grass
VVA100	19009JGV	BOERNE	high grass
VVA101	19009TDS	BROOKESMITH	GRASS=northwest shoulder of US377
VVA102	19009JCQ	SAN PABLO RANCH	high grass

Station Name	GPSID	USGS Quad	Description
VVA103	19009JAJ	KENDLETON	high grass in vacant block between Avenue D and Avenue C and N 4th Street and N 3rd Street
VVA104	19009TDU	ELM GROVE	GRASS=southwest quad of TX502 and CR438
VVA105	19009JND	YORKTOWN EAST	high weeds
VVA106	19009JJR	PAYTON	high weeds
VVA107	19009JOE	SOUTH BOSQUE	high grass/weeds
VVA108	19009JBG	FULSHEAR	high grass in vacant lot on east side of Sagebrush Road north of Hwy 1093
VVA109	19009JIS	OTTINE	weeds/high grass
VVA110	19009JNZ	ROBINSON	high grass/weeds
VVA111	19009TDN	BOWSER	GRASS=northwest quad of CR434 and TX574
VVA112	19009TFQ	FLY GAP	GRASS=on the east shoulder of Hickory Grove Road
VVA113	19009TFC	CHEROKEE	GRASS=on the south side of CR 331
VVA114	19009JBI	CROSS NE	high grass
VVA115	19009JHT	BERGHEIM	high weeds
VVA116	19009JEQ	LACOSTE NE	high grass
VVA117	19009TDG	BROWNWOOD	GRASS=on the south side of CR267 and opposite the intersection with CR270
VVA118	19009JHB	BULVERDE	high grass/weeds
VVA119	19009JDS	ZELLA	high weeds
VVA120	19009JKN	JOHNSON CITY	high weeds
VVA121	19009JLV	LOYAL VALLEY	pavement
VVA122	19009JCM	PIEDRA CREEK SE	high weeds
VVA123	19009TDO	ELM GROVE	GRASS=on the south shoulder of CR229 and west side of drive to #17385
VVA124	19009JGI	LEGION	high grass
VVA125	19009JME	KINGSBURY	high grass/weeds
VVA126	19009JNF	NEW DAVY	high grass/weeds
VVA127	19009JMM	HAMON	high grass/weeds
VVA128	19009TCW	MULLIN	GRASS=on the southwest side of US183 and east side of CR544
VVA129	19009TEA	LOST CREEK	GRASS=south shoulder of US 190 and opposite a dirt drive
VVA130	19009TDQ	INDIAN CREEK	GRASS=east shoulder of TX45
VVA131	19009JJO	BLANCO	scattered high weeds
VVA132	19009TBR	FLORESVILLE	BRUSH=on the north side of CR331 and just west of CR304
VVA133	19009JJN	BELMONT	weeds
VVA134	19009JLC	MARBLE FALLS	wildflowers/high grass
VVA135	19009TAR	ECLITO	BRUSH=on the east side of CR290 and north side of CR268
VVA136	19009TEI	SAN SABA	grass
VVA137	19009JIA	SCHERTZ	high grass in vacant lot
VVAF01	VVAF01	LAKE BROWNWOOD	woods
VVAF02	VVAF02	BOWSER	woods
VVAF03	VVAF03	WILLOW CITY	woods
VVAF04	VVAF04	SAN SABA	woods
VVAF05	19009JBZ	FITZPATRICK HOLLOW	brushy trees
VVAF06	VVAF_06_RTX	SMITHSON VALLEY	woods
VVAF07	VVAF07	BALD MOUND	woods
VVAF08	VVAF08	DELHI	woods
VVAF09	VVAF09	MONTEOLA	woods
VVAF10	VVAF_10_RTX	BOERNE	woods
VVAF11	VVAF11	STOCKDALE	woods
VVAF12	VVAF12	KARNES CITY	woods

Station Name	GPSID	USGS Quad	Description
VVAF13	19009JFA	RANGER CREEK	pin
VVAF14	VVAF14	MONUMENT HILL	woods
VVAF15	19009JFR	DIAMOND S RANCH	scattered pin
VVAF16	VVAF16_RTX	HOWELL MOUNTAIN	woods
VVAF17	VVAF17	THOMAS SPRINGS	woods
VVAF18	VVAF18	LACOSTE NE	woods
VVAF19	VVAF19	JULIFF	woods
VVAF20	VVAF20	FULSHEAR	woods
VVAF21	VVAF21	WHITWORTH RANCH	woods
VVAF22	19009JGS	WARING	woods
VVAF23	VVAF23	WELL HOLLOW	woods
VVAF24	VVAF24	CAP MOUNTAIN	woods
VVAF25	VVAF25	LORENA	woods
VVAF26	VVAF26	DEWEES	woods
VVAF27	19009JBU	CROWTHER	woods
VVAF28	VVAF28	HARWOOD	woods
VVAF29	VVAF29	KENDALIA	woods
VVAF30	VVAF30	NOTT BRANCH	woods
VVAF31	VVAF31	STOCKDALE	woods
VVAF32	VVAF32	MOUNTAIN HOME	woods
VVAF33	VVAF33	PONTOTOC	woods
VVAF34	VVAF34_RTX	LAKE BUCHANAN	woods
VVAF35	VVAF35	DALE	woods
VVAF36	VVAF36	OXFORD	woods
VVAF37	VVAF 37_RTX	SATTLER	woods
VVAF38	19009JFG	CENTER POINT	scattered pin
VVAF39	VVAF39	BIG VALLEY NORTH	woods
VVAF40	VVAF40	GILLETT	woods
VVAF41	VVAF41	FALL CREEK	woods
VVAF42	VVAF42	BAT CAVE	woods
VVAF43	VVAF43	DEWVILLE	woods
VVAF44	VVAF44	LOYAL VALLEY	woods
VVAF45	VVAF45	GORMAN FALLS	woods
VVAF46	VVAF46_RTX	OAK CREST PARK	woods
VVAF47	VVAF47	LA VERNIA SW	woods
VVAF48	19009JEW	MEDINA LAKE	clump of scrubby trees
VVAF49	VVAF49	DARST CREEK	woods
VVAF50	VVAF50	NEW BRAUNFELS WEST	woods
	100_RTX	CAP MOUNTAIN	Traverse
	101_RTX	CAP MOUNTAIN	Traverse
	102_RTX	OXFORD	Traverse
	103_RTX	OXFORD	Traverse
	104_RTX	WILLOW CITY	Traverse
	105_RTX	WILLOW CITY	Traverse
	106_RTX	MONUMENT HILL	Traverse
	107_RTX	MONUMENT HILL	Traverse
	108_RTX	NEW BRAUNFELS WEST	Traverse
	109_RTX	NEW BRAUNFELS WEST	Traverse
	110_RTX	BAT CAVE	Traverse

Station Name	GPSID	USGS Quad	Description
	111_RTX	BAT CAVE	Traverse
	112_RTX	KENDALIA	Traverse
	113_RTX	KENDALIA	Traverse
	114_RTX	WHITWORTH RANCH	Traverse
	115_RTX	WHITWORTH RANCH	Traverse
	116_RTX	MOUNTAIN HOME	Traverse
	117_RTX	MOUNTAIN HOME	Traverse
	118_RTX	NOTT BRANCH	Traverse
	119_RTX	NOTT BRANCH	Traverse
	120_RTX	LOYAL VALLEY	Traverse
	121_RTX	LOYAL VALLEY	Traverse
	122_RTX	WELL HOLLOW	Traverse
	123_RTX	WELL HOLLOW	Traverse
	124_RTX	FALL CREEK	Traverse
	125_RTX	FALL CREEK	Traverse
	126_RTX	LACOSTE NE	Traverse
	127_RTX	LACOSTE NE	Traverse
	128_RTX	DEWEES	Traverse
	129_RTX	DEWEES	Traverse
	130_RTX	MONTEOLA	Traverse
	131_RTX	MONTEOLA	Traverse
	132_RTX	KARNES CITY	Traverse
	133_RTX	KARNES CITY	Traverse
	134_RTX	STOCKDALE	Traverse
	135_RTX	STOCKDALE	Traverse
	136_RTX	STOCKDALE	Traverse
	137_RTX	STOCKDALE	Traverse
	138_RTX	GILLETT	Traverse
	139_RTX	GILLETT	Traverse
	140_RTX	BALD MOUND	Traverse
	141_RTX	BALD MOUND	Traverse
	142_RTX	LA VERNIA SW	Traverse
	143_RTX	LA VERNIA SW	Traverse
	144_RTX	THOMAS SPRINGS	Traverse
	145_RTX	THOMAS SPRINGS	Traverse
	146_RTX	DEWVILLE	Traverse
	147_RTX	DEWVILLE	Traverse
	148_RTX	DARST CREEK	Traverse
	149_RTX	DARST CREEK	Traverse
	150_RTX	HARWOOD	Traverse
	151_RTX	HARWOOD	Traverse
	152_RTX	DELHI	Traverse
	153_RTX	DELHI	Traverse
	154_RTX	DALE	Traverse
	155_RTX	DALE	Traverse
	156_RTX	FULSHEAR	Traverse
	157_RTX	FULSHEAR	Traverse
	158_RTX	JULIFF	Traverse
	159_RTX	JULIFF	Traverse
	160_RTX	LORENA	Traverse
	161_RTX	LORENA	Traverse
	162_RTX	GORMAN FALLS	Traverse
	163_RTX	GORMAN FALLS	Traverse

Station Name	GPSID	USGS Quad	Description
	164_RTX	SAN SABA	Traverse
	165_RTX	SAN SABA	Traverse
	166_RTX	PONTOTOC	Traverse
	167_RTX	PONTOTOC	Traverse
	168_RTX	BOWSER	Traverse
	169_RTX	BOWSER	Traverse
	170_RTX	BIG VALLEY NORTH	Traverse
	171_RTX	BIG VALLEY NORTH	Traverse
	172_RTX	LAKE BROWNWOOD	Traverse
	173_RTX	LAKE BROWNWOOD	Traverse
	PRS819087702	DAMON	VRS CORS
	PRS224568262	WHARTON	VRS CORS
	PRS459949209	KATY	VRS CORS
	PRS307339692	ALIEF	VRS CORS
	PRS647183703	THREE RIVERS	VRS CORS
	PRS496469237	FREER NORTH	VRS CORS
	PRS923115644	HEBBRONVILLE	VRS CORS
	PRS409245715	DILLEY	VRS CORS
	PRS147951275	SOUTHTON	VRS CORS
	PRS146942723	HONDO	VRS CORS
	PRS347846798	LONGHORN	VRS CORS
	PRS869938120	BOERNE	VRS CORS
	PRS706682429	FREDERICKSBURG EAST	VRS CORS
	PRS578146814	FISCHER	VRS CORS
	PRS683916588	MCQUEENEY	VRS CORS
	PRS786193644	BLANCO	VRS CORS
	PRS221465132	BLACKWELL LAKE	VRS CORS
	PRS104624788	GIDDINGS	VRS CORS
	PRS975416591	OAK HILL	VRS CORS
	PRS131436241	MARBLE FALLS	VRS CORS
	PRS479729603	GRIT	VRS CORS
	PRS916860034	LLANO NORTH	VRS CORS
	PRS144955875	BROWNWOOD	VRS CORS
	PRS180861903	VICTORIA EAST	VRS CORS
	PRS607364484	BRADY SOUTH	VRS CORS
	PRS758415389	JOURDANTON	VRS CORS
	PRS765114890	LAMPASAS	VRS CORS
	PRS927981793	TEMPLE	VRS CORS
<b>3153</b>	DN7644	CREEDMOOR	Benchmark
<b>1250 SA</b>	BN0225	MORMON MILL	Benchmark
<b>ELMENS DORF SE BASE</b>	AY1500	SASPAMCO	Benchmark
<b>F 1505</b>	AW5475	SMITHERS LAKE	Benchmark
<b>J 1302</b>	BZ1086	WACO EAST	Benchmark
<b>J 1473</b>	CA0917	ZEPHYR	Benchmark
<b>L 1523</b>	DN7741	NIXON	Benchmark
<b>Q 449</b>	BN0271	OLD NOXVILLE	Benchmark
<b>V 1306</b>	AX2441	SAN MARCOS SOUTH	Benchmark

## METHODOLOGY

The field survey was done by using Trimble R10 dual frequency, multi-constellation GNSS receivers in a real time mode. Two methods were used: RTK/VRS and RTX. In the RTK method a network of Continuously Operating Reference Stations (CORS) send real time observations to a server. The server computes corrections for a nearby “virtual” CORS and transmits this data over the cellular system to the rover, and the corrections are applied at the rover to obtain cm level positions. The data is stored as vectors from the nearest physical CORS. The RTKNet VRS was used where possible, but there were areas where cellular service was not available. In the RTX methods, corrections are obtained using the Trimble Centerpoint RTX service ([RTX](#)), with real-time satellite orbit and clock corrections as well as atmospheric modeling parameters received over a geosynchronous communications link. These corrections are applied in real time, and used by the rover to converge to a solution. Once the convergence criteria (0.03 m H/0.05 m V) was met, one or more short occupations of the station are obtained, and the ITRF 2008 epoch 2005.0 position stored along with quality data.

Table 2 summarizes the VRS occupations (precisions in meters):

**Table 2 - VRS Occupations**

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JAA	03/01/2019 18:44:24	18:47:24	0.008	0.014	13	1.8
19009JAA	03/01/2019 18:48:07	18:51:07	0.009	0.016	14	1.8
19009JAB	03/01/2019 19:07:24	19:10:23	0.009	0.015	13	1.6
19009JAB	03/01/2019 19:11:27	19:14:26	0.005	0.008	13	1.6
19009JAC	03/01/2019 19:26:39	19:29:38	0.005	0.009	14	1.4
19009JAC	03/01/2019 19:30:25	19:33:24	0.005	0.008	14	1.6
19009JAD	03/01/2019 19:48:37	19:51:36	0.003	0.005	13	2.2
19009JAD	03/01/2019 19:51:55	19:54:54	0.002	0.005	6	5.4
19009JAE	03/01/2019 20:01:57	20:04:56	0.007	0.013	11	2.5
19009JAE	03/01/2019 20:05:14	20:08:15	0.004	0.009	4	11.3
19009JAF	03/01/2019 20:13:06	20:16:05	0.004	0.007	12	2.1
19009JAF	03/01/2019 20:17:15	20:20:14	0.004	0.007	13	1.6
19009JAG	03/01/2019 20:35:10	20:38:09	0.011	0.022	9	2.6
19009JAG	03/01/2019 20:39:03	20:42:02	0.008	0.015	13	1.9
19009JAH	03/01/2019 20:52:26	20:55:25	0.008	0.015	13	2.1
19009JAH	03/01/2019 20:55:58	20:58:57	0.008	0.015	13	2.2
19009JAI	03/01/2019 21:09:45	21:12:44	0.005	0.011	14	1.8
19009JAI	03/01/2019 21:13:18	21:16:17	0.007	0.015	13	2.1
19009JAJ	03/01/2019 21:37:05	21:40:04	0.005	0.010	15	1.7
19009JAJ	03/01/2019 21:40:25	21:43:24	0.004	0.009	12	1.7
19009JAK	03/01/2019 21:59:13	22:02:12	0.008	0.015	15	1.6
19009JAK	03/01/2019 22:02:34	22:05:33	0.009	0.018	13	1.7
19009JAL	03/01/2019 22:15:24	22:18:23	0.011	0.020	15	1.5
19009JAL	03/01/2019 22:18:51	22:21:50	0.009	0.015	16	1.4
19009JAM	03/01/2019 22:39:15	22:42:14	0.007	0.010	16	1.3
19009JAM	03/01/2019 22:42:31	22:45:30	0.007	0.011	9	1.9
19009JAN	03/01/2019 22:48:08	22:51:07	0.007	0.011	14	1.6
19009JAN	03/01/2019 22:51:30	22:54:29	0.007	0.011	13	1.5
19009JAO	03/01/2019 23:02:17	23:05:16	0.006	0.010	15	1.4
19009JAO	03/01/2019 23:05:37	23:08:37	0.006	0.010	11	2.1
19009JAP	03/01/2019 23:16:38	23:19:37	0.013	0.022	14	1.7
19009JAP	03/01/2019 23:19:54	23:22:58	0.022	0.035	11	2.1
19009JAQ	03/01/2019 23:30:29	23:33:28	0.007	0.012	13	1.7
19009JAQ	03/01/2019 23:33:47	23:36:00	0.007	0.012	8	2.4
19009JAR	03/01/2019 23:47:05	23:50:04	0.005	0.010	14	1.7
19009JAR	03/01/2019 23:50:23	23:53:22	0.008	0.015	12	2.0

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JAS	03/02/2019 00:06:56	00:09:55	0.005	0.009	13	1.6
19009JAS	03/02/2019 00:10:21	00:13:20	0.010	0.019	13	1.6
19009JAT	03/02/2019 13:31:13	13:34:12	0.008	0.014	13	1.7
19009JAT	03/02/2019 13:34:30	13:37:29	0.009	0.017	8	2.0
19009JAU	03/02/2019 13:51:22	13:51:29	0.016	0.027	16	1.4
19009JAU	03/02/2019 13:52:11	13:52:12	0.016	0.028	16	1.4
19009JAU	03/02/2019 13:54:53	13:57:52	0.008	0.014	15	1.4
19009JAU	03/02/2019 13:58:17	14:01:16	0.008	0.014	16	1.4
19009JAV	03/02/2019 14:24:16	14:25:43	0.006	0.009	15	1.4
19009JAV	03/02/2019 14:27:24	14:30:23	0.005	0.007	15	1.4
19009JAV	03/02/2019 14:30:49	14:33:48	0.009	0.013	15	1.4
AW5475	03/02/2019 14:47:27	14:50:26	0.010	0.015	16	1.4
AW5475	03/02/2019 14:51:09	14:54:08	0.008	0.012	16	1.4
19009JAW	03/02/2019 15:13:36	15:16:35	0.006	0.010	16	1.4
19009JAW	03/02/2019 15:16:57	15:19:56	0.007	0.013	10	1.9
19009JAX	03/02/2019 15:31:32	15:34:31	0.008	0.015	16	1.5
19009JAX	03/02/2019 15:34:59	15:37:58	0.006	0.011	15	1.6
19009JAY	03/02/2019 15:53:28	15:56:27	0.004	0.009	14	1.8
19009JAY	03/02/2019 15:58:00	16:01:00	0.003	0.006	15	1.5
19009JAZ	03/02/2019 16:18:38	16:21:37	0.004	0.008	15	1.4
19009JAZ	03/02/2019 16:21:55	16:24:54	0.004	0.007	13	1.7
19009JBA	03/02/2019 16:41:53	16:44:52	0.006	0.010	14	1.5
19009JBA	03/02/2019 16:45:12	16:48:13	0.004	0.007	8	1.9
19009JBB	03/02/2019 17:32:49	17:35:49	0.005	0.009	13	1.6
19009JBB	03/02/2019 17:36:13	17:39:12	0.005	0.008	14	1.4
19009JBC	03/02/2019 17:47:42	17:50:41	0.005	0.008	13	1.5
19009JBC	03/02/2019 17:51:00	17:53:59	0.005	0.008	12	1.6
19009JBC	03/02/2019 17:54:19	17:57:18	0.005	0.008	13	1.5
19009JBD	03/02/2019 18:17:06	18:20:05	0.005	0.007	13	1.8
19009JBD	03/02/2019 18:21:36	18:24:35	0.005	0.009	13	1.8
19009JBE	03/02/2019 18:41:16	18:44:15	0.003	0.005	14	1.6
19009JBE	03/02/2019 18:45:40	18:48:39	0.006	0.010	14	1.6
19009JBF	03/02/2019 19:15:16	19:18:15	0.004	0.008	9	1.9
19009JBF	03/02/2019 19:18:37	19:21:38	0.006	0.011	7	2.5
19009JBG	03/02/2019 19:33:09	19:36:08	0.005	0.010	13	1.6
19009JBG	03/02/2019 19:36:33	19:39:32	0.005	0.010	14	1.7
19009JBH	03/11/2019 13:51:29	13:54:28	0.008	0.018	17	1.3
19009JBH	03/11/2019 13:55:09	13:58:08	0.010	0.018	14	1.5
19009JBI	03/11/2019 14:12:17	14:15:16	0.008	0.014	14	1.6
19009JBI	03/11/2019 14:16:08	14:19:07	0.008	0.014	13	1.7
19009JBI	03/11/2019 14:20:32	14:23:31	0.005	0.009	16	1.4
19009JBJ	03/11/2019 14:33:51	14:36:50	0.006	0.010	15	1.5
19009JBJ	03/11/2019 14:37:12	14:40:11	0.009	0.017	10	1.9
19009JBK	03/11/2019 14:48:49	14:51:48	0.005	0.010	15	1.6
19009JBK	03/11/2019 14:52:09	14:55:08	0.008	0.017	14	1.6
19009JBL	03/11/2019 14:58:37	15:01:36	0.008	0.017	15	1.7
19009JBL	03/11/2019 15:01:55	15:03:13	0.007	0.014	14	1.7
19009JBM	03/11/2019 15:16:19	15:17:14	0.007	0.016	14	1.7
19009JBM	03/11/2019 15:17:22	15:17:23	0.009	0.019	14	1.7
19009JBM	03/11/2019 15:19:27	15:22:26	0.005	0.011	13	1.8
19009JBM	03/11/2019 15:23:34	15:26:33	0.005	0.011	14	1.6
19009JBN	03/11/2019 15:31:18	15:34:17	0.007	0.014	12	2.0
19009JBN	03/11/2019 15:34:36	15:37:35	0.007	0.015	13	1.6
19009JBO	03/11/2019 15:44:12	15:47:11	0.009	0.017	13	1.7
19009JBO	03/11/2019 15:48:08	15:51:07	0.011	0.022	12	1.9
19009JBP	03/11/2019 16:01:57	16:03:31	0.008	0.014	12	1.9
19009JBP	03/11/2019 16:03:55	16:04:22	0.008	0.014	12	1.9
19009JBP	03/11/2019 16:04:36	16:07:35	0.010	0.017	12	1.9
19009JBQ	03/11/2019 16:28:58	16:31:57	0.007	0.011	12	1.8
19009JBQ	03/11/2019 16:32:30	16:35:29	0.006	0.011	12	1.5
19009JBR	03/11/2019 16:45:34	16:48:33	0.007	0.014	11	1.7
19009JBR	03/11/2019 16:48:52	16:51:51	0.007	0.012	7	2.1
19009JBS	03/11/2019 17:05:15	17:08:14	0.005	0.009	13	1.4
19009JBS	03/11/2019 17:08:48	17:11:47	0.006	0.010	12	1.7

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JBT	03/11/2019 17:19:14	17:22:13	0.006	0.010	14	1.4
19009JBT	03/11/2019 17:22:33	17:25:32	0.009	0.016	11	1.7
19009JBT	03/11/2019 17:25:54	17:28:53	0.006	0.011	12	1.6
19009JBT	03/11/2019 17:29:39	17:32:38	0.008	0.015	12	1.7
19009JBU	03/11/2019 17:44:14	17:45:26	0.015	0.028	11	2.1
19009JBU	03/11/2019 17:45:51	17:50:25	0.013	0.027	7	3.8
19009JBU	03/11/2019 17:50:52	17:55:25	0.008	0.023	10	2.3
19009JBV	03/11/2019 18:05:59	18:08:58	0.008	0.015	13	2.1
19009JBV	03/11/2019 18:09:19	18:12:18	0.005	0.009	14	1.8
19009JBW	03/11/2019 18:18:08	18:21:07	0.006	0.011	14	1.8
19009JBW	03/11/2019 18:21:24	18:24:24	0.007	0.011	8	2.2
19009JBX	03/11/2019 18:27:21	18:30:20	0.006	0.010	13	1.7
19009JBX	03/11/2019 18:30:42	18:33:41	0.007	0.012	8	2.0
19009JBY	03/11/2019 18:54:52	18:57:54	0.006	0.011	14	1.5
19009JBY	03/11/2019 18:58:15	19:01:14	0.007	0.012	7	2.2
19009JBZ	03/11/2019 19:11:08	19:14:07	0.008	0.015	13	2.5
19009JBZ	03/11/2019 19:14:30	19:17:29	0.009	0.016	11	2.5
19009JCA	03/11/2019 19:22:22	19:25:21	0.013	0.026	14	2.0
19009JCA	03/11/2019 19:27:27	19:30:27	0.018	0.032	14	2.0
19009JCB	03/11/2019 20:00:29	20:03:30	0.011	0.031	14	1.8
19009JCB	03/11/2019 20:04:11	20:07:11	0.005	0.011	14	1.9
19009JCB	03/11/2019 20:08:03	20:11:06	0.005	0.012	14	2.0
19009JCC	03/11/2019 20:16:24	20:19:24	0.007	0.017	14	2.1
19009JCC	03/11/2019 20:21:07	20:24:28	0.006	0.013	14	1.8
19009JCD	03/11/2019 20:34:15	20:37:14	0.005	0.012	15	1.8
19009JCD	03/11/2019 20:37:49	20:40:48	0.008	0.018	15	1.8
19009JCE	03/11/2019 20:53:20	20:56:19	0.005	0.012	16	1.6
19009JCE	03/11/2019 20:56:37	20:59:36	0.008	0.017	9	2.0
19009JCF	03/11/2019 21:03:48	21:06:49	0.008	0.017	17	1.4
19009JCF	03/11/2019 21:07:08	21:10:23	0.006	0.013	16	1.7
19009JCG	03/11/2019 21:19:42	21:22:42	0.007	0.013	16	1.6
19009JCG	03/11/2019 21:23:00	21:25:36	0.006	0.012	9	2.5
19009JCH	03/11/2019 21:43:31	21:46:30	0.013	0.021	16	1.5
19009JCH	03/11/2019 21:47:07	21:50:06	0.005	0.008	16	1.5
19009JCI	03/11/2019 22:25:45	22:28:44	0.009	0.015	8	2.6
19009JCI	03/11/2019 22:29:06	22:32:05	0.005	0.010	14	1.6
19009JCI	03/11/2019 22:37:15	22:40:14	0.005	0.009	15	1.5
19009JCI	03/11/2019 22:40:33	22:43:32	0.005	0.009	14	1.6
19009JCK	03/11/2019 22:51:32	22:54:31	0.006	0.011	14	1.7
19009JCK	03/11/2019 22:55:40	22:58:39	0.004	0.007	14	1.7
19009JCL	03/11/2019 23:03:45	23:06:44	0.004	0.007	14	1.7
19009JCL	03/11/2019 23:08:44	23:11:44	0.007	0.013	14	1.7
19009JCM	03/11/2019 23:47:55	23:51:04	0.006	0.010	13	1.8
19009JCM	03/11/2019 23:51:23	23:54:26	0.007	0.013	11	2.8
19009JCN	03/12/2019 00:03:22	00:06:28	0.006	0.012	8	3.4
19009JCN	03/12/2019 00:06:50	00:09:50	0.006	0.012	10	2.7
19009JCO	03/12/2019 12:59:02	13:02:01	0.006	0.013	15	1.5
19009JCO	03/12/2019 13:02:26	13:05:26	0.010	0.020	14	1.6
19009JCP	03/12/2019 13:09:11	13:12:10	0.006	0.010	16	1.4
19009JCP	03/12/2019 13:12:41	13:13:00	0.009	0.016	17	1.4
19009JCP	03/12/2019 13:15:06	13:18:07	0.006	0.010	16	1.4
19009JCQ	03/12/2019 13:21:51	13:24:52	0.008	0.013	16	1.4
19009JCQ	03/12/2019 13:25:14	13:28:14	0.005	0.009	13	1.7
19009JCR	03/12/2019 13:31:29	13:34:47	0.005	0.008	17	1.3
19009JCR	03/12/2019 13:35:07	13:38:34	0.006	0.010	13	1.7
19009JCS	03/12/2019 13:59:14	14:02:28	0.005	0.008	14	1.6
19009JCS	03/12/2019 14:02:46	14:06:45	0.005	0.009	12	1.7
19009JCT	03/12/2019 14:09:45	14:13:11	0.005	0.008	15	1.4
19009JCT	03/12/2019 14:13:29	14:16:29	0.006	0.009	10	1.8
19009JCU	03/12/2019 14:19:48	14:22:49	0.004	0.008	14	1.5
19009JCU	03/12/2019 14:23:16	14:26:15	0.006	0.010	14	1.5
19009JCV	03/12/2019 14:31:07	14:34:06	0.007	0.012	14	1.5
19009JCV	03/12/2019 14:34:23	14:37:22	0.008	0.014	14	1.6
19009JCW	03/12/2019 14:54:40	14:57:39	0.009	0.018	13	1.7



GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JCW	03/12/2019 14:58:01	15:01:00	0.007	0.014	13	1.9
19009JCX	03/12/2019 15:02:19	15:05:18	0.006	0.013	13	1.8
19009JCX	03/12/2019 15:05:46	15:08:45	0.009	0.019	13	1.8
19009JCY	03/12/2019 15:13:48	15:16:47	0.005	0.011	13	1.7
19009JCY	03/12/2019 15:17:07	15:20:07	0.011	0.025	12	1.8
19009JCY	03/12/2019 15:21:30	15:24:30	0.008	0.018	12	1.8
19009JCZ	03/12/2019 15:58:30	16:01:29	0.005	0.008	13	1.5
19009JCZ	03/12/2019 16:02:01	16:05:00	0.008	0.013	12	2.0
19009JDA	03/12/2019 17:04:46	17:07:45	0.005	0.008	13	1.4
19009JDA	03/12/2019 17:08:07	17:11:06	0.006	0.009	12	1.5
19009JDB	03/12/2019 17:14:32	17:17:31	0.010	0.015	13	1.5
19009JDB	03/12/2019 17:17:49	17:20:48	0.005	0.007	13	1.4
19009JDC	03/12/2019 17:26:49	17:29:48	0.005	0.009	12	1.8
19009JDC	03/12/2019 17:30:20	17:33:19	0.007	0.011	12	1.8
19009JDD	03/12/2019 17:58:53	18:01:52	0.005	0.010	13	1.9
19009JDD	03/12/2019 18:02:15	18:05:14	0.008	0.014	9	2.2
19009JDE	03/12/2019 18:18:49	18:21:48	0.005	0.010	13	1.7
19009JDE	03/12/2019 18:22:07	18:25:06	0.007	0.013	8	2.1
19009JDF	03/12/2019 18:43:41	18:46:40	0.007	0.011	14	1.6
19009JDF	03/12/2019 18:47:01	18:50:00	0.006	0.010	14	1.8
19009JDG	03/12/2019 19:03:45	19:06:48	0.011	0.018	14	2.1
19009JDG	03/12/2019 19:07:08	19:10:08	0.008	0.014	9	3.1
19009JDH	03/12/2019 19:18:36	19:21:35	0.008	0.014	15	1.6
19009JDH	03/12/2019 19:22:23	19:25:23	0.009	0.015	6	3.2
19009JDH	03/12/2019 19:25:43	19:28:42	0.009	0.018	13	1.6
19009JDI	03/12/2019 19:44:37	19:47:36	0.011	0.020	16	1.4
19009JDI	03/12/2019 19:48:13	19:51:12	0.007	0.013	16	1.4
19009JDJ	03/12/2019 20:04:22	20:07:21	0.007	0.013	15	1.7
19009JDJ	03/12/2019 20:08:16	20:11:15	0.005	0.011	14	2.1
19009JDL	03/12/2019 20:41:57	20:44:56	0.006	0.013	15	1.7
19009JDL	03/12/2019 20:45:19	20:48:18	0.005	0.012	15	1.7
19009JDM	03/12/2019 21:12:14	21:15:13	0.006	0.012	16	1.6
19009JDM	03/12/2019 21:15:42	21:18:43	0.007	0.016	8	2.7
19009JDN	03/12/2019 21:28:21	21:31:20	0.005	0.011	12	1.9
19009JDN	03/12/2019 21:31:44	21:33:11	0.007	0.013	11	2.1
19009JDO	03/12/2019 21:47:44	21:50:43	0.007	0.012	15	1.4
19009JDO	03/12/2019 21:51:08	21:54:07	0.006	0.011	14	1.5
19009JDO	03/12/2019 21:54:47	21:57:46	0.005	0.009	14	1.5
19009JDP	03/12/2019 22:40:44	22:43:43	0.006	0.010	13	1.7
19009JDP	03/12/2019 22:44:07	22:47:06	0.006	0.010	8	2.4
19009JDQ	03/12/2019 23:03:07	23:06:06	0.007	0.013	13	1.7
19009JDQ	03/12/2019 23:06:23	23:09:24	0.008	0.015	8	2.4
19009JDR	03/12/2019 23:24:30	23:27:29	0.006	0.011	13	1.5
19009JDR	03/12/2019 23:27:49	23:30:48	0.006	0.010	12	1.5
19009JDR	03/12/2019 23:31:13	23:34:12	0.006	0.010	11	1.7
19009JDS	03/12/2019 23:46:00	23:48:59	0.006	0.010	13	1.5
19009JDS	03/12/2019 23:49:46	23:52:46	0.007	0.012	10	2.8
19009JDS	03/12/2019 23:53:06	23:56:05	0.006	0.013	10	2.8
19009JDT	03/13/2019 00:15:26	00:18:25	0.007	0.015	12	1.6
19009JDT	03/13/2019 00:18:47	00:21:47	0.007	0.015	9	2.8
19009JDU	03/13/2019 00:29:50	00:32:49	0.006	0.012	14	1.3
19009JDU	03/13/2019 00:34:26	00:37:25	0.006	0.012	14	1.3
19009JDV	03/13/2019 13:20:43	13:23:42	0.005	0.008	13	1.5
19009JDV	03/13/2019 13:24:01	13:27:00	0.005	0.008	10	2.2
19009JDW	03/13/2019 13:33:24	13:36:23	0.005	0.008	17	1.3
19009JDW	03/13/2019 13:36:47	13:39:47	0.005	0.009	4	11.7
19009JDX	03/13/2019 13:45:42	13:48:41	0.005	0.009	8	1.9
19009JDX	03/13/2019 13:49:01	13:52:00	0.006	0.009	13	1.6
19009JDY	03/13/2019 13:57:28	14:00:27	0.005	0.009	15	1.4
19009JDY	03/13/2019 14:00:47	14:03:46	0.005	0.009	9	2.0
19009JDZ	03/13/2019 14:26:08	14:29:07	0.005	0.009	15	1.5
19009JDZ	03/13/2019 14:30:33	14:32:29	0.006	0.011	15	1.5
19009JDZ	03/13/2019 14:35:27	14:35:49	0.010	0.021	16	1.4
19009JEA	03/13/2019 15:10:00	15:12:59	0.005	0.011	14	1.5

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JEA	03/13/2019 15:13:18	15:16:17	0.006	0.013	8	2.7
19009JEB	03/13/2019 16:19:09	16:19:51	0.008	0.014	13	1.5
19009JEB	03/13/2019 16:21:30	16:24:30	0.006	0.010	11	2.0
19009JEC	03/13/2019 16:31:46	16:34:45	0.009	0.018	12	1.8
19009JEC	03/13/2019 16:35:12	16:38:14	0.011	0.020	11	2.0
19009JED	03/13/2019 16:48:40	16:51:39	0.006	0.009	13	1.6
19009JED	03/13/2019 16:51:57	16:54:57	0.005	0.009	8	2.2
19009JEE	03/13/2019 17:32:08	17:35:07	0.008	0.013	14	1.5
19009JEE	03/13/2019 17:35:24	17:38:23	0.006	0.010	9	2.0
19009JEF	03/13/2019 17:44:42	17:47:41	0.009	0.016	14	1.8
19009JEF	03/13/2019 17:47:59	17:50:59	0.008	0.013	14	1.8
19009JEG	03/13/2019 18:14:56	18:17:55	0.007	0.011	14	1.6
19009JEG	03/13/2019 18:18:12	18:21:11	0.006	0.010	8	2.5
19009JEH	03/13/2019 18:39:56	18:42:55	0.008	0.012	13	1.5
19009JEH	03/13/2019 18:43:14	18:46:13	0.009	0.015	11	1.6
19009JEI	03/13/2019 18:52:00	18:54:59	0.007	0.012	13	2.2
19009JEI	03/13/2019 18:55:23	18:58:22	0.007	0.013	6	4.4
19009JEJ	03/13/2019 19:13:23	19:16:22	0.007	0.012	14	1.6
19009JEJ	03/13/2019 19:16:43	19:19:42	0.008	0.014	12	1.7
19009JEK	03/13/2019 19:33:14	19:36:13	0.014	0.024	15	1.4
19009JEK	03/13/2019 19:36:37	19:39:36	0.009	0.016	11	1.8
19009JEL	03/13/2019 19:42:59	19:45:58	0.008	0.015	15	1.4
19009JEL	03/13/2019 19:46:43	19:49:42	0.008	0.015	13	1.7
19009JEM	03/13/2019 20:00:10	20:03:09	0.005	0.010	13	2.1
19009JEM	03/13/2019 20:03:43	20:06:42	0.007	0.014	12	2.3
19009JEM	03/13/2019 20:07:07	20:10:06	0.010	0.019	12	2.3
19009JEN	03/13/2019 20:41:42	20:44:41	0.006	0.013	14	1.7
19009JEN	03/13/2019 20:45:00	20:47:59	0.009	0.018	9	2.0
19009JEO	03/13/2019 20:55:08	20:58:07	0.005	0.011	15	1.8
19009JEO	03/13/2019 20:58:26	21:01:25	0.006	0.013	13	1.8
19009JEP	03/13/2019 21:15:18	21:18:17	0.010	0.020	14	1.7
19009JEP	03/13/2019 21:20:05	21:23:04	0.006	0.010	14	1.7
19009JEQ	03/13/2019 21:42:22	21:45:21	0.006	0.010	16	1.4
19009JEQ	03/13/2019 21:46:12	21:49:11	0.008	0.013	15	1.4
19009JER	03/13/2019 22:03:55	22:06:54	0.008	0.013	14	1.4
19009JER	03/13/2019 22:07:17	22:10:16	0.009	0.014	13	1.5
19009JER	03/13/2019 22:10:46	22:13:45	0.005	0.008	14	1.4
19009JES	03/13/2019 22:28:59	22:31:58	0.007	0.011	13	1.7
19009JES	03/13/2019 22:33:59	22:36:58	0.006	0.010	13	1.7
19009JET	03/13/2019 23:05:06	23:08:05	0.005	0.009	13	1.7
19009JET	03/13/2019 23:08:22	23:11:21	0.006	0.009	8	2.3
19009JEU	03/13/2019 23:28:55	23:31:54	0.006	0.009	14	1.4
19009JEU	03/13/2019 23:32:15	23:35:14	0.008	0.013	10	2.0
19009JEW	03/13/2019 23:53:00	23:56:05	0.014	0.024	12	1.7
19009JEW	03/13/2019 23:56:25	23:59:27	0.011	0.022	6	3.2
19009JEX	03/14/2019 00:10:04	00:13:03	0.011	0.020	12	1.7
19009JEX	03/14/2019 00:13:31	00:16:30	0.006	0.012	13	1.5
19009JEY	03/14/2019 00:22:06	00:25:09	0.005	0.010	14	1.3
19009JEY	03/14/2019 00:25:25	00:28:24	0.005	0.010	8	1.7
19009JFA	03/14/2019 13:14:56	13:17:55	0.006	0.008	14	1.5
19009JFA	03/14/2019 13:18:53	13:21:52	0.004	0.005	12	1.7
19009JFB	03/14/2019 13:34:54	13:37:53	0.003	0.005	15	1.6
19009JFB	03/14/2019 13:38:11	13:41:10	0.005	0.007	12	1.9
19009JFC	03/14/2019 14:21:04	14:24:03	0.006	0.010	15	1.6
19009JFC	03/14/2019 14:25:58	14:28:57	0.007	0.013	15	1.6
19009JFD	03/14/2019 14:43:07	14:46:06	0.005	0.009	15	1.6
19009JFD	03/14/2019 14:46:36	14:49:35	0.006	0.012	14	2.0
19009JFE	03/14/2019 14:57:55	15:00:54	0.004	0.009	14	1.9
19009JFE	03/14/2019 15:01:20	15:04:19	0.004	0.009	15	1.6
19009JFF	03/14/2019 15:40:59	15:43:58	0.005	0.009	15	1.4
19009JFF	03/14/2019 15:46:02	15:49:01	0.008	0.014	13	1.9
19009JFG	03/14/2019 15:53:28	15:56:27	0.005	0.010	13	1.9
19009JFG	03/14/2019 15:57:56	16:00:55	0.006	0.010	11	2.5
19009JFH	03/14/2019 16:22:21	16:25:20	0.007	0.012	12	1.9

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JFH	03/14/2019 16:27:05	16:30:04	0.007	0.013	12	1.9
19009JFI	03/14/2019 16:58:12	17:01:11	0.011	0.019	14	1.4
19009JFI	03/14/2019 17:02:17	17:05:16	0.008	0.013	13	1.4
19009JFJ	03/14/2019 17:20:52	17:23:51	0.006	0.010	12	1.7
19009JFJ	03/14/2019 17:24:12	17:27:11	0.006	0.010	8	2.1
19009JFK	03/14/2019 17:36:17	17:39:16	0.014	0.024	13	1.8
19009JFK	03/14/2019 17:39:43	17:42:15	0.014	0.024	13	1.8
19009JFL	03/14/2019 18:00:30	18:03:29	0.010	0.017	14	1.6
19009JFL	03/14/2019 18:04:17	18:07:16	0.012	0.020	8	2.2
19009JFM	03/14/2019 18:26:13	18:29:12	0.011	0.019	12	1.7
19009JFM	03/14/2019 18:29:33	18:32:32	0.009	0.015	10	1.8
19009JFN	03/14/2019 19:15:43	19:18:42	0.012	0.023	14	1.7
19009JFN	03/14/2019 19:19:07	19:22:06	0.013	0.027	10	2.8
19009JFO	03/14/2019 19:35:47	19:38:49	0.013	0.024	14	1.5
19009JFO	03/14/2019 19:39:09	19:42:10	0.017	0.035	12	2.0
19009JFQ	03/14/2019 20:38:49	20:41:48	0.011	0.024	15	1.6
19009JFQ	03/14/2019 20:42:26	20:45:25	0.008	0.017	15	1.6
19009JFR	03/14/2019 20:48:50	20:52:19	0.009	0.020	16	1.4
19009JFR	03/14/2019 20:52:38	20:55:38	0.007	0.015	14	1.4
19009JFV	03/14/2019 22:31:00	22:34:00	0.006	0.030	14	1.8
19009JFV	03/14/2019 22:34:47	22:37:46	0.007	0.014	8	2.5
19009JFW	03/14/2019 22:51:38	22:54:37	0.009	0.017	14	1.8
19009JFW	03/14/2019 22:55:13	22:58:13	0.014	0.027	8	2.5
19009JFX	03/14/2019 23:00:08	23:03:07	0.007	0.014	14	1.8
19009JFX	03/14/2019 23:03:23	23:06:22	0.006	0.011	7	3.0
19009JFY	03/14/2019 23:12:21	23:15:20	0.016	0.034	15	1.5
19009JFY	03/14/2019 23:15:42	23:18:41	0.017	0.020	15	1.4
19009JFZ	03/14/2019 23:29:38	23:32:37	0.009	0.016	14	1.5
19009JFZ	03/14/2019 23:33:06	23:36:06	0.008	0.015	15	1.3
19009JGA	03/14/2019 23:49:50	23:52:49	0.013	0.031	14	1.4
19009JGA	03/14/2019 23:56:29	23:59:28	0.012	0.023	12	1.6
19009JGB	03/15/2019 13:10:53	13:13:52	0.013	0.024	16	1.4
19009JGB	03/15/2019 13:14:18	13:17:18	0.014	0.024	15	1.6
19009JGC	03/15/2019 13:28:24	13:31:23	0.008	0.014	18	1.3
19009JGC	03/15/2019 13:31:43	13:34:42	0.008	0.014	17	1.3
19009JGD	03/15/2019 13:49:23	13:52:22	0.006	0.009	16	1.4
19009JGD	03/15/2019 13:53:35	13:56:34	0.005	0.008	13	1.7
19009JGE	03/15/2019 14:20:19	14:23:18	0.009	0.017	14	1.8
19009JGE	03/15/2019 14:23:35	14:26:34	0.009	0.016	9	2.4
19009JGF	03/15/2019 14:49:12	14:52:11	0.010	0.020	12	1.9
19009JGF	03/15/2019 14:52:30	14:55:29	0.011	0.022	12	1.9
19009JGG	03/15/2019 15:15:48	15:18:47	0.009	0.017	15	1.3
19009JGG	03/15/2019 15:19:07	15:22:06	0.009	0.016	11	2.0
19009JGH	03/15/2019 15:30:46	15:33:45	0.008	0.014	13	1.6
19009JGH	03/15/2019 15:34:01	15:37:01	0.012	0.020	7	3.8
19009JGI	03/15/2019 16:19:33	16:22:32	0.009	0.017	10	2.0
19009JGI	03/15/2019 16:23:47	16:26:49	0.008	0.016	6	4.4
19009JGJ	03/15/2019 16:35:24	16:38:23	0.015	0.027	11	1.9
19009JGJ	03/15/2019 16:38:42	16:41:44	0.015	0.027	7	2.2
19009JGK	03/15/2019 16:49:28	16:52:27	0.006	0.011	13	1.4
19009JGK	03/15/2019 16:53:10	16:56:09	0.006	0.009	13	1.4
19009JGL	03/15/2019 17:17:04	17:20:03	0.007	0.012	13	1.4
19009JGL	03/15/2019 17:21:15	17:24:14	0.005	0.009	13	1.6
19009JGM	03/15/2019 17:33:21	17:36:20	0.010	0.017	13	1.7
19009JGM	03/15/2019 17:36:45	17:39:44	0.005	0.009	13	1.7
19009JGN	03/15/2019 17:55:10	17:58:09	0.007	0.011	12	1.9
19009JGN	03/15/2019 18:00:14	18:03:13	0.006	0.010	13	1.6
19009JGO	03/15/2019 18:10:15	18:13:14	0.006	0.009	12	1.7
19009JGO	03/15/2019 18:13:53	18:16:52	0.006	0.009	10	2.0
19009JGP	03/15/2019 18:33:33	18:36:32	0.008	0.014	9	2.5
19009JGP	03/15/2019 18:36:50	18:39:49	0.010	0.018	10	1.7
19009JGQ	03/15/2019 19:00:24	19:03:23	0.012	0.023	13	1.8
19009JGQ	03/15/2019 19:03:42	19:06:42	0.014	0.027	12	1.8
19009JGR	03/15/2019 19:15:33	19:18:32	0.011	0.019	14	1.6

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JGR	03/15/2019 19:18:52	19:21:51	0.011	0.020	13	1.8
19009JGS	03/15/2019 19:33:34	19:36:34	0.012	0.023	13	1.7
19009JGS	03/15/2019 19:36:56	19:39:59	0.011	0.026	11	2.8
19009JGS	03/15/2019 19:40:24	19:43:23	0.008	0.014	9	2.8
19009JGT	03/15/2019 19:55:42	19:58:41	0.004	0.008	14	2.1
19009JGT	03/15/2019 19:59:51	20:02:50	0.003	0.007	14	2.2
19009JGU	03/15/2019 20:25:27	20:28:26	0.004	0.009	15	1.8
19009JGU	03/15/2019 20:28:46	20:31:45	0.003	0.006	13	2.1
19009JGV	03/15/2019 20:51:50	20:54:49	0.002	0.003	17	1.5
19009JGV	03/15/2019 20:55:06	20:58:05	0.002	0.003	17	1.5
19009JGW	03/15/2019 21:14:25	21:17:24	0.004	0.007	17	1.5
19009JGW	03/15/2019 21:17:42	21:20:41	0.005	0.008	13	1.8
19009JGX	03/15/2019 21:30:15	21:33:14	0.003	0.005	17	1.4
19009JGX	03/15/2019 21:33:36	21:36:35	0.003	0.004	15	1.4
19009JGY	03/15/2019 21:58:33	22:01:32	0.004	0.007	17	1.2
19009JGY	03/15/2019 22:03:26	22:06:25	0.005	0.008	16	1.3
19009JGZ	03/15/2019 22:30:10	22:33:09	0.005	0.009	14	1.8
19009JGZ	03/15/2019 22:33:29	22:36:28	0.005	0.009	7	3.0
19009JHA	03/15/2019 22:52:39	22:55:38	0.006	0.011	14	1.8
19009JHA	03/15/2019 22:56:08	22:59:07	0.007	0.012	10	2.9
19009JHB	03/15/2019 23:06:30	23:09:29	0.007	0.013	14	1.6
19009JHB	03/15/2019 23:09:47	23:12:46	0.005	0.008	12	2.2
19009JHC	03/15/2019 23:23:58	23:26:57	0.007	0.012	14	1.5
19009JHC	03/15/2019 23:27:30	23:30:29	0.008	0.014	14	1.5
19009JHD	03/15/2019 23:44:29	23:47:28	0.008	0.014	12	1.8
19009JHD	03/15/2019 23:47:56	23:50:55	0.006	0.010	11	2.1
19009JHE	03/16/2019 13:34:10	13:37:09	0.006	0.009	17	1.3
19009JHE	03/16/2019 13:37:30	13:40:29	0.006	0.009	15	1.5
19009JHF	03/16/2019 13:46:24	13:49:23	0.007	0.010	15	1.5
19009JHF	03/16/2019 13:49:44	13:52:43	0.010	0.014	14	1.6
19009JHG	03/16/2019 14:10:52	14:13:51	0.007	0.011	14	1.6
19009JHG	03/16/2019 14:14:25	14:17:24	0.005	0.009	14	1.8
19009JHH	03/16/2019 14:36:11	14:39:10	0.007	0.016	12	2.7
19009JHH	03/16/2019 14:39:33	14:42:32	0.007	0.016	12	2.6
19009JHI	03/16/2019 14:56:52	14:59:51	0.003	0.007	13	1.7
19009JHI	03/16/2019 15:00:27	15:03:26	0.003	0.008	13	1.7
19009JHJ	03/16/2019 15:09:34	15:12:33	0.003	0.007	14	1.5
19009JHJ	03/16/2019 15:12:57	15:15:56	0.003	0.005	13	1.6
19009JHK	03/16/2019 15:26:25	15:29:24	0.002	0.004	14	1.4
19009JHK	03/16/2019 15:29:42	15:32:41	0.003	0.005	8	2.1
19009JHL	03/16/2019 15:50:56	15:53:55	0.007	0.012	12	1.8
19009JHL	03/16/2019 15:54:23	15:57:22	0.005	0.008	7	2.5
19009JHM	03/16/2019 16:13:59	16:17:53	0.009	0.015	11	1.8
19009JHM	03/16/2019 16:19:37	16:22:36	0.011	0.020	11	1.8
19009JHN	03/16/2019 16:31:05	16:34:04	0.006	0.013	10	2.1
19009JHN	03/16/2019 16:34:29	16:37:28	0.006	0.011	10	2.1
19009JHO	03/16/2019 17:09:26	17:12:25	0.007	0.012	12	1.8
19009JHO	03/16/2019 17:12:53	17:15:52	0.007	0.011	7	2.3
19009JHO	03/16/2019 17:16:12	17:18:11	0.006	0.009	8	2.1
19009JHP	03/16/2019 17:33:56	17:36:55	0.007	0.012	14	1.8
19009JHP	03/16/2019 17:37:29	17:40:28	0.006	0.010	9	2.2
19009JHR	03/16/2019 17:49:00	17:51:59	0.009	0.014	14	1.7
19009JHR	03/16/2019 17:52:26	17:55:25	0.004	0.006	8	2.2
19009JHS	03/16/2019 18:13:57	18:16:56	0.004	0.007	14	1.5
19009JHS	03/16/2019 18:17:19	18:20:18	0.008	0.013	13	1.7
19009JHT	03/16/2019 18:44:10	18:47:09	0.006	0.010	14	2.0
19009JHT	03/16/2019 18:47:25	18:50:24	0.006	0.011	9	2.7
19009JHU	03/16/2019 19:17:49	19:20:48	0.011	0.019	16	1.4
19009JHU	03/16/2019 19:21:23	19:24:22	0.008	0.014	16	1.5
19009JHV	03/16/2019 19:38:09	19:41:08	0.007	0.013	15	1.5
19009JHV	03/16/2019 19:42:00	19:44:59	0.005	0.009	16	1.5
19009JHW	03/16/2019 19:53:37	19:56:36	0.007	0.015	14	2.1
19009JHW	03/16/2019 19:56:57	19:59:56	0.011	0.023	9	1.9
19009JHX	03/16/2019 20:06:41	20:09:40	0.008	0.018	15	1.8

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JHX	03/16/2019 20:10:13	20:13:12	0.008	0.016	8	2.3
19009JHY	03/16/2019 20:26:24	20:29:23	0.005	0.011	15	1.7
19009JHY	03/16/2019 20:29:51	20:32:50	0.004	0.008	16	1.6
19009JHZ	03/16/2019 20:40:47	20:43:46	0.007	0.013	14	1.6
19009JHZ	03/16/2019 20:44:07	20:47:06	0.005	0.010	11	2.6
19009JIA	03/16/2019 21:02:45	21:05:44	0.003	0.007	15	1.6
19009JIA	03/16/2019 21:06:03	21:09:02	0.004	0.008	13	2.0
19009JIB	03/16/2019 21:29:08	21:32:07	0.007	0.012	15	1.5
19009JIB	03/16/2019 21:32:27	21:35:26	0.005	0.008	12	1.9
19009JIC	03/16/2019 21:46:47	21:49:46	0.005	0.008	14	1.6
19009JIC	03/16/2019 21:50:06	21:53:05	0.005	0.007	14	1.6
19009JID	03/16/2019 22:09:16	22:12:15	0.003	0.006	14	1.5
19009JID	03/16/2019 22:12:35	22:15:34	0.004	0.007	13	1.7
19009JIE	03/16/2019 22:27:14	22:30:13	0.004	0.007	13	2.0
19009JIE	03/16/2019 22:30:39	22:33:38	0.004	0.007	12	2.1
19009JIF	03/16/2019 22:46:40	22:49:39	0.007	0.013	11	2.0
19009JIF	03/16/2019 22:49:57	22:52:57	0.011	0.021	9	3.5
19009JIG	03/16/2019 22:57:17	23:00:16	0.004	0.008	13	1.7
19009JIG	03/16/2019 23:00:36	23:03:35	0.004	0.007	11	2.1
19009JIH	03/16/2019 23:17:56	23:20:55	0.003	0.005	13	1.4
19009JIH	03/16/2019 23:21:14	23:24:13	0.005	0.008	11	1.7
19009JII	03/16/2019 23:38:24	23:41:23	0.003	0.004	13	1.4
19009JII	03/16/2019 23:41:44	23:42:58	0.004	0.007	11	1.8
19009JII	03/16/2019 23:41:44	23:42:58	0.004	0.007	11	1.8
19009JIJ	03/16/2019 23:56:58	23:59:58	0.004	0.007	12	1.6
19009JIJ	03/17/2019 00:00:57	00:03:57	0.006	0.010	6	3.1
19009JIK	04/12/2019 13:19:47	13:22:46	0.006	0.013	8	2.1
19009JIK	04/12/2019 13:23:06	13:26:05	0.005	0.011	11	1.7
19009JIL	04/12/2019 13:39:55	13:42:54	0.007	0.014	10	2.1
19009JIL	04/12/2019 13:44:08	13:47:07	0.005	0.009	10	2.0
19009JIM	04/12/2019 14:03:18	14:06:17	0.005	0.008	11	2.0
19009JIM	04/12/2019 14:06:35	14:09:34	0.005	0.008	7	2.0
19009JIN	04/12/2019 14:12:54	14:15:53	0.010	0.015	12	1.5
19009JIN	04/12/2019 14:16:11	14:19:10	0.013	0.020	11	1.9
19009JIO	04/12/2019 14:52:09	14:55:08	0.006	0.009	10	1.8
19009JIO	04/12/2019 14:55:29	14:58:28	0.008	0.012	10	1.5
19009JIP	04/12/2019 15:06:29	15:09:28	0.005	0.008	12	1.5
19009JIP	04/12/2019 15:10:05	15:13:04	0.005	0.008	12	1.5
19009JIQ	04/12/2019 15:26:14	15:29:20	0.005	0.010	11	2.0
19009JIQ	04/12/2019 15:29:42	15:32:41	0.010	0.017	11	2.0
19009JIR	04/12/2019 15:42:36	15:45:35	0.006	0.011	12	2.1
19009JIR	04/12/2019 15:46:00	15:48:59	0.007	0.013	12	2.1
19009JIS	04/12/2019 15:58:30	16:01:29	0.009	0.016	13	2.0
19009JIS	04/12/2019 16:01:49	16:04:48	0.010	0.015	8	2.2
19009JIT	04/12/2019 16:21:30	16:24:29	0.008	0.013	12	1.8
19009JIT	04/12/2019 16:25:17	16:28:16	0.007	0.013	12	1.9
19009JIU	04/12/2019 16:40:08	16:43:07	0.013	0.024	12	1.7
19009JIU	04/12/2019 16:43:46	16:46:45	0.008	0.014	12	2.1
19009JIV	04/12/2019 17:10:07	17:13:06	0.014	0.029	13	2.7
19009JIV	04/12/2019 17:13:21	17:16:22	0.008	0.017	6	3.1
19009JIV	04/12/2019 17:16:46	17:19:45	0.011	0.023	12	2.2
19009JIW	04/12/2019 17:30:23	17:33:22	0.007	0.013	15	1.4
19009JIW	04/12/2019 17:33:45	17:36:44	0.014	0.029	15	1.5
19009JIX	04/12/2019 17:50:04	17:53:03	0.007	0.016	14	1.9
19009JIX	04/12/2019 17:53:22	17:56:23	0.013	0.034	7	2.5
19009JIX	04/12/2019 17:56:46	17:59:45	0.006	0.012	11	2.5
19009JIY	04/12/2019 18:08:07	18:11:06	0.005	0.011	14	2.2
19009JIY	04/12/2019 18:11:22	18:14:22	0.006	0.013	8	2.3
19009JIY	04/12/2019 18:14:52	18:17:51	0.010	0.025	13	2.2
19009JIY	04/12/2019 18:20:07	18:23:06	0.010	0.024	15	1.8
19009JIZ	04/12/2019 18:58:03	19:01:02	0.012	0.026	12	1.7
19009JIZ	04/12/2019 19:01:17	19:04:18	0.012	0.024	9	2.5
19009JIZ	04/12/2019 19:04:52	19:06:58	0.011	0.022	15	1.7
19009JIZ	04/12/2019 19:08:23	19:11:22	0.007	0.014	16	1.6

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JIZ	04/12/2019 19:12:03	19:15:02	0.011	0.021	16	1.6
19009JJA	04/12/2019 19:24:22	19:27:21	0.006	0.010	16	1.6
19009JJA	04/12/2019 19:27:37	19:30:36	0.009	0.016	15	1.6
19009JJB	04/12/2019 19:45:06	19:48:05	0.010	0.017	15	1.5
19009JJB	04/12/2019 19:48:32	19:51:31	0.020	0.031	15	1.5
19009JJC	04/12/2019 20:10:45	20:13:44	0.006	0.011	14	1.4
19009JJC	04/12/2019 20:14:06	20:15:22	0.007	0.013	12	2.0
19009JJC	04/12/2019 20:15:46	20:16:58	0.007	0.012	16	1.3
19009JJC	04/12/2019 20:17:52	20:20:51	0.005	0.010	15	1.5
19009JJD	04/12/2019 20:28:25	20:31:24	0.007	0.014	15	1.5
19009JJD	04/12/2019 20:32:18	20:35:17	0.006	0.012	14	1.6
19009JJE	04/12/2019 20:41:56	20:44:55	0.005	0.010	14	1.7
19009JJE	04/12/2019 20:45:20	20:48:19	0.007	0.013	15	1.5
19009JJF	04/12/2019 20:55:04	20:58:03	0.005	0.010	14	1.7
19009JJF	04/12/2019 20:58:21	21:01:20	0.007	0.013	9	2.1
19009JJG	04/12/2019 21:14:25	21:17:24	0.006	0.011	12	2.0
19009JJG	04/12/2019 21:17:43	21:20:42	0.010	0.020	10	3.2
19009JJH	04/12/2019 21:35:23	21:38:22	0.007	0.013	13	1.8
19009JJH	04/12/2019 21:38:39	21:41:39	0.006	0.011	7	3.0
19009JJI	04/12/2019 21:52:30	21:55:29	0.007	0.014	11	1.9
19009JJI	04/12/2019 21:55:52	21:58:51	0.007	0.012	11	2.3
19009JJJ	04/12/2019 22:21:49	22:24:48	0.007	0.014	13	1.3
19009JJJ	04/12/2019 22:25:07	22:28:07	0.006	0.013	8	1.7
19009JJJ	04/12/2019 22:28:29	22:31:28	0.008	0.018	13	1.3
19009JJK	04/12/2019 22:44:07	22:47:06	0.006	0.012	11	1.5
19009JJK	04/12/2019 22:47:28	22:50:27	0.008	0.017	11	1.6
19009JJL	04/12/2019 23:04:54	23:07:53	0.010	0.020	9	1.9
19009JJL	04/12/2019 23:08:12	23:11:13	0.015	0.036	7	3.5
19009JJL	04/12/2019 23:11:37	23:12:17	0.012	0.034	10	2.0
19009JJL	04/12/2019 23:13:30	23:15:42	0.014	0.035	11	1.7
19009JJM	04/12/2019 23:17:35	23:20:44	0.011	0.025	10	2.0
19009JJM	04/12/2019 23:21:02	23:24:01	0.009	0.019	9	2.9
19009JJN	04/12/2019 23:32:03	23:35:02	0.013	0.026	10	2.7
19009JJN	04/12/2019 23:35:29	23:38:28	0.018	0.034	10	2.7
19009JJN	04/12/2019 23:38:55	23:41:54	0.009	0.018	11	1.9
19009JJO	04/13/2019 13:27:49	13:30:48	0.004	0.007	13	1.7
19009JJO	04/13/2019 13:33:06	13:36:05	0.006	0.012	12	1.8
19009JJP	04/13/2019 13:58:47	14:01:46	0.003	0.005	12	1.6
19009JJP	04/13/2019 14:02:06	14:05:05	0.005	0.008	7	2.6
19009JJQ	04/13/2019 14:19:49	14:22:48	0.005	0.009	11	1.8
19009JJQ	04/13/2019 14:23:05	14:26:04	0.006	0.010	6	2.4
19009JJR	04/13/2019 14:30:34	14:33:33	0.009	0.016	9	2.3
19009JJR	04/13/2019 14:34:42	14:36:15	0.015	0.030	8	2.3
19009JJR	04/13/2019 14:37:08	14:39:19	0.007	0.013	9	2.3
19009JJS	04/13/2019 14:48:43	14:51:42	0.008	0.012	12	1.5
19009JJS	04/13/2019 14:53:05	14:56:04	0.005	0.007	13	1.4
19009JJU	04/13/2019 15:37:40	15:40:39	0.003	0.005	13	1.9
19009JJU	04/13/2019 15:40:59	15:43:58	0.002	0.004	13	1.9
19009JJV	04/13/2019 15:56:36	15:59:35	0.003	0.005	13	1.9
19009JJV	04/13/2019 15:59:59	16:02:58	0.003	0.005	13	1.8
19009JJW	04/13/2019 16:11:31	16:14:30	0.007	0.011	13	1.7
19009JJW	04/13/2019 16:15:21	16:18:20	0.006	0.011	12	1.9
19009JJX	04/13/2019 16:25:29	16:28:28	0.007	0.012	14	1.4
19009JJX	04/13/2019 16:29:16	16:32:15	0.013	0.023	14	1.4
19009JJY	04/13/2019 16:44:53	16:47:52	0.009	0.014	14	1.9
19009JJY	04/13/2019 16:49:14	16:52:13	0.010	0.025	14	2.0
19009JJZ	04/13/2019 17:12:27	17:15:26	0.009	0.017	15	1.6
19009JJZ	04/13/2019 17:15:44	17:18:43	0.013	0.021	12	1.9
19009JKA	04/13/2019 17:24:39	17:27:38	0.005	0.008	16	1.3
19009JKA	04/13/2019 17:27:56	17:30:55	0.009	0.015	13	1.8
19009JKB	04/13/2019 17:47:35	17:50:34	0.005	0.010	15	1.7
19009JKB	04/13/2019 17:50:57	17:53:56	0.007	0.013	14	2.0
19009JKC	04/13/2019 17:59:19	18:02:18	0.006	0.012	14	2.1
19009JKC	04/13/2019 18:02:43	18:05:42	0.008	0.016	13	2.3

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JKD	04/13/2019 18:12:47	18:15:46	0.004	0.009	15	1.8
19009JKD	04/13/2019 18:17:01	18:20:00	0.003	0.006	15	1.8
19009JKE	04/13/2019 18:28:13	18:31:12	0.005	0.012	14	1.9
19009JKE	04/13/2019 18:31:53	18:34:52	0.005	0.011	16	1.6
19009JKF	04/13/2019 18:52:35	18:55:34	0.003	0.006	16	1.5
19009JKF	04/13/2019 18:55:56	18:58:55	0.004	0.008	14	1.9
19009JKG	04/13/2019 19:16:40	19:19:39	0.007	0.013	9	2.4
19009JKG	04/13/2019 19:20:02	19:23:01	0.003	0.006	13	1.7
19009JKH	04/13/2019 19:34:08	19:37:07	0.009	0.015	10	1.7
19009JKH	04/13/2019 19:37:27	19:40:26	0.009	0.014	12	1.7
19009JKI	04/13/2019 19:53:15	19:56:14	0.013	0.020	15	1.4
19009JKI	04/13/2019 19:56:45	19:59:44	0.008	0.013	12	1.8
19009JKJ	04/13/2019 20:14:12	20:17:11	0.010	0.016	12	2.0
19009JKJ	04/13/2019 20:17:57	20:20:56	0.009	0.016	13	1.6
19009JJK	04/13/2019 20:32:18	20:35:17	0.006	0.011	13	1.7
19009JJK	04/13/2019 20:35:36	20:38:35	0.005	0.009	7	3.0
19009JKL	04/13/2019 20:59:09	21:02:08	0.008	0.014	13	1.7
19009JKL	04/13/2019 21:02:31	21:05:30	0.006	0.011	12	1.8
19009JKM	04/13/2019 21:19:52	21:22:51	0.005	0.008	13	1.5
19009JKM	04/13/2019 21:23:13	21:26:12	0.005	0.008	13	1.5
19009JKN	04/13/2019 21:34:45	21:37:44	0.008	0.014	13	1.5
19009JKN	04/13/2019 21:38:03	21:41:02	0.005	0.009	8	2.5
19009JKO	04/13/2019 21:48:53	21:51:52	0.006	0.011	12	1.6
19009JKO	04/13/2019 21:52:13	21:55:12	0.004	0.008	9	3.2
19009JKP	04/13/2019 22:07:07	22:10:06	0.008	0.015	12	1.6
19009JKP	04/13/2019 22:10:24	22:13:23	0.005	0.010	12	1.5
19009JKQ	04/13/2019 22:27:51	22:30:50	0.006	0.010	14	1.3
19009JKQ	04/13/2019 22:31:07	22:34:09	0.006	0.011	7	1.8
19009JKR	04/13/2019 22:35:07	22:38:06	0.008	0.014	12	1.5
19009JKR	04/13/2019 23:02:23	23:05:23	0.009	0.015	12	1.6
19009JKR	04/13/2019 23:06:23	23:09:22	0.006	0.010	11	1.8
19009JKS	04/13/2019 23:14:29	23:17:28	0.005	0.009	11	1.8
19009JKS	04/13/2019 23:17:49	23:20:48	0.006	0.010	11	1.9
19009JKT	04/13/2019 23:34:46	23:37:45	0.008	0.014	10	2.2
19009JKT	04/13/2019 23:39:46	23:42:45	0.008	0.013	10	2.2
19009JKU	04/13/2019 23:46:16	23:49:15	0.005	0.009	12	1.6
19009JKU	04/13/2019 23:49:32	23:52:31	0.007	0.012	7	2.3
19009JKV	04/14/2019 12:48:46	12:51:45	0.004	0.008	13	1.8
19009JKV	04/14/2019 12:52:06	12:55:05	0.008	0.014	12	1.9
19009JKW	04/14/2019 13:03:04	13:06:03	0.004	0.008	14	1.4
19009JKW	04/14/2019 13:06:23	13:09:22	0.005	0.009	8	2.6
19009JKX	04/14/2019 13:24:42	13:27:41	0.007	0.012	13	1.6
19009JKX	04/14/2019 13:28:18	13:31:17	0.009	0.015	13	1.6
19009JKY	04/14/2019 13:43:56	13:46:55	0.012	0.020	13	1.6
19009JKY	04/14/2019 13:47:11	13:50:10	0.011	0.019	7	2.5
19009JKZ	04/14/2019 14:11:43	14:14:42	0.003	0.006	12	1.7
19009JKZ	04/14/2019 14:17:41	14:20:40	0.005	0.008	12	1.7
19009JLA	04/14/2019 14:36:11	14:39:10	0.004	0.007	13	1.5
19009JLA	04/14/2019 14:39:38	14:42:37	0.005	0.008	14	1.4
19009JLB	04/14/2019 14:58:50	15:01:49	0.008	0.013	14	1.4
19009JLB	04/14/2019 15:02:13	15:05:12	0.005	0.009	13	1.6
19009JLC	04/14/2019 15:33:05	15:36:04	0.004	0.006	14	1.8
19009JLC	04/14/2019 15:36:23	15:39:22	0.007	0.011	9	2.2
19009JLD	04/14/2019 15:59:06	16:02:05	0.007	0.011	14	1.6
19009JLD	04/14/2019 16:02:31	16:05:30	0.010	0.016	8	2.1
19009JLE	04/14/2019 16:19:15	16:22:14	0.004	0.007	13	1.6
19009JLE	04/14/2019 16:22:31	16:25:30	0.006	0.009	12	1.7
19009JLF	04/14/2019 17:07:17	17:10:16	0.006	0.010	12	1.7
19009JLF	04/14/2019 17:11:43	17:14:42	0.006	0.011	15	1.4
19009JLF	04/14/2019 17:15:05	17:18:04	0.007	0.013	12	1.8
19009JLG	04/14/2019 17:27:44	17:30:43	0.007	0.013	15	1.4
19009JLG	04/14/2019 17:31:06	17:34:06	0.005	0.009	11	2.5
19009JLH	04/14/2019 17:55:00	17:57:59	0.009	0.019	13	2.1
19009JLH	04/14/2019 17:58:22	18:01:21	0.009	0.018	13	1.8

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JLI	04/14/2019 18:12:50	18:15:49	0.011	0.023	14	1.8
19009JLI	04/14/2019 18:16:20	18:19:19	0.009	0.020	13	1.9
19009JLJ	04/14/2019 18:34:02	18:37:01	0.013	0.027	13	1.5
19009JLJ	04/14/2019 18:37:19	18:40:19	0.013	0.027	12	1.7
19009JLK	04/14/2019 18:57:32	19:00:31	0.008	0.016	16	1.5
19009JLK	04/14/2019 19:00:50	19:03:49	0.010	0.018	15	1.6
19009JLL	04/14/2019 19:15:27	19:18:26	0.006	0.010	15	1.6
19009JLL	04/14/2019 19:18:57	19:21:56	0.005	0.009	16	1.5
19009JLM	04/14/2019 19:31:40	19:34:39	0.007	0.011	16	1.4
19009JLM	04/14/2019 19:35:10	19:38:09	0.008	0.012	15	1.4
19009JLP	04/14/2019 20:48:37	20:51:36	0.005	0.017	13	1.7
19009JLP	04/14/2019 20:51:58	20:54:57	0.009	0.016	12	1.9
19009JLQ	04/14/2019 21:01:37	21:04:36	0.010	0.017	13	1.6
19009JLQ	04/14/2019 21:04:58	21:07:57	0.007	0.012	14	1.3
19009JLR	04/14/2019 21:31:04	21:34:03	0.008	0.013	13	1.5
19009JLR	04/14/2019 21:34:27	21:37:26	0.005	0.009	12	1.5
19009JLS	04/14/2019 21:41:57	21:44:56	0.005	0.009	12	1.6
19009JLS	04/14/2019 21:45:23	21:48:22	0.010	0.017	13	1.4
19009JLT	04/14/2019 22:04:21	22:07:20	0.008	0.030	12	1.5
19009JLT	04/14/2019 22:07:40	22:10:39	0.011	0.019	13	1.5
19009JLU	04/14/2019 22:14:23	22:17:22	0.015	0.027	15	1.3
19009JLU	04/14/2019 22:17:42	22:20:41	0.014	0.025	14	1.3
19009JLV	04/14/2019 22:28:25	22:31:24	0.009	0.017	12	1.8
19009JLV	04/14/2019 22:31:50	22:34:49	0.019	0.019	13	1.7
19009JLW	04/14/2019 22:46:43	22:49:42	0.012	0.023	14	1.3
19009JLW	04/14/2019 22:50:10	22:53:09	0.006	0.013	14	1.3
19009JLX	04/14/2019 23:05:21	23:08:20	0.006	0.014	13	1.6
19009JLX	04/14/2019 23:08:45	23:11:47	0.014	0.031	13	1.6
19009JLX	04/14/2019 23:12:15	23:14:29	0.012	0.023	12	1.8
19009JLY	04/14/2019 23:36:53	23:39:52	0.005	0.008	13	1.5
19009JLY	04/14/2019 23:40:12	23:43:11	0.006	0.009	12	1.7
19009JLZ	04/15/2019 00:01:22	00:04:21	0.012	0.017	13	1.6
19009JLZ	04/15/2019 00:04:36	00:07:35	0.009	0.012	10	1.9
19009JMA	04/15/2019 12:34:34	12:37:33	0.004	0.008	16	1.5
19009JMA	04/15/2019 12:37:50	12:40:49	0.004	0.008	15	1.9
19009JMB	04/15/2019 12:53:44	12:56:43	0.007	0.013	15	1.6
19009JMB	04/15/2019 12:57:00	12:59:59	0.004	0.009	8	2.7
19009JMC	04/15/2019 13:15:15	13:18:14	0.004	0.007	15	1.5
19009JMC	04/15/2019 13:18:32	13:21:31	0.006	0.011	14	1.5
19009JMD	04/15/2019 13:49:00	13:51:59	0.012	0.020	13	1.9
19009JMD	04/15/2019 13:52:18	13:55:19	0.006	0.011	7	2.5
19009JME	04/15/2019 14:13:28	14:16:27	0.008	0.015	12	1.9
19009JME	04/15/2019 14:16:50	14:19:49	0.009	0.015	12	1.9
19009JMF	04/15/2019 14:27:33	14:30:32	0.007	0.012	11	2.5
19009JMF	04/15/2019 14:30:50	14:31:56	0.008	0.014	6	3.2
19009JMF	04/15/2019 14:34:41	14:37:40	0.008	0.014	12	2.0
19009JMG	04/15/2019 14:44:51	14:47:50	0.006	0.010	13	1.5
19009JMG	04/15/2019 14:48:17	14:51:16	0.006	0.010	13	1.5
19009JMH	04/15/2019 15:32:31	15:35:30	0.009	0.015	13	1.8
19009JMH	04/15/2019 15:36:04	15:39:03	0.012	0.020	13	1.8
19009JMI	04/15/2019 15:52:17	15:55:16	0.010	0.016	12	1.7
19009JMI	04/15/2019 15:55:36	15:58:35	0.006	0.011	12	1.8
19009JMJ	04/15/2019 16:11:15	16:14:14	0.014	0.028	12	1.7
19009JMJ	04/15/2019 16:14:32	16:15:17	0.011	0.020	12	1.7
19009JMJ	04/15/2019 16:15:49	16:18:48	0.010	0.022	13	1.6
19009JMK	04/15/2019 16:26:44	16:29:43	0.010	0.019	13	1.6
19009JMK	04/15/2019 16:30:36	16:33:35	0.009	0.017	13	2.0
19009JML	04/15/2019 16:47:57	16:50:56	0.011	0.021	13	1.7
19009JML	04/15/2019 16:51:22	16:54:21	0.007	0.014	12	2.5
19009JMM	04/15/2019 17:13:18	17:16:30	0.011	0.020	14	1.6
19009JMM	04/15/2019 17:17:18	17:20:17	0.007	0.013	12	2.8
19009JMN	04/15/2019 17:44:39	17:47:38	0.012	0.023	14	1.7
19009JMN	04/15/2019 17:48:02	17:51:01	0.011	0.022	13	2.0
19009JMN	04/15/2019 17:51:47	17:54:46	0.010	0.020	13	2.1



GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JMO	04/15/2019 18:11:17	18:14:16	0.006	0.012	14	1.8
19009JMO	04/15/2019 18:14:36	18:17:35	0.008	0.018	11	2.1
19009JMP	04/15/2019 18:21:43	18:24:42	0.010	0.020	14	1.8
19009JMP	04/15/2019 18:25:00	18:27:59	0.006	0.012	12	2.0
19009JMQ	04/15/2019 18:33:42	18:36:41	0.006	0.013	12	1.9
19009JMQ	04/15/2019 18:37:06	18:40:05	0.005	0.011	14	1.5
19009JMR	04/15/2019 18:49:42	18:52:44	0.010	0.020	15	1.6
19009JMR	04/15/2019 18:53:01	18:56:00	0.008	0.015	9	2.5
19009JMS	04/15/2019 19:06:20	19:09:19	0.006	0.010	14	1.8
19009JMS	04/15/2019 19:10:02	19:13:01	0.005	0.009	15	1.5
19009JMT	04/15/2019 19:30:04	19:33:03	0.004	0.007	10	1.7
19009JMT	04/15/2019 19:35:49	19:38:48	0.008	0.014	14	1.5
19009JMU	04/15/2019 19:50:09	19:53:08	0.007	0.012	13	2.0
19009JMU	04/15/2019 19:53:28	19:56:27	0.011	0.019	14	1.6
19009JMV	04/15/2019 20:07:57	20:10:56	0.010	0.017	14	1.7
19009JMV	04/15/2019 20:11:13	20:14:12	0.008	0.014	9	2.1
19009JMW	04/15/2019 20:24:10	20:27:09	0.004	0.007	14	1.8
19009JMW	04/15/2019 20:27:52	20:30:51	0.005	0.009	14	1.8
19009JMX	04/15/2019 20:38:58	20:41:57	0.004	0.008	13	2.0
19009JMX	04/15/2019 20:42:17	20:45:16	0.004	0.007	14	1.8
19009JMY	04/15/2019 20:55:12	20:58:11	0.006	0.011	15	1.5
19009JMY	04/15/2019 20:58:26	21:01:25	0.005	0.009	13	1.7
19009JMZ	04/15/2019 21:07:24	21:10:23	0.010	0.018	16	1.3
19009JMZ	04/15/2019 21:10:43	21:13:42	0.005	0.009	8	2.1
19009JNA	04/15/2019 21:18:17	21:21:16	0.006	0.011	14	1.5
19009JNA	04/15/2019 21:21:32	21:24:32	0.013	0.024	13	1.5
19009JNB	04/15/2019 21:46:57	21:49:56	0.006	0.012	7	2.2
19009JNB	04/15/2019 21:50:14	21:53:13	0.009	0.017	10	1.9
19009JNC	04/15/2019 21:57:17	22:00:16	0.008	0.015	13	1.5
19009JNC	04/15/2019 22:00:32	22:03:31	0.009	0.017	9	2.4
19009JNC	04/15/2019 22:04:02	22:07:01	0.007	0.014	11	1.9
19009JND	04/15/2019 22:14:55	22:17:54	0.008	0.014	14	1.4
19009JND	04/15/2019 22:18:17	22:21:16	0.006	0.011	13	1.4
19009JNE	04/15/2019 22:38:18	22:41:17	0.003	0.005	12	1.6
19009JNE	04/15/2019 22:41:37	22:44:36	0.005	0.008	12	1.5
19009JNF	04/15/2019 22:57:02	23:00:01	0.007	0.013	13	1.6
19009JNF	04/15/2019 23:00:20	23:02:06	0.005	0.009	12	1.6
19009JNF	04/15/2019 23:04:12	23:07:11	0.004	0.008	13	1.6
19009JNG	04/15/2019 23:17:09	23:20:08	0.005	0.010	10	2.4
19009JNG	04/15/2019 23:20:24	23:23:23	0.005	0.008	11	2.2
19009JNH	04/15/2019 23:27:14	23:30:13	0.005	0.009	12	1.7
19009JNH	04/15/2019 23:30:35	23:33:34	0.005	0.008	12	1.7
19009JNI	04/16/2019 19:26:18	19:29:17	0.010	0.017	15	1.5
19009JNI	04/16/2019 19:31:00	19:33:59	0.008	0.014	15	1.5
19009JNI	04/16/2019 19:35:03	19:38:02	0.017	0.018	16	1.4
19009JNJ	04/16/2019 19:54:18	19:57:25	0.008	0.015	15	1.4
19009JNJ	04/16/2019 19:57:47	20:00:46	0.005	0.009	13	1.6
19009JNK	04/16/2019 20:10:53	20:13:52	0.006	0.011	14	1.8
19009JNK	04/16/2019 20:14:07	20:17:06	0.007	0.013	12	1.9
19009JNL	04/16/2019 20:22:30	20:25:29	0.006	0.011	13	1.9
19009JNL	04/16/2019 20:26:20	20:29:19	0.005	0.010	13	1.9
19009JNM	04/16/2019 20:40:39	20:43:38	0.012	0.024	13	1.9
19009JNM	04/16/2019 20:43:57	20:46:58	0.018	0.030	11	2.3
19009JNN	04/16/2019 21:06:07	21:09:06	0.010	0.019	14	1.5
19009JNN	04/16/2019 21:09:22	21:12:24	0.008	0.014	10	2.9
19009JNO	04/16/2019 21:20:16	21:23:15	0.007	0.014	12	1.7
19009JNO	04/16/2019 21:23:33	21:26:32	0.009	0.012	11	1.9
19009JNP	04/16/2019 21:39:28	21:42:27	0.006	0.012	12	1.7
19009JNP	04/16/2019 21:42:46	21:45:45	0.008	0.015	11	2.1
19009JNQ	04/16/2019 21:58:23	22:01:22	0.019	0.024	12	1.6
19009JNQ	04/16/2019 22:01:42	22:04:42	0.007	0.018	10	2.3
19009JNR	04/16/2019 22:16:49	22:19:48	0.008	0.019	12	1.5
19009JNR	04/16/2019 22:20:05	22:23:04	0.006	0.015	7	1.8
19009JNR	04/16/2019 22:23:22	22:26:24	0.007	0.015	11	1.7

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009JNS	04/16/2019 22:34:32	22:37:31	0.009	0.017	12	1.5
19009JNS	04/16/2019 22:37:51	22:40:50	0.007	0.013	12	1.5
19009JNT	04/16/2019 22:52:52	22:55:51	0.007	0.013	13	1.5
19009JNT	04/16/2019 22:56:08	22:59:07	0.005	0.010	6	2.5
19009JNU	04/16/2019 23:07:36	23:10:35	0.005	0.010	11	2.0
19009JNU	04/16/2019 23:10:53	23:13:52	0.005	0.009	11	2.0
19009JNV	04/16/2019 23:27:30	23:30:29	0.009	0.018	11	2.0
19009JNV	04/16/2019 23:30:47	23:33:46	0.011	0.019	7	2.3
19009JNW	04/16/2019 23:55:29	23:58:28	0.018	0.032	13	1.6
19009JNW	04/16/2019 23:58:46	00:01:48	0.023	0.024	9	2.3
19009JNW	04/17/2019 00:02:06	00:05:05	0.007	0.012	7	2.2
19009JNX	04/17/2019 12:01:22	12:04:21	0.008	0.014	8	2.1
19009JNX	04/17/2019 12:04:38	12:07:37	0.009	0.015	13	1.9
19009JNY	04/17/2019 12:14:01	12:17:00	0.012	0.021	13	1.9
19009JNY	04/17/2019 12:17:28	12:20:27	0.020	0.026	14	1.8
19009JNZ	04/17/2019 12:29:09	12:32:08	0.013	0.027	15	1.6
19009JNZ	04/17/2019 12:32:27	12:35:26	0.012	0.026	14	2.1
19009JOA	04/17/2019 12:45:36	12:48:35	0.008	0.018	13	1.8
19009JOA	04/17/2019 12:48:51	12:51:50	0.008	0.017	12	1.9
19009JOB	04/17/2019 13:02:49	13:06:01	0.014	0.032	11	2.4
19009JOB	04/17/2019 13:06:48	13:09:47	0.005	0.011	13	1.6
19009JOB	04/17/2019 13:10:08	13:13:07	0.013	0.025	8	2.3
19009JOC	04/17/2019 13:26:30	13:29:29	0.007	0.013	12	1.8
19009JOC	04/17/2019 13:29:46	13:32:45	0.014	0.028	7	2.4
19009JOD	04/17/2019 13:49:57	13:52:56	0.009	0.018	13	1.5
19009JOD	04/17/2019 13:53:13	13:56:13	0.008	0.016	8	3.3
19009JOE	04/17/2019 14:04:39	14:07:38	0.008	0.022	10	1.9
19009JOE	04/17/2019 14:08:56	14:11:55	0.012	0.024	11	1.8
19009JOF	04/17/2019 14:17:05	14:20:04	0.010	0.018	11	1.8
19009JOF	04/17/2019 14:20:38	14:23:37	0.008	0.014	11	1.8
19009JOG	04/17/2019 14:32:01	14:35:00	0.011	0.019	11	1.8
19009JOG	04/17/2019 14:35:51	14:38:50	0.014	0.024	13	1.4
19009JOG	04/17/2019 14:39:27	14:42:26	0.005	0.009	14	1.3
19009JOH	04/17/2019 14:55:05	14:58:04	0.010	0.016	13	1.6
19009JOH	04/17/2019 15:00:55	15:03:54	0.007	0.011	13	1.7
19009JOI	04/17/2019 15:10:18	15:13:17	0.010	0.016	13	1.8
19009JOI	04/17/2019 15:13:36	15:16:36	0.013	0.022	13	1.8
19009JOJ	04/17/2019 15:24:29	15:27:28	0.012	0.020	14	1.8
19009JOJ	04/17/2019 15:27:47	15:30:46	0.010	0.016	9	2.2
19009JOK	04/17/2019 15:42:31	15:45:30	0.011	0.017	7	3.3
19009JOK	04/17/2019 15:45:46	15:48:45	0.011	0.017	11	2.0
19009JOL	04/17/2019 15:53:58	15:56:57	0.011	0.018	13	1.6
19009JOL	04/17/2019 15:57:11	16:00:10	0.010	0.016	8	2.0
19009TAL	04/22/2019 00:07:36	00:10:35	0.008	0.025	16	1.5
19009TAL	04/22/2019 00:11:11	00:14:10	0.009	0.017	15	1.6
19009TAM	04/22/2019 00:31:56	00:34:55	0.009	0.020	16	1.5
19009TAM	04/22/2019 00:35:22	00:38:22	0.021	0.034	15	1.7
19009TAN	04/22/2019 00:46:52	00:49:51	0.007	0.015	16	1.5
19009TAN	04/22/2019 00:50:39	00:53:38	0.007	0.016	17	1.4
19009TAO	04/22/2019 12:23:51	12:26:50	0.006	0.012	14	1.5
19009TAO	04/22/2019 12:27:30	12:30:30	0.010	0.020	13	1.5
19009TAP	04/22/2019 12:36:40	12:39:39	0.006	0.011	15	1.4
19009TAP	04/22/2019 12:40:19	12:43:18	0.011	0.021	13	1.5
19009TAQ	04/22/2019 12:53:42	12:56:41	0.006	0.010	13	1.6
19009TAQ	04/22/2019 12:57:28	13:00:27	0.011	0.019	12	1.7
19009TAR	04/22/2019 13:07:17	13:10:16	0.010	0.016	12	2.1
19009TAR	04/22/2019 13:11:01	13:14:00	0.016	0.029	12	2.1
19009TAS	04/22/2019 13:23:01	13:26:00	0.007	0.012	12	2.3
19009TAS	04/22/2019 13:27:38	13:30:37	0.006	0.011	12	2.3
19009TAT	04/22/2019 13:42:38	13:45:37	0.009	0.017	12	1.7
19009TAT	04/22/2019 13:46:41	13:49:40	0.006	0.011	12	1.7
19009TAU	04/22/2019 13:58:02	14:01:01	0.015	0.028	13	1.6
19009TAU	04/22/2019 14:01:30	14:04:29	0.017	0.036	13	1.5
19009TAV	04/22/2019 14:10:02	14:13:01	0.009	0.016	14	1.4

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009TAV	04/22/2019 14:14:19	14:17:18	0.007	0.011	15	1.3
19009TAW	04/22/2019 14:33:26	14:36:25	0.007	0.011	14	1.5
19009TAW	04/22/2019 14:36:55	14:39:54	0.010	0.017	14	1.5
19009TAX	04/22/2019 14:56:41	14:59:40	0.007	0.013	15	1.4
19009TAX	04/22/2019 15:01:10	15:04:09	0.006	0.011	14	1.8
19009TAX	04/22/2019 15:04:33	15:07:32	0.011	0.020	13	1.9
19009TAY	04/22/2019 15:15:56	15:18:55	0.012	0.021	13	1.8
19009TAY	04/22/2019 15:19:41	15:22:40	0.012	0.022	14	1.7
19009TAZ	04/22/2019 15:28:48	15:31:47	0.007	0.012	13	1.7
19009TAZ	04/22/2019 15:33:28	15:36:27	0.013	0.021	13	1.7
19009TBA	04/22/2019 15:48:07	15:51:06	0.013	0.022	13	1.6
19009TBA	04/22/2019 15:52:40	15:55:39	0.011	0.018	13	1.7
19009TBB	04/22/2019 16:04:13	16:07:12	0.008	0.015	11	2.2
19009TBB	04/22/2019 16:07:58	16:10:57	0.009	0.019	13	2.2
19009TBC	04/22/2019 16:21:59	16:24:58	0.010	0.022	13	1.7
19009TBC	04/22/2019 16:25:40	16:28:39	0.010	0.034	11	1.8
19009TBC	04/22/2019 16:29:16	16:32:15	0.008	0.017	12	2.0
19009TBC	04/22/2019 16:33:20	16:36:19	0.011	0.035	13	1.7
19009TBD	04/22/2019 16:45:16	16:48:15	0.009	0.015	14	1.4
19009TBD	04/22/2019 16:49:16	16:52:15	0.006	0.010	13	1.6
19009TBE	04/22/2019 16:59:40	17:02:39	0.005	0.010	15	1.4
19009TBE	04/22/2019 17:03:27	17:06:27	0.006	0.011	14	1.7
19009TBF	04/22/2019 17:15:56	17:18:56	0.008	0.016	13	2.0
19009TBF	04/22/2019 17:19:17	17:22:16	0.006	0.012	12	2.2
19009TBG	04/22/2019 17:32:05	17:35:04	0.007	0.014	14	1.8
19009TBG	04/22/2019 17:35:40	17:38:39	0.006	0.012	13	2.1
19009TBH	04/22/2019 17:49:29	17:52:29	0.009	0.020	14	1.7
19009TBH	04/22/2019 17:52:49	17:55:48	0.006	0.013	14	1.7
19009TBI	04/22/2019 18:02:14	18:05:13	0.005	0.010	15	1.5
19009TBI	04/22/2019 18:06:17	18:09:16	0.007	0.015	13	1.7
19009TBJ	04/22/2019 18:25:45	18:28:44	0.008	0.016	15	1.6
19009TBJ	04/22/2019 18:29:32	18:32:31	0.010	0.019	15	1.6
19009TBK	04/22/2019 18:38:20	18:41:19	0.005	0.009	16	1.5
19009TBK	04/22/2019 18:41:45	18:44:44	0.006	0.010	16	1.5
19009TBK	04/22/2019 18:45:07	18:48:06	0.008	0.015	14	1.6
19009TBL	04/22/2019 18:54:12	18:57:11	0.007	0.011	16	1.4
19009TBL	04/22/2019 19:02:47	19:05:46	0.006	0.009	15	1.4
19009TBM	04/22/2019 19:42:29	19:45:28	0.006	0.011	14	1.5
19009TBM	04/22/2019 19:46:32	19:49:31	0.008	0.014	13	1.6
19009TBN	04/22/2019 19:59:44	20:02:44	0.006	0.011	13	1.8
19009TBN	04/22/2019 20:04:16	20:07:15	0.008	0.014	12	2.0
19009TBO	04/22/2019 20:16:34	20:19:33	0.006	0.010	13	1.7
19009TBO	04/22/2019 20:21:10	20:24:09	0.006	0.012	13	1.7
19009TBO	04/22/2019 20:25:18	20:28:17	0.007	0.012	13	1.7
19009TBP	04/22/2019 20:37:26	20:40:25	0.008	0.014	13	1.5
19009TBP	04/22/2019 20:41:38	20:44:37	0.006	0.010	13	1.5
19009TBP	04/22/2019 20:45:06	20:48:05	0.006	0.010	13	1.5
19009TBQ	04/22/2019 21:01:51	21:04:50	0.006	0.011	12	1.7
19009TBQ	04/22/2019 21:06:21	21:09:20	0.008	0.015	12	1.7
19009TBR	04/22/2019 21:31:46	21:34:45	0.010	0.030	11	2.4
19009TBR	04/22/2019 21:35:46	21:38:45	0.008	0.016	11	2.3
19009TBS	04/22/2019 21:52:30	21:55:29	0.006	0.011	13	1.5
19009TBS	04/22/2019 21:56:22	21:59:21	0.006	0.011	13	1.5
19009TBT	04/22/2019 22:13:39	22:16:38	0.005	0.011	12	1.7
19009TBT	04/22/2019 22:17:18	22:20:17	0.006	0.011	12	1.6
19009TBU	04/23/2019 12:52:09	12:55:08	0.005	0.009	14	1.7
19009TBU	04/23/2019 12:56:26	12:59:26	0.008	0.015	15	1.4
19009TBV	04/23/2019 13:05:07	13:08:06	0.010	0.017	14	1.7
19009TBV	04/23/2019 13:09:23	13:12:22	0.007	0.014	13	1.9
19009TBW	04/23/2019 13:28:12	13:31:11	0.016	0.029	13	1.9
19009TBW	04/23/2019 13:31:45	13:34:44	0.016	0.033	12	2.3
19009TBW	04/23/2019 13:37:06	13:40:10	0.016	0.032	11	3.1
19009TBX	04/23/2019 14:01:27	14:04:26	0.009	0.016	11	2.3
19009TBX	04/23/2019 14:06:03	14:09:02	0.006	0.010	11	1.9

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009TBY	04/23/2019 14:23:26	14:26:25	0.009	0.014	14	1.3
19009TBY	04/23/2019 14:27:51	14:30:50	0.008	0.013	13	1.4
19009TBY	04/23/2019 14:31:17	14:34:16	0.006	0.009	12	1.7
19009TBZ	04/23/2019 14:56:06	14:59:05	0.008	0.012	12	1.8
19009TBZ	04/23/2019 15:00:18	15:03:17	0.007	0.011	12	1.8
19009TCA	04/23/2019 15:15:01	15:18:00	0.006	0.009	13	1.7
19009TCA	04/23/2019 15:18:30	15:21:29	0.008	0.012	13	1.6
19009TCB	04/23/2019 15:27:13	15:30:12	0.004	0.007	12	1.8
19009TCB	04/23/2019 15:30:45	15:33:44	0.006	0.011	11	1.9
19009TCC	04/23/2019 15:50:29	15:53:28	0.008	0.014	12	2.0
19009TCC	04/23/2019 15:54:45	15:57:44	0.012	0.022	12	2.0
19009TCD	04/23/2019 16:07:03	16:10:02	0.007	0.014	13	2.2
19009TCD	04/23/2019 16:10:19	16:13:18	0.006	0.012	7	2.4
19009TCG	04/23/2019 17:25:50	17:28:49	0.014	0.028	13	2.2
19009TCG	04/23/2019 17:29:18	17:32:17	0.014	0.032	14	1.8
19009TCH	04/23/2019 17:39:50	17:42:49	0.007	0.014	14	1.8
19009TCH	04/23/2019 17:43:46	17:46:45	0.007	0.015	13	2.0
19009TCI	04/23/2019 18:15:09	18:18:08	0.008	0.016	15	1.5
19009TCI	04/23/2019 18:18:27	18:21:27	0.010	0.019	15	1.6
19009TCK	04/23/2019 19:23:53	19:26:53	0.008	0.025	14	1.6
19009TCK	04/23/2019 19:27:17	19:30:16	0.010	0.017	14	1.7
19009TCK	04/23/2019 19:30:40	19:33:39	0.005	0.009	14	1.7
19009TCL	04/23/2019 19:37:29	19:40:28	0.008	0.014	13	2.1
19009TCL	04/23/2019 19:42:40	19:45:39	0.008	0.015	14	1.8
19009TCM	04/23/2019 19:52:10	19:55:09	0.006	0.011	14	1.8
19009TCM	04/23/2019 19:55:58	19:58:57	0.006	0.010	14	1.8
19009TCN	04/23/2019 20:20:24	20:23:23	0.005	0.010	13	1.9
19009TCN	04/23/2019 20:24:56	20:27:55	0.006	0.010	14	1.5
19009TDA	04/24/2019 13:08:04	13:13:20	0.006	0.025	12	1.9
19009TDA	04/24/2019 13:13:49	13:14:31	0.015	0.026	8	2.5
19009TDA	04/24/2019 13:14:56	13:18:09	0.008	0.015	11	2.0
19009TDB	04/24/2019 13:22:59	13:24:04	0.009	0.017	13	1.5
19009TDB	04/24/2019 13:24:33	13:25:41	0.007	0.013	11	1.6
19009TDF	04/24/2019 15:10:38	15:12:49	0.006	0.020	12	1.9
19009TDF	04/24/2019 15:13:43	15:14:23	0.007	0.010	12	1.9
19009TEK	04/25/2019 15:47:43	15:48:00	0.017	0.028	15	1.3
19009TEK	04/25/2019 15:48:51	15:50:17	0.010	0.018	13	1.7
19009TEL	04/25/2019 16:14:56	16:15:34	0.015	0.028	15	1.6
19009TEL	04/25/2019 16:16:03	16:16:32	0.014	0.026	13	1.7
19009TEL	04/25/2019 16:17:12	16:17:44	0.014	0.026	15	1.6
19009TEL	04/25/2019 16:19:27	16:22:26	0.008	0.015	15	1.6
19009TEL	04/25/2019 16:23:21	16:26:20	0.007	0.013	15	1.6
19009TEM	04/25/2019 16:43:19	16:46:18	0.006	0.011	7	3.8
19009TEM	04/25/2019 16:47:13	16:50:12	0.005	0.010	16	1.5
19009TEN	04/25/2019 17:14:30	17:15:05	0.014	0.029	16	1.5
19009TEN	04/25/2019 17:15:45	17:16:11	0.015	0.032	15	1.6
19009TEN	04/25/2019 17:16:47	17:19:43	0.010	0.020	14	2.2
19009TEO	04/25/2019 17:30:49	17:31:17	0.008	0.018	15	1.8
19009TEO	04/25/2019 17:32:31	17:33:34	0.007	0.015	13	2.8
19009TEX	04/25/2019 22:12:26	22:15:25	0.011	0.026	12	1.7
19009TEX	04/25/2019 22:15:48	22:18:47	0.008	0.016	10	2.2
19009TEX	04/25/2019 22:19:59	22:22:58	0.008	0.015	11	2.2
19009TFB	04/26/2019 00:20:40	00:23:39	0.006	0.024	15	1.5
19009TFB	04/26/2019 00:24:04	00:27:03	0.006	0.011	15	1.5
19009TFC	04/26/2019 00:40:20	00:43:19	0.006	0.011	15	1.5
19009TFC	04/26/2019 00:43:43	00:46:42	0.005	0.010	15	1.5
19009TFD	04/26/2019 11:58:17	12:01:16	0.003	0.007	13	2.4
19009TFD	04/26/2019 12:01:34	12:04:33	0.002	0.004	11	2.6
19009TFE	04/26/2019 12:15:53	12:18:52	0.004	0.007	13	2.3
19009TFE	04/26/2019 12:19:41	12:22:40	0.003	0.005	14	1.5
19009TFF	04/26/2019 12:31:28	12:34:27	0.005	0.009	14	1.5
19009TFF	04/26/2019 12:34:59	12:37:58	0.004	0.007	14	1.5
19009TFG	04/26/2019 12:44:15	12:47:14	0.004	0.007	14	1.5
19009TFG	04/26/2019 12:48:34	12:51:33	0.004	0.007	13	1.8

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP
19009TFH	04/26/2019 13:07:41	13:10:40	0.005	0.009	13	1.8
19009TFH	04/26/2019 13:11:07	13:14:06	0.005	0.008	13	1.6
19009TFI	04/26/2019 13:16:41	13:19:41	0.007	0.013	13	1.6
19009TFI	04/26/2019 13:20:46	13:23:45	0.008	0.014	13	1.6
19009TFJ	04/26/2019 13:37:30	13:40:29	0.014	0.027	12	1.8
19009TFJ	04/26/2019 13:40:57	13:43:56	0.006	0.011	11	1.9
19009TFK	04/26/2019 14:00:32	14:00:55	0.008	0.012	15	1.3
19009TFK	04/26/2019 14:01:26	14:01:46	0.008	0.013	14	1.3
19009TFL	04/26/2019 14:28:38	14:31:37	0.010	0.031	14	1.6
19009TFL	04/26/2019 14:31:55	14:34:54	0.011	0.018	8	2.2
19009TFQ	04/26/2019 16:22:24	16:25:23	0.006	0.026	14	1.7
19009TFQ	04/26/2019 16:25:46	16:28:45	0.006	0.010	14	1.4
19009TFT	04/26/2019 17:33:00	17:35:59	0.008	0.030	14	1.8
19009TFT	04/26/2019 17:36:22	17:39:21	0.007	0.014	14	1.7
19009TFU	04/26/2019 17:43:52	17:47:14	0.007	0.015	15	1.6
19009TFU	04/26/2019 17:48:00	17:50:59	0.006	0.013	15	1.5
19009TFU	04/26/2019 17:51:21	17:54:20	0.009	0.021	13	1.7
19009TFV	04/26/2019 18:06:54	18:09:53	0.013	0.026	14	1.6
19009TFV	04/26/2019 18:10:15	18:13:14	0.008	0.016	14	1.8
19009TFW	04/26/2019 18:34:51	18:37:50	0.005	0.009	14	1.6
19009TFW	04/26/2019 18:39:20	18:42:19	0.007	0.011	15	1.5
19009TFX	04/26/2019 19:39:13	19:42:12	0.005	0.008	14	1.8
19009TFX	04/26/2019 19:42:43	19:45:42	0.004	0.008	14	1.8
19009TFY	04/26/2019 20:09:06	20:12:05	0.004	0.007	14	1.7
19009TFY	04/26/2019 20:12:39	20:15:38	0.007	0.013	15	1.5

Table 3 is a summary of the RTX observations.

Table 3 - RTX Summary

GPSID	Horz Prec	Vert Prec	# of SV's	UTC Start	# of Positions	PDOP
19009JDK	0.006	0.034	21	03/12/2019 20:23	604	1.6
19009JFP	0.007	0.044	19	03/14/2019 20:02	300	2.1
19009JFP	0.007	0.043	20	03/14/2019 20:08	300	1.9
19009JFS	0.007	0.032	25	03/14/2019 21:09	300	1.8
19009JFS	0.008	0.035	26	03/14/2019 21:17	300	1.1
19009JFT	0.008	0.031	25	03/14/2019 21:29	300	1.1
19009JFT	0.008	0.031	25	03/14/2019 21:34	300	1.1
19009JFU	0.007	0.027	25	03/14/2019 21:54	300	1.1
19009JFU	0.005	0.018	15	03/14/2019 22:00	907	1.4
19009JIY	0.007	0.036	26	04/12/2019 18:24	211	1.2
19009JLN	0.008	0.041	22	04/14/2019 20:00	202	1.1
19009JLN	0.009	0.035	22	04/14/2019 20:03	188	1.1
19009JLO	0.008	0.039	18	04/14/2019 20:26	180	1.4
19009JLO	0.009	0.040	18	04/14/2019 20:29	180	1.7
19009JLX	0.008	0.032	18	04/14/2019 23:17	180	1.7
19009TAA	0.008	0.026	24	04/21/2019 18:53	300	1.3
19009TAA	0.008	0.031	24	04/21/2019 18:59	300	1.1
19009TAB	0.008	0.028	22	04/21/2019 19:24	300	1.1
19009TAB	0.008	0.028	21	04/21/2019 19:31	300	1.1
19009TAC	0.008	0.038	18	04/21/2019 19:54	300	1.4
19009TAC	0.007	0.032	18	04/21/2019 20:00	300	1.4
19009TAD	0.007	0.033	18	04/21/2019 20:17	300	1.3
19009TAD	0.008	0.035	20	04/21/2019 20:22	300	1.3
19009TAE	0.008	0.030	20	04/21/2019 20:45	300	1.1
19009TAE	0.008	0.033	19	04/21/2019 20:51	300	1.2
19009TAF	0.008	0.031	18	04/21/2019 21:09	300	1.3
19009TAF	0.008	0.035	16	04/21/2019 21:14	300	1.5

GPSID	Horz Prec	Vert Prec	# of SV' s	UTC Start	# of Positions	PDOP
19009TAF	0.009	0.039	15	04/21/2019 21:20	300	1.7
19009TAG	0.010	0.043	19	04/21/2019 21:37	300	1.3
19009TAG	0.009	0.040	19	04/21/2019 21:43	300	1.1
19009TAH	0.008	0.036	17	04/21/2019 22:01	300	1.3
19009TAH	0.008	0.036	18	04/21/2019 22:07	300	1.3
19009TAI	0.008	0.036	18	04/21/2019 22:23	300	1.2
19009TAI	0.009	0.037	17	04/21/2019 22:28	300	1.7
19009TAJ	0.008	0.031	17	04/21/2019 22:39	300	1.5
19009TAJ	0.008	0.037	17	04/21/2019 22:44	300	1.4
19009TAK	0.008	0.038	16	04/21/2019 23:00	300	1.6
19009TAK	0.009	0.044	18	04/21/2019 23:06	300	1.4
19009TAL	0.008	0.034	21	04/21/2019 23:49	300	1.3
19009TAL	0.008	0.035	22	04/21/2019 23:54	300	1.4
19009TAL	0.008	0.035	23	04/22/2019 00:00	300	1.2
19009TCE	0.008	0.035	22	04/23/2019 16:40	320	1.3
19009TCE	0.008	0.038	22	04/23/2019 16:47	300	1.3
19009TCF	0.007	0.034	22	04/23/2019 17:05	300	1.3
19009TCF	0.007	0.040	21	04/23/2019 17:10	300	1.5
19009TCJ	0.008	0.031	25	04/23/2019 18:39	300	1.2
19009TCJ	0.008	0.032	23	04/23/2019 18:45	300	1.2
19009TCJ	0.009	0.034	23	04/23/2019 18:50	300	1.2
19009TCO	0.008	0.043	21	04/23/2019 20:52	300	1.1
19009TCO	0.009	0.035	21	04/23/2019 20:57	300	1.2
19009TCP	0.007	0.028	19	04/23/2019 21:16	300	1.2
19009TCP	0.008	0.028	20	04/23/2019 21:23	300	1.2
19009TCP	0.008	0.028	21	04/23/2019 21:30	300	1.4
19009TCQ	0.009	0.032	21	04/23/2019 21:44	300	1.1
19009TCQ	0.008	0.039	18	04/23/2019 21:49	300	1.4
19009TCR	0.008	0.043	19	04/23/2019 22:06	300	1.2
19009TCR	0.007	0.033	18	04/23/2019 22:11	300	1.2
19009TCS	0.008	0.034	18	04/23/2019 22:25	300	1.2
19009TCS	0.009	0.034	18	04/23/2019 22:31	300	1.2
19009TCT	0.008	0.034	16	04/23/2019 22:50	300	1.4
19009TCT	0.009	0.035	16	04/23/2019 22:57	300	1.4
19009TCT	0.009	0.030	17	04/23/2019 23:02	300	1.4
19009TCU	0.009	0.045	18	04/23/2019 23:29	300	1.4
19009TCU	0.009	0.028	19	04/23/2019 23:36	300	1.3
19009TCV	0.009	0.033	19	04/23/2019 23:48	300	1.3
19009TCV	0.009	0.036	20	04/23/2019 23:54	300	1.4
19009TCV	0.011	0.040	19	04/24/2019 00:00	300	1.3
19009TCW	0.008	0.029	21	04/24/2019 00:08	300	1.3
19009TCW	0.008	0.030	21	04/24/2019 00:14	300	1.2
19009TCX	0.008	0.029	22	04/24/2019 00:26	300	1.2
19009TCX	0.012	0.035	23	04/24/2019 00:31	300	1.2
19009TCY	0.008	0.030	20	04/24/2019 12:12	300	1.3
19009TCY	0.008	0.042	20	04/24/2019 12:17	300	1.2
19009TCZ	0.008	0.035	20	04/24/2019 12:33	300	1.2
19009TCZ	0.009	0.041	20	04/24/2019 12:39	300	1.1
19009TCZ	0.008	0.040	19	04/24/2019 12:45	300	1.2
19009TDC	0.010	0.038	18	04/24/2019 13:38	300	1.3
19009TDC	0.009	0.040	18	04/24/2019 13:44	300	1.4
19009TDC	0.008	0.038	19	04/24/2019 13:49	300	1.3
19009TDD	0.009	0.035	20	04/24/2019 14:10	300	1.1
19009TDD	0.009	0.035	20	04/24/2019 14:16	300	1.1

GPSID	Horz Prec	Vert Prec	# of SV' s	UTC Start	# of Positions	PDOP
19009TDE	0.008	0.031	20	04/24/2019 14:30	300	1.1
19009TDE	0.008	0.032	19	04/24/2019 14:36	300	1.2
19009TDF	0.008	0.024	19	04/24/2019 15:16	300	1.3
19009TDF	0.009	0.032	19	04/24/2019 15:23	300	1.3
19009TDG	0.008	0.026	21	04/24/2019 15:41	300	1.2
19009TDG	0.008	0.029	21	04/24/2019 15:47	300	1.2
19009TDH	0.008	0.031	20	04/24/2019 16:13	300	1.4
19009TDH	0.008	0.034	20	04/24/2019 16:19	300	1.3
19009TDI	0.008	0.034	22	04/24/2019 16:26	300	1.2
19009TDI	0.008	0.038	23	04/24/2019 16:32	300	1.1
19009TDJ	0.006	0.025	23	04/24/2019 16:44	300	1.1
19009TDJ	0.007	0.030	22	04/24/2019 16:51	300	1.2
19009TDK	0.007	0.029	23	04/24/2019 17:14	300	1.2
19009TDK	0.007	0.035	22	04/24/2019 17:19	300	1.4
19009TDL	0.007	0.036	23	04/24/2019 17:30	300	1.4
19009TDL	0.007	0.033	23	04/24/2019 17:36	300	1.4
19009TDM	0.007	0.047	24	04/24/2019 17:51	300	1.1
19009TDM	0.007	0.032	24	04/24/2019 17:57	300	1.2
19009TDN	0.007	0.030	21	04/24/2019 18:17	300	1.5
19009TDN	0.008	0.033	23	04/24/2019 18:22	300	1.5
19009TDO	0.008	0.029	25	04/24/2019 18:42	300	1.2
19009TDO	0.008	0.032	25	04/24/2019 18:48	300	1.2
19009TDP	0.008	0.027	24	04/24/2019 19:01	300	1.1
19009TDP	0.008	0.027	25	04/24/2019 19:07	300	1.0
19009TDQ	0.007	0.030	19	04/24/2019 19:33	300	1.4
19009TDQ	0.008	0.036	19	04/24/2019 19:39	300	1.4
19009TDR	0.007	0.037	18	04/24/2019 19:57	300	1.6
19009TDR	0.007	0.038	19	04/24/2019 20:03	300	1.5
19009TDS	0.008	0.036	19	04/24/2019 20:13	300	1.5
19009TDS	0.008	0.035	20	04/24/2019 20:18	300	1.3
19009TDS	0.008	0.036	20	04/24/2019 20:24	300	1.2
19009TDT	0.008	0.030	21	04/24/2019 20:41	300	1.1
19009TDT	0.008	0.033	21	04/24/2019 20:47	300	1.1
19009TDT	0.008	0.034	20	04/24/2019 20:53	300	1.2
19009TDU	0.008	0.029	19	04/24/2019 21:15	300	1.5
19009TDU	0.007	0.031	20	04/24/2019 21:21	300	1.2
19009TDU	0.008	0.032	20	04/24/2019 21:28	300	1.2
19009TDV	0.008	0.036	19	04/24/2019 21:46	300	1.2
19009TDV	0.007	0.030	19	04/24/2019 21:51	300	1.2
19009TDW	0.008	0.038	20	04/24/2019 22:04	300	1.2
19009TDW	0.013	0.038	19	04/24/2019 22:10	300	1.4
19009TDX	0.006	0.023	18	04/24/2019 22:30	300	1.3
19009TDX	0.008	0.030	18	04/24/2019 22:39	300	1.3
19009TDX	0.008	0.031	18	04/24/2019 22:45	300	1.6
19009TDY	0.008	0.029	19	04/24/2019 23:01	300	1.3
19009TDY	0.008	0.031	18	04/24/2019 23:07	300	1.6
19009TDZ	0.008	0.041	18	04/24/2019 23:20	300	1.3
19009TDZ	0.009	0.040	20	04/24/2019 23:26	300	1.3
19009TEA	0.008	0.031	22	04/24/2019 23:42	300	1.3
19009TEA	0.008	0.029	22	04/24/2019 23:48	300	1.2
19009TEB	0.008	0.035	22	04/24/2019 23:59	300	1.5
19009TEB	0.008	0.036	23	04/25/2019 00:04	300	1.3
19009TEC	0.007	0.029	19	04/25/2019 12:27	300	1.2
19009TEC	0.007	0.033	19	04/25/2019 12:33	300	1.2

GPSID	Horz Prec	Vert Prec	# of SV' s	UTC Start	# of Positions	PDOP
19009TED	0.008	0.029	17	04/25/2019 12:48	300	1.5
19009TED	0.008	0.033	17	04/25/2019 12:53	300	1.5
19009TEE	0.008	0.038	18	04/25/2019 13:06	300	1.2
19009TEE	0.009	0.035	18	04/25/2019 13:12	300	1.2
19009TEF	0.009	0.046	17	04/25/2019 13:25	300	1.3
19009TEF	0.009	0.048	16	04/25/2019 13:31	300	1.4
19009TEF	0.009	0.048	16	04/25/2019 13:37	300	1.4
19009TEF	0.008	0.042	18	04/25/2019 13:44	300	1.4
19009TEF	0.008	0.033	20	04/25/2019 13:50	300	1.2
19009TEG	0.008	0.030	19	04/25/2019 14:10	300	1.4
19009TEG	0.008	0.029	19	04/25/2019 14:15	300	1.2
19009TEH	0.008	0.027	19	04/25/2019 14:29	300	1.3
19009TEH	0.008	0.030	19	04/25/2019 14:35	300	1.4
19009TEI	0.008	0.026	20	04/25/2019 14:57	300	1.4
19009TEI	0.008	0.027	21	04/25/2019 15:03	300	1.3
19009TEJ	0.007	0.027	21	04/25/2019 15:11	300	1.2
19009TEJ	0.008	0.036	21	04/25/2019 15:16	300	1.2
19009TEO	0.007	0.034	25	04/25/2019 17:35	300	1.3
19009TEP	0.007	0.031	26	04/25/2019 17:48	300	1.3
19009TEP	0.007	0.030	27	04/25/2019 17:54	300	1.1
19009TEQ	0.007	0.028	24	04/25/2019 18:24	300	1.2
19009TEQ	0.007	0.032	24	04/25/2019 18:29	300	1.2
19009TER	0.007	0.031	22	04/25/2019 19:01	300	1.1
19009TER	0.008	0.031	22	04/25/2019 19:06	300	1.2
19009TES	0.007	0.037	22	04/25/2019 19:19	300	1.1
19009TES	0.008	0.034	21	04/25/2019 19:24	300	1.1
19009TET	0.008	0.023	19	04/25/2019 20:30	300	1.1
19009TET	0.009	0.033	18	04/25/2019 20:35	300	1.2
19009TEU	0.009	0.032	19	04/25/2019 20:46	300	1.2
19009TEU	0.010	0.039	18	04/25/2019 20:51	300	1.2
19009TEU	0.010	0.035	17	04/25/2019 20:57	300	1.3
19009TEV	0.008	0.027	19	04/25/2019 21:17	300	1.3
19009TEV	0.009	0.029	20	04/25/2019 21:24	300	1.1
19009TEW	0.009	0.034	18	04/25/2019 21:41	300	1.2
19009TEW	0.009	0.039	18	04/25/2019 21:46	300	1.2
19009TEX	0.008	0.035	19	04/25/2019 22:02	300	1.2
19009TEY	0.007	0.039	16	04/25/2019 22:33	300	1.8
19009TEY	0.008	0.039	16	04/25/2019 22:39	300	1.8
19009TEZ	0.008	0.031	19	04/25/2019 23:06	300	1.2
19009TEZ	0.008	0.037	19	04/25/2019 23:11	300	1.2
19009TFA	0.008	0.031	20	04/25/2019 23:32	300	1.2
19009TFA	0.008	0.025	22	04/25/2019 23:41	300	1.2
19009TFB	0.008	0.031	22	04/26/2019 00:13	300	1.3
19009TFK	0.008	0.024	20	04/26/2019 14:03	300	1.2
19009TFK	0.008	0.026	20	04/26/2019 14:09	300	1.2
19009TFL	0.008	0.025	19	04/26/2019 14:21	300	1.3
19009TFM	0.008	0.030	18	04/26/2019 14:47	300	1.6
19009TFM	0.008	0.032	19	04/26/2019 14:52	300	1.6
19009TFN	0.008	0.028	20	04/26/2019 15:09	300	1.3
19009TFN	0.009	0.032	20	04/26/2019 15:14	300	1.3
19009TFO	0.008	0.027	20	04/26/2019 15:28	300	1.1
19009TFO	0.009	0.029	20	04/26/2019 15:34	300	1.2
19009TFO	0.009	0.029	22	04/26/2019 15:39	300	1.2
19009TFP	0.008	0.029	21	04/26/2019 15:50	300	1.2



GPSID	Horz Prec	Vert Prec	# of SV' s	UTC Start	# of Positions	PDOP
19009TFP	0.008	0.030	20	04/26/2019 15:55	300	1.5
19009TFR	0.007	0.036	25	04/26/2019 16:44	300	1.1
19009TFR	0.007	0.036	23	04/26/2019 16:49	300	1.2
19009TFS	0.007	0.045	19	04/26/2019 17:08	300	1.7
19009TFS	0.007	0.048	19	04/26/2019 17:13	300	1.8
1250SA_RTX	0.005	0.026	13	04/27/2019 13:37	386	1.6
1250SA_RTX	0.007	0.032	13	04/27/2019 13:43	302	1.6
VVAF34_RTX	0.006	0.031	11	04/27/2019 14:32	301	2.0
VVAF34_RTX	0.006	0.035	11	04/27/2019 14:44	305	1.9
100_RTX	0.007	0.028	9	04/27/2019 15:35	304	2.5
101_RTX	0.010	0.036	14	04/27/2019 15:43	301	1.5
102_RTX	0.008	0.035	12	04/27/2019 16:39	305	1.9
103_RTX	0.006	0.033	13	04/27/2019 16:46	301	1.7
104_RTX	0.004	0.026	12	04/27/2019 17:27	311	2.2
105_RTX	0.006	0.028	12	04/27/2019 17:34	302	2.2
VVAF16_RTX	0.006	0.045	15	04/27/2019 18:41	303	1.5
VVAF16_RTX	0.005	0.033	13	04/27/2019 18:48	302	1.6
106_RTX	0.008	0.034	14	04/27/2019 20:30	301	1.5
107_RTX	0.008	0.029	13	04/27/2019 20:46	301	1.6
VVAF 37_RTX	0.006	0.029	12	04/27/2019 22:02	304	1.6
VVAF 37_RTX	0.006	0.030	11	04/27/2019 22:09	305	1.7
V1306	0.009	0.029	11	04/27/2019 22:50	305	1.7
3153	0.008	0.026	13	04/28/2019 12:47	302	1.6
108_RTX	0.006	0.036	13	04/28/2019 14:27	303	2.0
109_RTX	0.006	0.027	13	04/28/2019 14:34	301	2.0
110_RTX	0.012	0.031	12	04/28/2019 15:23	184	1.7
111_RTX	0.007	0.026	11	04/28/2019 15:28	302	1.7
VVAF 06_RTX	0.005	0.031	14	04/28/2019 16:47	306	2.0
VVAF 06_RTX	0.003	0.031	15	04/28/2019 16:56	306	1.7
112_RTX	0.007	0.026	17	04/28/2019 17:52	376	1.4
113_RTX	0.005	0.030	17	04/28/2019 18:01	306	1.5
VVAF 10_RTX	0.005	0.033	14	04/28/2019 19:36	330	1.6
VVAF 10_RTX	0.005	0.029	13	04/28/2019 19:45	303	1.8
114_RTX	0.006	0.027	10	04/28/2019 20:48	301	2.4
115_RTX	0.005	0.032	10	04/28/2019 20:55	306	2.3
VVAF46_RTX	0.012	0.056	11	04/28/2019 22:00	305	1.9
VVAF46_RTX	0.012	0.038	9	04/28/2019 22:35	302	4.0
Q449	0.006	0.034	12	04/29/2019 13:01	302	2.0
Q449	0.007	0.026	11	04/29/2019 13:14	185	2.1
116_RTX	0.006	0.024	12	04/29/2019 13:31	302	1.8
117_RTX	0.009	0.035	14	04/29/2019 13:38	302	1.3
118_RTX	0.006	0.024	11	04/29/2019 14:19	301	2.0
119_RTX	0.006	0.029	13	04/29/2019 14:27	303	1.8
120_RTX	0.008	0.027	14	04/29/2019 15:40	323	2.0
121_RTX	0.006	0.029	13	04/29/2019 15:52	389	1.7
122_RTX	0.008	0.028	16	04/29/2019 18:01	301	1.5
123_RTX	0.008	0.030	16	04/29/2019 18:08	312	1.5
124_RTX	0.007	0.032	13	04/29/2019 19:29	304	1.7
125_RTX	0.007	0.027	13	04/29/2019 19:38	351	1.7
126_RTX	0.004	0.030	13	04/29/2019 22:40	301	1.4
127_RTX	0.010	0.037	13	04/29/2019 22:47	307	1.5
ELMENDORF SE	0.008	0.050	12	04/30/2019 12:42	301	1.7
128_RTX	0.003	0.028	13	04/30/2019 13:30	303	1.4
129_RTX	0.005	0.026	16	04/30/2019 13:37	308	1.2

GPSID	Horz Prec	Vert Prec	# of SV' s	UTC Start	# of Positions	PDOP
130_RTX	0.009	0.022	14	04/30/2019 15:17	304	1.6
131_RTX	0.009	0.024	14	04/30/2019 15:23	301	1.5
132_RTX	0.008	0.036	16	04/30/2019 16:22	302	1.4
133_RTX	0.007	0.026	17	04/30/2019 16:29	302	1.2
134_RTX	0.005	0.036	14	04/30/2019 17:18	300	1.7
135_RTX	0.005	0.029	13	04/30/2019 17:25	300	2.1
136_RTX	0.008	0.028	17	04/30/2019 18:13	303	1.4
137_RTX	0.006	0.030	17	04/30/2019 18:23	306	1.4
138_RTX	0.008	0.032	14	04/30/2019 19:02	311	1.4
139_RTX	0.008	0.036	13	04/30/2019 19:08	304	1.7
140_RTX	0.008	0.033	15	04/30/2019 20:05	312	1.3
141_RTX	0.008	0.032	14	04/30/2019 20:12	305	1.4
142_RTX	0.008	0.036	14	04/30/2019 21:10	310	1.3
143_RTX	0.005	0.028	11	04/30/2019 21:18	304	1.9
144_RTX	0.009	0.033	13	04/30/2019 22:44	302	1.6
145_RTX	0.010	0.033	14	04/30/2019 22:50	305	1.4
L1523	0.009	0.035	16	04/30/2019 23:55	301	1.4
ELMENDORF SE	0.005	0.033	12	05/01/2019 13:13	303	1.9
146_RTX	0.006	0.028	11	05/01/2019 14:24	313	2.0
147_RTX	0.006	0.027	14	05/01/2019 14:31	305	1.6
148_RTX	0.008	0.026	13	05/01/2019 15:10	308	1.6
149_RTX	0.009	0.029	14	05/01/2019 15:17	301	1.4
150_RTX	0.007	0.030	14	05/01/2019 16:06	302	1.5
151_RTX	0.006	0.026	15	05/01/2019 16:12	301	1.4
152_RTX	0.005	0.035	13	05/01/2019 16:50	304	1.8
153_RTX	0.004	0.027	14	05/01/2019 16:57	308	1.8
154_RTX	0.008	0.027	16	05/01/2019 18:00	301	1.5
155_RTX	0.008	0.029	17	05/01/2019 18:06	301	1.4
156_RTX	0.005	0.028	14	05/01/2019 20:34	303	1.5
157_RTX	0.006	0.028	14	05/01/2019 20:40	300	1.4
158_RTX	0.006	0.024	12	05/01/2019 22:03	301	1.7
159_RTX	0.005	0.026	13	05/01/2019 22:10	302	1.6
J1302_RTX	0.005	0.026	12	05/02/2019 12:09	302	1.8
160_RTX	0.006	0.039	12	05/02/2019 12:58	301	1.8
161_RTX	0.004	0.025	12	05/02/2019 13:05	301	1.7
162_RTX	0.009	0.029	11	05/02/2019 15:03	317	1.9
163_RTX	0.009	0.029	11	05/02/2019 15:09	302	2.1
164_RTX	0.006	0.025	15	05/02/2019 16:05	304	1.3
165_RTX	0.006	0.025	15	05/02/2019 16:12	300	1.3
166_RTX	0.005	0.035	14	05/02/2019 17:04	301	1.9
167_RTX	0.007	0.035	17	05/02/2019 17:33	301	1.5
168_RTX	0.008	0.021	15	05/02/2019 18:52	301	1.3
169_RTX	0.008	0.027	14	05/02/2019 18:58	312	1.5
170_RTX	0.008	0.034	15	05/02/2019 20:04	301	1.4
171_RTX	0.008	0.030	14	05/02/2019 20:11	302	1.4
172_RTX	0.006	0.035	11	05/02/2019 21:26	301	1.8
173_RTX	0.005	0.026	13	05/02/2019 21:32	301	1.4
J1473	0.006	0.029	12	05/02/2019 22:17	181	1.7

The Trimble Centerpoint RTX real time solutions are stored as ITRF2008 epoch 2005.0 positions. The NGS utility Horizontal Time Dependent Positioning ([HTDP](#)) was used to transform the ITRF 2008 epoch 2005.0 positions to NAD83 (2011) epoch 2010.0 positions.

## WOODS VVA CHECK POINTS

Of the 50 woods checkpoints, 12 were surveyed by direct occupation (VRS or RTX), and 38 were surveyed by establishing a pair of intervisible stations nearby in an open area using a Trimble R10 GNSS receiver (RTX Real Time). A Trimble S6 total station was then used to traverse to the woods point. Table 4 lists the conventional observations (mark-to-mark, grads and meters).

**Table 4 - Conventional Total Station Observations to VVA-F points**

Stand point	Back sight	Fore point	HI	HT	Direction	M-to-M Zenith Distance	M-to-M Distance	Feature Code
100_RTX	101_RTX	101_RTX	1.530	1.426	0.0000	97.4948	40.990	60D
100_RTX	101_RTX	VVAF24	1.530	2.000	128.0424	105.3397	7.957	VVAF24
100_RTX	101_RTX	101_RTX	1.530	1.426	0.0016	97.4954	40.990	60D
102_RTX	103_RTX	103_RTX	1.628	1.500	0.0000	101.9043	32.784	TPNL
102_RTX	103_RTX	VVAF36	1.628	2.000	177.7345	99.0304	15.870	VVAF36
102_RTX	103_RTX	103_RTX	1.628	1.500	399.9993	101.9052	32.784	TPNL
104_RTX	105_RTX	105_RTX	1.588	1.451	0.0000	103.0159	34.052	TPNL
104_RTX	105_RTX	VVAF03	1.588	2.000	195.1466	97.0325	13.591	VVAF03
104_RTX	105_RTX	105_RTX	1.588	1.451	0.0017	103.0173	34.052	TPNL
106_RTX	107_RTX	107_RTX	1.536	1.585	0.0000	100.3312	31.311	TPNL
106_RTX	107_RTX	VVAF14	1.536	2.000	169.7280	101.0092	22.536	VVAF14
106_RTX	107_RTX	107_RTX	1.536	1.585	0.0006	100.3309	31.311	TPNL
108_RTX	109_RTX	109_RTX	1.536	1.536	0.0000	100.2602	49.168	TPNL
108_RTX	109_RTX	VVAF50	1.536	2.000	129.6816	96.2353	16.179	VVAF50
108_RTX	109_RTX	109_RTX	1.536	1.536	399.9997	100.2605	49.169	TPNL
110_RTX	111_RTX	111_RTX	1.634	1.494	0.0000	98.3218	36.312	TPNL
110_RTX	111_RTX	VVAF42	1.634	2.000	60.8287	103.6086	12.874	TPNL
110_RTX	111_RTX	111_RTX	1.634	1.494	0.0003	98.3219	36.313	TPNL
112_RTX	113_RTX	113_RTX	1.689	1.551	0.0000	101.8865	34.657	TPNL
112_RTX	113_RTX	VVAF29	1.689	2.000	136.7526	100.4695	31.360	VVAF29
112_RTX	113_RTX	113_RTX	1.689	1.551	399.9995	101.8864	34.657	TPNL
114_RTX	115_RTX	115_RTX	1.612	1.509	0.0000	100.5865	37.124	TPNL
114_RTX	115_RTX	VVAF21	1.612	2.000	355.5460	92.8260	14.816	VVAF21
114_RTX	115_RTX	115_RTX	1.612	1.509	0.0005	100.5864	37.125	TPNL
116_RTX	117_RTX	117_RTX	1.533	1.521	0.0000	100.1269	45.109	TPNL
116_RTX	117_RTX	VVAF32	1.533	2.000	93.3689	103.0168	10.825	VVAF32
116_RTX	117_RTX	117_RTX	1.533	1.521	399.9999	100.1266	45.108	TPNL
118_RTX	119_RTX	119_RTX	1.673	1.475	0.0000	100.8948	64.033	TPNL
118_RTX	119_RTX	VVAF30	1.673	2.000	61.9815	96.2462	17.666	VVAF30
118_RTX	119_RTX	119_RTX	1.673	1.475	399.9983	100.8952	64.034	TPNL
120_RTX	121_RTX	121_RTX	1.689	1.542	0.0000	102.2795	25.510	TPNL
120_RTX	121_RTX	VVAF44	1.689	2.000	279.2515	101.2568	20.217	VVAF44
120_RTX	121_RTX	121_RTX	1.689	1.542	0.0001	102.2803	25.510	TPNL
122_RTX	123_RTX	123_RTX	1.582	1.494	0.0000	95.8711	37.781	TPNL
122_RTX	123_RTX	VVAF23	1.582	2.000	128.8944	104.7459	30.877	VVAF23
122_RTX	123_RTX	123_RTX	1.582	1.494	399.9997	95.8710	37.782	TPNL
124_RTX	125_RTX	125_RTX	1.622	1.515	0.0000	99.1959	27.217	TPNL
124_RTX	125_RTX	VVAF41	1.622	2.000	91.3484	98.5831	14.283	VVAF41
124_RTX	125_RTX	125_RTX	1.622	1.515	399.9997	99.1970	27.216	TPNL
126_RTX	127_RTX	127_RTX	1.545	1.539	0.0000	100.3754	44.120	TPNL
126_RTX	127_RTX	VVAF18	1.545	2.000	74.5217	102.5133	21.223	VVAF18
126_RTX	127_RTX	127_RTX	1.545	1.539	0.0004	100.3757	44.120	TPNL
128_RTX	129_RTX	129_RTX	1.606	1.436	0.0000	99.5052	23.273	TPNL
128_RTX	129_RTX	VVAF26	1.606	2.000	304.3834	101.1531	19.776	VVAF26
128_RTX	129_RTX	129_RTX	1.606	1.436	0.0003	99.5062	23.272	TPNL

Stand point	Back sight	Fore point	HI	HT	Direction	M-to-M Zenith Distance	M-to-M Distance	Feature Code
130_RTX	131_RTX	131_RTX	1.634	1.494	0.0000	99.3525	32.569	TPNL
130_RTX	131_RTX	VVAF09	1.634	2.000	142.9493	102.3612	19.267	VVAF 09
130_RTX	131_RTX	131_RTX	1.634	1.494	399.9990	99.3534	32.569	TPNL
132_RTX	133_RTX	133_RTX	1.588	1.375	0.0000	101.3210	36.776	TPNL
132_RTX	133_RTX	VVAF12	1.588	2.000	86.4958	96.2744	8.915	VVAF12
132_RTX	133_RTX	133_RTX	1.588	1.375	0.0003	101.3207	36.776	TPNL
134_RTX	135_RTX	135_RTX	1.661	1.463	0.0000	95.7600	32.989	TPNL
134_RTX	135_RTX	VVAF31	1.661	2.000	102.2055	100.6129	28.916	VVAF31
134_RTX	135_RTX	135_RTX	1.661	1.463	399.9994	95.7599	32.989	TPNL
136_RTX	137_RTX	137_RTX	1.664	1.475	0.0000	98.1851	48.953	TPNL
136_RTX	137_RTX	VVAF11	1.664	2.000	315.3244	100.7392	12.975	VVAF11
136_RTX	137_RTX	137_RTX	1.664	1.475	0.0012	98.1847	48.952	TPNL
138_RTX	139_RTX	139_RTX	1.628	1.518	0.0000	100.2391	43.248	TPNL
138_RTX	139_RTX	VVAF40	1.628	2.000	307.1246	100.2240	14.717	VVAF40
138_RTX	139_RTX	139_RTX	1.628	1.518	399.9998	100.2383	43.248	TPNL
140_RTX	141_RTX	141_RTX	1.579	1.548	0.0000	99.9567	34.593	TPNL
140_RTX	141_RTX	VVAF07	1.579	2.000	93.4058	99.6611	18.111	VVAF07
140_RTX	141_RTX	141_RTX	1.579	1.548	0.0007	99.9566	34.594	TPNL
142_RTX	143_RTX	143_RTX	1.649	1.533	0.0000	100.6138	26.190	TPNL
142_RTX	143_RTX	VVAF47	1.649	2.000	326.1541	104.4280	18.706	VVAF47
142_RTX	143_RTX	143_RTX	1.649	1.533	0.0006	100.6140	26.190	TPNL
144_RTX	145_RTX	145_RTX	1.594	1.475	0.0000	97.0840	26.431	TPNL
144_RTX	145_RTX	VVAF17	1.594	2.000	258.6172	100.1553	16.800	VVAF17
144_RTX	145_RTX	145_RTX	1.594	1.475	0.0001	97.0841	26.430	TPNL
146_RTX	147_RTX	147_RTX	1.646	1.539	0.0000	98.3123	43.947	TPNL
146_RTX	147_RTX	VVAF43	1.646	2.000	330.0981	99.4915	20.203	VVAF43
146_RTX	147_RTX	147_RTX	1.646	1.539	0.0003	98.3123	43.947	TPNL
148_RTX	149_RTX	149_RTX	1.628	1.481	0.0000	101.2382	35.471	TPNL
148_RTX	149_RTX	VVAF49	1.628	2.000	197.7961	95.9549	23.294	VVAF49
148_RTX	149_RTX	149_RTX	1.628	1.481	399.9998	101.2375	35.470	TPNL
150_RTX	151_RTX	151_RTX	1.628	1.515	0.0000	100.7812	27.207	TPNL
150_RTX	151_RTX	VVAF28	1.628	2.000	330.6104	92.8601	10.736	VVAF28
150_RTX	151_RTX	151_RTX	1.628	1.515	0.0005	100.7813	27.207	TPNL
152_RTX	153_RTX	153_RTX	1.615	1.628	0.0000	100.4755	28.189	TPNL
152_RTX	153_RTX	VVAF08	1.615	2.000	355.4046	101.6855	15.799	VVAF08
152_RTX	153_RTX	153_RTX	1.615	1.628	0.0003	100.4751	28.189	TPNL
154_RTX	155_RTX	155_RTX	1.573	1.579	0.0000	99.7101	46.368	TPNL
154_RTX	155_RTX	VVAF35	1.573	2.000	223.2490	101.3548	17.148	VVAF35
154_RTX	155_RTX	155_RTX	1.573	1.579	0.0001	99.7103	46.368	TPNL
156_RTX	157_RTX	157_RTX	1.588	1.554	0.0000	98.1583	17.996	TPNL
156_RTX	157_RTX	VVAF20	1.588	2.000	223.8478	99.6226	18.686	VVAF20
156_RTX	157_RTX	157_RTX	1.588	1.554	0.0006	98.1578	17.997	TPNL
158_RTX	159_RTX	159_RTX	1.582	1.530	0.0000	100.0998	38.190	TPNL
158_RTX	159_RTX	VVAF19	1.582	2.000	291.4417	99.9068	30.195	VVAF19
158_RTX	159_RTX	159_RTX	1.582	1.530	0.0001	100.1000	38.190	TPNL
160_RTX	161_RTX	161_RTX	1.603	1.487	0.0000	99.6001	30.002	TPNL
160_RTX	161_RTX	VVAF25	1.603	2.000	145.4958	105.1047	23.443	VVAF25
160_RTX	161_RTX	161_RTX	1.603	1.487	400.0000	99.6001	30.002	TPNL
162_RTX	163_RTX	163_RTX	1.658	1.445	0.0000	101.2435	34.018	TPNL
162_RTX	163_RTX	VVAF45	1.658	2.000	127.9357	97.3624	27.578	VVAF45
162_RTX	163_RTX	163_RTX	1.658	1.445	400.0000	101.2436	34.018	TPNL
164_RTX	165_RTX	165_RTX	1.582	1.469	0.0000	102.7238	33.356	TPNL
164_RTX	165_RTX	VVAF04	1.582	2.000	239.1369	97.1389	13.066	VVAF04

Stand point	Back sight	Fore point	HI	HT	Direction	M-to-M Zenith Distance	M-to-M Distance	Feature Code
164_RTX	165_RTX	165_RTX	1.582	1.469	0.0007	102.7243	33.357	TPNL
166_RTX	167_RTX	167_RTX	1.615	1.414	0.0000	104.9010	28.492	TPNL
166_RTX	167_RTX	VVAF33	1.615	2.000	266.5788	105.9998	9.636	VVAF33
166_RTX	167_RTX	167_RTX	1.615	1.414	0.0001	104.9011	28.492	TPNL
168_RTX	169_RTX	169_RTX	1.612	1.494	0.0000	100.8024	26.964	TPNL
168_RTX	169_RTX	VVAF02	1.612	2.000	249.5198	98.5448	15.760	VVAF02
168_RTX	169_RTX	169_RTX	1.612	1.494	399.9997	100.8025	26.963	TPNL
170_RTX	171_RTX	171_RTX	1.634	1.417	0.0000	98.5360	31.095	TPNL
170_RTX	171_RTX	VVAF39	1.634	2.000	179.0853	101.0124	14.259	VVAF39
170_RTX	171_RTX	171_RTX	1.634	1.417	399.9999	98.5360	31.095	TPNL
172_RTX	173_RTX	173_RTX	1.634	1.430	0.0000	99.9667	24.559	TPNL
172_RTX	173_RTX	VVAF01	1.634	2.000	234.6181	101.0282	20.692	VVAF01

## LEAST SQUARES ADJUSTMENTS

Geolab was used to adjust the VRS vectors, RTX positions, and conventional observations. No scaling of the apriori GPS statistics was done. Station errors (centering, HI and HT) of 0.005 m were input. The GEOID12B model was used.

The VRS vectors were combined with the transformed RTX positions (transformed from ITRF08 epoch 2005.0 to NAD83 (2011) epoch 2010.0 using HTDP). This adjustment computed the final adjusted coordinates (latitude, longitude, ellipsoidal heights, and orthometric heights) of the stations in the network. The adjustment had an estimated variance factor of 0.75. A separate adjustment was performed for the VVA forested checkpoints surveyed by RTX, which had an estimated variance factor of 1.78. Table 5 lists the station confidence regions (error ellipses) at the 95% level (in meters) for these adjustments.

**Table 5 - Station Confidence Regions (95% meters)**

Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
3153	0.019	177	0.017	0.068
100_RTX	0.020	51	0.010	0.057
101_RTX	0.024	61	0.011	0.057
102_RTX	0.020	54	0.011	0.063
103_RTX	0.013	55	0.010	0.063
104_RTX	0.008	14	0.007	0.050
105_RTX	0.012	23	0.008	0.050
106_RTX	0.016	44	0.015	0.058
107_RTX	0.017	58	0.014	0.058
108_RTX	0.013	161	0.010	0.056
109_RTX	0.013	165	0.010	0.056
110_RTX	0.030	30	0.011	0.052
111_RTX	0.018	34	0.010	0.052
112_RTX	0.018	53	0.010	0.051
113_RTX	0.013	41	0.009	0.051
114_RTX	0.013	71	0.010	0.052
115_RTX	0.010	39	0.009	0.052
116_RTX	0.015	117	0.011	0.052
117_RTX	0.021	97	0.012	0.052

Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
118_RTX	0.014	154	0.010	0.049
119_RTX	0.013	155	0.010	0.049
120_RTX	0.018	81	0.012	0.052
121_RTX	0.014	58	0.010	0.052
122_RTX	0.017	93	0.014	0.054
123_RTX	0.017	94	0.014	0.054
124_RTX	0.017	171	0.011	0.054
125_RTX	0.018	169	0.011	0.054
1250SA_RTX	0.010	120	0.009	0.052
126_RTX	0.011	137	0.008	0.061
127_RTX	0.029	138	0.009	0.061
128_RTX	0.009	119	0.006	0.050
129_RTX	0.013	121	0.007	0.050
130_RTX	0.018	24	0.016	0.043
131_RTX	0.019	17	0.015	0.043
132_RTX	0.018	87	0.012	0.055
133_RTX	0.018	90	0.012	0.055
134_RTX	0.011	12	0.009	0.059
135_RTX	0.012	11	0.009	0.059
136_RTX	0.017	152	0.013	0.053
137_RTX	0.014	8	0.010	0.053
138_RTX	0.016	102	0.014	0.062
139_RTX	0.017	105	0.014	0.062
140_RTX	0.017	36	0.015	0.060
141_RTX	0.017	33	0.015	0.060
142_RTX	0.019	84	0.010	0.057
143_RTX	0.013	83	0.009	0.057
144_RTX	0.019	118	0.016	0.061
145_RTX	0.019	122	0.016	0.061
146_RTX	0.015	93	0.009	0.051
147_RTX	0.014	93	0.009	0.051
148_RTX	0.017	163	0.015	0.050
149_RTX	0.018	169	0.015	0.050
150_RTX	0.017	27	0.008	0.051
151_RTX	0.016	26	0.008	0.051
152_RTX	0.011	104	0.008	0.056
153_RTX	0.010	100	0.008	0.056
154_RTX	0.018	8	0.013	0.052
155_RTX	0.020	5	0.013	0.052
156_RTX	0.012	174	0.010	0.052
157_RTX	0.012	172	0.010	0.052
158_RTX	0.014	96	0.009	0.046
159_RTX	0.013	101	0.009	0.046
160_RTX	0.014	14	0.008	0.055
161_RTX	0.009	5	0.007	0.055
162_RTX	0.023	35	0.013	0.054
163_RTX	0.023	35	0.013	0.054
164_RTX	0.013	44	0.010	0.047
165_RTX	0.013	44	0.010	0.047
166_RTX	0.011	7	0.009	0.065
167_RTX	0.017	3	0.010	0.065
168_RTX	0.017	21	0.013	0.043
169_RTX	0.017	20	0.013	0.043
170_RTX	0.019	168	0.013	0.059

Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
171_RTX	0.019	170	0.013	0.059
172_RTX	0.012	134	0.010	0.055
173_RTX	0.011	134	0.010	0.055
19009JAA	0.014	51	0.013	0.020
19009JAB	0.013	42	0.013	0.015
19009JAC	0.012	36	0.012	0.013
19009JAD	0.011	27	0.011	0.010
19009JAE	0.013	39	0.012	0.015
19009JAF	0.011	48	0.011	0.012
19009JAG	0.015	64	0.014	0.023
19009JAH	0.014	85	0.013	0.020
19009JAI	0.013	79	0.012	0.018
19009JAJ	0.012	62	0.012	0.014
19009JAK	0.014	27	0.013	0.021
19009JAL	0.016	23	0.014	0.022
19009JAM	0.014	14	0.012	0.016
19009JAN	0.014	7	0.012	0.015
19009JAO	0.013	178	0.012	0.015
19009JAP	0.021	158	0.019	0.033
19009JAQ	0.013	159	0.012	0.017
19009JAR	0.013	150	0.012	0.017
19009JAS	0.014	139	0.013	0.017
19009JAT	0.015	31	0.013	0.020
19009JAU	0.012	27	0.010	0.016
19009JAV	0.011	12	0.010	0.011
19009JAW	0.013	9	0.013	0.016
19009JAX	0.013	16	0.013	0.018
19009JAY	0.011	11	0.011	0.013
19009JAZ	0.012	8	0.011	0.013
19009JBA	0.012	9	0.012	0.013
19009JBB	0.012	149	0.012	0.013
19009JBC	0.010	133	0.010	0.011
19009JBD	0.012	102	0.012	0.013
19009JBE	0.012	94	0.012	0.012
19009JBF	0.012	52	0.012	0.014
19009JBG	0.012	40	0.012	0.015
19009JBH	0.014	175	0.014	0.023
19009JBI	0.011	26	0.011	0.014
19009JBJ	0.014	174	0.013	0.018
19009JBK	0.013	4	0.013	0.018
19009JBL	0.014	0	0.013	0.021
19009JBM	0.009	170	0.009	0.013
19009JBN	0.013	173	0.013	0.019
19009JBO	0.015	13	0.014	0.024
19009JBP	0.012	8	0.011	0.016
19009JBQ	0.013	4	0.012	0.016
19009JBR	0.014	154	0.012	0.018
19009JBS	0.013	121	0.012	0.014
19009JBT	0.010	102	0.009	0.012
19009JBU	0.016	103	0.015	0.031
19009JBV	0.013	57	0.012	0.016
19009JBW	0.013	42	0.012	0.016
19009JBX	0.013	36	0.012	0.016
19009JBY	0.014	33	0.012	0.016

Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
19009JBZ	0.016	26	0.012	0.021
19009JCA	0.022	16	0.015	0.035
19009JCB	0.010	92	0.010	0.015
19009JCC	0.013	82	0.013	0.019
19009JCD	0.013	60	0.012	0.019
19009JCE	0.013	47	0.013	0.019
19009JCF	0.013	29	0.013	0.019
19009JCG	0.013	18	0.012	0.017
19009JCH	0.014	15	0.013	0.016
19009JCI	0.013	174	0.012	0.016
19009JCJ	0.012	165	0.012	0.014
19009JCK	0.012	157	0.012	0.014
19009JCL	0.013	152	0.012	0.014
19009JCM	0.013	137	0.012	0.016
19009JCN	0.013	135	0.012	0.017
19009JCO	0.015	34	0.013	0.020
19009JCP	0.011	31	0.010	0.013
19009JCQ	0.013	34	0.012	0.015
19009JCR	0.013	24	0.012	0.014
19009JCS	0.012	11	0.012	0.013
19009JCT	0.012	176	0.012	0.013
19009JCU	0.012	173	0.012	0.013
19009JCV	0.013	177	0.013	0.018
19009JCW	0.014	7	0.013	0.021
19009JCX	0.014	4	0.013	0.020
19009JCY	0.011	1	0.011	0.017
19009JCZ	0.013	14	0.012	0.015
19009JDA	0.012	129	0.012	0.013
19009JDB	0.014	120	0.013	0.015
19009JDC	0.013	107	0.012	0.015
19009JDD	0.013	76	0.012	0.016
19009JDE	0.013	58	0.012	0.016
19009JDF	0.013	42	0.012	0.015
19009JDG	0.016	28	0.013	0.021
19009JDH	0.013	29	0.010	0.017
19009JDI	0.015	27	0.014	0.020
19009JDJ	0.012	53	0.012	0.017
19009JDK	0.009	111	0.008	0.058
19009JDL	0.012	60	0.012	0.017
19009JDM	0.013	25	0.012	0.019
19009JDN	0.013	16	0.012	0.017
19009JDO	0.010	8	0.010	0.013
19009JDP	0.013	160	0.012	0.015
19009JDQ	0.014	154	0.013	0.019
19009JDR	0.010	141	0.010	0.012
19009JDS	0.010	132	0.010	0.013
19009JDT	0.013	131	0.013	0.020
19009JDU	0.013	107	0.012	0.017
19009JDV	0.012	27	0.012	0.013
19009JDW	0.012	21	0.012	0.013
19009JDX	0.012	8	0.012	0.014
19009JDY	0.012	5	0.012	0.013
19009JDZ	0.011	4	0.010	0.014
19009JEA	0.013	5	0.012	0.017



Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
19009JEB	0.013	8	0.012	0.017
19009JEC	0.016	171	0.014	0.024
19009JED	0.012	134	0.012	0.014
19009JEE	0.013	84	0.013	0.016
19009JEF	0.014	59	0.014	0.020
19009JEG	0.013	37	0.012	0.015
19009JEH	0.015	38	0.013	0.019
19009JEI	0.014	35	0.012	0.017
19009JEJ	0.014	28	0.012	0.018
19009JEK	0.016	24	0.016	0.024
19009JEL	0.014	83	0.014	0.020
19009JEM	0.011	85	0.011	0.015
19009JEN	0.013	42	0.013	0.020
19009JEO	0.012	23	0.012	0.017
19009JEP	0.014	13	0.013	0.018
19009JEQ	0.014	15	0.013	0.016
19009JER	0.011	4	0.010	0.013
19009JES	0.013	168	0.012	0.015
19009JET	0.013	146	0.012	0.014
19009JEU	0.013	134	0.012	0.016
19009JEW	0.018	134	0.015	0.029
19009JEX	0.014	112	0.013	0.020
19009JEY	0.012	103	0.012	0.014
19009JFA	0.012	20	0.011	0.012
19009JFB	0.012	7	0.011	0.011
19009JFC	0.013	1	0.012	0.016
19009JFD	0.012	1	0.012	0.015
19009JFE	0.012	7	0.011	0.014
19009JFF	0.013	12	0.012	0.016
19009JFG	0.013	11	0.012	0.014
19009JFH	0.013	8	0.012	0.017
19009JFI	0.015	115	0.014	0.020
19009JFJ	0.013	103	0.012	0.014
19009JFK	0.019	88	0.018	0.030
19009JFL	0.016	67	0.015	0.024
19009JFM	0.016	45	0.014	0.022
19009JFN	0.020	23	0.013	0.031
19009JFO	0.020	37	0.018	0.035
19009JFP	0.008	152	0.007	0.053
19009JFQ	0.015	44	0.014	0.025
19009JFR	0.014	31	0.013	0.023
19009JFS	0.009	28	0.007	0.041
19009JFT	0.009	19	0.008	0.037
19009JFU	0.008	178	0.008	0.032
19009JFV	0.013	161	0.012	0.023
19009JFW	0.017	153	0.015	0.027
19009JFX	0.013	149	0.012	0.017
19009JFY	0.021	121	0.014	0.029
19009JFZ	0.014	132	0.013	0.020
19009JGA	0.017	148	0.016	0.032
19009JGB	0.020	25	0.016	0.030
19009JGC	0.014	18	0.013	0.019
19009JGD	0.012	11	0.012	0.014
19009JGE	0.015	176	0.014	0.021

Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
19009JGF	0.016	178	0.014	0.026
19009JGG	0.015	7	0.014	0.022
19009JGH	0.016	11	0.014	0.022
19009JGI	0.015	171	0.013	0.022
19009JGJ	0.020	144	0.018	0.034
19009JGK	0.013	123	0.012	0.015
19009JGL	0.013	90	0.012	0.015
19009JGM	0.014	63	0.013	0.017
19009JGN	0.013	48	0.012	0.015
19009JGO	0.013	45	0.012	0.014
19009JGP	0.016	42	0.013	0.020
19009JGQ	0.020	33	0.015	0.031
19009JGR	0.017	29	0.015	0.025
19009JGS	0.012	18	0.012	0.020
19009JGT	0.011	54	0.011	0.013
19009JGU	0.011	33	0.011	0.013
19009JGV	0.011	23	0.011	0.009
19009JGW	0.012	21	0.011	0.012
19009JGX	0.011	18	0.011	0.010
19009JGY	0.012	179	0.012	0.012
19009JGZ	0.012	156	0.012	0.014
19009JHA	0.013	149	0.012	0.016
19009JHB	0.013	142	0.012	0.015
19009JHC	0.014	138	0.013	0.018
19009JHD	0.013	129	0.013	0.017
19009JHE	0.013	16	0.012	0.014
19009JHF	0.014	6	0.013	0.017
19009JHG	0.013	4	0.012	0.015
19009JHH	0.013	176	0.013	0.021
19009JHI	0.011	174	0.011	0.013
19009JHJ	0.011	3	0.011	0.011
19009JHK	0.011	12	0.011	0.010
19009JHL	0.013	10	0.012	0.015
19009JHM	0.016	179	0.014	0.022
19009JHN	0.013	156	0.012	0.017
19009JHO	0.011	90	0.010	0.012
19009JHP	0.013	76	0.012	0.016
19009JHR	0.013	67	0.012	0.014
19009JHS	0.013	42	0.012	0.014
19009JHT	0.013	32	0.012	0.015
19009JHU	0.015	21	0.014	0.021
19009JHV	0.012	30	0.012	0.015
19009JHW	0.014	44	0.014	0.023
19009JHX	0.014	45	0.013	0.022
19009JHY	0.012	38	0.012	0.014
19009JHZ	0.012	72	0.012	0.016
19009JIA	0.012	22	0.011	0.012
19009JIB	0.013	17	0.012	0.014
19009JIC	0.012	6	0.012	0.013
19009JID	0.012	179	0.011	0.011
19009JIE	0.011	174	0.011	0.012
19009JIF	0.014	179	0.014	0.021
19009JIG	0.012	148	0.011	0.012
19009JIH	0.012	133	0.011	0.012

Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
19009JII	0.009	129	0.009	0.009
19009JIJ	0.012	81	0.012	0.013
19009JIK	0.012	42	0.012	0.017
19009JIL	0.013	25	0.012	0.016
19009JIM	0.012	11	0.012	0.013
19009JIN	0.017	14	0.015	0.022
19009JIO	0.013	163	0.013	0.015
19009JIP	0.012	112	0.012	0.013
19009JIQ	0.014	75	0.013	0.017
19009JIR	0.013	64	0.013	0.017
19009JIS	0.015	10	0.014	0.021
19009JIT	0.014	35	0.013	0.018
19009JIU	0.017	32	0.013	0.023
19009JIV	0.014	27	0.010	0.022
19009JIW	0.015	13	0.014	0.023
19009JIX	0.011	145	0.011	0.018
19009JIY	0.007	93	0.007	0.014
19009JIZ	0.010	22	0.009	0.016
19009JJA	0.014	15	0.013	0.018
19009JJB	0.020	17	0.016	0.027
19009JJC	0.009	176	0.009	0.011
19009JJD	0.013	165	0.012	0.018
19009JJE	0.013	156	0.012	0.016
19009JJF	0.013	150	0.012	0.016
19009JJG	0.014	145	0.013	0.019
19009JJH	0.014	136	0.012	0.017
19009JJI	0.014	133	0.012	0.018
19009JJJ	0.011	84	0.010	0.016
19009JJK	0.014	90	0.013	0.019
19009JJL	0.012	77	0.010	0.024
19009JJM	0.015	83	0.014	0.027
19009JJN	0.014	69	0.012	0.023
19009JJO	0.012	20	0.012	0.014
19009JJP	0.012	17	0.011	0.012
19009JJQ	0.013	12	0.012	0.014
19009JJR	0.013	163	0.011	0.018
19009JJS	0.013	134	0.012	0.014
19009JJU	0.011	80	0.011	0.010
19009JJV	0.011	66	0.011	0.010
19009JJW	0.013	53	0.012	0.016
19009JJX	0.016	45	0.014	0.021
19009JJY	0.016	43	0.013	0.023
19009JJZ	0.017	27	0.014	0.024
19009JKA	0.013	33	0.012	0.016
19009JKB	0.013	29	0.012	0.016
19009JKC	0.013	37	0.013	0.018
19009JKD	0.011	29	0.011	0.012
19009JKE	0.012	24	0.012	0.016
19009JKF	0.011	22	0.011	0.012
19009JKG	0.012	17	0.012	0.013
19009JKH	0.015	15	0.014	0.020
19009JKI	0.016	179	0.014	0.021
19009JKJ	0.016	169	0.014	0.021
19009JKK	0.013	158	0.012	0.015

Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
19009JKL	0.014	147	0.013	0.018
19009JKM	0.012	138	0.012	0.013
19009JKN	0.013	134	0.012	0.015
19009JKO	0.012	131	0.012	0.014
19009JKP	0.013	121	0.013	0.017
19009JKQ	0.011	99	0.010	0.013
19009JKR	0.014	122	0.013	0.017
19009JKS	0.013	131	0.012	0.014
19009JKT	0.014	144	0.013	0.018
19009JKU	0.013	150	0.012	0.015
19009JKV	0.013	172	0.012	0.015
19009JKW	0.012	1	0.012	0.013
19009JKX	0.014	10	0.013	0.018
19009JKY	0.018	9	0.015	0.025
19009JKZ	0.012	1	0.011	0.012
19009JLA	0.012	129	0.012	0.012
19009JLB	0.013	110	0.012	0.015
19009JLC	0.012	48	0.012	0.013
19009JLD	0.015	36	0.013	0.018
19009JLE	0.012	37	0.012	0.013
19009JLF	0.011	24	0.010	0.013
19009JLG	0.013	90	0.012	0.016
19009JLH	0.015	85	0.014	0.024
19009JLI	0.015	75	0.015	0.027
19009JLJ	0.018	27	0.017	0.034
19009JLK	0.015	15	0.013	0.022
19009JLL	0.012	23	0.012	0.014
19009JLM	0.014	16	0.012	0.016
19009JLN	0.010	21	0.008	0.045
19009JLO	0.009	156	0.009	0.048
19009JLP	0.013	151	0.012	0.021
19009JLQ	0.015	140	0.013	0.019
19009JLR	0.013	132	0.012	0.015
19009JLS	0.014	127	0.013	0.017
19009JLT	0.015	97	0.014	0.029
19009JLU	0.020	101	0.018	0.032
19009JLV	0.018	134	0.015	0.023
19009JLW	0.015	95	0.014	0.021
19009JLX	0.009	100	0.008	0.019
19009JLY	0.012	150	0.012	0.014
19009JLZ	0.017	160	0.013	0.019
19009JMA	0.012	2	0.011	0.013
19009JMB	0.012	1	0.012	0.015
19009JMC	0.012	9	0.012	0.014
19009JMD	0.015	10	0.013	0.019
19009JME	0.015	3	0.013	0.020
19009JMF	0.011	149	0.011	0.015
19009JMG	0.013	127	0.012	0.014
19009JMH	0.016	78	0.015	0.022
19009JMI	0.014	68	0.013	0.018
19009JMJ	0.014	51	0.013	0.023
19009JMK	0.016	41	0.014	0.023
19009JML	0.016	27	0.012	0.022
19009JMM	0.015	26	0.013	0.020

Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
19009JMN	0.013	70	0.013	0.022
19009JMO	0.013	65	0.013	0.020
19009JMP	0.014	54	0.013	0.020
19009JMQ	0.012	39	0.012	0.017
19009JMR	0.015	26	0.013	0.022
19009JMS	0.013	21	0.012	0.014
19009JMT	0.013	2	0.012	0.014
19009JMU	0.015	173	0.014	0.020
19009JMV	0.015	164	0.013	0.020
19009JMW	0.012	158	0.011	0.013
19009JMX	0.012	154	0.011	0.013
19009JMY	0.013	139	0.012	0.015
19009JMZ	0.014	132	0.013	0.017
19009JNA	0.015	114	0.013	0.019
19009JNB	0.014	116	0.013	0.019
19009JNC	0.012	112	0.011	0.016
19009JND	0.014	106	0.013	0.017
19009JNE	0.012	108	0.011	0.011
19009JNF	0.010	143	0.010	0.012
19009JNG	0.012	149	0.012	0.014
19009JNH	0.012	162	0.012	0.013
19009JNI	0.013	28	0.010	0.015
19009JNJ	0.013	5	0.012	0.016
19009JNK	0.013	175	0.012	0.017
19009JNL	0.013	157	0.012	0.015
19009JNM	0.019	107	0.019	0.033
19009JNN	0.015	138	0.013	0.021
19009JNO	0.015	150	0.013	0.018
19009JNP	0.013	127	0.013	0.018
19009JNQ	0.015	7	0.015	0.024
19009JNR	0.011	82	0.010	0.017
19009JNS	0.014	92	0.013	0.020
19009JNT	0.013	99	0.012	0.016
19009JNU	0.012	102	0.012	0.014
19009JNV	0.015	29	0.014	0.023
19009JNW	0.015	141	0.011	0.019
19009JNX	0.015	0	0.013	0.019
19009JNY	0.022	1	0.015	0.029
19009JNZ	0.018	3	0.016	0.034
19009JOA	0.014	4	0.013	0.023
19009JOB	0.013	179	0.012	0.019
19009JOC	0.016	11	0.014	0.023
19009JOD	0.015	9	0.013	0.022
19009JOE	0.015	161	0.014	0.028
19009JOF	0.015	160	0.014	0.021
19009JOG	0.012	126	0.012	0.016
19009JOH	0.014	96	0.013	0.018
19009JOI	0.017	80	0.016	0.024
19009JOJ	0.017	70	0.015	0.023
19009JOK	0.016	58	0.015	0.022
19009JOL	0.016	45	0.014	0.022
19009TAA	0.009	14	0.008	0.034
19009TAB	0.008	140	0.008	0.033
19009TAC	0.008	139	0.008	0.041

Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
19009TAD	0.008	145	0.008	0.041
19009TAE	0.009	10	0.008	0.038
19009TAF	0.008	40	0.007	0.034
19009TAG	0.012	176	0.009	0.050
19009TAH	0.009	131	0.008	0.043
19009TAI	0.010	110	0.009	0.044
19009TAJ	0.009	118	0.008	0.041
19009TAK	0.010	139	0.008	0.049
19009TAL	0.006	125	0.006	0.020
19009TAM	0.019	160	0.014	0.031
19009TAN	0.013	160	0.013	0.021
19009TAO	0.014	3	0.013	0.020
19009TAP	0.014	5	0.013	0.020
19009TAQ	0.014	6	0.013	0.018
19009TAR	0.018	13	0.015	0.026
19009TAS	0.014	6	0.012	0.016
19009TAT	0.014	178	0.013	0.018
19009TAU	0.021	145	0.019	0.038
19009TAV	0.014	126	0.013	0.018
19009TAW	0.014	109	0.013	0.019
19009TAX	0.011	67	0.011	0.015
19009TAY	0.018	43	0.016	0.027
19009TAZ	0.016	49	0.014	0.020
19009TBA	0.018	41	0.015	0.026
19009TBB	0.016	40	0.012	0.022
19009TBC	0.012	36	0.009	0.021
19009TBD	0.013	34	0.013	0.017
19009TBE	0.012	75	0.012	0.015
19009TBF	0.013	81	0.013	0.018
19009TBG	0.013	83	0.012	0.018
19009TBH	0.014	58	0.013	0.021
19009TBI	0.013	31	0.012	0.017
19009TBJ	0.015	15	0.014	0.022
19009TBK	0.011	17	0.010	0.013
19009TBL	0.013	15	0.012	0.015
19009TBM	0.014	170	0.012	0.017
19009TBN	0.014	158	0.012	0.017
19009TBO	0.011	146	0.010	0.013
19009TBP	0.011	135	0.010	0.013
19009TBQ	0.014	128	0.012	0.017
19009TBR	0.014	156	0.013	0.026
19009TBS	0.013	89	0.012	0.016
19009TBT	0.012	99	0.012	0.016
19009TBU	0.013	9	0.012	0.016
19009TBV	0.015	16	0.013	0.020
19009TBW	0.018	11	0.014	0.032
19009TBX	0.014	144	0.013	0.017
19009TBY	0.011	114	0.011	0.013
19009TBZ	0.014	90	0.013	0.016
19009TCA	0.013	81	0.013	0.015
19009TCB	0.012	60	0.012	0.013
19009TCC	0.016	41	0.014	0.022
19009TCD	0.014	31	0.012	0.018
19009TCE	0.009	20	0.007	0.044

Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
19009TCF	0.008	148	0.007	0.044
19009TCG	0.018	69	0.018	0.037
19009TCH	0.013	53	0.013	0.019
19009TCI	0.015	24	0.014	0.022
19009TCJ	0.008	18	0.007	0.032
19009TCK	0.011	172	0.010	0.016
19009TCL	0.014	166	0.013	0.020
19009TCM	0.013	158	0.012	0.015
19009TCN	0.012	143	0.012	0.014
19009TCO	0.010	130	0.008	0.046
19009TCP	0.007	126	0.006	0.028
19009TCQ	0.009	127	0.008	0.042
19009TCR	0.008	130	0.008	0.045
19009TCS	0.009	162	0.009	0.041
19009TCT	0.008	147	0.007	0.032
19009TCU	0.011	150	0.008	0.041
19009TCV	0.010	147	0.007	0.036
19009TCW	0.010	148	0.008	0.035
19009TCX	0.011	120	0.009	0.038
19009TCY	0.009	52	0.008	0.042
19009TCZ	0.008	33	0.006	0.038
19009TDA	0.012	18	0.011	0.021
19009TDB	0.015	10	0.013	0.020
19009TDC	0.008	109	0.007	0.038
19009TDD	0.010	120	0.009	0.042
19009TDE	0.009	119	0.008	0.038
19009TDF	0.008	51	0.007	0.016
19009TDG	0.010	55	0.007	0.033
19009TDH	0.009	60	0.007	0.039
19009TDI	0.008	54	0.008	0.043
19009TDJ	0.007	152	0.007	0.033
19009TDK	0.008	141	0.007	0.038
19009TDL	0.008	171	0.007	0.041
19009TDM	0.008	33	0.007	0.044
19009TDN	0.009	38	0.007	0.038
19009TDO	0.009	33	0.007	0.037
19009TDP	0.009	37	0.008	0.032
19009TDQ	0.008	92	0.008	0.039
19009TDR	0.008	110	0.007	0.045
19009TDS	0.007	123	0.006	0.035
19009TDT	0.007	100	0.007	0.032
19009TDU	0.007	72	0.006	0.030
19009TDV	0.008	76	0.007	0.039
19009TDW	0.010	147	0.009	0.045
19009TDX	0.007	92	0.006	0.027
19009TDY	0.010	135	0.008	0.036
19009TDZ	0.010	141	0.008	0.049
19009TEA	0.009	129	0.008	0.036
19009TEB	0.010	112	0.008	0.043
19009TEC	0.008	123	0.008	0.038
19009TED	0.009	1	0.008	0.037
19009TEE	0.010	6	0.008	0.044
19009TEF	0.006	175	0.005	0.032
19009TEG	0.009	66	0.008	0.035

Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
19009TEH	0.009	73	0.008	0.034
19009TEI	0.008	73	0.008	0.032
19009TEJ	0.009	63	0.008	0.037
19009TEK	0.019	38	0.015	0.027
19009TEL	0.011	29	0.009	0.015
19009TEM	0.012	24	0.012	0.015
19009TEN	0.014	80	0.013	0.025
19009TEO	0.009	9	0.008	0.020
19009TEP	0.008	14	0.007	0.036
19009TEQ	0.008	38	0.007	0.036
19009TER	0.008	32	0.007	0.037
19009TES	0.008	34	0.008	0.042
19009TET	0.010	31	0.009	0.032
19009TEU	0.009	33	0.008	0.034
19009TEV	0.010	59	0.008	0.034
19009TEW	0.011	76	0.008	0.044
19009TEX	0.009	81	0.008	0.018
19009TEY	0.008	108	0.008	0.047
19009TEZ	0.009	143	0.008	0.041
19009TFA	0.009	156	0.009	0.033
19009TFB	0.009	75	0.009	0.018
19009TFC	0.012	16	0.012	0.015
19009TFD	0.011	0	0.011	0.011
19009TFE	0.011	3	0.011	0.011
19009TFF	0.012	7	0.011	0.012
19009TFG	0.012	14	0.011	0.012
19009TFH	0.012	14	0.012	0.014
19009TFI	0.014	12	0.013	0.018
19009TFJ	0.015	153	0.014	0.020
19009TFK	0.007	115	0.006	0.015
19009TFL	0.010	109	0.009	0.023
19009TFM	0.009	49	0.008	0.038
19009TFN	0.010	46	0.007	0.036
19009TFO	0.009	56	0.006	0.028
19009TFP	0.010	55	0.007	0.035
19009TFQ	0.013	28	0.012	0.019
19009TFR	0.008	128	0.007	0.043
19009TFS	0.008	109	0.007	0.056
19009TFT	0.013	62	0.013	0.024
19009TFU	0.011	32	0.011	0.017
19009TFV	0.016	25	0.014	0.025
19009TFW	0.013	21	0.012	0.015
19009TFX	0.012	163	0.011	0.013
19009TFY	0.013	140	0.012	0.014
ELMENDORF SE	0.010	113	0.008	0.066
J1302_RTX	0.014	29	0.011	0.069
J1473	0.016	127	0.013	0.075
L1523	0.023	123	0.019	0.092
Q449	0.012	177	0.009	0.054
V1306	0.023	138	0.017	0.075
VVAF 06_RTX	0.007	93	0.006	0.055
VVAF 37_RTX	0.011	90	0.009	0.055
VVAF 10_RTX	0.009	151	0.008	0.056
VVAF01	0.024	176	0.013	0.055



Station Name	Major Semi-Axis	Azimuth	Minor Semi-Axis	Vertical
VVAF02	0.027	56	0.016	0.044
VVAF03	0.015	20	0.011	0.051
VVAF04	0.019	67	0.013	0.047
VVAF07	0.023	159	0.015	0.061
VVAF08	0.013	3	0.011	0.057
VVAF09	0.027	112	0.019	0.043
VVAF11	0.020	174	0.013	0.054
VVAF12	0.020	62	0.014	0.055
VVAF14	0.031	23	0.017	0.058
VVAF16_RTX	0.010	28	0.007	0.069
VVAF17	0.031	109	0.017	0.061
VVAF18	0.018	36	0.013	0.061
VVAF19	0.022	149	0.012	0.047
VVAF20	0.027	21	0.013	0.052
VVAF21	0.014	126	0.011	0.052
VVAF23	0.031	66	0.015	0.055
VVAF24	0.023	44	0.012	0.057
VVAF25	0.025	172	0.011	0.056
VVAF26	0.017	16	0.011	0.051
VVAF28	0.018	54	0.012	0.051
VVAF29	0.033	22	0.013	0.051
VVAF30	0.016	127	0.012	0.049
VVAF31	0.020	121	0.012	0.060
VVAF32	0.016	109	0.015	0.053
VVAF33	0.017	28	0.012	0.065
VVAF34_RTX	0.011	128	0.010	0.060
VVAF35	0.027	8	0.015	0.052
VVAF36	0.031	47	0.013	0.063
VVAF39	0.030	170	0.015	0.060
VVAF40	0.020	143	0.015	0.063
VVAF41	0.021	125	0.014	0.055
VVAF42	0.027	7	0.015	0.053
VVAF43	0.017	136	0.012	0.051
VVAF44	0.028	136	0.016	0.053
VVAF45	0.038	166	0.018	0.054
VVAF46_RTX	0.017	100	0.010	0.060
VVAF47	0.022	142	0.013	0.058
VVAF49	0.031	149	0.017	0.051
VVAF50	0.018	142	0.012	0.057

## SUMMARY

A LiDAR ground control network consisting of 115 ground control points (GCP) and 455 QA/QC check points was established in central Texas. The estimated accuracy of the control network is  $\pm 0.05$  m with respect to the NAD83 (2011) epoch 2010.0 reference frame and the NAVD88 vertical datum.

## Adjusted Coordinates

Horizontal Datum: NAD83 (2011) epoch 2010.0

Vertical Datum: NAVD88=Ellipsoidal Height-GEOID12B

Units: meters

**Table 6 - Geodetic Coordinates**

Station Name	Latitude	Longitude	NAVD88	Ellip Hgt
GCP001	30°04'35.09387" N	99°40'46.00720" W	714.836	692.793
GCP002	30°09'52.54489" N	99°30'19.32252" W	683.401	661.594
GCP003	29°57'19.57294" N	99°29'34.94499" W	652.393	630.387
GCP004	30°02'43.99874" N	99°14'03.22190" W	600.116	578.084
GCP005	29°54'51.14345" N	99°14'55.49770" W	635.027	612.762
GCP006	30°10'51.62182" N	99°12'06.80748" W	661.040	639.304
GCP007	31°49'30.63023" N	99°06'13.69827" W	441.684	415.538
GCP008	30°50'33.31489" N	99°04'54.04932" W	523.037	500.196
GCP009	31°07'41.84411" N	99°03'38.19621" W	449.157	425.450
GCP010	31°25'21.06428" N	99°01'49.06548" W	419.791	394.886
GCP011	31°50'04.03409" N	99°00'43.74289" W	437.446	411.186
GCP012	30°31'23.34114" N	99°00'51.12879" W	513.576	491.254
GCP013	27°23'41.56824" N	98°59'33.68281" W	254.263	229.697
GCP014	30°01'32.69358" N	98°58'31.30418" W	474.277	451.784
GCP015	29°56'23.76742" N	98°58'19.07990" W	449.233	426.433
GCP016	30°23'38.28799" N	98°57'55.59760" W	651.358	629.251
GCP017	30°42'17.83433" N	98°57'31.51351" W	360.386	337.584
GCP018	29°27'46.09219" N	98°57'29.48177" W	286.934	262.666
GCP019	30°58'10.76290" N	98°57'18.84555" W	578.728	555.499
GCP020	31°16'26.87871" N	98°56'47.63974" W	417.747	393.349
GCP021	29°45'37.15967" N	98°55'47.57279" W	485.836	462.362
GCP022	30°05'08.57266" N	98°55'28.85059" W	626.938	604.514
GCP023	29°39'25.12906" N	98°55'07.81756" W	412.110	388.254
GCP024	31°38'16.04104" N	98°53'49.74715" W	397.606	371.914
GCP025	29°20'44.90353" N	98°51'59.60765" W	235.290	210.871
GCP026	29°33'14.47924" N	98°51'06.56633" W	417.858	393.526
GCP027	28°12'08.14140" N	98°51'51.96909" W	119.670	94.307
GCP028	27°04'25.23463" N	98°51'15.24988" W	227.018	202.634
GCP029	27°14'50.32428" N	98°51'11.11421" W	244.999	220.394
GCP030	28°39'32.76631" N	98°50'27.58920" W	150.398	125.277
GCP031	31°07'37.14657" N	98°49'14.71334" W	409.306	385.278
GCP032	30°50'59.11025" N	98°48'57.98511" W	396.243	373.044
GCP033	31°25'25.05424" N	98°48'50.46284" W	390.676	365.523
GCP034	27°24'25.58681" N	98°49'03.20746" W	226.338	201.475
GCP035	28°27'53.64488" N	98°48'49.60937" W	97.414	72.059
GCP036	27°05'38.25740" N	98°48'38.29502" W	219.402	194.898
GCP037	30°13'24.26356" N	98°48'15.20741" W	483.942	461.468
GCP038	30°04'59.79250" N	98°44'40.59076" W	486.454	463.660
GCP039	30°23'31.71032" N	98°44'31.88255" W	535.393	512.762
GCP040	29°55'22.29629" N	98°43'05.71389" W	428.020	404.565
GCP041	29°45'14.10896" N	98°42'36.23950" W	440.091	415.991
GCP042	30°38'17.51079" N	98°42'14.16429" W	406.720	383.727
GCP043	29°25'09.17337" N	98°41'38.96186" W	252.080	227.146
GCP044	29°11'34.46012" N	98°41'25.33674" W	207.781	182.964
GCP045	31°17'42.37620" N	98°40'31.45368" W	365.130	340.122
GCP046	31°33'34.15848" N	98°39'55.10060" W	439.537	413.884
GCP047	31°07'37.09803" N	98°39'04.35988" W	479.328	454.942
GCP048	30°50'59.77082" N	98°35'07.10450" W	332.692	308.963

Station Name	Latitude	Longitude	NAVD88	Ellip Hgt
GCP049	28°00'45.02702" N	98°35'34.34368" W	154.674	129.008
GCP050	31°25'04.26304" N	98°33'55.55822" W	460.337	434.817
GCP051	30°59'49.31164" N	98°33'39.45627" W	444.601	420.494
GCP052	28°19'52.83349" N	98°33'51.03547" W	66.494	40.742
GCP053	28°32'58.79180" N	98°32'44.15752" W	113.740	88.067
GCP054	29°13'02.85932" N	98°32'32.24842" W	177.381	152.125
GCP055	30°05'00.77404" N	98°31'27.20662" W	447.967	424.531
GCP056	30°23'35.96527" N	98°30'37.26178" W	449.966	426.723
GCP057	30°15'13.70227" N	98°29'54.14533" W	447.997	424.651
GCP058	31°07'33.90279" N	98°26'26.41694" W	347.680	322.671
GCP059	29°54'58.91751" N	98°26'44.07541" W	359.632	335.267
GCP060	30°31'04.01475" N	98°26'40.65980" W	310.886	287.341
GCP061	28°12'30.27418" N	98°24'53.46138" W	128.555	102.621
GCP062	28°02'01.48972" N	98°24'45.05154" W	164.224	138.317
GCP063	28°27'36.02820" N	98°24'28.17305" W	91.065	65.137
GCP064	30°50'57.60604" N	98°23'20.63214" W	319.636	295.323
GCP065	30°05'19.58110" N	98°21'53.11035" W	405.566	381.516
GCP066	28°39'20.59931" N	98°26'25.43452" W	119.298	93.559
GCP067	29°38'45.44044" N	98°19'34.00958" W	289.141	263.559
GCP068	29°04'17.89061" N	98°19'04.63343" W	143.515	118.054
GCP069	29°45'10.09718" N	98°18'15.98199" W	362.942	337.622
GCP070	30°22'49.84433" N	98°15'01.19703" W	298.666	274.442
GCP071	29°54'45.62721" N	98°13'03.01603" W	283.940	258.841
GCP072	29°10'25.26210" N	98°13'15.72096" W	128.645	102.998
GCP073	29°30'50.88339" N	98°09'55.33727" W	192.110	166.077
GCP074	28°55'54.91818" N	98°08'51.77380" W	119.182	93.248
GCP075	30°30'26.13091" N	98°06'17.83006" W	249.112	224.298
GCP076	29°39'37.87774" N	98°06'34.47047" W	198.270	172.325
GCP077	29°16'52.68645" N	98°06'37.09719" W	173.066	147.180
GCP078	29°45'12.63419" N	98°05'02.95358" W	213.729	187.920
GCP079	29°01'09.13959" N	98°03'11.93103" W	105.362	79.379
GCP080	29°24'12.61531" N	98°02'14.18995" W	176.168	150.086
GCP081	28°43'35.36988" N	98°00'23.20897" W	136.588	110.225
GCP082	29°09'40.69875" N	97°56'49.85008" W	133.702	107.759
GCP083	29°32'49.37048" N	97°55'52.75048" W	152.282	126.054
GCP084	28°51'16.33786" N	97°53'02.78709" W	125.763	99.222
GCP085	29°14'27.10512" N	97°51'02.78920" W	133.895	107.854
GCP086	28°40'51.72937" N	97°49'58.36201" W	105.211	78.499
GCP087	29°43'36.54758" N	97°44'37.49501" W	134.464	108.150
GCP088	28°59'28.85016" N	97°44'34.34448" W	114.691	87.986
GCP089	29°27'01.92238" N	97°41'00.87152" W	121.432	95.112
GCP090	28°51'24.29218" N	97°41'21.63380" W	83.725	56.821
GCP091	29°56'55.88480" N	97°36'23.87294" W	160.708	134.402
GCP092	29°08'39.07638" N	97°35'34.38159" W	104.862	78.077
GCP093	29°34'35.48507" N	97°31'06.95395" W	101.310	74.895
GCP094	29°18'00.74160" N	97°31'08.46271" W	82.107	55.370
GCP095	29°51'21.27030" N	97°30'11.96316" W	152.207	125.885
GCP096	28°55'40.05966" N	97°29'57.82228" W	84.727	57.554
GCP097	31°21'23.44414" N	97°19'55.83172" W	211.827	184.514
GCP098	29°08'59.23536" N	97°19'37.86394" W	83.633	56.352
GCP099	28°55'06.69928" N	97°19'47.33318" W	74.386	46.987
GCP100	29°41'51.48833" N	97°18'15.10247" W	114.276	87.742
GCP101	31°18'25.02825" N	97°14'39.44249" W	202.635	175.564
GCP102	31°25'32.84903" N	97°14'27.48754" W	214.615	187.455

Station Name	Latitude	Longitude	NAVD88	Ellip Hgt
GCP103	31°10'50.48040" N	97°13'50.06453" W	173.615	146.722
GCP104	29°25'03.73153" N	97°14'59.27762" W	114.776	87.732
GCP105	29°36'25.96505" N	97°11'54.64389" W	95.882	69.034
GCP106	29°01'17.69003" N	97°10'07.24736" W	46.049	18.567
GCP107	31°23'01.99366" N	97°03'10.64099" W	126.933	100.467
GCP108	29°33'46.52939" N	96°04'52.50654" W	37.881	10.528
GCP109	29°37'23.07614" N	95°58'32.50096" W	38.652	11.266
GCP110	29°26'54.17788" N	95°55'18.24354" W	29.051	1.761
GCP111	29°42'13.76379" N	95°51'03.86997" W	40.716	13.283
GCP112	29°19'10.49929" N	95°48'36.93592" W	22.579	-4.531
GCP113	29°35'52.94612" N	95°43'17.49408" W	24.423	-2.899
GCP114	29°24'37.24114" N	95°40'02.13564" W	17.746	-9.354
GCP115	29°31'44.13189" N	95°29'16.78636" W	20.332	-6.812
NVA001	30°04'37.66627" N	99°40'44.60485" W	713.325	691.283
NVA002	29°54'28.71943" N	99°35'46.08172" W	698.182	676.082
NVA003	30°05'01.59262" N	99°33'15.97398" W	661.457	639.555
NVA004	29°59'28.33753" N	99°25'21.73693" W	637.159	615.222
NVA005	30°14'34.05699" N	99°25'17.28427" W	676.482	654.748
NVA006	30°03'30.47333" N	99°25'02.13470" W	562.502	540.645
NVA007	30°04'33.21498" N	99°16'34.67995" W	543.490	521.560
NVA008	29°58'53.51138" N	99°16'50.62305" W	619.290	597.246
NVA009	30°03'47.64898" N	99°10'59.06392" W	505.388	483.309
NVA010	29°58'57.54156" N	99°09'46.29315" W	534.069	511.780
NVA011	30°10'02.79468" N	99°08'30.18028" W	632.866	611.014
NVA012	31°42'41.62511" N	99°07'14.92627" W	492.697	466.941
NVA013	31°14'23.67705" N	99°06'59.10169" W	475.420	451.326
NVA014	31°33'02.88816" N	99°07'00.17593" W	411.418	386.092
NVA015	30°51'51.30660" N	99°06'54.71130" W	508.032	485.142
NVA016	30°44'18.31963" N	99°06'40.38447" W	415.094	392.446
NVA017	29°52'29.43418" N	99°06'26.01531" W	516.604	493.916
NVA018	31°49'27.05332" N	99°06'21.92806" W	436.484	410.342
NVA019	30°38'41.28738" N	99°05'50.64432" W	395.030	372.528
NVA020	31°00'17.48972" N	99°04'24.04456" W	477.065	453.791
NVA021	31°09'36.71443" N	99°03'31.83881" W	480.777	456.956
NVA022	30°49'38.07034" N	99°03'27.18290" W	461.297	438.466
NVA023	31°36'50.98828" N	99°02'12.60031" W	467.203	441.662
NVA024	31°20'53.75156" N	99°01'53.08059" W	443.872	419.292
NVA025	30°31'13.82757" N	99°01'50.44841" W	551.373	529.085
NVA026	29°53'21.51173" N	99°01'17.41795" W	513.153	490.308
NVA027	31°48'10.48872" N	99°01'10.96834" W	454.324	428.180
NVA028	29°59'23.43165" N	99°00'00.66509" W	535.550	512.996
NVA029	31°25'13.74625" N	98°59'48.33701" W	423.686	398.772
NVA030	30°24'33.23429" N	98°59'12.14539" W	664.169	642.108
NVA031	31°31'35.02171" N	98°58'58.95957" W	404.902	379.606
NVA032	31°17'44.86085" N	98°58'51.36689" W	431.321	406.896
NVA033	27°21'37.34748" N	98°58'51.42447" W	274.522	249.990
NVA034	30°54'33.88568" N	98°58'39.20161" W	473.631	450.552
NVA035	30°42'08.10367" N	98°57'30.58550" W	361.174	338.374
NVA036	29°53'37.04139" N	98°57'14.72451" W	514.056	491.076
NVA037	29°59'31.02610" N	98°56'39.97480" W	449.097	426.430
NVA038	29°43'30.55203" N	98°56'29.50397" W	403.249	379.660
NVA039	30°34'50.51992" N	98°56'03.35615" W	419.294	396.668
NVA040	30°48'42.82808" N	98°55'56.87099" W	431.048	408.062
NVA041	30°15'28.81221" N	98°55'21.98716" W	518.537	496.278

Station Name	Latitude	Longitude	NAVD88	Ellip Hgt
NVA042	29°53'23.78004" N	99°08'11.07113" W	503.567	480.992
NVA043	29°28'11.79804" N	98°55'07.15117" W	299.140	274.791
NVA044	29°58'03.87341" N	98°54'58.59255" W	432.882	410.061
NVA045	31°04'43.93973" N	98°54'18.43805" W	481.182	457.497
NVA046	31°38'24.84967" N	98°53'53.02913" W	394.743	369.044
NVA047	28°12'17.05117" N	98°53'56.07016" W	111.496	86.172
NVA048	28°42'12.16057" N	98°53'28.25741" W	158.367	133.390
NVA049	28°26'13.83867" N	98°53'18.10379" W	103.673	78.401
NVA050	30°33'04.48007" N	98°52'57.86719" W	461.179	438.528
NVA051	29°34'21.34353" N	98°52'48.73407" W	406.067	381.857
NVA052	30°59'22.20700" N	98°52'18.03313" W	582.548	559.172
NVA053	29°20'47.16203" N	98°52'25.13693" W	230.300	205.899
NVA054	31°35'03.87315" N	98°52'09.81450" W	429.495	403.962
NVA055	27°14'29.58495" N	98°51'47.76071" W	256.799	232.221
NVA056	31°13'47.08025" N	98°51'08.14764" W	397.014	372.602
NVA057	30°13'27.31241" N	98°50'35.20366" W	482.680	460.276
NVA058	30°26'23.94047" N	98°50'10.97252" W	531.000	508.507
NVA059	28°02'25.54226" N	98°50'17.40420" W	92.315	66.939
NVA060	31°06'54.90509" N	98°49'29.72946" W	417.892	393.926
NVA061	31°22'05.58339" N	98°49'25.88525" W	424.128	399.178
NVA062	29°46'47.58715" N	98°49'19.34659" W	504.840	481.182
NVA063	30°06'06.06252" N	98°49'15.55173" W	581.391	558.814
NVA064	30°51'21.66319" N	98°49'00.83778" W	403.770	380.565
NVA065	30°43'45.82911" N	98°48'56.14125" W	337.611	314.571
NVA066	27°04'26.17735" N	98°49'19.06965" W	218.490	194.037
NVA067	27°14'51.53092" N	98°48'43.85596" W	223.352	198.665
NVA068	28°27'57.66256" N	98°48'31.71743" W	94.582	69.222
NVA069	30°17'09.96073" N	98°48'09.75679" W	497.809	475.330
NVA070	28°23'58.84420" N	98°48'15.90087" W	108.381	83.000
NVA071	28°21'03.93385" N	98°48'09.89486" W	114.975	89.583
NVA072	31°40'27.18488" N	98°47'46.05811" W	458.720	432.875
NVA073	31°28'49.07441" N	98°47'42.24281" W	455.060	429.744
NVA074	28°32'13.04469" N	98°47'41.82279" W	105.493	80.161
NVA075	29°54'47.26819" N	98°47'10.53908" W	420.854	397.521
NVA076	28°37'45.16139" N	98°47'02.47153" W	142.254	117.007
NVA077	29°19'08.70699" N	98°46'35.00276" W	208.026	183.385
NVA078	31°12'11.80010" N	98°46'05.45280" W	374.260	349.783
NVA079	30°40'08.94483" N	98°46'09.20367" W	382.515	359.534
NVA080	29°37'43.94738" N	98°48'04.21704" W	389.376	365.157
NVA081	30°58'36.07052" N	98°45'20.00841" W	478.000	454.488
NVA082	30°30'30.49097" N	98°44'48.44509" W	409.095	386.304
NVA083	28°11'33.32821" N	98°45'06.54227" W	86.874	61.371
NVA084	29°26'17.70365" N	98°44'56.09382" W	268.176	243.385
NVA085	29°15'01.74507" N	98°44'53.40725" W	217.892	193.234
NVA086	31°04'25.30010" N	98°44'04.48605" W	498.067	474.143
NVA087	30°08'30.91392" N	98°43'56.31290" W	538.517	515.847
NVA088	30°45'26.39513" N	98°43'36.02899" W	321.590	298.377
NVA089	28°44'46.06015" N	98°43'43.97394" W	142.149	116.973
NVA090	30°20'35.55295" N	98°42'10.56805" W	528.655	505.936
NVA091	31°12'42.59627" N	98°42'00.80261" W	370.958	346.298
NVA092	28°29'13.60497" N	98°42'09.14487" W	91.997	66.505
NVA093	31°35'48.32942" N	98°41'27.13576" W	460.274	434.566
NVA094	29°16'13.23505" N	98°41'50.93322" W	194.244	169.413
NVA095	29°59'07.88402" N	98°41'29.24209" W	442.714	419.476

Station Name	Latitude	Longitude	NAVD88	Ellip Hgt
NVA096	29°45'26.58443" N	98°41'09.92130" W	420.329	396.150
NVA097	31°32'36.79741" N	98°40'41.62461" W	432.835	407.231
NVA098	28°10'16.01504" N	98°40'53.97630" W	79.106	53.506
NVA099	30°44'25.41591" N	98°40'22.54268" W	329.325	306.033
NVA100	29°24'05.20684" N	98°40'33.18170" W	219.426	194.451
NVA101	29°13'19.10932" N	98°39'57.32882" W	193.909	169.001
NVA102	30°52'49.19451" N	98°39'13.89137" W	408.180	384.618
NVA103	31°23'02.36226" N	98°39'06.73755" W	379.010	353.706
NVA104	28°34'21.19337" N	98°40'05.60133" W	113.144	87.669
NVA105	28°30'42.32638" N	98°38'11.36763" W	88.378	62.803
NVA106	29°54'19.02849" N	98°37'53.16540" W	382.676	358.883
NVA107	30°24'14.05432" N	98°37'22.50314" W	470.111	447.173
NVA108	30°57'07.43308" N	98°36'41.09553" W	486.720	462.918
NVA109	31°08'56.56014" N	98°35'17.06276" W	394.333	369.654
NVA110	28°01'52.80902" N	98°35'42.36862" W	136.976	111.305
NVA111	31°26'48.44921" N	98°34'46.97359" W	466.654	441.100
NVA112	28°06'06.55218" N	98°35'32.92648" W	124.430	98.736
NVA113	31°03'19.68942" N	98°34'18.27471" W	400.239	375.908
NVA114	30°14'29.78014" N	98°34'36.51147" W	428.090	405.004
NVA115	28°10'58.84897" N	98°34'38.68493" W	113.051	87.333
NVA116	29°45'26.47427" N	98°34'11.62659" W	370.447	345.886
NVA117	29°12'26.40537" N	98°34'06.47539" W	188.321	163.142
NVA118	31°17'47.24649" N	98°33'20.20304" W	406.735	381.460
NVA119	30°29'49.17298" N	98°33'22.23942" W	325.726	302.558
NVA120	30°06'13.70412" N	98°33'20.07945" W	459.445	436.166
NVA121	28°14'21.27459" N	98°33'46.26209" W	91.967	66.217
NVA122	28°21'09.49732" N	98°33'34.76391" W	86.235	60.483
NVA123	28°37'35.05510" N	98°32'47.59171" W	95.312	69.707
NVA124	28°27'21.63350" N	98°32'49.42596" W	77.721	51.989
NVA125	31°13'07.97775" N	98°31'32.50861" W	363.188	338.076
NVA126	29°58'08.68022" N	98°31'34.18514" W	412.815	388.984
NVA127	28°30'07.59173" N	98°31'57.16762" W	87.375	61.642
NVA128	31°29'23.54638" N	98°30'17.85986" W	485.089	459.292
NVA129	31°20'51.16714" N	98°30'11.35154" W	441.986	416.476
NVA130	30°19'57.88410" N	98°30'24.97744" W	393.756	370.433
NVA131	31°04'16.76547" N	98°29'52.90435" W	404.965	380.327
NVA132	30°35'06.10536" N	98°29'59.89892" W	307.908	284.422
NVA133	30°11'00.59433" N	98°29'49.69380" W	503.263	479.938
NVA134	28°03'41.00507" N	98°29'56.97959" W	192.509	166.718
NVA135	27°56'48.37768" N	98°29'42.33521" W	184.989	159.218
NVA136	31°07'26.82953" N	98°27'56.12471" W	360.240	335.297
NVA137	30°53'20.71286" N	98°27'57.25146" W	316.521	292.345
NVA138	29°47'54.69536" N	98°27'57.48378" W	404.142	379.414
NVA139	30°27'33.58436" N	98°27'41.30671" W	437.089	413.696
NVA140	29°43'40.35809" N	98°27'37.43520" W	362.573	337.573
NVA141	31°01'04.91792" N	98°26'50.95850" W	311.706	287.132
NVA142	28°27'21.14584" N	98°26'26.53990" W	94.538	68.655
NVA143	28°31'59.27259" N	98°26'01.97308" W	79.243	53.378
NVA144	28°39'43.38578" N	98°25'57.17229" W	108.543	82.796
NVA145	30°36'21.20535" N	98°24'36.73667" W	254.326	230.460
NVA146	28°12'34.59471" N	98°25'14.58257" W	115.075	89.147
NVA147	30°47'08.04293" N	98°23'49.82674" W	312.331	288.156
NVA148	30°07'58.22757" N	98°24'14.37961" W	462.680	438.909
NVA149	29°55'04.05041" N	98°23'25.36077" W	373.575	349.030

Station Name	Latitude	Longitude	NAVD88	Ellip Hgt
NVA150	30°02'50.90982" N	98°23'03.41692" W	428.128	404.050
NVA151	30°21'11.46316" N	98°22'41.38054" W	404.546	380.815
NVA152	30°12'22.16110" N	98°22'39.31956" W	385.455	361.632
NVA153	30°34'54.02081" N	98°22'29.83644" W	256.003	232.059
NVA154	29°44'54.83606" N	98°22'12.83262" W	338.349	313.173
NVA155	28°03'32.30598" N	98°22'32.10382" W	154.420	128.454
NVA156	30°50'35.50764" N	98°21'23.35061" W	331.074	306.700
NVA157	30°26'17.37522" N	98°20'58.94341" W	396.550	372.738
NVA158	29°48'39.37387" N	98°21'11.61151" W	385.166	360.163
NVA159	28°33'16.99662" N	98°20'41.84330" W	92.287	66.315
NVA160	28°26'52.78228" N	98°20'26.79641" W	76.616	50.593
NVA161	28°12'32.40585" N	98°19'39.62288" W	159.328	133.278
NVA162	29°37'15.81717" N	98°18'38.16669" W	255.964	230.289
NVA163	30°05'21.08168" N	98°18'24.29423" W	400.454	376.153
NVA164	28°17'43.29895" N	98°19'04.20070" W	116.096	90.026
NVA165	30°30'04.74936" N	98°18'07.47324" W	345.044	320.974
NVA166	30°33'22.35911" N	98°16'58.25444" W	258.675	234.443
NVA167	29°42'55.47107" N	98°17'06.82636" W	305.468	279.982
NVA168	30°12'36.52041" N	98°16'35.10611" W	367.307	343.030
NVA169	29°58'03.00055" N	98°16'39.70856" W	395.275	370.524
NVA170	29°03'13.26520" N	98°15'55.51169" W	142.594	117.052
NVA171	29°47'12.64667" N	98°15'18.80572" W	360.637	335.300
NVA172	29°09'59.87095" N	98°14'13.13266" W	143.461	117.839
NVA173	28°57'06.92017" N	98°13'55.55265" W	99.997	74.243
NVA174	30°16'34.66750" N	98°13'09.42403" W	320.191	295.734
NVA175	29°56'23.69187" N	98°13'03.12798" W	342.238	317.214
NVA176	29°50'56.87117" N	98°12'37.57299" W	303.894	278.611
NVA177	29°33'51.51311" N	98°12'34.92179" W	211.300	185.364
NVA178	29°22'06.11081" N	98°11'32.49775" W	169.429	143.455
NVA179	30°33'56.91251" N	98°10'20.86122" W	270.519	245.923
NVA180	30°26'09.08441" N	98°10'10.13457" W	307.338	282.797
NVA181	29°01'28.74510" N	98°10'31.81385" W	126.612	100.884
NVA182	29°40'22.89840" N	98°08'52.69156" W	212.016	186.151
NVA183	29°17'14.17173" N	98°09'02.79710" W	192.004	166.140
NVA184	28°58'15.13733" N	98°08'00.35378" W	119.818	93.915
NVA185	30°29'09.05286" N	98°06'23.87515" W	243.360	218.554
NVA186	29°07'49.90942" N	98°06'26.40166" W	148.907	123.183
NVA187	29°50'44.61912" N	98°05'55.47884" W	328.942	303.390
NVA188	29°28'33.42313" N	98°04'59.82042" W	179.729	153.618
NVA189	29°47'01.57674" N	98°03'44.51186" W	246.063	220.281
NVA190	29°24'58.38122" N	98°02'24.14767" W	168.240	142.145
NVA191	28°51'54.16870" N	98°02'31.85622" W	141.210	115.001
NVA192	29°36'29.68805" N	98°01'59.44027" W	164.046	137.942
NVA193	29°12'30.52763" N	98°01'51.08001" W	121.955	96.115
NVA194	28°58'59.17968" N	98°01'49.73966" W	96.979	70.879
NVA195	28°44'11.91878" N	98°01'42.56312" W	135.263	108.940
NVA196	29°33'13.46331" N	98°00'06.12184" W	156.867	130.699
NVA197	29°28'50.47821" N	97°59'37.26058" W	165.098	138.938
NVA198	29°05'25.49718" N	97°58'48.95332" W	103.040	77.058
NVA199	29°19'40.43063" N	97°55'36.93426" W	152.888	126.868
NVA200	28°45'34.14349" N	97°55'45.82105" W	150.628	124.144
NVA201	29°31'40.62108" N	97°54'54.45436" W	145.093	118.858
NVA202	29°37'21.73763" N	97°54'07.15178" W	177.087	150.859
NVA203	29°00'20.10969" N	97°52'17.17992" W	97.806	71.398

Station Name	Latitude	Longitude	NAVD88	Ellip Hgt
NVA204	29°27'08.53373" N	97°50'42.52752" W	185.765	159.581
NVA205	28°55'30.07104" N	97°50'56.46120" W	82.831	56.261
NVA206	28°49'40.71244" N	97°50'36.55753" W	84.361	57.722
NVA207	29°12'32.35970" N	97°49'58.41641" W	123.875	97.779
NVA208	29°18'46.15472" N	97°49'52.58601" W	132.151	106.086
NVA209	28°57'13.67011" N	97°49'18.53021" W	94.012	67.415
NVA210	29°07'43.60199" N	97°47'05.31301" W	108.820	82.477
NVA211	29°22'04.17097" N	97°45'06.98050" W	115.442	89.250
NVA212	29°24'27.88139" N	97°44'15.55527" W	105.986	79.747
NVA213	29°45'37.36219" N	97°43'58.29918" W	152.203	125.892
NVA214	28°45'59.75206" N	97°44'29.11278" W	82.376	55.521
NVA215	29°19'35.11384" N	97°43'49.48369" W	110.044	83.830
NVA216	28°53'42.93231" N	97°42'59.25723" W	107.803	80.965
NVA217	29°31'21.63697" N	97°41'03.03259" W	109.825	83.505
NVA218	29°11'28.47573" N	97°39'54.13591" W	106.712	80.200
NVA219	29°40'03.20170" N	97°38'43.42465" W	110.842	84.539
NVA220	29°01'47.74105" N	97°38'48.56937" W	132.766	105.930
NVA221	29°16'35.56720" N	97°38'09.67412" W	94.863	68.402
NVA222	29°06'17.92241" N	97°37'15.97668" W	150.352	123.575
NVA223	29°59'09.66385" N	97°35'59.80824" W	169.325	143.046
NVA224	29°43'07.74629" N	97°35'08.38610" W	126.365	100.055
NVA225	28°58'22.76959" N	97°35'29.06991" W	94.124	67.126
NVA226	29°25'50.27183" N	97°32'32.45468" W	108.895	82.359
NVA227	29°50'31.91038" N	97°32'04.26365" W	138.653	112.314
NVA228	29°42'08.83538" N	97°29'02.95253" W	126.535	100.186
NVA229	29°20'46.65255" N	97°29'12.89837" W	89.020	62.277
NVA230	29°36'31.77646" N	97°28'32.31226" W	136.064	109.639
NVA231	28°54'02.20997" N	97°29'09.79131" W	106.392	79.193
NVA232	29°11'37.68009" N	97°28'16.18542" W	83.222	56.218
NVA233	29°28'22.83872" N	97°26'58.13971" W	85.386	58.729
NVA234	29°50'25.79101" N	97°25'36.23246" W	156.324	130.033
NVA235	29°02'00.58670" N	97°25'35.20959" W	92.082	64.858
NVA236	29°29'20.82899" N	97°22'19.90607" W	99.535	72.770
NVA237	29°16'10.99391" N	97°21'21.40610" W	87.260	60.152
NVA238	29°36'07.41504" N	97°20'14.59633" W	110.897	84.255
NVA239	31°19'57.85478" N	97°17'08.84838" W	217.407	190.207
NVA240	28°55'42.92003" N	97°18'44.82171" W	71.475	44.063
NVA241	29°17'55.73039" N	97°17'38.25681" W	100.520	73.370
NVA242	31°16'54.97523" N	97°15'34.62602" W	217.641	190.557
NVA243	31°22'48.95002" N	97°15'07.00889" W	199.798	172.636
NVA244	29°06'00.25602" N	97°17'27.79694" W	58.689	31.335
NVA245	31°09'54.88376" N	97°13'32.55565" W	182.152	155.295
NVA246	29°27'24.50111" N	97°14'24.91271" W	151.823	124.827
NVA247	31°20'31.23568" N	97°10'21.51397" W	152.704	125.821
NVA248	29°39'09.69204" N	97°11'29.96118" W	105.379	78.596
NVA249	29°00'38.74517" N	97°08'51.24778" W	56.291	28.796
NVA250	31°24'48.50792" N	97°01'54.75519" W	111.790	85.377
NVA251	29°35'50.36199" N	96°08'02.20380" W	41.744	14.377
NVA252	29°26'40.41012" N	96°00'24.52033" W	29.472	2.152
NVA253	29°37'23.30670" N	95°59'24.10427" W	39.130	11.744
NVA254	29°44'03.99416" N	95°57'46.94519" W	35.557	8.082
NVA255	29°32'42.28757" N	95°56'38.40482" W	34.106	6.754
NVA256	29°30'50.83184" N	95°53'48.43513" W	32.197	4.875
NVA257	29°44'06.89325" N	95°52'47.58527" W	43.823	16.363



Station Name	Latitude	Longitude	NAVD88	Ellip Hgt
NVA258	29°22'39.28098" N	95°53'03.07239" W	25.951	-1.265
NVA259	29°37'56.04113" N	95°49'36.03973" W	28.742	1.358
NVA260	29°25'44.30489" N	95°49'31.20681" W	26.390	-0.833
NVA261	29°33'51.15834" N	95°48'42.08144" W	28.615	1.285
NVA262	29°19'28.13499" N	95°46'27.81192" W	20.134	-6.958
NVA263	29°29'31.81304" N	95°45'44.68770" W	25.449	-1.788
NVA264	29°33'35.28483" N	95°44'00.46169" W	23.267	-4.019
NVA265	29°25'02.09142" N	95°42'18.55055" W	20.180	-6.951
NVA266	29°34'44.74562" N	95°39'13.58856" W	21.533	-5.728
NVA267	29°21'08.06480" N	95°38'29.54641" W	19.221	-7.798
NVA268	29°28'41.38382" N	95°36'37.15781" W	20.764	-6.377
VVA001	29°04'04.76797" N	97°13'18.81199" W	52.086	24.662
VVA002	29°22'29.51826" N	97°41'19.05060" W	103.948	77.642
VVA003	30°06'56.36244" N	99°37'06.36561" W	706.481	684.539
VVA004	30°23'55.36798" N	98°51'29.53073" W	632.800	610.406
VVA005	29°29'22.51934" N	97°53'38.70752" W	176.965	150.755
VVA006	28°23'48.19423" N	98°33'10.76580" W	107.744	82.002
VVA007	31°18'49.30462" N	98°46'45.74537" W	435.689	410.853
VVA008	30°09'50.09640" N	99°14'42.61037" W	644.413	622.666
VVA009	30°23'53.99189" N	98°21'34.97961" W	397.040	373.271
VVA010	28°55'39.82883" N	97°36'10.06382" W	118.258	91.257
VVA011	29°20'08.55708" N	95°51'33.37521" W	21.507	-5.653
VVA012	30°13'17.21166" N	98°46'14.06446" W	472.036	449.492
VVA013	27°58'45.99510" N	98°29'40.28673" W	194.418	168.640
VVA014	29°25'27.75277" N	98°13'44.91398" W	191.109	165.121
VVA015	29°25'04.00582" N	98°08'46.11138" W	153.945	127.893
VVA016	29°15'25.68754" N	97°35'17.64506" W	90.020	63.402
VVA017	30°40'12.53565" N	98°24'08.51651" W	270.361	246.371
VVA018	31°02'14.76511" N	98°34'40.16078" W	386.578	362.348
VVA019	29°22'49.09805" N	97°48'33.41221" W	138.068	111.933
VVA020	28°50'19.08760" N	97°45'30.86861" W	71.625	44.820
VVA021	29°37'34.51925" N	98°56'04.60842" W	399.166	375.237
VVA022	29°20'19.25583" N	97°29'21.14636" W	81.403	54.654
VVA023	29°40'07.75314" N	97°38'54.14417" W	116.386	90.082
VVA024	28°10'52.63959" N	98°30'51.46825" W	105.010	79.206
VVA025	29°32'20.76729" N	95°33'16.04113" W	19.316	-7.862
VVA026	31°03'49.22311" N	98°32'44.00338" W	377.960	353.502
VVA027	31°43'59.28738" N	99°04'43.91434" W	493.796	467.944
VVA028	29°14'31.44025" N	97°59'37.06278" W	130.821	104.923
VVA029	30°12'16.98050" N	99°23'13.73829" W	636.160	614.427
VVA030	30°17'11.57631" N	98°38'19.22519" W	508.342	485.444
VVA031	28°53'43.22937" N	98°07'09.98486" W	137.497	111.464
VVA032	31°27'54.86617" N	98°45'08.17600" W	413.391	388.054
VVA033	31°23'00.82146" N	98°52'39.72058" W	400.254	375.333
VVA034	30°50'01.76517" N	98°26'33.43684" W	311.657	287.505
VVA035	29°01'27.64644" N	97°59'37.78378" W	115.872	89.781
VVA036	29°16'19.14946" N	97°46'29.56055" W	115.692	89.551
VVA037	29°56'17.88200" N	99°39'34.17647" W	714.232	692.149
VVA038	29°33'47.74647" N	98°06'16.57708" W	185.523	159.462
VVA039	28°35'15.41404" N	98°32'44.80325" W	83.876	58.233
VVA040	29°08'59.94486" N	98°12'52.99064" W	138.600	112.975
VVA041	30°59'01.89158" N	98°37'38.89101" W	458.977	435.121
VVA042	28°35'41.10273" N	98°20'05.08555" W	87.534	61.575
VVA043	30°39'32.47438" N	98°53'57.04722" W	393.539	370.716

Station Name	Latitude	Longitude	NAVD88	Ellip Hgt
VVA044	30°23'33.84106" N	98°15'10.74795" W	312.812	288.605
VVA045	31°25'16.33380" N	98°35'31.81330" W	435.492	410.012
VVA046	29°14'56.01903" N	98°32'57.84125" W	164.305	139.036
VVA047	29°37'22.40943" N	98°09'04.06241" W	208.596	182.656
VVA048	29°30'20.17365" N	95°43'04.90331" W	23.874	-3.346
VVA049	29°22'10.74474" N	98°52'50.34934" W	239.824	215.410
VVA050	29°35'32.82588" N	95°48'39.56425" W	27.690	0.338
VVA051	31°12'24.26984" N	98°53'07.81107" W	396.938	372.689
VVA052	30°36'37.42489" N	98°37'35.57741" W	497.696	474.616
VVA053	31°06'36.44013" N	98°23'51.40142" W	387.388	362.334
VVA054	28°46'34.07168" N	97°59'42.43594" W	139.346	112.990
VVA055	31°20'53.22936" N	97°13'10.42339" W	180.345	153.302
VVA056	27°21'37.20067" N	98°58'51.57830" W	274.709	250.177
VVA057	29°06'27.23438" N	97°31'24.56031" W	113.200	86.199
VVA058	28°54'39.07165" N	97°49'48.54499" W	88.891	62.271
VVA059	31°50'52.57584" N	99°06'31.04877" W	441.432	415.212
VVA060	29°33'04.64447" N	97°17'27.13469" W	81.174	54.373
VVA061	29°34'05.72435" N	97°48'59.46925" W	145.774	119.485
VVA062	27°14'51.14929" N	98°51'08.37674" W	244.322	219.716
VVA063	29°57'27.49142" N	99°27'16.61002" W	614.791	592.790
VVA064	28°12'08.60079" N	98°49'42.87464" W	109.669	84.267
VVA065	29°15'12.90018" N	97°24'20.62172" W	124.261	97.223
VVA066	30°52'41.61746" N	98°54'17.47693" W	421.225	398.103
VVA067	31°11'13.49439" N	98°59'02.89762" W	468.127	444.145
VVA068	29°55'56.02862" N	97°31'08.45023" W	159.140	132.829
VVA069	29°50'02.72096" N	98°50'05.94147" W	498.281	474.830
VVA070	30°59'14.32947" N	99°03'09.85579" W	511.768	488.545
VVA071	28°17'44.66031" N	98°33'09.17913" W	66.616	40.842
VVA072	30°11'24.50668" N	98°52'19.23522" W	536.706	514.331
VVA073	28°55'32.99165" N	98°03'06.49522" W	105.843	79.706
VVA074	30°35'49.54126" N	98°46'29.10153" W	415.268	392.410
VVA075	30°50'09.58356" N	98°39'13.91428" W	380.887	357.393
VVA076	29°52'48.07620" N	98°27'25.64491" W	327.446	302.969
VVA077	30°11'54.85549" N	98°36'40.90720" W	465.238	442.283
VVA078	29°41'07.19536" N	97°25'00.79777" W	115.005	88.578
VVA079	30°03'25.37613" N	98°49'43.40524" W	465.891	443.169
VVA080	29°47'45.56270" N	98°19'56.84222" W	376.924	351.819
VVA081	28°39'33.97838" N	98°46'42.41377" W	129.111	103.889
VVA082	28°17'28.73715" N	98°48'10.24088" W	117.728	92.320
VVA083	31°02'55.00751" N	98°51'28.11467" W	499.274	475.649
VVA084	29°49'38.78478" N	97°23'44.45880" W	160.941	134.639
VVA085	29°34'22.83841" N	95°59'29.51370" W	36.481	9.118
VVA086	30°05'25.42196" N	98°38'25.89877" W	568.796	545.768
VVA087	30°33'30.57106" N	98°24'16.12763" W	257.713	233.930
VVA088	29°16'07.01405" N	98°44'03.19497" W	199.864	175.149
VVA089	30°45'23.74834" N	98°49'03.14553" W	343.342	320.265
VVA090	31°14'27.57954" N	97°14'57.63173" W	186.379	159.362
VVA091	30°04'22.94967" N	99°10'39.25542" W	514.682	492.619
VVA092	28°43'27.90865" N	98°28'22.70711" W	86.307	60.677
VVA093	28°26'55.16838" N	98°20'24.97795" W	75.645	49.621
VVA094	31°19'02.61757" N	98°56'46.14086" W	445.917	421.360
VVA095	29°48'22.48517" N	97°37'40.09003" W	147.364	121.018
VVA096	30°55'57.47302" N	99°06'42.02276" W	501.725	478.668
VVA097	30°07'02.68449" N	98°29'21.03157" W	447.972	424.498

Station Name	Latitude	Longitude	NAVD88	Ellip Hgt
VVA098	29°05'03.83104" N	98°03'45.54828" W	125.296	99.461
VVA099	29°57'49.91703" N	99°08'28.60234" W	496.936	474.557
VVA100	29°48'22.82036" N	98°43'19.15767" W	438.005	414.106
VVA101	31°35'12.69290" N	99°03'23.06937" W	432.594	407.138
VVA102	27°04'17.19256" N	98°50'24.81647" W	223.141	198.731
VVA103	29°29'56.45066" N	95°55'08.67001" W	32.581	5.260
VVA104	31°24'07.47098" N	99°06'48.13153" W	418.525	393.730
VVA105	28°57'34.10083" N	97°24'29.59539" W	83.644	56.355
VVA106	30°05'48.99260" N	98°20'44.19922" W	369.798	345.682
VVA107	31°23'29.53177" N	97°18'26.42328" W	212.171	184.874
VVA108	29°40'41.29156" N	95°59'50.76551" W	33.223	5.796
VVA109	29°30'18.62255" N	97°35'57.99963" W	103.936	77.542
VVA110	31°24'02.63367" N	97°05'39.04698" W	128.389	101.749
VVA111	31°28'03.21568" N	98°52'50.18415" W	413.478	388.287
VVA112	30°46'42.77493" N	99°00'09.47848" W	417.886	395.061
VVA113	30°55'40.53029" N	98°44'54.23187" W	456.961	433.548
VVA114	28°42'41.41595" N	98°32'29.05892" W	108.924	83.392
VVA115	29°52'12.14263" N	98°33'33.69033" W	384.783	360.590
VVA116	29°28'52.63484" N	98°51'08.48129" W	279.292	254.790
VVA117	31°40'54.78695" N	98°52'55.94292" W	450.522	424.681
VVA118	29°44'00.11688" N	98°27'09.30629" W	323.947	298.941
VVA119	28°33'09.07238" N	98°51'31.00609" W	117.612	92.379
VVA120	30°16'32.89736" N	98°24'11.98333" W	368.857	345.160
VVA121	30°35'02.59888" N	99°00'53.50220" W	461.800	439.337
VVA122	28°01'51.47886" N	98°46'41.43146" W	110.130	84.687
VVA123	31°29'19.40944" N	99°00'57.78904" W	394.684	369.522
VVA124	30°03'13.38352" N	99°00'42.91825" W	508.304	485.964
VVA125	29°41'18.38012" N	97°47'23.91557" W	143.272	116.979
VVA126	29°01'14.58928" N	97°32'23.39076" W	98.722	71.670
VVA127	29°24'28.03963" N	97°21'03.01058" W	86.011	59.087
VVA128	31°34'45.49379" N	98°40'36.71082" W	459.128	433.447
VVA129	31°14'33.99253" N	99°04'02.08440" W	499.485	475.355
VVA130	31°34'57.39251" N	98°56'30.77931" W	481.014	455.541
VVA131	30°01'28.83570" N	98°28'23.72091" W	448.422	424.624
VVA132	29°12'57.98765" N	98°08'35.65422" W	163.249	137.497
VVA133	29°36'04.41284" N	97°42'31.02895" W	143.014	116.713
VVA134	30°37'25.48965" N	98°15'54.75211" W	300.731	276.396
VVA135	29°04'47.08250" N	97°45'29.10029" W	118.987	92.474
VVA136	31°13'00.52349" N	98°41'28.17954" W	369.720	345.019
VVA137	29°32'12.96739" N	98°20'03.30912" W	250.376	224.614
VVAF01	31°45'25.41067" N	99°03'07.72769" W	463.555	437.599
VVAF02	31°26'49.08701" N	98°55'04.55749" W	420.074	394.985
VVAF03	30°26'28.33792" N	98°44'12.64196" W	537.004	514.316
VVAF04	31°09'40.20029" N	98°41'19.56928" W	440.966	416.513
VVAF05	28°21'10.63760" N	98°33'28.95420" W	85.272	59.518
VVAF06	29°51'04.47694" N	98°16'35.15223" W	324.132	299.033
VVAF07	29°14'14.20573" N	97°43'49.25681" W	88.168	61.898
VVAF08	29°46'12.07354" N	97°25'19.67157" W	151.919	125.578
VVAF09	28°42'33.10975" N	97°53'27.52271" W	121.541	94.958
VVAF10	29°51'43.90519" N	98°39'12.49932" W	416.588	392.663
VVAF11	29°08'14.93527" N	97°54'28.55387" W	113.788	87.737
VVAF12	28°54'15.47767" N	97°53'44.27739" W	117.703	91.221
VVAF13	29°45'13.04870" N	98°48'43.04348" W	531.034	507.265
VVAF14	30°09'32.95586" N	98°24'57.16202" W	532.689	509.017

Station Name	Latitude	Longitude	NAVD88	Ellip Hgt
VVAF15	29°59'29.79620" N	99°25'22.67752" W	638.766	616.830
VVAF16	30°27'55.56565" N	98°24'37.22298" W	413.427	389.839
VVAF17	29°25'02.91116" N	97°53'50.51698" W	181.871	155.747
VVAF18	29°23'41.80991" N	98°45'50.90085" W	245.028	220.286
VVAF19	29°28'10.78250" N	95°28'28.00599" W	18.161	-8.913
VVAF20	29°41'15.14210" N	95°54'40.77604" W	36.984	9.557
VVAF21	30°04'55.75092" N	98°44'37.19933" W	485.640	462.841
VVAF22	29°59'43.28628" N	98°49'09.66092" W	474.632	451.664
VVAF23	29°54'25.34328" N	99°35'46.54192" W	691.857	669.756
VVAF24	30°41'09.26220" N	98°33'34.84137" W	349.200	325.723
VVAF25	31°23'36.45193" N	97°09'44.01409" W	153.040	126.154
VVAF26	29°06'31.28288" N	98°10'30.59080" W	112.489	86.836
VVAF27	28°30'45.86579" N	98°24'27.39299" W	74.601	48.686
VVAF28	29°42'14.79454" N	97°32'23.09080" W	140.927	114.615
VVAF29	29°56'50.40570" N	98°31'08.54866" W	384.706	360.744
VVAF30	30°07'52.11468" N	99°08'54.19869" W	564.346	542.409
VVAF31	29°10'12.54995" N	97°59'44.79183" W	106.968	81.101
VVAF32	30°10'40.43161" N	99°22'28.42556" W	606.199	584.449
VVAF33	30°58'04.14870" N	98°55'28.10323" W	552.623	529.366
VVAF34	30°48'15.40468" N	98°22'32.48958" W	329.849	305.590
VVAF35	29°55'36.52953" N	97°33'48.92626" W	157.832	131.510
VVAF36	30°33'56.79977" N	98°41'31.81287" W	358.148	335.216
VVAF37	29°51'42.01800" N	98°07'56.47633" W	296.388	270.946
VVAF38	29°53'36.67266" N	99°01'12.85610" W	507.924	485.086
VVAF39	31°27'12.57470" N	98°41'02.61616" W	412.795	387.391
VVAF40	29°07'38.88406" N	97°47'16.99595" W	104.250	77.912
VVAF41	29°53'20.41751" N	99°09'24.71964" W	531.884	509.354
VVAF42	29°40'51.52297" N	98°15'50.69021" W	257.446	231.811
VVAF43	29°29'17.77992" N	97°45'45.14187" W	142.128	115.863
VVAF44	30°31'19.90525" N	99°01'01.03846" W	523.431	501.117
VVAF45	31°06'36.95930" N	98°23'57.53396" W	382.315	357.264
VVAF46	30°11'21.76227" N	98°56'09.77424" W	535.981	513.680
VVAF47	29°20'11.95580" N	98°07'48.11420" W	197.615	171.654
VVAF48	29°35'22.53563" N	98°54'01.66180" W	375.368	351.248
VVAF49	29°36'50.35810" N	97°50'00.70281" W	163.352	137.071
VVAF50	29°44'43.79599" N	98°09'52.08181" W	238.501	212.833

Horizontal Datum: NAD83 (2011) epoch 2010.0  
 Vertical Datum: NAVD88=Ellipsoidal Height-GEOID12B  
 Units: meters

UTM Zones 14 and 15

Table 7 - UTM Coordinates

Station Name	UTM15 Northing	UTM15 Easting	UTM14 Northing	UTM14 Easting
GCP001	3346132.506	-144453.665	3327447.382	434518.457
GCP002	3354960.352	-127060.424	3337131.966	451338.808
GCP003	3331640.858	-127195.278	3313949.629	452425.878
GCP004	3340261.361	-101597.501	3323856.365	477419.516
GCP005	3325740.180	-103800.315	3309304.796	475988.052
GCP006	3355144.047	-97650.111	3338859.782	480563.497
GCP007	3537334.421	-78116.454	3521062.628	490176.495
GCP008	3428031.837	-82067.105	3412159.739	492189.516
GCP009	3459668.381	-78311.551	3443821.413	494221.557
GCP010	3492202.726	-73620.890	3476429.459	497120.594
GCP011	3537878.769	-69363.918	3522086.462	498850.234
GCP012	3392186.428	-77505.809	3376757.045	498637.449
GCP013	3044478.601	-93102.406	3030173.094	500722.745
GCP014	3336720.324	-76686.081	3321638.725	502375.638
GCP015	3327168.378	-76856.246	3312130.068	502705.380
GCP016	3377583.164	-73575.879	3362442.114	503319.624
GCP017	3412102.331	-71098.284	3396904.897	503949.688
GCP018	3274084.670	-78264.569	3259262.765	504054.079
GCP019	3441494.923	-69187.746	3426239.964	504274.903
GCP020	3475279.867	-66536.500	3459984.630	505086.426
GCP021	3307000.208	-73815.450	3292229.645	506778.976
GCP022	3343127.406	-71439.678	3328285.681	507258.120
GCP023	3295463.162	-73334.855	3280779.732	507854.649
GCP024	3515428.850	-59643.140	3500293.093	509752.543
GCP025	3260632.374	-70010.872	3246306.398	512953.783
GCP026	3283692.864	-67410.987	3269378.204	514354.710
GCP027	3133572.630	-76085.990	3119615.681	513304.045
GCP028	3008136.871	-81046.061	2994603.979	514452.567
GCP029	3027422.735	-80029.028	3013836.373	514543.960
GCP030	3184215.388	-71306.996	3170228.307	515537.432
GCP031	3458290.155	-55394.178	3443689.036	517089.233
GCP032	3427467.669	-56565.385	3412965.438	517583.022
GCP033	3491211.442	-53008.266	3476566.857	517676.061
GCP034	3045010.436	-75670.631	3031540.662	518035.432
GCP035	3162509.946	-69690.294	3148717.744	518230.419
GCP036	3010188.767	-76605.611	2996856.418	518772.015
GCP037	3357824.911	-59020.360	3343557.231	518839.696
GCP038	3341965.221	-54055.687	3328040.527	524611.364
GCP039	3376264.806	-52084.423	3362267.325	524766.916
GCP040	3324017.213	-52401.915	3310271.029	527194.810
GCP041	3305210.851	-52543.369	3291553.309	528032.207
GCP042	3403410.991	-47014.097	3389543.600	528370.414
GCP043	3267954.305	-52831.652	3254471.375	529668.259
GCP044	3242797.160	-53689.727	3229397.881	530101.726
GCP045	3476242.388	-40542.186	3462353.129	530892.159
GCP046	3505560.805	-38059.835	3491658.564	531763.956
GCP047	3457447.334	-39192.223	3443726.045	533253.400
GCP048	3426355.685	-34444.183	3413044.887	539651.150

Station Name	UTM15 Northing	UTM15 Easting	UTM14 Northing	UTM14 Easting
GCP049	3111229.125	-50333.436	3098654.681	540025.297
GCP050	3489339.906	-29361.511	3475993.459	541304.597
GCP051	3442576.990	-31293.522	3429355.599	541914.905
GCP052	3146512.216	-45875.873	3133984.886	542719.703
GCP053	3170676.470	-42928.906	3158178.195	544449.319
GCP054	3244832.192	-39127.953	3232165.552	544487.423
GCP055	3340942.650	-32764.978	3328138.668	545849.266
GCP056	3375283.382	-29753.340	3362471.802	547038.500
GCP057	3359731.596	-29353.293	3347016.113	548257.415
GCP058	3456338.989	-19080.297	3443709.910	553326.913
GCP059	3322009.721	-26053.615	3309647.226	553518.067
GCP060	3388798.786	-22757.695	3376293.186	553284.527
GCP061	3132190.683	-31814.651	3120427.913	557422.872
GCP062	3112783.482	-32451.100	3101079.868	557745.638
GCP063	3160100.647	-29868.182	3148304.283	557975.498
GCP064	3425362.538	-15642.593	3413064.367	558415.633
GCP065	3340786.916	-17335.187	3328792.266	561214.139
GCP066	3181980.789	-32075.333	3169971.609	554685.249
GCP067	3291437.584	-15886.800	3279745.162	565225.007
GCP068	3227624.712	-18005.875	3216114.345	566386.239
GCP069	3303206.040	-13238.519	3291597.217	567251.688
GCP070	3372667.919	-4786.698	3361188.740	572027.274
GCP071	3320572.842	-4008.608	3309366.247	575537.062
GCP072	3238532.075	-8047.243	3227479.556	575745.327
GCP073	3276092.900	-948.471	3265239.728	580888.704
GCP074	3211373.155	-2076.910	3200742.065	583068.484
GCP075	3386099.288	9846.114	3375336.447	585884.530
GCP076	3292106.057	5187.827	3281500.735	586171.992
GCP077	3250005.098	3264.548	3239480.294	586422.415
GCP078	3302321.387	8108.165	3291823.958	588550.653
GCP079	3220665.371	7558.386	3210482.911	592192.323
GCP080	3263263.472	10958.932	3253077.068	593405.153
GCP081	3187973.989	10757.152	3178088.215	597028.285
GCP082	3236000.607	18578.753	3226315.472	602387.978
GCP083	3278757.511	21935.466	3269072.467	603539.714
GCP084	3201689.988	23313.321	3192381.424	608843.374
GCP085	3244439.482	28337.835	3235218.749	611677.920
GCP086	3182225.741	27535.996	3173205.409	614029.083
GCP087	3297951.822	40960.201	3289175.829	621497.999
GCP088	3216314.021	37724.212	3207678.171	622459.483
GCP089	3267048.008	45549.141	3258623.777	627665.549
GCP090	3201166.079	42355.280	3192820.432	627839.544
GCP091	3322056.601	55231.480	3313934.636	634462.732
GCP092	3232697.322	53022.359	3224779.180	636869.676
GCP093	3280396.036	62118.922	3272777.964	643488.740
GCP094	3249732.419	60887.047	3242156.487	643837.236
GCP095	3311344.069	64811.309	3303759.128	644567.459
GCP096	3208330.560	61213.440	3200912.535	646269.241
GCP097	3477232.342	87789.611	3470315.195	658635.555
GCP098	3232335.379	78929.824	3225738.158	662708.906
GCP099	3206684.093	77730.658	3200106.961	662815.694
GCP100	3293043.019	83416.822	3286484.764	664062.282
GCP101	3471406.024	95946.924	3464951.243	667083.592
GCP102	3484581.581	96772.362	3478130.256	667189.078

Station Name	UTM15 Northing	UTM15 Easting	UTM14 Northing	UTM14 Easting
GCP103	3457344.290	96716.188	3450975.338	668613.360
GCP104	3261786.951	87547.907	3255539.014	669793.323
GCP105	3282633.045	93290.500	3276617.797	674444.301
GCP106	3217552.415	93864.284	3211759.633	678349.590
GCP107	3479255.573	114490.801	3473786.176	685144.280
GCP108	3274318.586	201452.405	3273911.271	782795.114
GCP109	3280721.031	211856.059	3280843.026	792853.258
GCP110	3261218.756	216596.198	3261610.160	798594.515
GCP111	3289369.948	224149.196	3290118.698	804682.932
GCP112	3246672.827	227069.706	3247619.131	809803.874
GCP113	3277339.790	236412.620	3278736.819	817557.101
GCP114	3256409.229	241193.023	3258071.949	823413.387
GCP115	3269169.660	258874.064	3271734.629	840423.343
NVA001	3346209.744	-144411.333	3327526.341	434556.470
NVA002	3326936.176	-137480.052	3308737.878	442450.775
NVA003	3346248.049	-132318.694	3328198.027	446570.368
NVA004	3335231.943	-120163.180	3317885.963	459227.329
NVA005	3363191.259	-118464.111	3345764.468	459449.535
NVA006	3342678.771	-119215.524	3325337.113	459779.706
NVA007	3343856.449	-105479.724	3327227.142	473371.754
NVA008	3333392.361	-106485.482	3316771.987	472919.307
NVA009	3341956.839	-96544.830	3325806.551	482354.193
NVA010	3332895.454	-95074.654	3316874.040	484289.864
NVA011	3353320.948	-91921.803	3337348.106	486354.745
NVA012	3524800.704	-80442.869	3508471.646	488552.998
NVA013	3472366.126	-82957.907	3456196.356	488914.033
NVA014	3506914.790	-81057.689	3490653.178	488922.182
NVA015	3430615.299	-85148.490	3414563.465	488986.989
NVA016	3416611.713	-85533.628	3400618.403	489353.590
NVA017	3320626.210	-90332.137	3304921.882	489645.299
NVA018	3537236.247	-78339.570	3520952.708	489960.048
NVA019	3406135.940	-84774.664	3390242.204	490667.202
NVA020	3446019.647	-80282.023	3430142.659	492998.328
NVA021	3463204.702	-77948.101	3447357.657	494391.797
NVA022	3426200.526	-79846.351	3410457.654	494495.971
NVA023	3513531.689	-73066.481	3497670.506	496506.396
NVA024	3483957.939	-74181.180	3468199.838	497012.243
NVA025	3391977.722	-79106.651	3376464.508	497056.538
NVA026	3321794.290	-81946.149	3306520.170	497923.596
NVA027	3534414.116	-70276.141	3518590.654	498133.989
NVA028	3332856.629	-79295.831	3317659.779	499982.180
NVA029	3491801.363	-70437.882	3476203.768	500307.918
NVA030	3379387.528	-75533.977	3364133.035	501276.781
NVA031	3503497.495	-68487.044	3487942.224	501609.732
NVA032	3477864.573	-69685.388	3462384.323	501814.395
NVA033	3040588.277	-92122.921	3026351.179	501883.864
NVA034	3434916.175	-71685.163	3419562.871	502144.663
NVA035	3411800.689	-71089.540	3396605.363	503974.484
NVA036	3321932.409	-75394.015	3306998.856	504432.615
NVA037	3332809.053	-73891.673	3317894.835	505359.313
NVA038	3303150.939	-75146.364	3288332.182	505654.880
NVA039	3398171.868	-69478.672	3383136.305	506302.695
NVA040	3423850.090	-67942.830	3408757.616	506460.002
NVA041	3362260.117	-70257.345	3347377.303	507428.908

Station Name	UTM15 Northing	UTM15 Easting	UTM14 Northing	UTM14 Easting
NVA042	3322454.806	-93068.508	3306597.606	486829.202
NVA043	3274681.339	-74379.856	3260055.955	507887.080
NVA044	3329977.859	-71307.279	3315213.930	508077.626
NVA045	3453372.687	-63743.112	3438346.870	509050.198
NVA046	3515705.394	-59715.063	3500564.211	509665.841
NVA047	3134012.802	-79465.572	3119886.549	509920.737
NVA048	3189377.005	-75981.378	3175128.005	510628.927
NVA049	3159787.353	-77163.925	3145637.369	510931.899
NVA050	3394638.526	-64697.145	3379876.124	511246.347
NVA051	3285896.121	-70062.908	3271432.984	511603.249
NVA052	3443273.374	-61071.335	3428445.551	512251.946
NVA053	3260736.858	-70697.645	3246375.143	512265.310
NVA054	3509355.751	-57324.176	3494379.494	512391.862
NVA055	3026830.167	-81069.951	3013197.133	513536.905
NVA056	3469865.655	-57799.760	3455073.255	514069.928
NVA057	3358111.629	-62767.323	3343645.280	515097.345
NVA058	3382045.202	-60880.687	3367552.085	515710.582
NVA059	3115467.923	-74367.143	3101691.405	515905.816
NVA060	3457007.602	-55861.550	3442387.979	516693.612
NVA061	3485105.614	-54272.739	3470424.263	516750.728
NVA062	3308639.549	-63251.534	3294408.538	517201.526
NVA063	3344384.918	-61330.248	3330066.368	517247.814
NVA064	3428167.614	-56604.976	3413659.587	517506.117
NVA065	3414094.174	-57213.430	3399627.467	517653.969
NVA066	3008016.592	-77835.096	2994637.099	517652.345
NVA067	3027270.001	-75965.527	3013878.915	518593.403
NVA068	3162610.262	-69196.358	3148842.144	518716.771
NVA069	3364782.328	-58517.653	3350504.738	518973.343
NVA070	3155219.480	-69121.758	3141493.699	519158.824
NVA071	3149813.875	-69218.572	3136111.509	519331.056
NVA072	3518960.046	-49825.322	3504344.199	519324.667
NVA073	3497411.636	-50869.572	3482851.231	519465.379
NVA074	3170425.316	-67454.056	3156703.314	520060.160
NVA075	3323266.981	-59037.463	3309178.714	520632.601
NVA076	3180622.201	-65884.983	3166925.623	521111.112
NVA077	3257225.312	-61381.376	3243359.119	521712.435
NVA078	3466501.965	-49926.880	3452153.721	522083.758
NVA079	3407170.758	-53108.390	3392959.241	522107.073
NVA080	3291760.863	-62073.640	3277679.283	519247.530
NVA081	3441267.058	-50031.685	3427043.817	523341.634
NVA082	3389210.064	-51868.372	3375157.356	524296.069
NVA083	3131965.521	-65053.275	3118561.904	524358.470
NVA084	3270331.124	-58052.689	3256567.886	524351.836
NVA085	3249468.784	-59009.132	3235763.973	524469.026
NVA086	3451939.466	-47465.905	3437799.448	525319.189
NVA087	3348420.058	-52539.346	3334541.710	525781.395
NVA088	3416756.663	-48520.849	3402740.636	526159.178
NVA089	3193349.036	-59855.156	3179889.405	526471.228
NVA090	3370637.497	-48578.633	3356854.094	528552.138
NVA091	3467114.642	-43388.702	3453117.370	528555.137
NVA092	3164452.380	-58652.481	3151200.284	529114.493
NVA093	3509827.399	-40275.459	3495782.248	529326.012
NVA094	3251432.912	-53963.647	3237975.849	529388.361
NVA095	3330848.828	-49462.455	3317221.274	529762.732



Station Name	UTM15 Northing	UTM15 Easting	UTM14 Northing	UTM14 Easting
NVA096	3305480.709	-50200.252	3291943.356	530349.416
NVA097	3503854.756	-39381.137	3489888.875	530542.658
NVA098	3129253.362	-58260.526	3116198.910	531250.491
NVA099	3414611.893	-43460.311	3400877.247	531308.575
NVA100	3265893.656	-51150.951	3252507.429	531446.231
NVA101	3245910.623	-51150.566	3232625.142	532469.249
NVA102	3430063.508	-40842.347	3416391.110	533086.034
NVA103	3486000.101	-37789.309	3472211.255	533100.628
NVA104	3173783.311	-54834.570	3160674.664	532447.245
NVA105	3166882.919	-52041.500	3153948.334	535570.977
NVA106	3321648.661	-44097.163	3308347.372	535581.089
NVA107	3376993.088	-40533.626	3363602.885	536220.680
NVA108	3437825.490	-36373.835	3424354.256	537115.317
NVA109	3459592.171	-33035.068	3446193.006	539263.911
NVA110	3113330.547	-50456.919	3100739.699	539799.218
NVA111	3492623.641	-30558.156	3479195.782	539934.840
NVA112	3121147.499	-49837.729	3108548.641	540030.899
NVA113	3449119.674	-31998.865	3435828.127	540860.506
NVA114	3358745.890	-36982.970	3345633.436	540716.769
NVA115	3130097.381	-47938.358	3117548.241	541479.671
NVA116	3304926.492	-38939.033	3291976.167	541583.253
NVA117	3243828.564	-41731.782	3231033.978	541947.500
NVA118	3475809.057	-29108.539	3462542.810	542292.361
NVA119	3387014.232	-33598.211	3373941.951	542590.948
NVA120	3343340.000	-35683.749	3330371.361	542819.043
NVA121	3136276.728	-46217.697	3123782.411	542886.562
NVA122	3148856.962	-45322.373	3136345.662	543154.142
NVA123	3179204.152	-42626.385	3166679.581	544323.807
NVA124	3160281.045	-43554.529	3147802.059	544345.304
NVA125	3467049.143	-26687.895	3453956.967	545176.341
NVA126	3328237.768	-33567.766	3315453.363	545714.951
NVA127	3165335.305	-41893.165	3152914.628	545746.677
NVA128	3497048.346	-23199.206	3484000.441	547016.369
NVA129	3481231.760	-23821.095	3468226.447	547259.384
NVA130	3368539.171	-29752.691	3355760.185	547395.512
NVA131	3450528.204	-24862.849	3437614.702	547885.780
NVA132	3396526.572	-27713.820	3383720.673	547941.465
NVA133	3351917.075	-29612.311	3339225.560	548410.790
NVA134	3116236.899	-40850.491	3104104.110	549216.170
NVA135	3103488.959	-41024.752	3091408.573	549668.455
NVA136	3456238.262	-21471.899	3443480.430	550952.146
NVA137	3430136.238	-22788.556	3417432.231	551047.390
NVA138	3309016.243	-28649.950	3296580.326	551610.281
NVA139	3382385.404	-24692.485	3369807.674	551699.091
NVA140	3301144.223	-28482.849	3288754.427	552185.097
NVA141	3444370.685	-20322.281	3431731.450	552736.557
NVA142	3159787.563	-33115.931	3147830.882	554758.558
NVA143	3168337.126	-32056.773	3156393.058	555386.348
NVA144	3182648.631	-31274.222	3170676.473	555449.108
NVA145	3398424.224	-18976.588	3386074.173	556536.156
NVA146	3132349.841	-32385.851	3120558.101	556846.475
NVA147	3418318.318	-16762.423	3405993.124	557678.298
NVA148	3345860.083	-20892.654	3333655.253	557407.170
NVA149	3321915.447	-20705.883	3309832.215	558845.595

Station Name	UTM15 Northing	UTM15 Easting	UTM14 Northing	UTM14 Easting
NVA150	3336289.593	-19437.822	3324205.680	559356.818
NVA151	3370212.007	-17238.603	3358085.961	559761.975
NVA152	3353881.247	-17958.488	3341793.160	559906.244
NVA153	3395571.961	-15719.181	3383408.549	559930.095
NVA154	3303030.849	-19635.720	3291090.970	560892.894
NVA155	3115423.411	-28688.194	3103892.519	561361.343
NVA156	3424530.296	-12553.839	3412401.556	561534.631
NVA157	3379518.689	-14050.948	3367518.152	562442.604
NVA158	3309880.538	-17665.380	3298011.334	562498.492
NVA159	3170341.632	-23228.596	3158829.259	564073.467
NVA160	3158471.661	-23347.501	3147007.595	564547.235
NVA161	3131875.291	-23235.857	3120537.888	565977.746
NVA162	3288603.746	-14509.170	3276995.442	566742.844
NVA163	3340570.911	-11731.484	3328870.946	566803.459
NVA164	3141422.372	-21845.425	3130110.463	566889.433
NVA165	3386315.966	-9137.648	3374544.753	566973.070
NVA166	3392324.556	-7002.443	3380639.476	568779.510
NVA167	3298967.783	-11567.677	3287464.769	569134.725
NVA168	3353866.378	-8179.565	3342292.720	569641.190
NVA169	3326927.666	-9550.738	3315403.538	569688.090
NVA170	3225400.704	-12970.266	3214156.084	571512.093
NVA171	3306767.379	-8297.105	3295399.010	571985.987
NVA172	3237818.240	-9636.345	3226687.904	574199.625
NVA173	3213956.158	-10220.848	3202901.782	574829.390
NVA174	3360957.239	-2331.347	3349659.829	575089.897
NVA175	3323597.707	-3873.817	3312384.768	575513.493
NVA176	3313485.977	-3645.498	3302329.586	576267.680
NVA177	3281856.752	-5003.250	3270769.387	576554.564
NVA178	3260024.274	-4292.607	3249069.273	578384.868
NVA179	3392896.867	3654.743	3381775.734	579358.866
NVA180	3378454.220	3278.447	3367376.234	579750.576
NVA181	3221787.791	-4339.380	3210997.082	580288.286
NVA182	3293659.973	1526.474	3282858.518	582445.947
NVA183	3250840.752	-645.781	3240112.396	582486.114
NVA184	3215636.974	-493.736	3205067.702	584429.077
NVA185	3383729.365	9576.864	3372962.385	585742.173
NVA186	3233252.751	2823.674	3222776.727	586838.031
NVA187	3312622.701	7148.675	3302031.694	587060.002
NVA188	3271501.360	6837.826	3261068.646	588877.999
NVA189	3305588.201	10366.871	3295194.237	590630.253
NVA190	3264686.504	10751.157	3254483.510	593125.184
NVA191	3203504.111	7913.904	3193411.072	593414.640
NVA192	3285977.047	12343.249	3275767.454	593614.117
NVA193	3241584.778	10650.015	3231472.587	594206.937
NVA194	3216562.222	9615.250	3206501.075	594448.627
NVA195	3189192.123	8647.758	3179195.319	594866.348
NVA196	3279793.281	15135.595	3269753.388	596714.074
NVA197	3271649.688	15564.637	3261665.346	597560.848
NVA198	3228267.240	15021.179	3218432.376	599238.363
NVA199	3254411.115	21331.185	3244792.647	604188.946
NVA200	3191321.464	18448.933	3181808.884	604520.647
NVA201	3276570.750	23417.438	3266970.853	605128.470
NVA202	3287035.498	25138.377	3277482.708	606302.501
NVA203	3218406.026	25242.678	3209129.466	609919.661

Station Name	UTM15 Northing	UTM15 Easting	UTM14 Northing	UTM14 Easting
NVA204	3267895.109	29861.169	3258661.096	611993.344
NVA205	3209372.710	27063.217	3200223.564	612190.520
NVA206	3198578.472	27162.322	3189476.184	612834.300
NVA207	3240829.372	29932.630	3231704.070	613450.825
NVA208	3252348.511	30566.527	3243211.033	613493.539
NVA209	3212458.332	29850.154	3203438.272	614810.567
NVA210	3231733.886	34252.033	3222863.586	618217.200
NVA211	3258137.078	38533.172	3249385.696	621133.202
NVA212	3262511.438	40102.244	3253824.157	622471.925
NVA213	3301633.486	42168.014	3292906.328	622510.278
NVA214	3191362.640	36866.724	3182776.581	622865.297
NVA215	3253456.233	40439.776	3244820.093	623272.552
NVA216	3205545.678	39875.907	3197058.727	625148.120
NVA217	3275057.625	45813.776	3266617.616	627516.941
NVA218	3238197.138	46199.922	3229911.577	629791.374
NVA219	3290986.268	50223.536	3282715.892	631087.981
NVA220	3220222.870	47265.687	3212056.563	631767.716
NVA221	3247552.504	49400.829	3239396.597	632502.920
NVA222	3228453.590	50101.577	3220401.851	634175.262
NVA223	3326155.027	56043.339	3318060.812	635057.599
NVA224	3296444.258	56239.424	3288465.960	636799.577
NVA225	3213692.050	52425.005	3205810.596	637239.777
NVA226	3264294.941	59181.395	3256581.254	641390.643
NVA227	3309941.121	61733.501	3302200.822	641573.313
NVA228	3294241.550	66002.405	3286776.939	646642.829
NVA229	3254726.493	64206.232	3247303.523	646889.306
NVA230	3283819.126	66424.599	3276411.737	647602.920
NVA231	3205264.778	62401.566	3197917.201	647608.376
NVA232	3237745.122	65090.940	3230424.737	648639.361
NVA233	3268649.353	68383.108	3261394.006	650337.079
NVA234	3309345.836	72154.580	3302149.890	651989.911
NVA235	3219791.196	68774.999	3212718.036	653224.770
NVA236	3270152.026	75955.138	3263281.486	657806.843
NVA237	3245747.196	76622.948	3238989.541	659724.783
NVA238	3282557.765	79803.173	3275845.800	661002.650
NVA239	3474420.748	92104.079	3467747.447	663089.035
NVA240	3207738.539	79466.561	3201245.911	664492.802
NVA241	3248752.396	82772.214	3242299.852	665700.846
NVA242	3468686.511	94378.997	3462155.126	665668.375
NVA243	3479569.724	95531.965	3473066.609	666225.755
NVA244	3226689.761	82247.567	3220279.135	666303.671
NVA245	3455612.779	97114.662	3449270.803	669104.343
NVA246	3266091.842	88633.330	3259886.541	670654.113
NVA247	3475035.235	102920.828	3468948.454	673838.507
NVA248	3287655.135	94138.127	3281668.667	675029.656
NVA249	3216279.583	95880.734	3210592.833	680424.747
NVA250	3482464.680	116617.920	3477101.970	687090.354
NVA251	3278269.689	196447.311	3277597.737	777593.192
NVA252	3261004.907	208329.033	3260970.847	790348.920
NVA253	3280763.899	210467.573	3280813.947	791464.382
NVA254	3293037.737	213398.448	3293223.676	793754.821
NVA255	3271994.534	214706.831	3272275.150	796151.676
NVA256	3268446.748	219198.582	3268963.625	800821.116
NVA257	3292923.347	221447.452	3293527.640	801799.773

Station Name	UTM15 Northing	UTM15 Easting	UTM14 Northing	UTM14 Easting
NVA258	3253277.694	220045.629	3253856.008	802448.402
NVA259	3281374.650	226316.716	3282244.772	807262.645
NVA260	3258836.032	225898.578	3259709.172	808008.887
NVA261	3273797.579	227585.574	3274741.610	808922.229
NVA262	3247132.700	230567.482	3248258.011	813274.461
NVA263	3265695.967	232171.747	3266885.237	813922.015
NVA264	3273127.562	235156.273	3274463.647	816519.840
NVA265	3257259.243	237532.566	3258732.817	819712.430
NVA266	3275087.345	242928.928	3276823.593	824184.063
NVA267	3249910.967	243543.707	3251700.010	826096.221
NVA268	3263802.291	246888.309	3265752.334	828723.100
VVA001	3222886.440	88859.622	3216823.645	673088.896
VVA002	3258669.282	44720.314	3250233.246	627270.050
VVA003	3350150.656	-138300.069	3331762.445	440422.093
VVA004	3377569.115	-63219.547	3362975.891	513621.001
VVA005	3272225.858	25280.566	3262739.198	607207.953
VVA006	3153722.876	-44441.159	3141231.656	543789.331
VVA007	3478824.434	-50351.373	3464389.153	520993.083
VVA008	3353473.745	-101933.342	3336974.142	476392.886
VVA009	3375141.331	-15224.291	3363098.907	561506.371
VVA010	3208712.146	51117.938	3200782.106	636189.411
VVA011	3248576.297	222351.491	3249278.404	804993.103
VVA012	3357441.663	-55784.978	3343346.213	522078.394
VVA013	3107114.991	-40804.959	3095028.054	549709.459
VVA014	3266403.748	-7590.736	3255251.427	574773.886
VVA015	3265311.469	445.076	3254576.602	582830.682
VVA016	3245214.779	53966.106	3237300.599	637171.448
VVA017	3405524.301	-17879.615	3393199.374	557249.733
VVA018	3447145.791	-32681.099	3433827.187	540288.048
VVA019	3259751.024	33014.984	3250710.477	615553.211
VVA020	3199425.503	35509.728	3190740.926	621107.168
VVA021	3292128.022	-75041.255	3277374.376	506329.879
VVA022	3253890.520	63950.976	3246457.304	646677.759
VVA023	3291138.203	49940.557	3282852.630	630798.164
VVA024	3129620.963	-41735.718	3117380.357	547675.728
VVA025	3270437.629	252455.707	3272670.107	833943.761
VVA026	3449905.155	-29449.212	3436747.265	543355.292
VVA027	3526973.997	-76323.953	3510859.090	492529.274
VVA028	3245158.296	14435.002	3235224.596	597793.911
VVA029	3358771.633	-115390.548	3341533.323	462737.061
VVA030	3364033.184	-42700.911	3350593.252	534748.648
VVA031	3207191.726	508.845	3196709.248	585854.528
VVA032	3495523.734	-46883.133	3481190.699	523534.138
VVA033	3487084.113	-59314.005	3472117.913	511628.494
VVA034	3423889.321	-20858.545	3411318.549	553303.196
VVA035	3220988.551	13387.248	3211100.413	597980.716
VVA036	3247590.217	35867.712	3238742.171	619017.854
VVA037	3330663.224	-143420.910	3312131.398	436353.361
VVA038	3281286.286	5193.164	3270727.350	586736.254
VVA039	3174892.384	-42750.773	3162382.536	544415.833
VVA040	3235873.198	-7548.978	3224857.776	576376.845
VVA041	3441434.875	-37731.671	3427872.612	535570.105
VVA042	3174742.049	-22028.948	3163269.566	565047.606
VVA043	3406695.699	-65647.926	3391818.189	509658.988

Station Name	UTM15 Northing	UTM15 Easting	UTM14 Northing	UTM14 Easting
VVA044	3374036.892	-4979.007	3362541.413	571763.434
VVA045	3489842.021	-31889.364	3476355.345	538761.859
VVA046	3248356.282	-39654.969	3235645.591	543783.062
VVA047	3288106.935	971.966	3277300.799	582181.018
VVA048	3267083.826	236511.531	3268495.672	818185.980
VVA049	3263350.764	-71249.102	3248946.860	511582.834
VVA050	3276927.012	227729.234	3277875.107	808903.886
VVA051	3467479.137	-61109.680	3452520.112	510906.921
VVA052	3399947.077	-39736.139	3386484.707	535796.114
VVA053	3454364.556	-15052.919	3441962.373	557441.962
VVA054	3193438.101	12097.149	3183597.361	598088.001
VVA055	3475883.724	98478.183	3469552.581	669363.399
VVA056	3040583.950	-92127.378	3026346.662	501879.639
VVA057	3228370.546	59626.807	3220803.650	643671.370
VVA058	3207724.764	28841.310	3198671.898	614045.056
VVA059	3539889.619	-78430.908	3523586.081	489722.921
VVA060	3276756.198	84105.383	3270284.686	665590.785
VVA061	3280643.236	33176.308	3271530.565	614639.038
VVA062	3027444.652	-79952.325	3013861.846	514619.209
VVA063	3331674.597	-123461.731	3314178.051	456134.698
VVA064	3133416.008	-72555.897	3119634.273	516823.230
VVA065	3244137.914	71711.943	3237134.398	654911.962
VVA066	3431079.016	-64904.357	3416110.437	509094.670
VVA067	3465802.089	-70647.713	3450335.703	501511.297
VVA068	3319873.951	63627.057	3312197.881	642942.680
VVA069	3314725.056	-64199.992	3300412.739	515941.855
VVA070	3443962.224	-78416.016	3428197.172	494964.671
VVA071	3142505.001	-44915.588	3130044.807	543873.988
VVA072	3354465.669	-65751.481	3339861.713	512320.765
VVA073	3210292.514	7261.824	3200138.289	592422.317
VVA074	3399193.278	-54051.665	3384972.913	521593.595
VVA075	3425138.655	-41093.045	3411477.590	533100.651
VVA076	3318026.406	-27363.013	3305614.574	552422.440
VVA077	3354130.185	-40551.810	3340852.773	537408.422
VVA078	3292090.130	72446.602	3284966.603	653176.869
VVA079	3339464.348	-62331.359	3325119.223	516509.761
VVA080	3308127.105	-15731.014	3296366.461	564515.083
VVA081	3183953.686	-65175.970	3170275.343	521649.505
VVA082	3143173.422	-69548.210	3129489.373	519332.447
VVA083	3449770.366	-59396.936	3434998.200	513567.470
VVA084	3307781.549	75102.994	3300744.188	655009.969
VVA085	3275209.272	210178.530	3275251.733	791463.098
VVA086	3342253.599	-43961.748	3328856.398	534638.946
VVA087	3393133.780	-18680.031	3380824.330	557112.701
VVA088	3251416.075	-57551.466	3237775.732	525819.711
VVA089	3417125.659	-57242.768	3402641.469	517462.797
VVA090	3464105.156	95183.184	3457631.898	666718.705
VVA091	3343017.717	-95953.830	3326892.285	482886.235
VVA092	3189756.523	-34915.565	3177568.000	551468.233
VVA093	3158543.056	-23294.646	3147081.296	564596.293
VVA094	3480084.281	-66236.706	3464779.254	505123.719
VVA095	3306310.799	52546.883	3298105.552	632608.040
VVA096	3438195.289	-84392.796	3422141.183	489331.529
VVA097	3344540.127	-29198.370	3331905.784	549210.073

Station Name	UTM15 Northing	UTM15 Easting	UTM14 Northing	UTM14 Easting
VVA098	3227942.280	6958.509	3217698.950	591225.503
VVA099	3330695.482	-93099.049	3314789.800	486369.082
VVA100	3311091.379	-53409.137	3297358.858	526865.554
VVA101	3510601.095	-75096.487	3494645.015	494648.195
VVA102	3007823.740	-79664.320	2994358.236	515841.911
VVA103	3266825.981	216995.107	3267231.115	798703.920
VVA104	3490370.110	-81663.615	3474168.920	489222.699
VVA105	3211510.393	70245.494	3204538.944	655110.286
VVA106	3341607.310	-15444.031	3329708.004	563053.568
VVA107	3481026.232	90307.226	3474233.843	660938.388
VVA108	3286880.392	209908.070	3286893.282	790588.672
VVA109	3272785.863	53961.711	3264773.817	635752.470
VVA110	3481270.212	110636.298	3475584.878	681191.263
VVA111	3496431.230	-59089.854	3481427.367	511342.019
VVA112	3420505.011	-74871.574	3405059.979	499748.067
VVA113	3435814.712	-49626.804	3421641.393	524037.560
VVA114	3188632.572	-41681.945	3176109.578	544790.819
VVA115	3317393.157	-37312.052	3304466.329	542554.339
VVA116	3275614.709	-67870.758	3261319.135	514313.410
VVA117	3520251.068	-57957.605	3505181.986	511164.485
VVA118	3301717.906	-27696.589	3289366.147	552937.883
VVA119	3172458.906	-73615.013	3158418.480	513830.002
VVA120	3361734.097	-20072.862	3349498.059	557388.282
VVA121	3398957.237	-77206.734	3383506.384	498575.089
VVA122	3114133.979	-68503.708	3100652.515	521804.146
VVA123	3499484.516	-71859.136	3483767.091	498475.401
VVA124	3340013.867	-80057.086	3324737.787	498850.796
VVA125	3293876.796	36304.624	3284875.008	617071.250
VVA126	3218794.022	57662.364	3211160.289	642200.221
VVA127	3261049.338	77691.246	3254297.392	660005.444
VVA128	3507819.082	-39044.664	3493851.518	530660.523
VVA129	3472424.662	-78245.637	3456510.035	493596.642
VVA130	3509529.271	-64229.463	3494174.038	505514.170
VVA131	3334166.628	-28155.777	3321636.548	550791.044
VVA132	3242907.238	-259.426	3232232.803	583276.100
VVA133	3283872.145	43795.240	3275295.466	625051.102
VVA134	3399744.575	-4955.515	3388134.914	570422.453
VVA135	3226185.573	36636.314	3217457.510	620874.662
VVA136	3467623.096	-42494.952	3453671.652	529416.793
VVA137	3279367.430	-17234.510	3267660.602	564506.559
VVAF01	3529490.415	-73638.299	3513509.161	495061.533
VVAF02	3494335.187	-62768.073	3479141.917	507797.868
VVAF03	3381688.950	-51292.493	3367705.482	525267.712
VVAF04	3461430.040	-42585.502	3447505.167	529661.955
VVAF05	3148884.813	-45162.182	3136381.330	543312.170
VVAF06	3314012.379	-10022.872	3302521.797	569891.329
VVAF07	3243561.814	40045.451	3234942.395	623385.748
VVAF08	3301507.651	72299.002	3294345.264	652541.331
VVAF09	3185583.975	21977.099	3176271.482	608323.232
VVAF10	3316967.319	-46465.924	3303566.094	533468.004
VVAF11	3233195.353	22292.497	3223710.574	606229.736
VVAF12	3207260.304	22415.523	3197884.461	607667.817
VVAF13	3305672.662	-62421.671	3291500.283	518181.007
VVAF14	3348836.928	-21900.713	3336565.215	556247.555

Station Name	UTM15 Northing	UTM15 Easting	UTM14 Northing	UTM14 Easting
VVAF15	3335278.405	-120185.927	3317930.955	459202.292
VVAF16	3382826.181	-19740.193	3370508.825	556604.598
VVAF17	3264234.025	24624.680	3254745.324	606965.554
VVAF18	3265593.833	-59771.620	3251766.791	522884.995
VVAF19	3262572.024	260047.910	3265201.610	841937.038
VVAF20	3287709.906	218271.617	3288155.577	798898.459
VVAF21	3341835.917	-53970.962	3327916.329	524702.427
VVAF22	3332564.389	-61775.036	3318284.636	517424.075
VVAF23	3326832.625	-137498.446	3308634.023	442437.895
VVAF24	3408013.739	-32895.425	3394875.995	542173.139
VVAF25	3480706.739	104129.174	3474668.465	674734.350
VVAF26	3231117.340	-3895.636	3220308.639	580256.242
VVAF27	3165955.854	-29582.507	3154146.442	557967.902
VVAF28	3294635.874	60623.254	3286891.151	641261.749
VVAF29	3325789.589	-32995.643	3313046.904	546412.103
VVAF30	3349321.830	-92784.304	3333326.491	485707.117
VVAF31	3237183.547	13885.414	3227254.465	597653.425
VVAF32	3355722.249	-114342.826	3338557.376	463938.779
VVAF33	3441133.108	-66253.541	3426037.935	507212.675
VVAF34	3420296.931	-14602.528	3408078.099	559722.215
VVAF35	3319443.594	59294.049	3311542.935	638647.250
VVAF36	3395308.896	-46292.307	3381521.140	529519.679
VVAF37	3314537.942	3974.602	3303773.552	583799.837
VVAF38	3322255.792	-81798.859	3306986.794	498046.030
VVAF39	3493879.293	-40456.132	3479905.303	530017.934
VVAF40	3231601.310	33929.822	3222715.114	617902.962
VVAF41	3322457.328	-95055.140	3306496.628	484853.765
VVAF42	3295050.761	-9692.200	3283662.494	571204.648
VVAF43	3271548.498	38049.803	3262721.713	619962.620
VVAF44	3392094.551	-77776.282	3376651.316	498373.347
VVAF45	3454388.521	-15214.913	3441977.475	557279.433
VVAF46	3354702.400	-71936.760	3339772.045	506156.240
VVAF47	3256235.019	1614.448	3245599.147	584460.528
VVAF48	3287884.832	-71934.035	3273314.507	509639.506
VVAF49	3285788.412	31737.709	3276581.548	612940.341
VVAF50	3301778.227	287.293	3290877.398	580791.500

Horizontal Datum: NAD83 (2011) epoch 2010.0  
 Vertical Datum: NAVD88=Ellipsoidal Height-GEOID12B

Units: meters

State Plane Coordinates TX SC (4204) and TX C (4203)

Table 8 - State Plane Coordinates (meters)

Station Name	SPC TX C Northing	SPC TX C Easting	SPC TX SC Northing	SPC TX SC Easting
GCP001	3045609.479	763043.051	4248789.614	534496.879
GCP002	3055496.226	779753.465	4258479.334	551321.367
GCP003	3032319.433	781115.987	4235289.794	552411.004
GCP004	3042526.894	806000.454	4245201.240	577411.883
GCP005	3027952.986	804742.015	4230644.954	575980.561
GCP006	3057572.719	808966.323	4260210.052	580556.293
GCP007	3239934.780	816397.768	4442544.660	590164.592
GCP008	3131030.128	819717.873	4333545.491	592184.756
GCP009	3162722.829	821370.761	4365228.734	594217.200
GCP010	3195372.887	823879.399	4397864.206	597117.919
GCP011	3241063.045	825061.940	4443570.068	598848.833
GCP012	3095696.703	826591.593	4298123.754	598636.797
GCP013	2748805.235	832837.111	3951398.434	600723.345
GCP014	3040607.061	830991.827	4242983.342	602376.436
GCP015	3031098.874	831435.774	4233471.573	602706.242
GCP016	3081434.271	831446.614	4283802.287	603321.065
GCP017	3115912.947	831663.488	4318281.913	603951.857
GCP018	2978223.039	833419.736	4180589.120	604055.157
GCP019	3145258.213	831637.017	4347634.812	604277.770
GCP020	3179019.800	832044.200	4381404.817	605090.685
GCP021	3011239.200	835749.975	4213565.078	606780.946
GCP022	3047314.913	835796.209	4249632.525	607260.652
GCP023	2999796.931	836963.747	4202111.904	607856.839
GCP024	3219393.935	836228.560	4421751.433	609763.014
GCP025	2965366.054	842480.596	4167629.330	612957.186
GCP026	2988467.906	843604.287	4190707.211	614358.583
GCP027	2838556.708	844361.296	4040897.416	613310.116
GCP028	2713319.046	847029.131	3915796.909	614467.485
GCP029	2732599.030	846886.774	3935048.025	614557.323
GCP030	2889257.217	845984.906	4091529.705	615542.581
GCP031	3162864.542	844244.861	4365095.616	617102.087
GCP032	3132140.496	845107.118	4334351.165	617593.780
GCP033	3195756.589	844438.070	4398000.853	617692.473
GCP034	2750385.286	850170.489	3952767.983	618050.256
GCP035	2867755.595	848941.377	4070011.696	618237.280
GCP036	2715629.787	851331.933	3918052.089	618791.122
GCP037	3062730.500	847197.880	4264909.281	618846.892
GCP038	3047278.443	853158.182	4249386.718	624619.880
GCP039	3081517.082	852901.641	4283626.545	624777.589
GCP040	3029533.853	855956.860	4231611.353	627203.319
GCP041	3010818.684	857020.682	4212888.121	628040.247
GCP042	3108843.161	856178.013	4310915.258	628385.132
GCP043	2973737.945	859106.379	4175796.361	629675.997
GCP044	2948653.883	859844.301	4150716.522	630109.632
GCP045	3181697.839	857827.186	4383772.796	630918.299
GCP046	3211020.339	858348.905	4413105.059	631796.218
GCP047	3163095.211	860411.889	4365130.639	633278.305



Station Name	SPC TX C Northing	SPC TX C Easting	SPC TX SC Northing	SPC TX SC Easting
GCP048	3132484.796	867178.767	4334428.022	639675.214
GCP049	2817891.541	871377.476	4019928.728	640046.131
GCP050	3195465.549	868078.797	4397422.907	641342.569
GCP051	3148825.776	869247.267	4350748.569	641943.308
GCP052	2853304.016	873640.382	4055275.102	642737.126
GCP053	2877546.898	875074.387	4079477.337	644464.801
GCP054	2951598.591	874206.032	4153485.069	644498.868
GCP055	3047633.135	874401.705	4249483.351	645864.855
GCP056	3081989.961	875176.305	4283828.779	647058.486
GCP057	3066545.120	876582.192	4268366.993	648275.866
GCP058	3163319.431	880489.389	4365110.190	653366.458
GCP059	3029228.590	882297.265	4230985.661	653534.286
GCP060	3095889.782	881256.991	4297655.050	653309.301
GCP061	2839911.385	888530.331	4041714.796	657448.202
GCP062	2820540.074	889094.464	4022358.198	657774.790
GCP063	2867829.013	888737.491	4069601.686	657996.657
GCP064	3132729.622	885946.453	4334443.668	658450.640
GCP065	3048473.204	889763.255	4250135.456	661234.618
GCP066	2889478.703	885175.675	4091275.464	654702.783
GCP067	2999457.569	894373.236	4201075.252	665242.007
GCP068	2935805.141	896316.934	4137430.804	666403.208
GCP069	3011339.249	896255.848	4212929.893	667269.941
GCP070	3081008.701	900186.126	4282540.913	672056.718
GCP071	3029215.735	904327.041	4230702.344	675559.032
GCP072	2947293.668	905541.908	4148798.759	675763.778
GCP073	2985137.933	910221.953	4186566.056	680908.230
GCP074	2920628.384	913202.120	4122056.416	683090.024
GCP075	3095326.720	913874.556	4296690.555	685922.570
GCP076	3001470.848	915307.265	4202829.797	686193.456
GCP077	2959433.802	916076.775	4160801.951	686442.553
GCP078	3011827.091	917559.842	4213154.771	688573.495
GCP079	2930490.141	922211.070	4131799.873	692214.748
GCP080	2973124.216	922894.587	4174400.933	693426.468
GCP081	2898130.960	927457.050	4099399.721	697055.466
GCP082	2946460.211	932215.358	4147635.552	702410.977
GCP083	2989252.258	932835.250	4190398.286	703563.140
GCP084	2912584.713	939101.419	4113697.259	708870.481
GCP085	2955484.650	941398.991	4156540.291	711701.737
GCP086	2893459.067	944534.221	4094519.084	714060.306
GCP087	3009585.035	950550.052	4210502.375	721525.505
GCP088	2928064.142	952533.466	4128997.651	722486.313
GCP089	2979100.266	957100.448	4179947.263	727690.886
GCP090	2913264.943	958105.722	4114139.238	727868.955
GCP091	3034509.642	963210.672	4235261.341	734495.961
GCP092	2945357.270	966735.004	4146101.133	736895.884
GCP093	2993457.201	972751.114	4194100.948	743515.701
GCP094	2962830.406	973485.484	4163479.114	743862.888
GCP095	3024457.973	973443.098	4225082.887	744599.187
GCP096	2921597.648	976443.795	4122234.845	746298.450
GCP097	3191180.897	985488.553	4391673.720	758760.591
GCP098	2946645.927	992573.411	4147062.024	762734.811
GCP099	2921004.426	993009.778	4121432.106	762844.938
GCP100	3007424.942	993156.503	4207804.856	764090.726
GCP101	3185917.455	993999.234	4386299.224	767208.385

Station Name	SPC TX C Northing	SPC TX C Easting	SPC TX SC Northing	SPC TX SC Easting
GCP102	3199096.235	993949.008	4399485.365	767326.353
GCP103	3171961.484	995694.701	4372315.369	768726.449
GCP104	2976546.269	999279.694	4176860.736	769818.107
GCP105	2997687.623	1003664.175	4197937.065	774470.480
GCP106	2932863.265	1008400.191	4133086.471	778375.724
GCP107	3194964.406	1011952.784	4395120.781	785286.738
GCP108	2996374.385	1112032.916	4195213.667	882779.229
GCP109	3003433.877	1121995.217	4202138.009	892831.376
GCP110	2984287.189	1127985.926	4182919.661	898564.501
GCP111	3012857.971	1133696.391	4211402.647	904654.011
GCP112	2970452.924	1139375.067	4168940.226	909763.166
GCP113	3001652.925	1146710.313	4200027.439	917513.081
GCP114	2981080.865	1152836.213	4179382.198	923359.956
GCP115	2994959.155	1169650.252	4193027.402	940353.370
NVA001	3045688.910	763080.141	4248868.601	534534.893
NVA002	3026987.772	771199.084	4230075.707	542433.524
NVA003	3046503.053	775089.643	4249541.955	546552.361
NVA004	3036337.846	787873.085	4239227.840	559214.198
NVA005	3064227.630	787763.820	4267115.751	559434.043
NVA006	3043798.057	788337.106	4246681.383	559766.177
NVA007	3045850.527	801911.124	4248572.950	573362.596
NVA008	3035386.372	801583.141	4238114.346	572910.536
NVA009	3044536.659	810913.532	4247152.279	582348.146
NVA010	3035624.130	812956.595	4238216.864	584284.741
NVA011	3056129.796	814777.438	4258698.043	586349.724
NVA012	3227320.545	814925.036	4429938.858	588540.102
NVA013	3175036.768	815913.681	4377613.154	588904.978
NVA014	3209501.721	815508.306	4412101.383	588910.958
NVA015	3133395.982	816485.857	4335950.567	588980.168
NVA016	3119452.316	817019.643	4321997.296	589347.596
NVA017	3023731.417	818456.944	4226261.056	589642.118
NVA018	3239822.226	816182.574	4442434.593	589947.891
NVA019	3109089.536	818457.864	4311615.516	590662.309
NVA020	3149026.532	820311.286	4351540.088	592993.508
NVA021	3166261.866	821498.633	4368767.679	594387.470
NVA022	3129355.326	822045.222	4331842.440	594492.654
NVA023	3216611.897	823010.280	4419126.316	596502.702
NVA024	3187140.055	823869.715	4389627.132	597009.607
NVA025	3095385.145	825013.801	4297831.066	597055.133
NVA026	3025429.453	826719.407	4227859.913	597922.952
NVA027	3237557.557	824387.399	4440070.033	598131.759
NVA028	3036597.979	828645.233	4239003.079	599982.174
NVA029	3195185.361	827070.183	4397638.329	600308.204
NVA030	3083101.137	829382.950	4285493.959	601277.342
NVA031	3206942.289	828231.592	4409388.073	601611.337
NVA032	3181380.805	828742.677	4383806.596	601815.938
NVA033	2744988.956	834046.720	3947573.316	601885.467
NVA034	3138554.174	829586.384	4340953.370	602146.038
NVA035	3115613.644	831691.881	4317982.216	603976.662
NVA036	3025986.404	833225.262	4228338.737	604433.992
NVA037	3036897.636	834021.503	4239238.187	605361.075
NVA038	3007326.485	834672.195	4209666.500	605656.499
NVA039	3102169.422	834182.179	4304506.068	606305.843
NVA040	3127798.364	834032.206	4330141.360	606463.850

Station Name	SPC TX C Northing	SPC TX C Easting	SPC TX SC Northing	SPC TX SC Easting
NVA041	3066414.571	835737.819	4268731.200	607431.825
NVA042	3025374.140	815619.692	4227937.245	586825.127
NVA043	2979062.742	837245.368	4181382.512	607889.177
NVA044	3034248.394	836773.010	4236556.376	608080.243
NVA045	3157424.907	836268.169	4359750.022	609056.777
NVA046	3219664.088	836138.589	4422022.847	609676.236
NVA047	2838787.043	840970.032	4041168.287	609925.259
NVA048	2894102.598	841012.216	4096430.885	610632.362
NVA049	2864583.251	841671.492	4066929.899	610936.104
NVA050	3098967.789	839166.128	4301244.132	611251.836
NVA051	2990490.616	840826.650	4192762.567	611606.398
NVA052	3147559.902	839589.285	4349841.588	612260.280
NVA053	2965426.545	841790.867	4167698.093	612268.533
NVA054	3213510.364	838939.372	4415831.418	612404.701
NVA055	2731946.063	845885.152	3934408.117	613549.393
NVA056	3174214.998	841088.515	4376488.944	614081.332
NVA057	3062773.570	843453.356	4264997.519	615103.123
NVA058	3086694.321	843779.453	4288914.155	615717.624
NVA059	2820637.926	847184.048	4022964.602	615914.011
NVA060	3161558.473	843864.749	4363793.622	616706.062
NVA061	3189601.504	843586.056	4391852.769	616765.697
NVA062	3013544.447	846150.858	4215744.454	617206.553
NVA063	3049216.275	845767.816	4251413.578	617253.877
NVA064	3132833.867	845021.870	4335045.742	617516.879
NVA065	3118800.534	845338.126	4321005.423	617663.826
NVA066	2713391.243	850236.556	3915830.378	617670.555
NVA067	2732691.000	850945.079	3935090.985	618610.472
NVA068	2867886.039	849426.791	4070136.164	618723.809
NVA069	3069681.626	847247.998	4271859.475	618980.923
NVA070	2860534.168	849958.527	4062784.933	619166.372
NVA071	2855147.393	850196.303	4057400.611	619338.944
NVA072	3223560.663	845754.829	4425806.035	619345.896
NVA073	3202063.864	846152.611	4404290.963	619484.164
NVA074	2875772.496	850676.350	4078000.253	620067.340
NVA075	3028361.973	849405.336	4230518.953	620639.047
NVA076	2886018.628	851604.399	4088226.119	621118.222
NVA077	2962522.672	851280.305	4164681.287	621718.112
NVA078	3171390.835	849139.024	4373566.322	622101.296
NVA079	3112184.312	849872.260	4314333.250	622118.845
NVA080	2996832.175	848399.496	4199010.473	619252.822
NVA081	3146290.844	850698.064	4348438.012	623357.324
NVA082	3094404.650	852275.657	4296522.354	624307.503
NVA083	2837635.737	855443.832	4039843.805	624369.623
NVA084	2975771.281	853761.526	4177893.445	624358.230
NVA085	2954955.977	854130.593	4157084.196	624475.436
NVA086	3157072.363	852547.089	4359200.860	625337.469
NVA087	3053795.812	854250.241	4255890.096	625790.668
NVA088	3122016.471	853807.782	4324119.611	626174.059
NVA089	2899060.574	856812.435	4101194.272	626479.510
NVA090	3076147.994	856753.005	4278210.771	628563.979
NVA091	3172432.178	855600.214	4374529.885	628577.917
NVA092	2870373.387	859807.885	4072495.751	629125.220
NVA093	3215115.941	855861.112	4417233.415	629356.568
NVA094	2957228.935	859026.345	4159296.664	629396.015

Station Name	SPC TX C Northing	SPC TX C Easting	SPC TX SC Northing	SPC TX SC Easting
NVA095	3036517.634	858441.815	4238563.640	629772.378
NVA096	3011236.916	859334.178	4213278.199	630358.117
NVA097	3209235.633	857148.444	4411333.830	630573.358
NVA098	2835353.639	862374.313	4037480.339	631264.983
NVA099	3120214.530	858980.635	4322254.606	631326.120
NVA100	2971794.421	860909.194	4173831.907	631454.406
NVA101	2951912.101	862174.235	4153944.628	632477.721
NVA102	3135752.879	860572.199	4337777.273	633106.648
NVA103	3191584.498	859918.234	4393639.052	633130.427
NVA104	2879899.006	863028.710	4081973.670	632458.498
NVA105	2873203.450	866238.123	4075245.255	635583.799
NVA106	3027710.814	864369.530	4229686.697	635592.034
NVA107	3082990.879	864342.222	4284961.649	636236.326
NVA108	3143765.923	864506.738	4345744.813	637139.687
NVA109	3165634.635	866394.040	4367598.347	639293.728
NVA110	2819976.940	871125.354	4022014.764	639819.641
NVA111	3198652.214	866670.502	4400628.482	639972.314
NVA112	2827800.297	871261.167	4029827.538	640050.360
NVA113	3155286.889	868115.089	4357225.692	640889.445
NVA114	3065070.970	869056.213	4266984.654	640732.310
NVA115	2836830.465	872601.127	4038831.448	641498.605
NVA116	3011405.820	870572.403	4213310.550	641595.038
NVA117	2950435.264	871678.226	4152353.184	641958.345
NVA118	3182023.900	869227.479	4383960.374	642328.043
NVA119	3093409.138	870589.425	4295304.426	642610.609
NVA120	3049829.853	871343.532	4251717.054	642833.850
NVA121	2843090.410	873933.114	4045068.493	642905.301
NVA122	2855673.083	874046.301	4057636.848	643171.460
NVA123	2886055.738	874844.268	4087981.461	644338.481
NVA124	2867157.851	875097.883	4069097.624	644361.794
NVA125	3173470.853	872214.697	4375366.955	645212.345
NVA126	3034942.063	874420.990	4236794.123	645729.395
NVA127	2872293.486	876437.927	4074212.124	645763.120
NVA128	3203542.439	873696.256	4405435.816	647061.700
NVA129	3187768.034	874127.585	4389647.570	647300.644
NVA130	3075281.022	875614.424	4277114.453	647414.743
NVA131	3157157.967	875120.267	4359012.019	647919.977
NVA132	3103254.426	875823.305	4305086.837	647965.056
NVA133	3058754.298	876829.819	4260573.670	648428.380
NVA134	2823462.763	880514.780	4025382.290	649240.678
NVA135	2810753.485	881125.241	4012680.478	649695.459
NVA136	3163061.482	878116.944	4364881.158	650989.925
NVA137	3137009.771	878524.467	4338815.794	651079.098
NVA138	3016133.645	880547.591	4217915.365	651624.997
NVA139	3089383.751	879749.445	4291167.001	651722.098
NVA140	3008311.561	881217.850	4210087.413	652199.483
NVA141	3151331.787	880042.410	4353123.626	652772.646
NVA142	2867315.221	885522.752	4069127.691	654778.686
NVA143	2875894.697	886045.299	4077692.796	655405.606
NVA144	2890193.700	885931.590	4091980.614	655466.796
NVA145	3105711.935	884391.368	4307439.887	656564.227
NVA146	2840034.581	887951.546	4041844.938	656871.544
NVA147	3125648.293	885293.971	4327368.663	657711.216
NVA148	3053291.383	885896.195	4255000.438	657427.078

Station Name	SPC TX C Northing	SPC TX C Easting	SPC TX SC Northing	SPC TX SC Easting
NVA149	3029478.407	887624.390	4231170.222	658863.300
NVA150	3043862.711	887961.080	4245547.718	659376.181
NVA151	3077756.808	887955.732	4279439.279	659786.280
NVA152	3061461.787	888297.293	4263140.668	659928.065
NVA153	3103086.706	887818.090	4304772.343	659959.198
NVA154	3010755.168	889900.737	4212423.990	660909.591
NVA155	2823401.987	892680.390	4025172.926	661391.608
NVA156	3132104.171	889073.942	4333779.701	661571.242
NVA157	3087223.466	890522.912	4288874.655	662469.635
NVA158	3017697.784	891422.553	4219345.938	662516.106
NVA159	2878441.191	894711.507	4080130.878	664095.138
NVA160	2866612.489	895332.789	4068305.530	664570.781
NVA161	2840128.169	897095.204	4041826.433	666006.544
NVA162	2996725.224	895925.383	4198324.836	666760.034
NVA163	3048619.810	895353.202	4250213.417	666825.620
NVA164	2849724.439	897888.450	4051402.880	666916.711
NVA165	3094306.212	894969.385	4295903.204	667003.370
NVA166	3100423.883	896702.561	4302000.105	668811.936
NVA167	3007228.202	898190.146	4208796.352	669153.102
NVA168	3062079.551	898028.629	4263638.876	669666.276
NVA169	3035183.557	898402.587	4236741.875	669709.304
NVA170	2933908.826	901470.641	4135472.382	671530.268
NVA171	3015200.343	900945.455	4216732.173	672005.656
NVA172	2946482.393	904005.004	4148006.899	674217.797
NVA173	2922687.295	904929.855	4124215.891	674849.020
NVA174	3069514.497	903389.166	4271007.387	675118.084
NVA175	3032234.909	904266.606	4233721.611	675535.828
NVA176	3022185.711	905143.896	4223663.928	676289.021
NVA177	2990616.764	905817.814	4192096.976	676573.498
NVA178	2968928.604	907916.250	4170392.636	678403.543
NVA179	3101688.104	907269.998	4303134.196	679396.066
NVA180	3087290.913	907835.962	4288728.946	679784.247
NVA181	2930856.381	910292.266	4132313.267	680308.456
NVA182	3002783.339	911563.081	4204188.129	682466.799
NVA183	2960017.503	912130.434	4161434.120	682505.553
NVA184	2924974.221	914509.835	4126383.032	684450.510
NVA185	3092950.563	913760.918	4294315.635	685779.507
NVA186	2942725.403	916700.019	4144095.499	686858.743
NVA187	3022019.890	915943.379	4223364.728	687083.692
NVA188	2981063.516	918266.382	4182393.930	688898.792
NVA189	3015224.064	919598.720	4216525.478	690653.857
NVA190	2974527.863	922597.052	4175807.601	693146.484
NVA191	2913421.030	923647.902	4114725.070	693438.975
NVA192	2995827.064	922822.940	4197094.948	693636.474
NVA193	2951518.249	923965.210	4152793.102	694228.525
NVA194	2926533.728	924518.725	4127817.540	694471.778
NVA195	2899211.812	925279.310	4100506.712	694892.912
NVA196	2989848.913	925998.453	4191079.715	696736.540
NVA197	2981767.950	926945.734	4182990.402	697583.045
NVA198	2938532.931	929162.412	4139751.137	699261.354
NVA199	2964969.805	933786.617	4166115.232	704211.730
NVA200	2901949.266	934908.813	4103122.313	704548.655
NVA201	2987169.525	934450.702	4188296.294	705151.987
NVA202	2997699.868	935494.828	4198809.477	706326.917

Station Name	SPC TX C Northing	SPC TX C Easting	SPC TX SC Northing	SPC TX SC Easting
NVA203	2929358.064	939967.303	4130447.787	709944.912
NVA204	2978941.787	941421.688	4179985.204	712017.305
NVA205	2920474.783	942351.966	4121540.962	712217.060
NVA206	2909727.744	943132.080	4110792.179	712862.431
NVA207	2951990.357	943216.876	4153025.288	713474.950
NVA208	2963503.622	943115.461	4164533.465	713517.418
NVA209	2923724.773	944933.208	4124756.400	714837.051
NVA210	2943204.973	948096.945	4144184.149	718242.266
NVA211	2969776.705	950681.253	4170708.681	721157.813
NVA212	2974233.765	951964.944	4175147.475	722496.728
NVA213	3013329.061	951516.316	4214233.125	722538.406
NVA214	2903150.418	953255.782	4104093.392	722895.939
NVA215	2965235.958	952878.775	4166142.706	723297.307
NVA216	2917471.896	955358.541	4118377.525	725176.603
NVA217	2987095.033	956851.753	4187941.637	727542.704
NVA218	2950402.609	959588.298	4151233.358	729816.938
NVA219	3003242.652	960222.906	4204040.665	731115.497
NVA220	2932563.165	961791.762	4133377.425	731794.801
NVA221	2959926.216	962181.399	4160718.970	732528.299
NVA222	2940943.562	964094.735	4141723.410	734201.686
NVA223	3038643.763	963754.602	4239387.789	735091.861
NVA224	3009065.294	965864.210	4209790.323	736828.210
NVA225	2926383.186	967346.450	4127131.764	737267.927
NVA226	2977229.409	970855.953	4177904.097	741416.465
NVA227	3022862.199	970467.874	4223525.113	741604.572
NVA228	3007498.808	975730.589	4208099.783	746671.574
NVA229	2968017.933	976473.556	4168626.170	746914.954
NVA230	2997143.458	976820.703	4197734.332	747630.312
NVA231	2918617.720	977822.125	4119239.663	747638.115
NVA232	2951154.863	978438.355	4151747.515	748665.402
NVA233	2982156.352	979744.442	4182716.424	750363.162
NVA234	3022940.935	980886.579	4223472.030	752021.537
NVA235	2933498.602	983251.833	4134041.401	753252.339
NVA236	2984138.609	987192.306	4184603.372	757832.850
NVA237	2959864.013	989418.965	4160312.524	759750.160
NVA238	2996745.861	990230.263	4197166.837	761029.712
NVA239	3188666.067	989972.013	4389100.538	763214.262
NVA240	2922165.618	994673.050	4122571.311	764521.771
NVA241	2963251.543	995354.739	4163622.741	765725.782
NVA242	3183104.897	992617.311	4383502.969	765789.920
NVA243	3194021.760	993045.528	4394419.739	766357.630
NVA244	2941230.846	996239.610	4141603.679	766329.843
NVA245	3170263.025	996205.904	4370609.684	769216.173
NVA246	2980905.658	1000085.418	4181207.816	770679.040
NVA247	3189994.054	1000705.978	4390292.108	773970.499
NVA248	3002746.439	1004185.777	4202987.343	775056.510
NVA249	2931722.884	1010491.278	4131920.125	780450.812
NVA250	3198302.485	1013859.439	4398436.109	787237.297
NVA251	2999991.266	1106785.333	4198898.630	877581.681
NVA252	2983539.332	1119752.985	4182281.758	890325.470
NVA253	3003386.684	1120607.512	4202109.299	891443.572
NVA254	3015818.829	1122735.118	4214508.739	893735.886
NVA255	2994914.082	1125403.937	4193576.238	896125.284
NVA256	2991665.881	1130114.234	4190266.627	900790.257

Station Name	SPC TX C Northing	SPC TX C Easting	SPC TX SC Northing	SPC TX SC Easting
NVA257	3016227.045	1130770.858	4214809.677	901774.457
NVA258	2976588.306	1131940.511	4175171.774	902414.461
NVA259	3005023.183	1136377.193	4203534.833	907229.104
NVA260	2982511.980	1137420.083	4181019.323	907970.481
NVA261	2997546.902	1138134.168	4196037.996	908885.373
NVA262	2971137.854	1142835.096	4169578.470	913230.520
NVA263	2989761.830	1143234.293	4188187.973	913879.055
NVA264	2997369.246	1145730.130	4195758.645	916475.818
NVA265	2981691.906	1149129.043	4180042.745	919662.803
NVA266	2999828.544	1153357.367	4198114.483	924132.965
NVA267	2974749.365	1155602.385	4173016.689	926039.585
NVA268	2988826.238	1158039.558	4187053.895	928665.060
VVA001	2937861.307	1003072.002	4138149.239	773114.897
VVA002	2970701.560	956810.010	4171556.208	727295.121
VVA003	3049995.657	768897.311	4253106.757	540401.739
VVA004	3082091.843	841744.305	4284336.040	613626.923
VVA005	2982961.999	936583.582	4184063.987	707231.520
VVA006	2860572.857	874622.119	4062524.767	643806.335
VVA007	3183615.834	847901.608	4385811.944	621011.125
VVA008	3055636.692	804816.941	4258323.518	576384.255
VVA009	3082791.964	889639.897	4284453.840	661532.215
VVA010	2921338.268	966359.573	4122102.848	736218.216
VVA011	2972047.043	1134544.791	4170598.075	904956.761
VVA012	3062558.393	850440.076	4264698.022	622086.804
VVA013	2814379.125	881121.381	4016301.838	649735.814
VVA014	2975069.475	904227.181	4176576.021	674791.951
VVA015	2974493.653	912296.372	4175900.918	682850.247
VVA016	2957888.253	966878.401	4158622.999	737197.060
VVA017	3112847.081	885019.255	4314568.376	657279.604
VVA018	3153278.709	867566.501	4355223.481	640316.208
VVA019	2971032.232	945082.286	4172033.659	715577.334
VVA020	2911098.331	951395.032	4112058.403	721136.194
VVA021	2996371.588	835479.160	4198705.615	606331.626
VVA022	2967168.741	976272.639	4167779.954	746703.403
VVA023	3003375.813	959931.309	4204177.446	730825.677
VVA024	2836738.826	878807.778	4038664.356	647697.408
VVA025	2995807.694	1163163.968	4193963.193	933881.326
VVA026	3156236.093	870599.333	4358144.968	643386.150
VVA027	3229756.426	818873.786	4432329.258	592520.738
VVA028	2955317.059	927507.481	4156545.780	697815.936
VVA029	3060034.430	791102.661	4262883.375	562723.170
VVA030	3069960.134	863026.615	4271946.915	634762.416
VVA031	2916627.203	916040.618	4118023.053	685877.021
VVA032	3200451.605	850242.203	4402628.326	623556.601
VVA033	3191234.204	838442.368	4393548.349	611639.004
VVA034	3130922.083	880854.093	4332698.041	653334.880
VVA035	2931180.445	927995.691	4132417.945	698004.055
VVA036	2959101.851	948698.405	4160064.238	719042.322
VVA037	3030310.425	765059.494	4233469.548	536334.128
VVA038	2990700.047	916004.456	4192054.405	686757.109
VVA039	2881755.335	874989.186	4083683.053	644430.914
VVA040	2944678.014	906206.273	4146176.487	676395.514
VVA041	3147266.431	862919.034	4349265.722	635594.041
VVA042	2882898.214	895631.498	4084572.644	665068.975

Station Name	SPC TX C Northing	SPC TX C Easting	SPC TX SC Northing	SPC TX SC Easting
VVA043	3110893.580	837435.087	4313192.319	609664.108
VVA044	3082358.453	899905.852	4283894.138	671793.063
VVA045	3195797.144	865531.184	4397785.708	638797.607
VVA046	2955072.311	873458.732	4156965.938	643794.295
VVA047	2997220.145	911366.371	4198629.347	682201.423
VVA048	2991427.608	1147473.955	4189796.151	918139.172
VVA049	2967991.622	841076.990	4170270.484	611585.880
VVA050	3000678.038	1138074.634	4199168.662	908867.759
VVA051	3171623.407	837955.418	4373933.957	610915.620
VVA052	3105872.874	863642.110	4307853.978	635814.225
VVA053	3161620.849	884626.075	4363360.288	657483.953
VVA054	2903658.115	928448.301	4104910.118	698114.539
VVA055	3190545.207	996224.328	4390900.833	769493.660
VVA056	2744984.378	834042.540	3947568.794	601881.238
VVA057	2941466.207	973590.523	4142126.028	743698.072
VVA058	2918945.462	944227.397	4119989.329	714072.038
VVA059	3242453.578	815913.736	4445071.159	589710.288
VVA060	2991241.641	994889.389	4191605.529	765616.968
VVA061	2991849.100	943908.180	4192855.938	714664.005
VVA062	2732625.477	846961.887	3935073.527	614632.639
VVA063	3032591.924	784823.399	4235518.573	556120.905
VVA064	2838617.967	847885.123	4040916.180	616830.899
VVA065	2957946.949	984628.071	4158457.319	754937.592
VVA066	3135184.347	836579.258	4337498.583	609100.364
VVA067	3169325.914	828583.952	4371748.119	601512.486
VVA068	3032877.686	971713.300	4233522.472	742976.197
VVA069	3019536.005	844818.333	4221750.446	615946.640
VVA070	3147104.211	822301.365	4349593.325	594961.249
VVA071	2849373.154	874844.660	4051333.595	643892.344
VVA072	3058955.483	840721.414	4261212.617	612325.372
VVA073	2920140.962	922570.560	4121453.429	692445.722
VVA074	3104190.024	849454.593	4306342.857	621604.479
VVA075	3130838.553	860645.791	4332860.786	633120.590
VVA076	3025181.186	881250.242	4226951.982	652438.025
VVA077	3060249.016	865804.648	4262202.567	637422.305
VVA078	3005769.939	982288.494	4206288.457	753205.378
VVA079	3044258.594	845089.044	4246464.756	616515.399
VVA080	3016076.893	893459.963	4217700.494	664533.061
VVA081	2889378.360	852102.702	4091576.965	621656.658
VVA082	2848516.773	850278.101	4050775.732	619340.688
VVA083	3154129.686	840826.527	4356398.705	613577.110
VVA084	3021572.734	983924.529	4222065.671	755041.327
VVA085	2997827.539	1120678.936	4196551.391	891441.020
VVA086	3048215.553	863179.176	4250202.250	634650.905
VVA087	3100468.012	885031.306	4302187.514	657140.011
VVA088	2956985.421	855457.797	4159096.478	625826.456
VVA089	3121812.894	845110.740	4324021.131	617472.752
VVA090	3178594.667	993721.175	4378976.598	766836.744
VVA091	3045629.116	811432.783	4248238.402	582880.331
VVA092	2897042.835	881861.856	4098873.770	651484.120
VVA093	2866686.884	895380.985	4068379.263	664619.843
VVA094	3183815.939	832024.037	4386203.515	605128.143
VVA095	3018654.785	961551.856	4219431.232	732637.930
VVA096	3140979.423	816739.643	4343533.110	589324.573



Station Name	SPC TX C Northing	SPC TX C Easting	SPC TX SC Northing	SPC TX SC Easting
VVA097	3051442.083	877717.925	4253251.354	649227.130
VVA098	2937698.970	921153.553	4139017.082	691247.254
VVA099	3033563.970	815061.484	4236132.004	586364.683
VVA100	3016612.602	855783.385	4218695.358	626873.456
VVA101	3213563.314	821187.884	4416097.603	594642.639
VVA102	2713089.602	848424.965	3915551.041	615858.283
VVA103	2989906.476	1128021.086	4188535.915	898674.563
VVA104	3193017.067	816006.768	4395601.274	589212.832
VVA105	2925339.513	985243.232	4125862.676	755138.975
VVA106	3049411.540	891592.087	4251051.232	663074.722
VVA107	3195126.441	987744.882	4395592.569	761068.310
VVA108	3009451.127	1119653.098	4208184.211	890570.173
VVA109	2985353.751	965113.030	4186097.193	735778.558
VVA110	3196716.208	1007979.278	4396924.513	781333.648
VVA111	3200542.424	838044.335	4402866.475	611352.881
VVA112	3124019.446	827363.157	4326441.633	599747.921
VVA113	3140895.667	851458.918	4343031.974	624053.134
VVA114	2895500.906	875195.949	4097414.382	644804.873
VVA115	3023912.750	871392.407	4225804.111	642567.083
VVA116	2980403.996	843660.083	4182645.999	614317.214
VVA117	3224301.074	837582.365	4426645.551	611176.822
VVA118	3008932.700	881963.504	4210699.244	652952.494
VVA119	2877414.108	844418.484	4079715.799	613834.913
VVA120	3069138.145	885685.379	4270848.600	657410.359
VVA121	3102446.917	826448.309	4304876.396	598574.375
VVA122	2819669.152	853103.999	4021925.571	621815.440
VVA123	3202728.537	825146.539	4405208.829	598473.919
VVA124	3043664.936	827428.587	4246083.458	598850.403
VVA125	3005228.073	946175.421	4206201.631	717097.745
VVA126	2931799.146	972241.486	4132482.299	742227.889
VVA127	2975180.062	989505.173	4175619.579	760030.880
VVA128	3213200.661	857219.014	4415300.451	630692.090
VVA129	3175406.683	820593.547	4377927.306	593591.399
VVA130	3213222.492	832062.348	4415626.133	605519.880
VVA131	3041188.835	879423.815	4242978.724	650807.561
VVA132	2952143.111	913018.482	4153553.126	683295.827
VVA133	2995744.877	954276.802	4196620.329	725077.376
VVA134	3107940.456	898255.347	4309498.470	670457.412
VVA135	2937829.329	950824.072	4138777.757	720900.381
VVA136	3172996.891	856455.412	4375084.477	629440.339
VVA137	2987358.714	893802.381	4188988.047	664522.847
VVAF01	3232437.669	821374.980	4434982.485	595055.802
VVAF02	3198213.974	834526.705	4400579.051	607805.233
VVAF03	3086962.642	853337.146	4289067.024	625279.008
VVAF04	3166832.079	856774.460	4368913.162	629684.758
VVAF05	4057672.548	643329.545	2855710.741	874204.085
VVAF06	3022300.074	898763.020	4223856.845	669911.175
VVAF07	2955355.130	953116.148	4156264.258	723410.675
VVAF08	3015142.147	981535.481	4215667.210	752571.409
VVAF09	2896455.336	938784.618	4097584.585	708352.878
VVAF10	3022902.146	862313.471	4224904.121	633478.078
VVAF11	2943901.872	936091.972	4145030.504	706253.386
VVAF12	2918076.966	937855.567	4119200.965	707694.012
VVAF13	4212835.341	618186.254	3010646.729	847165.813

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VVAF14	3056188.100	884700.982	4257911.488	656267.457
VVAF15	4239272.843	559189.151	3036382.556	787847.506
VVAF16	3090144.257	884647.553	4291867.622	656629.786
VVAF17	2974961.718	936440.531	4176069.130	706988.806
VVAF18	2970949.656	852351.903	4173091.121	622890.985
VVAF19	2988452.220	1171249.706	4186501.737	941864.104
VVAF20	3010820.805	1127941.366	4209443.019	898873.774
VVAF21	3047155.301	853250.773	4249262.472	624710.968
VVAF22	4239627.867	617429.797	3037432.623	846085.938
VVAF23	3026883.728	771187.426	4229971.822	542420.650
VVAF24	3114342.615	869919.554	4316248.622	642195.669
VVAF25	3195723.828	1001534.165	4396014.206	774872.435
VVAF26	2940173.958	910144.592	4141626.636	680275.862
VVAF27	4075445.776	657988.276	2873677.591	888657.478
VVAF28	3007545.808	970346.994	4208214.792	741290.360
VVAF29	3032543.219	875147.554	4234386.895	646426.564
VVAF30	3052099.159	814177.694	4254674.952	585701.988
VVAF31	2947340.617	927466.291	4148574.464	697675.698
VVAF32	3057071.920	792340.173	4259906.465	563925.575
VVAF33	3145091.364	834577.828	4347432.571	607217.505
VVAF34	3127758.200	887313.177	4329454.292	659756.741
VVAF35	3032169.403	967425.413	4232868.475	738680.304
VVAF36	3100832.724	857423.971	4302888.690	629534.159
VVAF37	3023722.339	912660.836	4225107.356	683823.041
VVAF38	4228326.683	598045.423	3025897.730	826836.298
VVAF39	3199243.427	856742.880	4401340.696	630046.315
VVAF40	2943052.461	947784.401	4144035.642	717928.007
VVAF41	3025249.519	813644.682	4227836.193	584849.084
VVAF42	3003449.731	900307.441	4204993.086	671223.219
VVAF43	2983103.388	949343.439	4184045.875	719987.558
VVAF44	3095587.783	826328.693	4298017.973	598372.569
VVAF45	3161634.008	884463.338	4363375.446	657321.315
VVAF46	3058791.748	834556.065	4261123.050	606158.543
VVAF47	2965531.704	914038.032	4166921.854	684480.291
VVAF48	4194644.614	609642.135	2992349.472	838839.259
VVAF49	2996880.718	942146.136	4197907.631	712965.524
VVAF50	3010784.924	909809.561	4212208.771	680812.692