

REPORT OF SURVEY - CALIFORNIA COAST GROUND CONTROL FOR ADS-40 DIGITAL PHOTOGRAPHY & LiDAR

INTRODUCTION

Terrasurv Inc. was tasked by Fugro-Earthdata International to perform a control survey in support of photogrammetric and LiDAR mapping of the California coast line. The Global Positioning System (GPS) was used in a static differential mode to establish the control network.

The project covered the entire coast from the Oregon border south to the Mexican border. The map in figure 1 shows the location of the 67 photo control points:

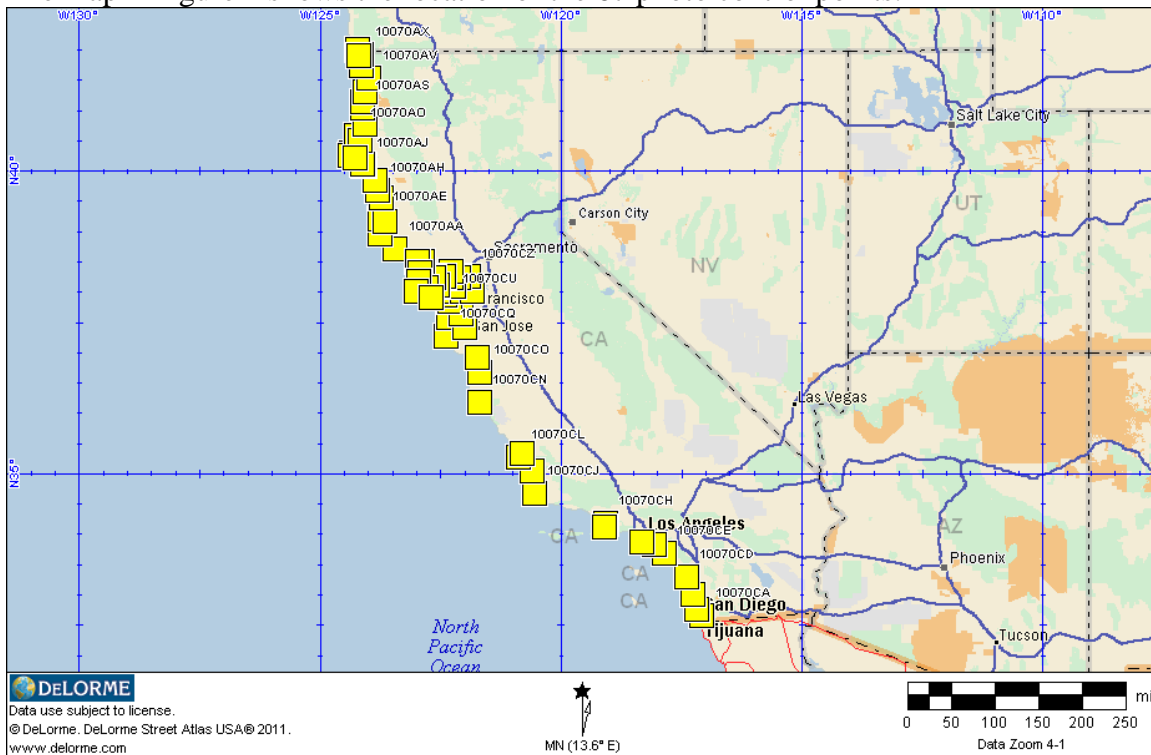


Figure 1 - ADS40 control locations

On the map above, the new photo control points are shown by yellow squares.

The map in figure 2 shows the location of the 127 LiDAR control points, represented by blue circles:

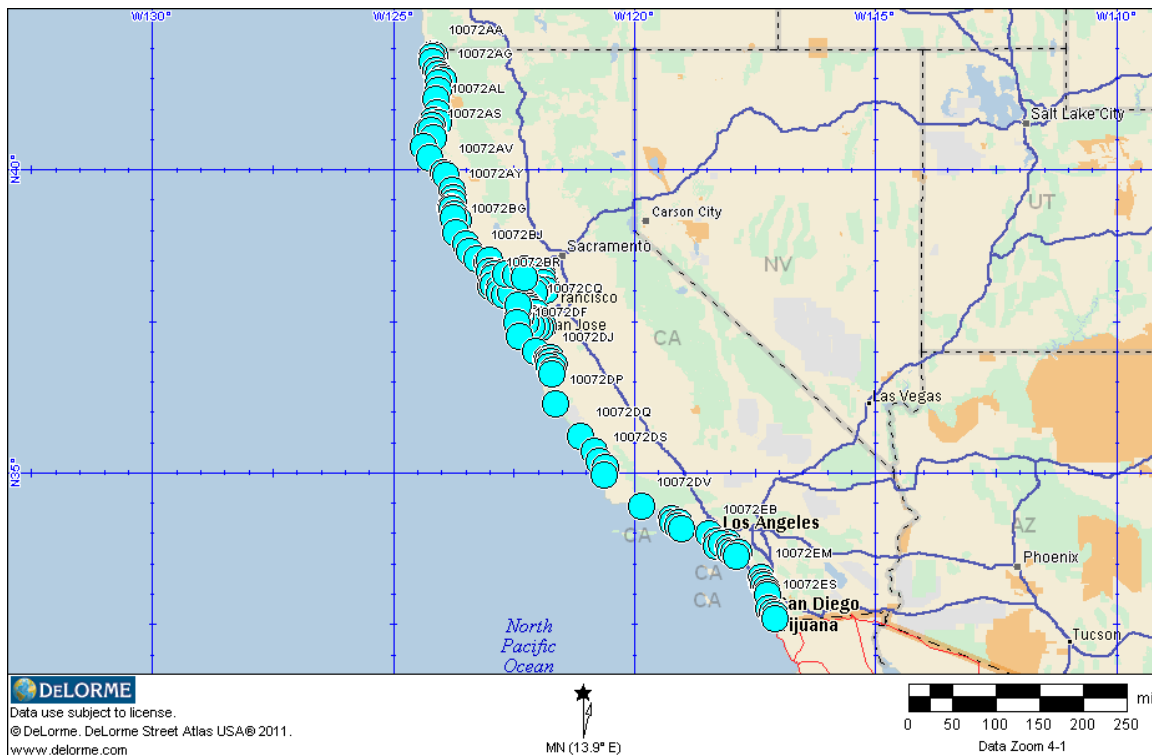


Figure 2 - LiDAR control locations

CONTROL

Control for this project was provided by 101 Continuously Operating Reference Stations (CORS). These CORS were from a variety of networks, as shown in the table below:

Network	Abbrev.
Southern California Integrated GPS Network	SCIGN
Plate Boundary Observatory	PBO
International GNSS Service	IGS
Pacific Northwest Geodetic Array	PNGA
Bay Area Regional Deformation Network	BARD

All of these stations participate in the California Spatial Reference System ([CSRS](#)), which is maintained by the California Spatial Reference Center (CSRC). These sites are shown below in figure 3:

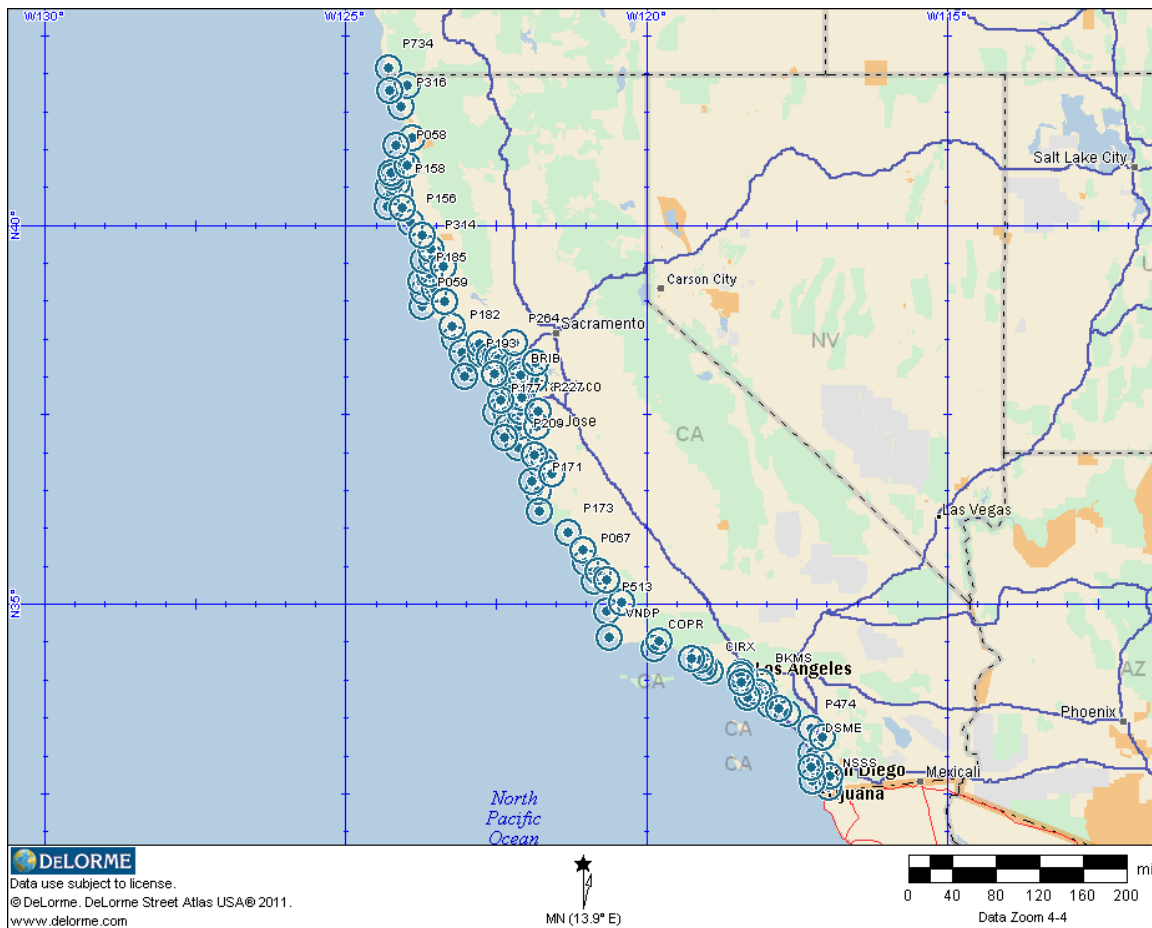


Figure 3 - CORS locations

The National Geodetic Survey undertook a readjustment of all the GPS survey control in the United States to resolve inconsistencies between existing statewide state wide HARN adjustments and the nationwide CORS system, as well as between states. This adjustment was completed in February of 2007, and is now known as the NAD 83(NSRS2007). The following statement (“[Statement regarding control used for the NAD 83\(NSRS2007\)](#)”) is on the NGS web site:

Control for the NAD 83(NSRS2007) adjustment was provided by the CORS. For all states except AZ, CA, OR, WA, NV, and AK, the values used were the NAD 83 epoch 2002.0 values currently published by NGS.

In California, the NAD 83 values for the California CORS (CGPS) and the National CORS were obtained through Scripps’ Sector utility and are available through the California Spatial Reference Center’s (CSRC) website at <http://csrc.ucsd.edu> in the 2007.0 epoch

For AZ, OR, WA, NV, and AK, HTDP was used to convert the currently published NAD 83 positions of the CORS to epoch 2007.0.

For all stations on the stable North American plate, no epoch date will be shown – as is currently the practice. For the other states, an epoch date of 2007.0 will be shown. In those states, except CA, HTDP can be used with the currently published CORS to determine the proper value to use. **In CA, the values as currently published on the CSRC website should be used to maintain consistency with NAD 83(NSRS2007).**

Note: for future projects located in AZ, OR, WA, NV, CA, and AK, HTDP will still be required to correct for any velocities associated with the published control.

Due to the dynamic environment present in California, several options were explored for the selection of control and datums to be used for this project. The San Andreas Fault, the boundary between the Pacific plate and the North American plate, is shown in figure 4:



As can be seen, the coast line of California is on the Pacific plate from about San Francisco south, and on the North American plate north of San Francisco. To give an example of the different velocities with respect to NAD 83(NSRS2007), in meters per year of CGPS stations at the extreme ends of the state:

P473 (San Diego): +0.0127 m N/-0.0273 m E

P316 (Crescent City): -0.0005 m N/+0.0014 m E

The California High Accuracy Reference Network (HARN) was initially established and adjusted in 1992. Several observation campaigns have been performed since then that re-observed a subset of the stations, and, over the years,

additional stations were added. The HTDP program, which estimates velocities based on geophysical data, was used to update vectors in CA from the dates they were observed to a common date of 2007.0 for the NSRS re-adjustment.

The airborne data collection effort (LiDAR and digital photography) utilizes a base station for each flight. The base station is typically setup at a nearby airport, either on an existing NSRS station or on a temporary point. The flight crew then sends the data to the Online Positioning User Service (OPUS) for processing. OPUS uses data from CORS to compute positions for data sets from dual frequency receivers, referenced to the NSRS. (OPUS) returns positions referenced to epoch 2002.0. In the stable parts of the North American Plate, this does not create any problems since the CORS 2002.0 epoch is exactly what was used as a constraint in the NSRS 2007 adjustment, and the two are functionally equivalent.

The [California Spatial Reference Center](#) maintains a data portal that manages data from approximately 765 CORS stations in the state of California, which is far more than are available in that area in the National CORS. They operate a positioning service similar to OPUS known as [SCOUT](#) (Scripps Coordinate Update Tool) which produces ITRF2005 coordinates at the date of observation. They have several updated products available for the CGPS stations, including a CSRS epoch 2007.0 set of coordinates, and a CSRS epoch 2009.0. This latter updated set of coordinates is consistent with the NAD 83(NSRS2007) coordinates for the rest of the CONUS at the epoch of 2009.0 (i.e. January 1, 2009), while the 2007.0 values would be consistent with the published NSRS values, which also have an epoch date of 2007.0 The 2009 data set is created by computing and applying a transformation from ITRF2005 2009.0 to NAD 1983 (NSRS) 2009.0. There is a significant shift in position that has taken place over the 7 year difference in epochs between the 2002.0 epoch used by OPUS and the 2009.0 epoch, the most recent

available. For example, two stations were selected, NSSS, located near Tijuana at the south end of the state, and P786, near the north edge of the state, and submitted to OPUS. The following 2002.0 positions were returned and compared against the 2009.0 positions:

Station	Epoch	Latitude	Longitude	Δ
NSSS (OPUS)	2002.0	32 34 45.51492	-116 58 21.60034	
NSSS (CSRC)	2009.0	32 34 45.521687	-116 58 21.607636	
Difference				0.28 m
P786 (OPUS)	2002.0	41 50 43.72805	-123 58 50.78583	
P786 (CSRC)	2009.0	41 50 43.731149	-123 58 50.785683	
Difference				0.10 m

Note that the difference at the north end, nominally on the North American plate, is not zero because there is deformation occurring for several hundred kilometers around the plate boundaries.

After consultation with the client and the NGS Geodetic Advisor for the State of California, Marti Ikehara, it was decided to utilize the most recent realization of the CSRS, with an epoch date of 2009.0.

The data set for the [CSRS 2009.0 epoch](#) was obtained from the CSRC web site. The data was processed and adjusted using ITRF 2005 epoch 2009.0 coordinates. Once the adjustment was completed, the NGS program Horizontal Time Dependent Positioning (HTDP) was used to transform the adjusted ITRF 2005 epoch 2009.0 positions to NAD 1983 (NSRS2007) epoch 2009.0 positions. The table below lists the stations used and the coordinates constrained.

CORS ID	ITRF 2005 2009.0 Latitude	ITRF 2005 2009.0 Longitude	ITRF 2005 2009.0 Ellipsoidal Height
BKMS	33°57'44.12963" N	118°05'40.91589" W	11.002
BLSA	33°47'58.35641" N	118°01'43.23825" W	-23.148
BRIB	37°55'09.85807" N	122°09'09.19314" W	263.160
CIRX	34°06'34.39272" N	118°56'14.26556" W	488.201
COPR	34°24'53.66681" N	119°52'46.29274" W	-22.849
CRHS	33°49'24.61501" N	118°16'21.95901" W	-23.531
CSCI	34°10'06.25069" N	119°02'20.33150" W	70.849
DSHS	34°01'26.15512" N	118°20'54.75137" W	-2.114
DSME	33°02'11.31865" N	117°14'58.32757" W	56.131
FVPK	33°39'44.37738" N	117°56'08.57218" W	-11.552
LBC1	33°49'55.45147" N	118°08'13.86133" W	-21.951
LFRS	34°05'42.25353" N	118°24'46.17291" W	146.898
NSSS	32°34'45.53447" N	116°58'21.65624" W	123.599
OHLN	38°00'22.51044" N	122°16'22.76269" W	-0.539
P058	40°52'34.70065" N	124°04'31.33157" W	21.421
P059	38°55'42.04534" N	123°43'34.31075" W	-11.291
P067	35°33'06.30920" N	121°00'10.65786" W	106.999
P156	40°01'27.99191" N	123°54'22.02121" W	488.995
P157	40°14'51.16637" N	124°18'29.06491" W	695.810
P158	40°25'20.96479" N	124°06'25.94983" W	873.690
P159	40°30'17.23152" N	124°16'58.01634" W	608.222

CORS ID	ITRF 2005 2009.0 Latitude	ITRF 2005 2009.0 Longitude	ITRF 2005 2009.0 Ellipsoidal Height
P160	40°33'04.50617" N	124°07'59.77656" W	94.230
P161	40°38'14.50601" N	124°12'47.10957" W	32.443
P162	40°41'27.94029" N	124°14'13.33265" W	-6.458
P163	40°13'10.45634" N	124°03'26.24340" W	425.258
P169	40°47'28.12066" N	123°58'03.55017" W	689.381
P171	36°29'07.88638" N	121°47'33.06749" W	572.748
P172	36°13'41.06658" N	121°46'02.08126" W	312.629
P173	35°56'44.57828" N	121°17'25.20188" W	339.240
P177	37°31'41.40162" N	122°29'42.18770" W	71.800
P178	37°32'04.26709" N	122°19'56.51140" W	129.073
P181	37°54'52.36173" N	122°22'36.32108" W	72.208
P182	38°29'42.05183" N	123°10'52.48483" W	396.806
P183	38°18'49.18592" N	123°04'07.99506" W	10.412
P184	39°07'01.79284" N	123°42'32.17565" W	108.958
P185	39°15'40.69133" N	123°44'57.60952" W	146.366
P186	39°09'00.64159" N	123°31'05.34874" W	372.817
P187	39°21'08.91721" N	123°36'09.14962" W	164.001
P188	38°40'04.28186" N	123°13'46.42935" W	208.882
P189	38°59'14.81447" N	123°20'54.34485" W	176.942
P193	38°07'22.57062" N	122°54'29.30896" W	66.601
P196	38°17'53.31608" N	122°44'33.51087" W	90.540
P197	38°25'42.81884" N	122°46'02.59046" W	0.016
P198	38°15'35.54683" N	122°36'26.82194" W	-4.618
P199	38°15'49.29018" N	122°30'12.37892" W	55.667
P200	38°14'23.39137" N	122°27'06.12813" W	-25.091
P209	37°04'09.31495" N	122°07'36.17379" W	577.147
P210	36°48'58.09379" N	121°43'54.63196" W	3.040
P211	36°52'45.03191" N	121°41'52.93665" W	60.534
P212	36°57'43.23621" N	121°51'45.84152" W	36.585
P219	37°20'32.96202" N	122°17'05.35504" W	300.887
P221	37°20'13.02600" N	122°05'56.57806" W	155.306
P222	37°32'21.26192" N	122°04'59.75141" W	53.477
P223	37°43'19.39346" N	122°05'59.20530" W	139.952
P224	37°51'50.02635" N	122°13'08.61702" W	407.352
P225	37°42'49.91618" N	122°03'29.98208" W	117.158
P226	37°20'12.39145" N	121°49'32.10858" W	5.057
P227	37°31'58.70743" N	121°47'22.55170" W	707.428
P231	36°37'18.03471" N	121°54'19.47634" W	-26.337
P232	36°43'26.47046" N	121°34'44.54938" W	105.352
P248	37°58'32.18969" N	121°52'07.31141" W	229.815
P261	38°09'10.65646" N	122°13'03.14399" W	118.167
P262	38°01'30.53350" N	122°05'46.11937" W	-8.569
P264	38°26'39.17263" N	122°11'43.18797" W	231.047
P266	38°11'02.28453" N	121°50'36.69673" W	22.460
P277	37°11'32.53891" N	122°22'00.77974" W	115.306

CORS ID	ITRF 2005 2009.0 Latitude	ITRF 2005 2009.0 Longitude	ITRF 2005 2009.0 Ellipsoidal Height
P278	35°42'40.50574" N	121°03'38.71538" W	465.872
P312	39°31'45.04211" N	123°41'54.14993" W	254.943
P313	39°33'15.43756" N	123°33'52.36260" W	651.774
P314	39°41'08.38952" N	123°34'54.65491" W	1251.938
P315	39°51'48.89781" N	123°43'00.82791" W	257.932
P316	41°33'32.87843" N	124°05'10.11942" W	234.976
P318	39°27'08.52883" N	123°22'18.67339" W	594.958
P325	41°09'06.01162" N	123°52'57.38517" W	914.554
P472	32°53'21.15157" N	117°06'16.90130" W	137.851
P473	32°44'01.59233" N	116°56'58.25381" W	188.572
P474	33°21'18.69300" N	117°14'55.28988" W	182.913
P475	32°39'59.02300" N	117°14'38.16489" W	-25.045
P478	33°14'08.57250" N	117°04'17.72513" W	371.576
P513	34°54'26.14385" N	120°39'00.62066" W	284.577
P514	35°00'38.57091" N	120°24'35.09682" W	140.916
P519	34°30'28.11941" N	119°47'32.77368" W	810.910
P523	35°18'16.01720" N	120°51'36.98172" W	41.369
P525	35°25'32.76094" N	120°48'29.30837" W	271.368
P729	34°15'47.08951" N	119°05'45.81210" W	36.138
P734	42°04'35.88482" N	124°17'35.72488" W	113.320
P786	41°50'43.74426" N	123°58'50.84340" W	83.970
PTRB	37°59'46.23150" N	123°01'07.39236" W	145.753
PTSG	41°46'57.86803" N	124°15'18.71919" W	-10.210
PVRS	33°46'25.90625" N	118°19'14.11919" W	59.832
SBCC	33°33'10.80044" N	117°39'41.35126" W	88.679
SBRN	37°41'10.38885" N	122°24'37.59231" W	-2.169
SIO5	32°50'26.64436" N	117°14'58.88159" W	185.534
SVIN	38°01'59.44534" N	122°31'34.75091" W	-27.547
TRAK	33°37'04.56710" N	117°48'12.36708" W	115.556
TRND	41°03'13.98976" N	124°09'03.12109" W	78.177
UCLP	34°04'08.83620" N	118°26'30.87697" W	111.544
USLO	35°18'42.49505" N	120°39'39.93654" W	134.626
VNCO	34°16'32.75434" N	119°14'15.61091" W	25.676
VNDP	34°33'22.72192" N	120°36'59.22456" W	-11.510
WRHS	33°57'29.34730" N	118°25'39.38594" W	7.872

To summarize, the datum for the processing and adjustment was the ITRF 2005 at epoch 2009.0, realized through a subset of the California CORS network. The final coordinates delivered for use in the imagery and LiDAR reduction processes are North American Datum of 1983 (NSRS2007) CSRS2009.0, transformed using HTDP version 3.0. The vertical datum was the North American Vertical Datum of 1988 (NAVD 1988), computed by applying the GEOID09 geoid height (separation) to the adjusted and transformed GRS 1980 ellipsoidal heights.

PHOTO CONTROL STATIONS

The 67 surveyed photo control points consisted of a mixture of painted or portable panels and photo identities. The table below summarize the new stations. In addition to new locations, 18 of the photo control points were aerial targets that previously were surveyed in 2009. These are designated in the list below with a Pxxx (i.e. P001). Six of these were not recovered, and new stations were established nearby (Pxxx NEW). The other 12 were re-surveyed.

Name	GPSID	USGS Quad	Description
201	10070AX	SMITH RIVER	center of a painted T-target on the east shoulder of US101
202	10070AV	KLAMATH GLEN	center of a painted T-target on the west side of SR169 just south of Arrow Mills Rd
203	10070AU	ORICK	northeast corner of a stop bar on the south side of SR101 and Bald Hills Rd
204	10070AT	RODGERS PEAK	center of a painted T-target on the east side of a logging road
205	10070AR	ARCATA SOUTH	center of a painted T-target on the north side of Freshwater Rd, opposite #1298
206	10070AO	FORTUNA	center of a painted T-target on the north side of Grizzly Bluff Road just west of Coppin Ln
207	10070AP	FORTUNA	center of a painted T-target on the south side of Blue Slide Road
208	10070AQ	COOSKIE CREEK	Tip of portable L-target on top of a bluff north of Spanish Ridge trail
209	10070AE	ELK	NE corner of a stop bar on the north side of the Navarro River
210	10070AF	ELK	Tip of portable "L" target on the south side of SR128 at a turnout
211	10070DH	CAMP MEEKER	painted T target on west side of Wohler Road just south of Eastside Road
212	10070DI	GUERNEVILLE	painted T target on south side of River Road, just east of Odd Fellows Park Road
213	10070DJ	VALLEY FORD	ID=center of east end of stop bar for Middle Road at south side of CA 1
214	10070DK	INVERNESS	ID=center of east end of stop bar for school exit at SE side of CA 1
215	10070DN	BOLINAS	ID=NW corner of cutout area with vegetation near SE corner of concrete pad for fire station on north side of Mesa Road
216	10070DF	NOVATO	ID=SE corner of concrete curb on east side of concrete sidewalk on east side of Davidson Street, south side of DeLong Avenue
217	10070DG	PETALUMA	ID=SW corner of grass, east edge of N-S portion of concrete sidewalk, north edge of E-W portion of sidewalk, north side of planter
218	10070DE	SONOMA	ID=center of SW end of stop bar for Schellville Road at west side of 8th Street
219	10070DC	CUTTINGS WHARF	ID=NW corner of asphalt parking lot, east side of RR, at inside corner of concrete curb
220	10070DD	NAPA	painted T target on paved pull-off area on east side of Silverado Trail
221	10070DB	BENICIA	painted T target on west side of Lincoln Road, just north of San Juan Drive
222	10070DA	CORDELIA	painted T target on asphalt traffic island on west side of Suisun Valley Road at entrance/exit ramp to/from I-80
223	10070CZ	DENVERTON	painted T target on north side of Creed Road
224	10070CY	ANTIOCH NORTH	ID=east edge of concrete sidewalk on west side of Verne Roberts Circle, at south edge of concrete driveway
225	10070CX	VINE HILL	ID=north edge of concrete sidewalk at west edge of easterly concrete circle (easterly of 3 circles)
226	10070CW	RICHMOND	ID=NW corner of concrete pad (northeasterly of 2 pads)

			for picnic tables in small park
227	10070CV	SAN QUENTIN	center of existing + target (repainted) on NE side of Western Drive
228	10070CU	OAKLAND WEST	ID=NW corner of concrete dumpster pad (southerly of 2 pads) in parking lot for office buildings on east side of I-80
229	10070CT	HAYWARD	ID=SW corner of anti-slip pad in handicap ramp for concrete sidewalk in west quadrant of intersection of Taft Street and Montana Way
230	10070CR	SAN MATEO	ID=NE edge of concrete sidewalk on NE side of N San Mateo Drive at SE edge of crushed gravel driveway, west corner of grass yard
231	10070CS	MILPITAS	ID=SW corner of concrete sidewalk on south side of Old Mt View Alviso Road, at east side of N-S bike trail
232	10070CQ	LA HONDA	painted T target on south shoulder of Pescadero Creek Road
233	10070CP	WATSONVILLE EAST	painted T target on south shoulder of SR 129, Riverside Road
234	10070CO	SALINAS	ID=NW corner of grass, south edge of concrete sidewalk and east edge of concrete driveway on north side of Lemos Avenue between S Davis Road and Columbia Avenue
235	10070CM	MORRO BAY SOUTH	painted T target on south side of Turri Road
236	10070CK	OCEANO	ID=center of SE end of stop bar for road to Conoco Phillips Refinery at south side of CA 1
237	10070CJ	SURF	painted T target on paved asphalt farm road (Union Sugar Avenue)
238	10070AG	DUTCHMANS KNOLL	center of painted T-target on east side of Ten Mile River Rd
239	10070CL	MORO BAY SOUTH OE W	ID=SW end of most southerly concrete parking stop on east side of road, west side of parking lot
240	10070CG	TORRANCE	ID=SE corner of asphalt portion of W 173rd Street, north edge of concrete gutter on south side of W 173 street, west edge of concrete gutter on west side of Van Ness Avenue
241	10070CF	LOS ALAMITOS	ID=SE corner of N-S sidewalk along west edge of school parking lot, just north of gated entrance to athletic fields
242	10070CE	TUSTIN	ID=SE edge of concrete pad leading to demolished loading dock near NE corner of demolished building, SW edge of concrete sidewalk, north corner of asphalt
243	10070CD	MORRO HILL	ID=center of north end of stop bar for gated road leading NW on levee on west side of Vandergrift Boulevard
244	10070CC	DEL MAR OE W	ID=SW corner of concrete sidewalk on west side of entrance road to shopping center, south side of San Rodolfo Drive
245	10070CB	LA JOLLA	ID=south edge of concrete gutter on north side of Hotel Circle North at east edge of concrete and metal utility vault in roadway
246	10070CA	NATIONAL CITY	ID=north edge of concrete sidewalk on north side of Madrona Street at west edge of concrete sidewalk to corner house
247	10070CI	POINT MUGU	ID=east tip of northerly of two turn arrows for left turn lane from southbound CA 1 to Caryl Road east (road to houses and radar towers)
248	10070CH	CAMARILLO	ID=center of north edge of turning arrow (bottom of arrow) in left turn lane for Las Posas Road southbound to Laguna Road eastbound
249	10070CN	PARTINGTON RIDGE	ID=center of SE end of stop bar for overlook area at SW side of CA 1
P002	10070AY	SMITH RIVER	tip of portable L-target on the west side of the host road for Crissey Field State Park
P004 NEW	10070BA	SMITH RIVER	tip of portable L-target on the south side of Pala Rd
P005 NEW	10070AZ	SMITH RIVER	tip of portable L-target on the south side of a horse trail southwest of Yontocker Cemetery

P011 NEW	10070AW	SISTER ROCKS	center of a painted T-target on the east side of Enderts Beach Rd, just south of a beach access road
P021	10070AS	CRANNELL	Tip of a portable L-target in the western grass island of the interchange for Westhaven
P030	10070AM	PETROLIA	Tip of portable L-target on the north side of a turnout along Lighthouse Rd
P031	10070AN	PETROLIA	Tip of portable L-target on top of a bluff at the end of Windy Point Road
P032	10070AL	SHELTER COVE	Tip of portable L-target north of the Buck Creek Trail in a meadow
P033 NEW	10070AJ	SHELTER COVE	Tip of portable L-target on the west side of Horse Mtn Ridge trail
P034	10070AK	SHELTER COVE	Tip of portable L-target on the east side of Horse Mtn Ridge trail
P037	10070AI	HALES GROVE	Tip of portable L-target on the south side of Usal Rd @ South Fork Usal Creek and Pacific Ocean
P040	10070AH	WESTPORT	Tip of portable L-target on west side of SR1 and just south of the entrance to Howard Creek State Beach
P051	10070AD	POINT ARENA	Tip of portable "L" target on the west of Lighthouse Rd at Point Arena Light house
P053	10070AC	STEWARTS POINT	Tip of portable "L" target on the north side of SR1
P054	10070AB	STEWARTS POINT	Tip of portable "L" target on the north side of Annapolis Rd and at the south end of the Annapolis Runway
P054A	10070AA	STEWARTS POINT	SE corner of a pavement patch on Timber Ridge Rd
P061 NEW	10070DL	TOMALES	painted T target on east side of Pierce Point Road
P064 NEW	10070DM	DRAKES BAY OE SW	painted T target on south side of Sir Francis Drake Road at pull-off for overlook

LiDAR STATIONS

There were 127 LiDAR ground points consisting of bare ground, cut grass, sparse grass, gravel, and asphalt. These points were not marked, and are not photo identifiable. The list below summarizes the new LiDAR stations:

Name	GPSID	USGS Quad	Description
L-201	10072AA	SMITH RIVER	sparse grass, pasture on the south side of Pala Road
L-202	10072AB	SMITH RIVER	cut brush on the east side of SouthBank Road to the west of US 101
L-203	10072AC	CRESCENT CITY	grass drive to gated wildlife area, on the west side of Lower Lake Road
L-204	10072AD	CRESCENT CITY	sparse grass on the southeast side of Parkway Drive just south of the entrance drive to Ace Hardware
L-205	10072AE	CHILDS HILL	bare ground, on the southern end of a gravel turnout on the west side of US 101
L-206	10072AF	REQUA	cut grass on the southeast side of Weber Drive
L-207	10072AG	KLAMATH GLEN	bare ground, centerline of a gravel bike trail on top of a dike on the east side of Trinity Way
L-208	10072AH	AH PAH RIDGE	gravel bar on the right bank of the Klamath River-access by boat
L-209	10072AI	FERN CANYON	bare ground, sand dune in the Prairie Creek Redwoods State Park, access off Ossagon Trail then south along coast trail for 0.8 miles
L-210	10072AJ	ORICK	cut grass on the north side of Drydens Road, just east of entrance gate to Orick Rodeo
L-211	10072AK	RODGERS PEAK	cut grass yard west of Hammond Truck Road and west of a drive leading to a basketball court
L-212	10072AL	ARCATA NORTH	cut grass on the north side of Hewitt Road opposite #2200
L-213	10072AM	EUREKA	sparse grass, on the east side of commercial street just north of W 2nd Street

Name	GPSID	USGS Quad	Description
L-214	10072AN	ARCATA SOUTH	bare ground, centerline of a gravel drive
L-215	10072AO	FIELDS LANDING	bare ground, centerline of a field road on the north side of Bertha Road just south of a gate
L-216	10072AP	FERNDAL	bare ground/grass/asphalt on the south side of Camp Weott Road just east from Morgan Slough Road
L-217	10072AQ	FORTUNA	bare ground on the south side of E Ferry Road
L-218	10072AR	FIELDS LANDING	cut grass on the south side of a parking lot between Loleta Fire Dept & School on the north side of a baseball field
L-219	10072AS	FORTUNA	bare ground, gravel access road to Eel River on the east side of Blue Slide Road
L-220	10072AT	CAPETOWN	bare ground on the west side of Mattole Road on a turn out
L-221	10072AU	SHUBRICK PEAK	bare ground on the center of the Kinsey Ridge Trail
L-222	10072AV	BEAR HARBOR	bare ground in front of the Needle Rock Visitor Center
L-223	10072AW	BEAR HARBOR	bare ground, center of Usal Road
L-224	10072AX	WESTPORT	gravel road on the north side of Dehaven Creek Road opposite a gated drive with bridge over Dehaven Creek
L-225	10072AY	DUTCHMANS KNOLL	gravel shoulder of Ten Mile Road on the south side of road
L-226	10072AZ	FORT BRAGG	gravel/asphalt on the south side of Sherwood Road and west side of a private drive
L-227	10072BA	MENDOCINO	grass area on the southwest side of Caspar Orchard Road just north of a gated drive
L-228	10072BB	MATHISON PEAK	sparse grass at Mathison Peak below towers and on the south side of a dirt access road
L-229	10072BC	MENDOCINO	bare ground on a dirt basketball court on the north side of a private drive
L-230	10072BD	MATHISON PEAK	bare ground on posted road 18 at drive to 41461
L-231	10072BE	ELK	gravel on the right bank of the Navarro River north side of Mendocino Logging road
L-232	10072BF	ELK	bare ground center of dirt drive on the south side of Navarro Ridge Road
L-233	10072BG	POINT ARENA	grass in center of a cemetery to the east of CA 1 and north of Windy Hollow Road
L-234	10072BH	MCGUIRE RIDGE	gravel beach on the west(right) bank of the South Fork Gualala River to the southeast of Gualala Road
L-235	10072BI	STEWARTS POINT	bare ground parking area at Stewarts Point General store
L-236	10072BJ	FORT ROSS	cut grass on the south side of the entrance drive to Fort Ross State Park
L-237	10072BK	DUNCANS MILLS	mowed grass in SE quadrant of intersection of SR 116 and Moscow Road
L-238	10072BL	DUNCANS MILLS	sparse dry grass in area between parking lots for beach east of Church Street bridge
L-239	10072BM	GUERNEVILLE	mowed grass in SW quadrant of intersection of Birkhofer Road and Sunshine Court
L-240	10072BN	VALLEY FORD	mowed grass on SE side of School Road
L-241	10072BO	BODEGA HEAD	bare ground on NW side of access road at gated road to the west
L-242	10072BP	VALLEY FORD	sparse grass/dirt on north side of Fallon Two Rock Road, just east of CA 1, at gated road north
L-243	10072BQ	TOMALES	sparse grass/dirt in construction staging area on west side of CA 1
L-244	10072BR	DRAKES BAY	gravel pull-off area on NW side of Sir Frances Drake Boulevard
L-245	10072BS	DRAKES BAY	sparse grass/dirt pull-off area on north side of Sir Frances Drake Boulevard
L-246	10072BT	INVERNESS	dirt pull-off area on west side of CA 1

Name	GPSID	USGS Quad	Description
L-247	10072BU	DOUBLE POINT	dead brush center of trail to bluff from horse hitching post at Wildcat camp in Point Reyes National Seashore
L-248	10072BV	BOLINAS	dirt/gravel pull-off on south side of CA 1
L-249	10072BW	SAN RAFAEL	asphalt playground on west side of school
L-250	10072BX	COTATI	mowed grass on west side of cul-de-sac at west end of Willowbrook Court, SE of overgrown volleyball court
L-251	10072BY	SONOMA	sparse dry grass in pull-off on west side of CA 12
L-252	10072BZ	NAPA	dirt access road on west side of Silverado Trail
L-253	10072CA	CUTTINGS WHARF	gravel/dirt on south side of cul-de-sac at west end of Tower Road
L-254	10072CB	FAIRFIELD SOUTH	dirt on north side of E-W RR, east of Thomason Lane crossing
L-255	10072CC	ELMIRA	sparse grass in vacant lot on south side of E Tabor Avenue
L-256	10072CD	DENVERTON	center of gravel pad on north side of Van Sickel Road, east of N-S canal
L-257	10072CE	FAIRFIELD SOUTH	dirt pull-off on SW side of curve of Grizzly Island Road
L-258	10072CF	DENVERTON	gravel on south side of Creed Road at farm road leading to barn
L-259	10072CG	DENVERTON	mowed grass on north side of driveway leading west from Shiloh Road
L-260	10072CH	ANTIOCH NORTH	dirt/gravel on north side of Stratton Lane at dirt road north
L-261	10072CI	DENVERTON	sparse grass/dirt in hunter's parking area on south side of Birds Landing Road, west of RR
L-262	10072CJ	HONKER BAY	thick mowed grass on north side of parking area for ball field on north side of W 8th Street
L-263	10072CK	ANTIOCH NORTH	vacant gravel graded area on west side of parking lot for strip mall, at curb cut
L-264	10072CL	VINE HILL	gravel area on west side of Commercial Circle, between curb and vegetated area (vacant)
L-265	10072CM	WALNUT CREEK	thick mowed grass between Viking Drive (north side) and parking lot for community college
L-266	10072CN	OAKLAND WEST	mowed grass in park on east side of Bellevue Avenue and south side of Grand Avenue
L-267	10072CO	SAN LEANDRO	grass area in park, near SW corner of raised concrete platform in park between B Street and C Street, north of 98th Avenue
L-268	10072CP	SAN LEANDRO	mowed grass in park on east side of Monterey Boulevard
L-269	10072CQ	HAYWARD	gravel parking area on east side of Clawiter Road, west of truck terminal
L-270	10072CR	HAYWARD	gravel parking area at vacant lot on NE side of Mission Boulevard, CA 238
L-271	10072CS	NEWARK	sparse grass in scattered vegetation on vacant lot on north side of Newark Boulevard and west side of Civic Terrace Avenue
L-272	10072CT	NILES	cut grass at the New Life Church on the north side of Technology Drive just north of a playground
L-273	10072CU	MILPITAS	cut grass at the end of Sandlewood Court in a park
L-274	10072CV	MILPITAS	gravel lot in the Lifescan Property, just west of a construction trailer
L-275	10072CW	MILPITAS	cut grass on the north side of Orchard Parkway in front of AMS and the intersection with Orchard Drive
L-276	10072CX	MOUNTAIN VIEW	gravel trail along a canal just east of Bordeaux Drive and north of a canal
L-277	10072CY	PALO ALTO	cut grass in a vacant lot on the west side of SR82 El Camino Real just north of the Zen Motel
L-278	10072CZ	PALO ALTO	cut grass at the Redwood City Veterans Memorial Senior Center
L-279	10072DA	SAN MATEO	bare ground on northeast side of Highland Ave between sidewalk and curb

Name	GPSID	USGS Quad	Description
L-280	10072DB	MONTARA MOUNTAIN	cut grass between a three bay garage and a small trailer and soccer field
L-281	10072DC	SAN FRANCISCO SOUTH	sparse grass on the west side of Bayshore Boulevard and east of the San Bruno Mountain State Park fence
L-282	10072DD	SAN FRANCISCO NORTH	cut grass on the south side of Franklin Square on the north side of 17th Street and east of Bryant Street
L-283	10072DE	HALF MOON BAY	cut grass on south side of a soccer field and north of Central Avenue
L-284	10072DF	SAN GREGORIO	sparse grass on north side of Pescadero Creek Road, south of gardens
L-285	10072DG	SANTA CRUZ	bare ground trail with dead grass along sides in Pogonip City park
L-286	10072DH	WATSONVILLE WEST	sparse grass on a pull-off area at the intersection of Beach Road and San Andreas Road
L-287	10072DI	WATSONVILLE EAST	sparse grass on the north side of a dirt drive north of RR tracks and south of a planted field
L-288	10072DJ	MOSS LANDING	bare ground dirt parking area for farm fields, south side of Springfield Road
L-289	10072DK	PRUNEDALE	sparse grass on the south side of a drive off of Campagna Terrace
L-290	10072DL	PRUNEDALE	cut grass on the southwest side of Country Meadows Road just south of #10710-10718
L-291	10072DM	MARINA	bare ground on the north shoulder of Monte Road, 900 ft west of Nashua Road
L-292	10072DN	SALINAS	bare ground on a dirt drive to a substation east of Boronda Road
L-293	10072DO	SALINAS	bare ground on the south side of CR G17 and gated entrance road for Fort Ord BLM
L-294	10072DP	LOPEZ POINT OE W	dirt pull-off on SW side of CA 1
L-295	10072DQ	CAMBRIA	bare ground pull off on the south side of San Simeon Creek Road at a gate opposite #1505
L-296	10072DR	MORRO BAY SOUTH	bare ground dirt area on the north side of a drive to a state park trail system
L-297	10072DS	PISMO BEACH	asphalt shoulder on the east side of San Luis Bay Drive just south of a gated community
L-298	10072DT	OCEANO	bare ground dirt parking area on the west side of South Halcyon Road
L-299	10072DU	POINT SAL	sparse grass on the south side of W Main Street at a pasture gate
L-301	10072DV	GOLETA	sparse grass on the west side of a vacant lot on the east side of N Los Carneros Road and just north of a fire station
L-302	10072DW	OXNARD	bare ground center of dirt field road on the south side of Olivas Park Drive
L-303	10072DX	OXNARD	cut grass lawn on the corner of Hemlock Road and Ventura Road
L-304	10072DY	CAMARILLO	bare ground center of a dirt field road on the east side of South Las Posas Road
L-305	10072DZ	POINT MUGU	sparse grass shoulder on the northeast side of CA 1N just north of call box 1-106
L-306	10072EA	POINT MUGU	bare ground on gravel pull off on the south side of CA 1 just before Sycamore Canyon Road
L-307	10072EB	VENICE	cut grass in the front lawn of Venice Beach High school on the south side of Venice Boulevard
L-308	10072EC	TORRANCE	sparse grass, east side of South Figueroa Street between concrete walk and fence
L-309	10072ED	TORRANCE	sparse grass/brush, just north of a putting green at a driving range
L-310	10072EE	LOS ALAMITOS	bare ground, sand shoulder on the east side of CA 1 opposite Forbidden City Chinese Restaurant
L-311	10072EF	LOS ALAMITOS	bare ground, sand area at the end of 213th Street cul-de-sac and east of Bloomfield Avenue

Name	GPSID	USGS Quad	Description
L-312	10072EG	LONG BEACH	cut grass lawn at 4168 Del Mar Avenue on the west side of sidewalk
L-313	10072EH	LOS ALAMITOS	bare ground, sand area on the north side of Westminster Boulevard and east side of an access road for the canal
L-314	10072EI	SEAL BEACH	bare ground, area north side of Ellis Avenue just north of a gate to Huntington Beach Park
L-315	10072EJ	NEWPORT BEACH	cut grass, on the north side of Gisler Avenue in the City of Costa Mesa Park, opposite a cemetery
L-316	10072EK	TUSTIN	cut grass, on the east side of a parking lot, west of Newport Bay and south of I-405
L-317	10072EL	NEWPORT BEACH OE S	cut grass, on the northwest side of Jamboree Road and entrance to Newport Dunes gated community
L-318	10072EM	MORRO HILL	bare ground, on the east side of Vandergrift Boulevard at a gravel pull-off
L-319	10072EN	SAN LUIS REY	bare ground, open area south of Kelly Street. Trails.
L-320	10072EO	SAN LUIS REY	bare ground, north of El Camino Real by a cultivated field and to the south of a paved field road
L-321	10072EP	ENCINITAS	cut grass, on the east side of the parking lot for La Costa Resort & Spa golf driving range
L-322	10072EQ	RANCHO SANTA FE	cut grass, Richardson baseball field on the west side of Rambla de Las Flores
L-323	10072ER	DEL MAR	bare ground, center of dirt drive on the north side of San Dieguito Road opposite Old El Camino Real
L-324	10072ES	LA JOLLA	cut grass, southern corner of a golf course just south of a practice putting green and north of Juan Street
L-325	10072ET	POINT LOMA	asphalt parking area on the east side of South 32nd Street opposite Boston Avenue
L-326	10072EU	NATIONAL CITY	cut grass outside the outfield fence for the baseball field in Eucalyptus Park on the south side of C Street
L-327	10072EV	IMPERIAL BEACH	sparse grass, end of Cerrissa Street cul-de-sac
L-602	10072EW	CUTTINGS WHARF	grass on the south side of Airport Boulevard

GPS OBSERVATIONS

Two Trimble dual frequency receivers were used on 17 days between days 243 and 294 of 2010. Two or more CORS were selected each day, based on proximity to the occupations done on each particular day, and this data was downloaded from the UNAVCO and SOPAC ftp sites. Each receiver functioned independently, with ties only to the nearest CORS. The table below summarizes the occupations, including the CORS data. The 10070xx series are ADS40 control, while the 10072xx series of points are the LiDAR. The remaining stations are CORS stations:

GPSID	UTC Start	Duration Minutes	HI meters	Filename
10070AA	8/30/10 16:38	26	2.000	07622420.DAT
10070AB	8/30/10 17:09	18	2.000	07622421.DAT
10070AC	8/30/10 17:35	21	2.000	07622422.DAT
10070AD	8/30/10 18:58	23	2.000	07622423.DAT
10070AE	8/30/10 19:58	21	2.235	07622424.DAT
10070AF	8/30/10 20:42	24	2.235	07622425.DAT
10070AG	8/30/10 22:12	36	2.235	07622426.DAT
10070AH	8/30/10 23:12	22	2.235	07622427.DAT
10070AI	8/31/10 0:15	27	2.235	07622430.DAT
10070AJ	8/31/10 16:59	28	2.235	07622431.DAT
10070AK	8/31/10 17:36	21	2.235	07622432.DAT
10070AL	8/31/10 20:09	32	2.235	07622433.DAT
10070AM	9/1/10 0:06	26	2.235	07622440.DAT

10070AN	9/1/10 0:52	21	1.460	07622441.DAT
10070AO	9/1/10 13:53	23	2.235	07622442.DAT
10070AP	9/1/10 15:00	20	2.235	07622443.DAT
10070AQ	9/1/10 21:07	25	2.235	07622444.DAT
10070AR	9/2/10 1:25	20	2.235	07622450.DAT
10070AS	9/2/10 2:11	24	2.235	07622451.DAT
10070AT	9/2/10 14:51	22	2.235	07622453.DAT
10070AU	9/2/10 15:35	36	2.235	07622454.DAT
10070AV	9/2/10 16:38	26	2.235	07622455.DAT
10070AW	9/2/10 17:42	18	2.235	07622456.DAT
10070AX	9/2/10 18:23	19	2.235	07622457.DAT
10070AY	9/2/10 18:54	19	2.235	07622458.DAT
10070AZ	9/2/10 20:25	19	2.235	07622459.DAT
10070BA	9/2/10 21:18	20	2.235	0762245A.DAT
10072AA	9/2/10 21:43	23	2.235	0762245B.dat
10072AC	9/2/10 22:20	19	2.235	0762245C.dat
10072AB	9/2/10 22:49	20	2.235	0762245D.dat
10072AD	9/2/10 23:22	26	2.235	0762245E.dat
10072AE	9/3/10 0:12	32	2.235	07622460.dat
10072AF	9/3/10 0:58	19	2.235	07622461.dat
10072AG	9/3/10 1:33	20	2.235	07622462.dat
10072AJ	9/3/10 15:42	23	2.235	07622463.dat
10072AK	9/3/10 16:26	20	2.235	07622464.dat
10072AL	9/3/10 17:18	20	2.235	07622465.dat
10072AN	9/3/10 18:09	19	2.235	07622466.dat
10072AM	9/3/10 18:49	19	2.235	07622467.dat
10072DB	10/4/10 19:29	20	2.000	07622770.dat
10072DA	10/4/10 20:10	19	2.000	07622771.dat
10072CZ	10/4/10 20:59	21	2.000	07622772.dat
10072CS	10/4/10 21:52	21	2.000	07622773.dat
10072CT	10/4/10 22:38	20	2.000	07622774.dat
10072CU	10/4/10 23:10	19	2.000	07622775.dat
10072CV	10/5/10 0:05	18	2.000	07622780.dat
10072CW	10/5/10 0:41	20	2.000	07622781.dat
10072CX	10/5/10 1:22	22	2.000	07622782.dat
10072DG	10/5/10 14:14	21	2.000	07622783.dat
10072DH	10/5/10 15:05	21	2.000	07622784.dat
10072DI	10/5/10 15:38	15	2.000	07622785.dat
10072DK	10/5/10 16:08	18	2.000	07622786.dat
10072DJ	10/5/10 16:42	19	2.000	07622787.dat
10072DM	10/5/10 17:15	21	2.000	07622788.dat
10072DO	10/5/10 18:20	21	2.000	07622789.dat
10072DN	10/5/10 18:55	21	2.000	0762278A.dat
10072DL	10/5/10 19:34	19	2.000	0762278B.dat
10072CY	10/5/10 21:19	18	2.000	0762278C.dat
10072DE	10/5/10 22:18	19	2.000	0762278D.dat
10072DC	10/5/10 23:14	20	2.000	0762278E.dat
10072DD	10/5/10 23:58	18	2.000	0762278F.dat
10072BU	10/6/10 17:13	30	2.000	07622790.dat
10072BJ	10/6/10 20:49	21	2.000	07622791.dat
10072BI	10/6/10 21:35	20	2.000	07622792.dat
10072BH	10/6/10 22:21	28	2.000	07622793.dat
10072BG	10/6/10 23:24	25	2.000	07622794.dat
10072BE	10/7/10 0:29	31	2.000	07622800.dat
10072BF	10/7/10 1:22	20	2.000	07622801.dat
10072BB	10/7/10 15:00	11	2.000	07622802.dat
10072BD	10/7/10 15:26	25	2.000	07622803.dat
10072BC	10/7/10 16:26	25	2.000	07622804.dat
10072BA	10/7/10 17:00	22	2.000	07622805.dat
10072AZ	10/7/10 17:48	26	2.000	07622806.dat
10072AY	10/7/10 18:38	23	2.000	07622807.dat
10072AX	10/7/10 19:25	23	2.000	07622808.dat

10072AV	10/7/10 22:07	28	2.000	07622809.dat
10072AW	10/7/10 23:50	37	3.400	0762280A.dat
10072AH	10/8/10 15:32	31	2.000	07622810.dat
10072AI	10/8/10 17:36	31	2.000	07622811.dat
10072AO	10/8/10 20:58	21	2.000	07622812.dat
10072AR	10/8/10 21:38	21	2.000	07622813.dat
10072AS	10/8/10 22:52	22	2.000	07622815.dat
10072AQ	10/8/10 23:23	21	2.000	07622816.dat
10072AP	10/9/10 0:04	20	2.000	07622820.dat
10072AT	10/9/10 17:44	61	2.000	07622821.dat
10072EW	10/10/10 0:50	22	2.000	07622830.dat
10072AU	10/13/10 19:50	81	2.000	07622860.dat
10072EB	10/17/10 18:25	21	2.000	07622900.dat
10072DY	10/17/10 19:45	19	2.000	07622901.dat
10072EA	10/17/10 20:19	22	2.000	07622902.dat
10072DZ	10/17/10 20:50	20	2.000	07622903.dat
10072DX	10/17/10 21:45	20	2.000	07622904.dat
10072DW	10/17/10 22:21	19	2.000	07622905.dat
10072DV	10/17/10 23:25	20	2.000	07622906.dat
10072DU	10/18/10 1:04	19	2.000	07622910.dat
10072DT	10/18/10 1:46	18	2.000	07622911.dat
10072DS	10/18/10 14:34	20	2.000	07622912.dat
10072DR	10/18/10 15:20	22	2.000	07622913.dat
10072DQ	10/18/10 16:17	21	2.000	07622914.dat
10072EC	10/18/10 21:07	20	2.000	07622915.dat
10072ED	10/18/10 21:40	19	2.000	07622916.dat
10072EG	10/20/10 21:50	20	2.000	07622936.DAT
10072EF	10/20/10 22:38	21	2.000	07622937.DAT
10072EE	10/20/10 23:15	21	2.000	07622938.DAT
10072EH	10/20/10 23:48	21	2.000	07622939.DAT
10072EI	10/21/10 0:27	19	2.000	07622940.DAT
10072EJ	10/21/10 1:07	19	2.000	07622941.DAT
10072EL	10/21/10 13:54	22	2.000	07622942.DAT
10072EK	10/21/10 14:50	25	2.000	07622943.DAT
10072EM	10/21/10 16:16	22	2.000	07622944.DAT
10072EN	10/21/10 16:53	23	2.000	07622945.DAT
10072EO	10/21/10 17:29	23	2.000	07622946.DAT
10072EP	10/21/10 18:08	24	2.000	07622947.DAT
10072EQ	10/21/10 18:52	24	2.000	07622948.DAT
10072ER	10/21/10 19:27	24	2.000	07622949.DAT
10072EV	10/21/10 20:54	23	2.000	0762294A.DAT
10072EU	10/21/10 21:30	20	2.000	0762294B.DAT
10072ET	10/21/10 22:12	21	2.000	0762294C.DAT
10072ES	10/21/10 22:52	23	2.000	0762294D.DAT
10070CA	8/30/10 13:33	17	2.000	81102420.DAT
10070CB	8/30/10 14:16	20	2.000	81102421.DAT
10070CC	8/30/10 15:13	20	2.000	81102422.DAT
10070CD	8/30/10 16:24	19	2.000	81102423.DAT
10070CE	8/30/10 17:38	20	2.000	81102424.DAT
10070CF	8/30/10 18:34	20	2.000	81102425.DAT
10070CG	8/30/10 19:27	96	2.000	81102426.DAT
10070CH	8/30/10 21:05	20	2.000	81102427.DAT
10070CI	8/30/10 21:34	20	2.000	81102428.DAT
10070CJ	8/31/10 0:05	23	2.000	81102430.DAT
10070CK	8/31/10 1:14	20	2.000	81102431.DAT
10070CL	8/31/10 14:25	21	2.000	81102432.DAT
10070CM	8/31/10 15:09	28	2.000	81102433.DAT
10072DP	8/31/10 17:34	29	2.000	81102434.dat
10070CN	8/31/10 18:12	30	2.000	81102435.DAT
10070CO	8/31/10 20:08	20	2.000	81102436.DAT
10070CP	8/31/10 21:00	16	2.000	81102437.DAT
10070CQ	8/31/10 22:24	15	2.000	81102438.DAT

10072DF	8/31/10 22:43	17	2.000	81102439.dat
10070CR	8/31/10 23:46	18	2.000	8110243A.DAT
10070CS	9/1/10 1:00	19	2.000	81102440.DAT
10070CT	9/1/10 13:39	16	2.000	81102441.DAT
10070CU	9/1/10 14:33	17	2.000	81102442.DAT
10070CV	9/1/10 15:07	16	2.000	81102443.DAT
10070CW	9/1/10 15:41	19	2.000	81102444.DAT
10070CX	9/1/10 16:31	20	2.000	81102445.DAT
10070CY	9/1/10 17:10	17	2.000	81102446.DAT
10070CZ	9/1/10 18:14	18	2.000	81102447.DAT
10070DA	9/1/10 19:23	15	2.000	81102448.DAT
10070DB	9/1/10 20:01	15	2.000	81102449.DAT
10070DC	9/1/10 20:39	16	2.000	8110244A.DAT
10072CA	9/1/10 21:04	16	1.980	8110244B.dat
10070DD	9/1/10 21:42	18	2.000	8110244C.DAT
10072BZ	9/1/10 22:03	17	1.990	8110244D.dat
10070DE	9/1/10 22:50	15	2.000	8110244E.DAT
10072BY	9/1/10 23:14	16	2.000	8110244F.dat
10070DF	9/1/10 23:58	17	2.000	8110244G.DAT
10070DG	9/2/10 0:47	18	2.000	81102450.DAT
10072BX	9/2/10 1:27	19	1.950	81102452.dat
10070DH	9/2/10 13:51	19	2.000	81102453.DAT
10070DI	9/2/10 14:24	31	2.000	81102454.DAT
10072BM	9/2/10 15:04	21	1.960	81102455.dat
10072BL	9/2/10 15:43	20	1.990	81102456.dat
10072BK	9/2/10 16:14	16	1.990	81102457.dat
10070DJ	9/2/10 17:08	19	2.000	81102458.DAT
10072BN	9/2/10 17:34	14	1.990	81102459.dat
10072BO	9/2/10 18:04	16	1.990	8110245A.dat
10072BP	9/2/10 18:44	17	1.990	8110245B.dat
10072BQ	9/2/10 19:15	15	2.000	8110245C.dat
10070DK	9/2/10 20:06	16	2.000	8110245D.DAT
10070DL	9/2/10 20:49	15	2.000	8110245E.DAT
10072BS	9/2/10 21:21	15	1.990	8110245F.dat
10070DM	9/2/10 21:58	15	2.000	8110245G.DAT
10072BR	9/2/10 22:55	15	2.000	8110245H.dat
10072BT	9/2/10 23:41	15	2.000	8110245I.dat
10070DN	9/3/10 0:42	15	2.000	81102460.DAT
10072BV	9/3/10 1:06	15	2.000	81102461.dat
10072BW	9/3/10 2:25	14	2.000	81102462.dat
10072CB	9/3/10 13:57	19	2.000	81102463.dat
10072CE	9/3/10 14:32	16	2.000	81102464.dat
10072CD	9/3/10 15:11	12	2.000	81102466.dat
10072CC	9/3/10 15:56	19	2.000	81102467.dat
10072CF	9/3/10 16:32	17	2.000	81102468.dat
10072CG	9/3/10 16:59	20	2.000	81102469.dat
10072CI	9/3/10 17:28	16	2.000	8110246A.dat
10072CH	9/3/10 17:54	15	2.000	8110246B.dat
10072CK	9/3/10 19:20	15	2.000	8110246C.dat
10072CJ	9/3/10 19:47	15	1.950	8110246D.dat
10072CL	9/3/10 20:18	17	2.000	8110246E.dat
10072CM	9/3/10 20:59	16	1.900	8110246F.dat
10072CN	9/3/10 21:55	15	1.980	8110246G.dat
10072CO	9/3/10 22:37	18	1.960	8110246H.dat
10072CP	9/3/10 23:17	15	2.000	8110246I.dat
10072CQ	9/4/10 0:03	17	2.000	81102470.dat
10072CR	9/4/10 0:41	16	2.000	81102471.dat
BKMS	10/20/10 0:00	1439	0.008	bkms2930.10o
BLSA	8/30/10 0:00	1439	0.008	blsa2420.10o
BLSA	10/20/10 0:36	1423	0.008	blsa2930.10o
BRIB	9/3/10 0:00	1440	0.008	BRIB2460.10O
CIRX	10/17/10 0:00	1439	0.008	cirx2900.10o

COPR	10/17/10 0:00	1439	0.008	copr2900.10o
CRHS	10/18/10 0:00	1439	0.008	crhs2910.10o
CRHS	10/20/10 0:00	1468	0.008	crhs2930.10o
CRHS	10/21/10 0:28	1411	0.008	crhs2940.10o
CSCI	8/30/10 0:00	1439	0.008	csci2420.10o
CSCI	10/17/10 0:00	1439	0.008	csci2900.10o
DSHS	10/17/10 0:00	1439	0.008	dshs2900.10o
DSME	8/30/10 0:00	1435	0.008	dsme2420.10o
FVPK	8/30/10 0:00	1439	0.008	fvpk2420.10o
FVPK	10/20/10 0:00	1459	0.008	fvpk2930.10o
FVPK	10/21/10 0:20	1419	0.008	fvpk2940.10o
LBC1	8/30/10 0:00	1439	0.008	lbc12420.10o
LFRS	10/17/10 0:00	1439	0.008	lfrs2900.10o
NSSS	8/30/10 0:00	1439	0.008	nsss2420.10o
OHLN	9/1/10 0:00	1440	0.008	ohln2440.10o
P058	9/2/10 0:00	1439	0.008	p0582450.10o
P058	9/3/10 0:00	1439	0.008	p0582460.10o
P059	8/30/10 0:00	1439	0.008	p0592420.10o
P059	10/6/10 0:00	1439	0.008	p0592790.10o
P067	10/18/10 0:00	1439	0.008	p0672910.10o
P156	8/31/10 0:00	1439	0.008	p1562430.10o
P156	10/7/10 0:28	1411	0.008	p1562800.10o
P157	8/31/10 0:00	1439	0.008	p1572430.10o
P157	9/1/10 0:00	1439	0.008	p1572440.10o
P157	10/9/10 0:00	1439	0.008	p1572820.10o
P157	10/13/10 0:00	1439	0.008	p1572860.10o
P158	9/1/10 0:00	1439	0.008	p1582440.10o
P158	10/8/10 0:00	1439	0.008	p1582810.10o
P159	9/1/10 0:00	1439	0.008	p1592440.10o
P159	10/8/10 0:00	1439	0.008	p1592810.10o
P159	10/9/10 0:00	1439	0.008	p1592820.10o
P160	9/1/10 0:00	1439	0.008	p1602440.10o
P160	10/8/10 0:00	1439	0.008	p1602810.10o
P161	9/1/10 0:00	1439	0.008	p1612440.10o
P161	9/2/10 0:00	1439	0.008	p1612450.10o
P161	10/8/10 0:00	1439	0.008	p1612810.10o
P161	10/9/10 0:00	1439	0.008	p1612820.10o
P162	9/3/10 0:00	1439	0.008	p1622460.10o
P162	10/8/10 0:00	1439	0.008	p1622810.10o
P163	9/1/10 0:00	1439	0.008	p1632440.10o
P163	10/7/10 0:00	1439	0.008	p1632800.10o
P163	10/8/10 0:00	1439	0.008	p1632810.10o
P163	10/13/10 0:00	1439	0.008	p1632860.10o
P169	9/2/10 0:00	1439	0.008	p1692450.10o
P169	9/3/10 0:00	1439	0.008	p1692460.10o
P169	10/8/10 0:00	1439	0.008	p1692810.10o
P171	8/31/10 0:00	1439	0.008	p1712430.10o
P171	10/5/10 0:00	1439	0.008	p1712780.10o
P172	8/31/10 0:00	1439	0.008	p1722430.10o
P173	8/31/10 0:00	1439	0.008	p1732430.10o
P173	10/18/10 0:00	1439	0.008	p1732910.10o
P177	10/4/10 0:00	1439	0.008	p1772770.10o
P177	10/5/10 0:00	1439	0.008	p1772780.10o
P178	8/31/10 0:00	1444	0.008	p1782430.10o
P178	10/4/10 0:00	1439	0.008	p1782770.10o
P178	10/5/10 0:00	1439	0.008	p1782780.10o
P181	9/1/10 0:00	1439	0.008	p1812440.10o
P182	8/30/10 0:00	1439	0.008	p1822420.10o
P182	9/2/10 0:00	1439	0.008	p1822450.10o
P182	10/5/10 0:00	1439	0.008	p1822780.10o
P182	10/6/10 0:00	1439	0.008	p1822790.10o
P183	9/2/10 0:00	1439	0.008	p1832450.10o

P184	8/30/10 0:00	1439	0.008	p1842420.10o
P184	10/6/10 0:00	1439	0.008	p1842790.10o
P184	10/7/10 0:00	1439	0.008	p1842800.10o
P185	8/30/10 0:00	1439	0.008	p1852420.10o
P185	10/7/10 0:00	1439	0.008	p1852800.10o
P186	8/30/10 0:00	1439	0.008	p1862420.10o
P186	10/6/10 0:00	1439	0.008	p1862790.10o
P186	10/7/10 0:00	1439	0.008	p1862800.10o
P187	10/7/10 0:00	1439	0.008	p1872800.10o
P188	8/30/10 0:00	1439	0.008	p1882420.10o
P188	10/6/10 0:00	1439	0.008	p1882790.10o
P189	10/6/10 0:00	1439	0.008	p1892790.10o
P193	9/2/10 0:00	1439	0.008	p1932450.10o
P193	10/6/10 0:00	1439	0.008	p1932790.10o
P196	9/2/10 0:00	1439	0.008	p1962450.10o
P197	9/2/10 0:00	1439	0.008	p1972450.10o
P198	9/1/10 0:00	1439	0.008	p1982440.10o
P198	9/2/10 0:00	1439	0.008	p1982450.10o
P199	9/1/10 0:00	1439	0.008	p1992440.10o
P200	9/1/10 0:00	1439	0.008	p2002440.10o
P200	10/10/10 0:00	1439	0.008	p2002830.10o
P209	8/31/10 0:00	1439	0.008	p2092430.10o
P209	10/5/10 0:00	1439	0.008	p2092780.10o
P210	10/5/10 0:00	1439	0.008	p2102780.10o
P211	8/31/10 0:00	1439	0.008	p2112430.10o
P211	10/5/10 0:00	1439	0.008	p2112780.10o
P212	8/31/10 0:00	1439	0.008	p2122430.10o
P212	10/5/10 0:00	1439	0.008	p2122780.10o
P219	8/31/10 0:00	1439	0.008	p2192430.10o
P219	9/4/10 0:00	1439	0.008	p2192470.10o
P219	10/4/10 0:00	1439	0.008	p2192770.10o
P221	8/31/10 0:00	1439	0.008	p2212430.10o
P221	10/5/10 0:00	1439	0.008	p2212780.10o
P222	9/1/10 0:00	1439	0.008	p2222440.10o
P222	9/4/10 0:00	1439	0.008	p2222470.10o
P222	10/4/10 0:00	1439	0.008	p2222770.10o
P222	10/5/10 0:00	1439	0.008	p2222780.10o
P223	9/3/10 0:00	1439	0.008	p2232460.10o
P223	9/4/10 0:00	1439	0.008	p2232470.10o
P224	9/1/10 0:00	1439	0.008	p2242440.10o
P224	9/3/10 0:00	1439	0.008	p2242460.10o
P225	9/1/10 0:00	1439	0.008	p2252440.10o
P225	9/4/10 0:00	1439	0.008	p2252470.10o
P226	8/31/10 0:00	1439	0.008	p2262430.10o
P226	9/1/10 0:00	1439	0.008	p2262440.10o
P226	10/4/10 0:00	1439	0.008	p2262770.10o
P226	10/5/10 0:00	1439	0.008	p2262780.10o
P227	10/4/10 0:00	1439	0.008	p2272770.10o
P227	10/5/10 0:00	1439	0.008	p2272780.10o
P231	8/31/10 0:00	1439	0.008	p2312430.10o
P231	10/5/10 0:00	1439	0.008	p2312780.10o
P232	8/31/10 0:00	1439	0.008	p2322430.10o
P232	10/5/10 0:00	1439	0.008	p2322780.10o
P248	9/1/10 0:00	1439	0.008	p2482440.10o
P248	9/3/10 0:00	1439	0.008	p2482460.10o
P261	9/1/10 0:00	1439	0.008	p2612440.10o
P261	9/3/10 0:00	1439	0.008	p2612460.10o
P261	10/10/10 0:00	1439	0.008	p2612830.10o
P262	9/1/10 0:00	1439	0.008	p2622440.10o
P264	9/1/10 0:00	1439	0.008	p2642440.10o
P266	9/1/10 0:00	1439	0.008	p2662440.10o
P266	9/3/10 0:00	1439	0.008	p2662460.10o

P277	8/31/10 0:00	1439	0.008	p2772430.10o
P278	10/18/10 0:00	1439	0.008	p2782910.10o
P312	8/30/10 0:00	1439	0.008	p3122420.10o
P312	10/7/10 0:00	1439	0.008	p3122800.10o
P313	10/7/10 0:00	1439	0.008	p3132800.10o
P314	8/30/10 0:00	1439	0.008	p3142420.10o
P314	10/7/10 0:00	1439	0.008	p3142800.10o
P315	8/30/10 0:00	1439	0.008	p3152420.10o
P315	8/31/10 0:00	1439	0.008	p3152430.10o
P315	10/7/10 0:00	1439	0.008	p3152800.10o
P316	9/3/10 0:00	1439	0.008	p3162460.10o
P316	10/8/10 0:00	1439	0.008	p3162810.10o
P318	10/7/10 0:00	1439	0.008	p3182800.10o
P325	9/2/10 0:00	1439	0.008	p3252450.10o
P325	9/3/10 0:00	1439	0.008	p3252460.10o
P325	10/8/10 0:00	1439	0.008	p3252810.10o
P472	10/21/10 0:00	1439	0.008	p4722940.10o
P473	10/21/10 0:00	1439	0.008	p4732940.10o
P474	8/30/10 0:00	1439	0.008	p4742420.10o
P474	10/21/10 0:00	1439	0.008	p4742940.10o
P475	8/30/10 0:00	1439	0.008	p4752420.10o
P475	10/21/10 0:00	1439	0.008	p4752940.10o
P478	10/21/10 0:00	1439	0.008	p4782940.10o
P513	8/31/10 0:00	1439	0.008	p5132430.10o
P513	10/18/10 0:00	1439	0.008	p5132910.10o
P514	8/31/10 0:00	1439	0.008	p5142430.10o
P514	10/18/10 0:00	1439	0.008	p5142910.10o
P519	10/17/10 0:00	1439	0.008	p5192900.10o
P519	10/18/10 0:00	1439	0.008	p5192910.10o
P523	8/31/10 0:00	1439	0.008	p5232430.10o
P523	10/18/10 0:00	1439	0.008	p5232910.10o
P525	8/31/10 0:00	1439	0.008	p5252430.10o
P525	10/18/10 0:00	1439	0.008	p5252910.10o
P729	10/17/10 0:00	1439	0.008	p7292900.10o
P734	9/2/10 0:00	1439	0.008	p7342450.10o
P786	9/2/10 0:00	1439	0.008	p7862450.10o
PTRB	9/2/10 0:00	1499	0.072	ptrb2450.10o
PTRB	9/3/10 0:00	1440	0.072	ptrb2460.10o
PTSG	9/2/10 0:00	1439	0.008	ptsg2450.10o
PVRS	10/18/10 0:00	1439	0.008	pvr2910.10o
SBCC	10/21/10 0:00	1439	0.008	sbcc2940.10o
SBRN	10/5/10 0:00	1459	0.008	sbrn2780.10o
SBRN	10/6/10 0:00	1440	0.008	sbrn2790.10o
SIO5	8/30/10 0:00	1439	0.008	sio52420.10o
SVIN	9/1/10 0:00	1506	0.008	svin2440.10o
SVIN	9/2/10 0:00	1499	0.008	svin2450.10o
TRAK	8/30/10 0:00	1439	0.537	trak2420.10o
TRAK	10/20/10 0:00	1439	0.537	trak2930.10o
TRAK	10/21/10 0:00	1439	0.537	trak2940.10o
TRND	9/2/10 0:00	1439	0.080	trnd2450.10o
TRND	9/3/10 0:00	1439	0.080	trnd2460.10o
UCLP	8/30/10 0:00	1439	0.025	uclp2420.10o
UCLP	10/17/10 0:00	1439	0.025	uclp2900.10o
USLO	10/18/10 0:00	1439	0.008	uslo2910.10o
VNCO	10/17/10 0:00	1439	0.008	vnco2900.10o
VNDP	8/30/10 0:00	1439	1.748	vndp2420.10o
VNDP	8/31/10 0:00	1439	1.748	vndp2430.10o
WRHS	10/17/10 0:00	1439	0.008	wrhs2900.10o
WRHS	10/18/10 0:00	1439	0.008	wrhs2910.10o

The lengths of session were nominally scheduled for 20 minutes, but were lengthened to up to 60 minutes if obstructions were present or if the distance to the nearest CORS exceeded 20 km.

GPS DATA PROCESSING

The data was downloaded to a PC and processed using the Weighted Ambiguity and Vector Estimator (WAVE) processor in Trimble Geomatics Office, V1.63. The single baseline method was used, with the precise ephemeris. Precise ephemerides (IGS rapid service) were downloaded each day from the NGS CORS ftp. Baselines were manually selected for processing. Lines between CORS were generally all processed, unless the observations were made in two geographically distant areas. Because at least two CORS were used each day, this provided a check on the correct selection of CORS and that the correct coordinates were used, and also that no disturbance had occurred at the CORS site. The table below shows the results of the baseline processing:

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
BLSA	TRAK	08/30/2010 00:00	1439	29012	24.69	1.0	0.011
CSCI	BLSA	08/30/2010 00:00	1439	101925	13.66	0.5	0.009
CSCI	FVPK	08/30/2010 00:00	1439	116446	20.28	0.6	0.010
CSCI	LBC1	08/30/2010 00:00	1439	91282	9.30	0.8	0.011
CSCI	UCLP	08/30/2010 00:00	1439	56174	40.15	0.4	0.008
DSME	NSSS	08/30/2010 00:00	1435	56945	11.97	0.5	0.007
DSME	P475	08/30/2010 00:00	1435	41046	10.89	0.3	0.007
DSME	SIO5	08/30/2010 00:00	1435	21709	42.31	0.4	0.007
FVPK	BLSA	08/30/2010 00:00	1439	17488	18.33	1.0	0.010
FVPK	TRAK	08/30/2010 00:00	1439	13223	12.67	1.0	0.011
LBC1	BLSA	08/30/2010 00:00	1439	10674	10.64	1.0	0.011
LBC1	FVPK	08/30/2010 00:00	1439	26513	10.70	1.3	0.012
NSSS	SIO5	08/30/2010 00:00	1439	38924	11.94	0.4	0.007
P474	DSME	08/30/2010 00:00	1435	35348	13.21	0.3	0.008
P474	NSSS	08/30/2010 00:00	1439	89834	42.64	0.4	0.009
P474	P475	08/30/2010 00:00	1439	76392	12.76	0.4	0.009
P474	TRAK	08/30/2010 00:00	1439	59223	24.35	0.7	0.011
P475	DSME	08/30/2010 00:00	1435	41046	10.94	0.3	0.007
P475	NSSS	08/30/2010 00:00	1439	27227	36.65	0.4	0.008
P475	SIO5	08/30/2010 00:00	1439	19343	11.64	0.3	0.007
TRAK	P474	08/30/2010 00:00	1439	59223	24.55	0.7	0.011
UCLP	BLSA	08/30/2010 00:00	1439	48516	14.77	0.7	0.009
UCLP	LBC1	08/30/2010 00:00	1439	38533	5.81	1.0	0.011
VNDP	CSCI	08/30/2010 00:00	1439	151353	6.40	0.8	0.011
P059	P182	08/30/2010 00:00	1439	67534	13.33	0.6	0.010
P059	P186	08/30/2010 00:00	1439	30514	7.54	0.8	0.011
P184	P059	08/30/2010 00:00	1439	21015	17.31	0.5	0.009
P184	P185	08/30/2010 00:00	1439	16378	12.52	0.5	0.009
P184	P312	08/30/2010 00:00	1439	45752	11.17	0.7	0.010
P186	P184	08/30/2010 00:00	1439	16900	10.18	0.9	0.012
P186	P185	08/30/2010 00:00	1439	23474	9.37	0.7	0.011
P186	P312	08/30/2010 00:00	1439	44856	4.84	1.0	0.012
P186	P314	08/30/2010 00:00	1439	59717	10.51	0.7	0.010
P188	P059	08/30/2010 00:00	1439	51939	3.46	1.3	0.012
P188	P182	08/30/2010 00:00	1439	19645	2.81	1.3	0.011
P188	P184	08/30/2010 00:00	1439	64944	2.17	1.4	0.012
P312	P185	08/30/2010 00:00	1439	30063	12.72	0.6	0.009
P312	P314	08/30/2010 00:00	1439	20077	10.22	0.5	0.009
P314	P185	08/30/2010 00:00	1439	49286	10.12	0.4	0.008

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
P314	P315	08/30/2010 00:00	1439	22917	10.46	0.5	0.009
NSSS	10070CA	08/30/2010 13:33	17	11723	13.28	1.2	0.016
P475	10070CA	08/30/2010 13:33	17	16114	8.71	1.2	0.016
10070CB	SIO5	08/30/2010 14:16	20	11506	11.04	0.5	0.010
P475	10070CB	08/30/2010 14:16	20	12472	10.84	0.6	0.009
SIO5	10070CB	08/30/2010 14:16	20	11506	11.03	0.5	0.010
10070CC	DSME	08/30/2010 15:13	20	4819	12.56	0.9	0.004
P475	10070CC	08/30/2010 15:13	20	36355	9.65	1.0	0.014
P474	10070CD	08/30/2010 16:24	19	13840	17.26	0.8	0.010
10070AA	P059	08/30/2010 16:38	26	36402	10.32	0.7	0.011
P188	10070AA	08/30/2010 16:38	26	17558	2.32	1.2	0.012
10070AB	P059	08/30/2010 17:09	18	36171	21.16	0.5	0.010
P188	10070AB	08/30/2010 17:09	18	17649	19.61	0.7	0.011
10070AC	P059	08/30/2010 17:35	21	35211	14.04	0.5	0.010
P188	10070AC	08/30/2010 17:35	21	18788	3.08	0.8	0.011
10070CE	TRAK	08/30/2010 17:38	20	7360	8.28	1.2	0.016
FVPK	10070CE	08/30/2010 17:38	20	7884	7.39	1.0	0.016
BLSA	10070CF	08/30/2010 18:34	20	3830	13.39	2.4	0.007
LBC1	10070CF	08/30/2010 18:34	20	7625	18.03	2.0	0.018
P059	10070AD	08/30/2010 18:58	23	2891	13.46	1.2	0.004
LBC1	10070CG	08/30/2010 19:27	96	17355	11.01	2.3	0.019
UCLP	10070CG	08/30/2010 19:27	96	24509	7.92	2.1	0.018
P184	10070AE	08/30/2010 19:58	21	9484	11.55	1.8	0.013
P185	10070AE	08/30/2010 19:58	21	7098	12.39	1.7	0.012
10070AF	P184	08/30/2010 20:42	24	7682	100.94	1.1	0.012
10070AF	P185	08/30/2010 20:42	24	13863	41.87	1.0	0.011
P186	10070AF	08/30/2010 20:42	24	11179	27.16	1.2	0.012
CSCI	10070CH	08/30/2010 21:05	20	3100	12.13	1.5	0.006
CSCI	10070CI	08/30/2010 21:34	20	7401	22.93	0.7	0.012
P312	10070AG	08/30/2010 22:12	36	3250	43.27	1.4	0.004
P314	10070AG	08/30/2010 22:12	36	18893	6.89	0.6	0.009
10070AH	P315	08/30/2010 23:12	22	21283	13.09	0.5	0.010
P312	10070AH	08/30/2010 23:12	22	18591	12.54	0.6	0.007
P314	10070AH	08/30/2010 23:12	22	17977	7.26	0.8	0.012
P172	P219	08/31/2010 00:00	1439	132021	8.23	0.6	0.010
P172	P277	08/31/2010 00:00	1439	119674	8.06	0.5	0.009
P172	P171	08/31/2010 00:00	1439	28661	11.14	0.4	0.008
P172	P173	08/31/2010 00:00	1439	53167	18.20	0.4	0.007
P219	P277	08/31/2010 00:00	1439	18182	19.89	0.4	0.008
P277	P209	08/31/2010 00:00	1439	25345	6.32	0.4	0.008
P171	P173	08/31/2010 00:00	1439	75017	10.44	0.4	0.007
P513	P514	08/31/2010 00:00	1439	24778	24.32	0.3	0.008
P513	P525	08/31/2010 00:00	1439	59300	10.77	0.4	0.008
P514	P513	08/31/2010 00:00	1439	24778	24.22	0.3	0.008
P514	P523	08/31/2010 00:00	1439	52411	19.27	0.5	0.009
P514	P525	08/31/2010 00:00	1439	58619	20.34	0.5	0.009
VNDP	P513	08/31/2010 00:00	1439	39057	11.14	0.5	0.009
VNDP	P514	08/31/2010 00:00	1439	53843	17.39	0.6	0.010
P172	P231	08/31/2010 00:00	1439	45402	9.27	0.5	0.010
P172	P232	08/31/2010 00:00	1439	57562	10.62	0.5	0.009
P178	P219	08/31/2010 00:00	1439	21725	13.32	0.6	0.010
P212	P211	08/31/2010 00:00	1439	17316	10.98	0.8	0.011
P212	P226	08/31/2010 00:00	1439	41722	10.13	0.7	0.008
P212	P277	08/31/2010 00:00	1439	51607	20.25	0.5	0.010
P221	P178	08/31/2010 00:00	1439	30119	12.93	0.7	0.010
P221	P219	08/31/2010 00:00	1439	16474	20.66	0.5	0.009
P226	P178	08/31/2010 00:00	1439	49932	11.39	0.9	0.009
P226	P221	08/31/2010 00:00	1439	24234	10.94	0.7	0.008
P226	P277	08/31/2010 00:00	1439	50618	12.09	0.6	0.008
P231	P211	08/31/2010 00:00	1439	34051	16.60	0.7	0.011
P231	P212	08/31/2010 00:00	1439	37959	14.84	0.5	0.009
P232	P231	08/31/2010 00:00	1439	31307	21.76	0.5	0.009

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
P277	P219	08/31/2010 00:00	1439	18182	19.88	0.4	0.008
P277	P221	08/31/2010 00:00	1439	28669	16.48	0.4	0.009
P523	P525	08/31/2010 00:00	1439	14271	23.83	0.5	0.009
P525	P172	08/31/2010 00:00	1439	124241	20.58	0.6	0.011
P156	P157	08/31/2010 00:00	1439	42279	10.49	1.4	0.012
P156	P315	08/31/2010 00:00	1439	24096	8.31	1.5	0.013
P315	P157	08/31/2010 00:00	1439	66051	15.27	0.8	0.012
10070CJ	P513	08/31/2010 00:05	23	27565	17.75	0.4	0.009
10070CJ	P514	08/31/2010 00:05	23	38779	11.28	0.5	0.009
VNDP	10070CJ	08/31/2010 00:05	23	15277	12.18	0.6	0.011
P315	10070AI	08/31/2010 00:15	27	11852	13.22	0.7	0.011
P513	10070CK	08/31/2010 01:14	20	16432	14.85	0.5	0.006
P514	10070CK	08/31/2010 01:14	20	17076	14.26	0.5	0.007
P523	10070CL	08/31/2010 14:25	21	5699	21.99	0.7	0.012
P525	10070CL	08/31/2010 14:25	21	19947	13.53	0.5	0.009
P523	10070CM	08/31/2010 15:09	28	5635	10.62	0.8	0.014
P525	10070CM	08/31/2010 15:09	28	11096	9.56	1.0	0.015
P156	10070AJ	08/31/2010 16:59	28	16422	4.49	1.6	0.018
10072DP	P173	08/31/2010 17:34	29	36692	24.21	1.0	0.013
P172	10072DP	08/31/2010 17:34	29	16733	15.20	0.8	0.012
P156	10070AK	08/31/2010 17:36	21	16310	3.45	1.0	0.015
P172	10070CN	08/31/2010 18:12	30	9853	10.04	1.0	0.016
P231	10070CO	08/31/2010 20:08	20	21128	12.19	0.8	0.010
P232	10070CO	08/31/2010 20:08	20	10449	11.20	0.9	0.013
10070AL	P157	08/31/2010 20:09	32	23120	1.90	4.6	0.020
P156	10070AL	08/31/2010 20:09	32	19401	2.99	6.5	0.024
P211	10070CP	08/31/2010 21:00	16	5027	7.44	1.5	0.015
P212	10070CP	08/31/2010 21:00	16	12950	6.51	1.1	0.014
10070CQ	P219	08/31/2010 22:24	15	12465	11.69	0.8	0.011
P277	10070CQ	08/31/2010 22:24	15	6908	10.88	0.7	0.010
P219	10072DF	08/31/2010 22:43	17	13229	13.09	1.6	0.013
P277	10072DF	08/31/2010 22:43	17	6734	14.73	1.5	0.012
P178	10070CR	08/31/2010 23:46	18	4475	11.85	2.5	0.006
P200	P198	09/01/2010 00:00	1439	13813	24.68	0.4	0.009
P200	P261	09/01/2010 00:00	1439	22666	18.94	0.4	0.009
P200	P264	09/01/2010 00:00	1439	31892	19.91	0.5	0.010
P261	P198	09/01/2010 00:00	1439	36154	20.17	0.4	0.009
P261	P264	09/01/2010 00:00	1439	32389	21.54	0.5	0.009
P264	P198	09/01/2010 00:00	1439	41431	17.42	0.5	0.009
OHLN	SVIN	09/01/2010 00:00	1440	22444	11.97	0.6	0.008
P181	SVIN	09/01/2010 00:00	1439	18603	20.91	0.5	0.009
P199	P198	09/01/2010 00:00	1439	9113	31.74	0.4	0.008
P199	P200	09/01/2010 00:00	1439	5246	49.53	0.4	0.009
P199	P264	09/01/2010 00:00	1439	33569	14.61	0.6	0.010
P200	P198	09/01/2010 00:00	1439	13813	24.67	0.4	0.008
P222	P224	09/01/2010 00:00	1439	37974	14.79	0.5	0.009
P222	P225	09/01/2010 00:00	1439	19506	10.49	0.5	0.009
P222	P226	09/01/2010 00:00	1439	32015	10.42	0.7	0.008
P222	P248	09/01/2010 00:00	1439	51994	13.71	0.5	0.009
P224	OHLN	09/01/2010 00:00	1439	16502	25.21	0.5	0.009
P224	P181	09/01/2010 00:00	1439	14971	18.10	0.5	0.009
P225	P224	09/01/2010 00:00	1439	21860	10.23	0.5	0.009
P225	P226	09/01/2010 00:00	1439	46636	25.63	0.8	0.009
P248	P224	09/01/2010 00:00	1439	33210	19.58	0.4	0.009
P248	P225	09/01/2010 00:00	1439	33506	11.41	0.5	0.009
P248	P226	09/01/2010 00:00	1439	71007	7.34	0.7	0.008
P248	P261	09/01/2010 00:00	1439	36397	21.25	0.4	0.008
P248	P262	09/01/2010 00:00	1439	20721	17.24	0.4	0.008
P248	P266	09/01/2010 00:00	1439	23234	10.65	0.5	0.009
P261	OHLN	09/01/2010 00:00	1439	16995	22.42	0.5	0.009
P261	P181	09/01/2010 00:00	1439	29928	15.37	0.5	0.010
P261	P200	09/01/2010 00:00	1439	22666	18.85	0.4	0.009

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
P262	OHLN	09/01/2010 00:00	1439	15670	25.70	0.5	0.009
P262	P181	09/01/2010 00:00	1439	27544	16.73	0.5	0.009
P264	P198	09/01/2010 00:00	1439	41431	16.40	0.5	0.009
P264	P200	09/01/2010 00:00	1439	31892	19.92	0.5	0.010
P266	P199	09/01/2010 00:00	1439	58458	14.29	0.5	0.010
P266	P261	09/01/2010 00:00	1439	32955	14.07	0.4	0.009
P266	P262	09/01/2010 00:00	1439	28313	12.92	0.4	0.009
P266	P264	09/01/2010 00:00	1439	42204	19.86	0.5	0.010
SVIN	P198	09/01/2010 00:00	1506	26148	10.03	0.3	0.008
P157	P163	09/01/2010 00:00	1439	21570	12.59	0.7	0.011
P158	P157	09/01/2010 00:00	1439	25863	12.30	0.8	0.011
P158	P159	09/01/2010 00:00	1439	17475	16.78	0.7	0.011
P158	P160	09/01/2010 00:00	1439	14490	15.47	0.6	0.010
P158	P163	09/01/2010 00:00	1439	22934	15.34	0.8	0.012
P159	P160	09/01/2010 00:00	1439	13689	12.90	0.3	0.008
P159	P161	09/01/2010 00:00	1439	15872	3.64	0.5	0.009
P160	P161	09/01/2010 00:00	1439	11708	6.69	0.5	0.009
P157	10070AM	09/01/2010 00:06	26	5869	14.03	0.6	0.009
P157	10070AN	09/01/2010 00:52	21	4791	69.04	7.8	0.009
10070CS	P226	09/01/2010 01:00	19	16424	28.89	1.1	0.009
P222	10070CS	09/01/2010 01:00	19	16654	11.93	0.7	0.009
P222	10070CT	09/01/2010 13:39	16	11658	5.35	1.2	0.016
P225	10070CT	09/01/2010 13:39	16	7900	7.91	1.5	0.015
P159	10070AO	09/01/2010 13:53	23	8346	11.46	0.5	0.009
P160	10070AO	09/01/2010 13:53	23	9394	23.43	0.3	0.008
P224	10070CU	09/01/2010 14:33	17	7211	8.40	0.9	0.010
10070AP	P160	09/01/2010 15:00	20	5329	20.83	0.7	0.014
P158	10070AP	09/01/2010 15:00	20	9947	9.38	1.1	0.016
P181	10070CV	09/01/2010 15:07	16	4520	15.21	1.6	0.006
OHLN	10070CW	09/01/2010 15:41	19	5083	29.76	0.8	0.014
P181	10070CW	09/01/2010 15:41	19	10236	7.00	1.1	0.016
P262	10070CX	09/01/2010 16:31	20	4555	9.94	1.2	0.004
P248	10070CY	09/01/2010 17:10	17	4608	12.77	1.5	0.006
P266	10070CZ	09/01/2010 18:14	18	8995	15.30	1.0	0.016
P261	10070DA	09/01/2010 19:23	15	11103	37.95	0.6	0.009
P266	10070DA	09/01/2010 19:23	15	25512	44.68	0.5	0.007
OHLN	10070DB	09/01/2010 20:01	15	9718	12.11	1.2	0.013
P261	10070DB	09/01/2010 20:01	15	7360	11.51	1.2	0.014
P200	10070DC	09/01/2010 20:39	16	15577	16.19	0.9	0.013
P261	10070DC	09/01/2010 20:39	16	9311	22.45	0.9	0.013
10072CA	P200	09/01/2010 21:04	16	16571	23.98	0.7	0.010
10072CA	P261	09/01/2010 21:04	16	7753	28.72	0.8	0.011
10072CA	P264	09/01/2010 21:04	16	26566	21.00	0.7	0.010
P157	10070AQ	09/01/2010 21:07	25	6385	39.80	0.6	0.010
P163	10070AQ	09/01/2010 21:07	25	17316	19.68	0.9	0.013
P200	10070DD	09/01/2010 21:42	18	18681	9.83	1.5	0.016
P264	10070DD	09/01/2010 21:42	18	13625	6.90	1.1	0.016
P200	10072BZ	09/01/2010 22:03	17	19161	9.38	0.9	0.013
P261	10072BZ	09/01/2010 22:03	17	23070	5.67	1.0	0.015
P264	10072BZ	09/01/2010 22:03	17	12860	5.97	1.1	0.014
P199	10070DE	09/01/2010 22:50	15	5530	15.04	1.2	0.010
P200	10070DE	09/01/2010 22:50	15	1815	15.40	1.0	0.003
P200	10072BY	09/01/2010 23:14	16	1954	16.95	1.6	0.007
P261	10072BY	09/01/2010 23:14	16	23781	7.14	0.8	0.015
P264	10072BY	09/01/2010 23:14	16	30735	7.56	1.1	0.019
SVIN	10070DF	09/01/2010 23:58	17	8490	10.48	1.3	0.017
P786	PTSG	09/02/2010 00:00	1439	23842	17.56	0.9	0.012
PTSG	P316	09/02/2010 00:00	1439	28549	14.50	0.8	0.012
P182	P183	09/02/2010 00:00	1439	22399	25.60	0.3	0.007
P182	P193	09/02/2010 00:00	1439	47714	13.21	0.4	0.008
P182	P197	09/02/2010 00:00	1439	36869	20.41	0.4	0.009
P182	P198	09/02/2010 00:00	1439	56528	21.21	0.4	0.008

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
P182	PTRB	09/02/2010 00:00	1439	57173	14.45	0.4	0.008
P183	P193	09/02/2010 00:00	1439	25423	16.10	0.3	0.007
P183	P197	09/02/2010 00:00	1439	29272	14.03	0.3	0.008
P183	P198	09/02/2010 00:00	1439	40809	15.92	0.3	0.008
P183	PTRB	09/02/2010 00:00	1439	35514	20.30	0.3	0.007
P193	P197	09/02/2010 00:00	1439	36091	13.92	0.4	0.008
P193	P198	09/02/2010 00:00	1439	30412	14.82	0.3	0.008
P193	PTRB	09/02/2010 00:00	1439	17092	16.01	0.3	0.007
P196	P182	09/02/2010 00:00	1439	44111	21.19	0.4	0.008
P196	P183	09/02/2010 00:00	1439	28587	16.94	0.3	0.007
P196	P193	09/02/2010 00:00	1439	24255	15.43	0.3	0.008
P196	P197	09/02/2010 00:00	1439	14637	13.40	0.4	0.008
P196	P198	09/02/2010 00:00	1439	12569	12.58	0.3	0.008
P196	PTRB	09/02/2010 00:00	1439	41342	18.44	0.3	0.008
P197	P198	09/02/2010 00:00	1439	23368	13.63	0.4	0.009
P197	PTRB	09/02/2010 00:00	1439	52802	17.11	0.4	0.008
P198	PTRB	09/02/2010 00:00	1439	46444	17.56	0.4	0.008
P316	P786	09/02/2010 00:00	1439	32992	10.32	1.0	0.012
P182	P183	09/02/2010 00:00	1439	22399	25.60	0.3	0.007
P182	P193	09/02/2010 00:00	1439	47714	13.20	0.4	0.008
P182	P197	09/02/2010 00:00	1439	36869	20.42	0.4	0.009
P182	PTRB	09/02/2010 00:00	1439	57173	14.45	0.4	0.008
P182	SVIN	09/02/2010 00:00	1439	76900	12.25	0.4	0.008
P183	P193	09/02/2010 00:00	1439	25423	16.10	0.3	0.007
P183	PTRB	09/02/2010 00:00	1439	35514	20.30	0.3	0.007
P183	SVIN	09/02/2010 00:00	1439	56829	16.42	0.4	0.008
P193	PTRB	09/02/2010 00:00	1439	17092	16.01	0.3	0.007
P193	SVIN	09/02/2010 00:00	1439	34950	13.81	0.4	0.008
P197	P183	09/02/2010 00:00	1439	29272	14.07	0.3	0.008
P197	P193	09/02/2010 00:00	1439	36091	13.84	0.4	0.008
P197	PTRB	09/02/2010 00:00	1439	52802	17.10	0.4	0.008
P197	SVIN	09/02/2010 00:00	1439	48699	14.52	0.4	0.009
PTRB	SVIN	09/02/2010 00:00	1499	43435	19.08	0.5	0.008
P161	P058	09/02/2010 00:00	1439	28971	13.50	0.9	0.012
P161	P169	09/02/2010 00:00	1439	26874	19.41	0.6	0.010
P316	P325	09/02/2010 00:00	1439	48361	11.86	0.7	0.011
P316	P786	09/02/2010 00:00	1439	32992	10.42	1.0	0.012
P316	PTSG	09/02/2010 00:00	1439	28549	14.51	0.8	0.012
P316	TRND	09/02/2010 00:00	1439	56375	10.86	0.9	0.012
P325	P058	09/02/2010 00:00	1439	34627	17.60	0.8	0.011
P325	P169	09/02/2010 00:00	1439	40678	10.93	0.4	0.009
P786	P734	09/02/2010 00:00	1439	36472	16.96	0.9	0.012
PTSG	P734	09/02/2010 00:00	1439	32796	11.80	0.7	0.011
TRND	P161	09/02/2010 00:00	1439	46552	15.67	0.8	0.011
TRND	P316	09/02/2010 00:00	1439	56375	10.98	0.9	0.012
TRND	P325	09/02/2010 00:00	1439	25030	25.14	0.6	0.010
P198	10070DG	09/02/2010 00:47	18	3091	17.51	2.0	0.005
P058	10070AR	09/02/2010 01:25	20	11837	10.88	0.7	0.009
P161	10070AR	09/02/2010 01:25	20	18943	10.07	0.8	0.009
P169	10070AR	09/02/2010 01:25	20	9127	40.80	0.6	0.009
10072BX	P198	09/02/2010 01:27	19	5984	10.67	1.2	0.014
P196	10072BX	09/02/2010 01:27	19	6595	5.34	1.1	0.012
10070AS	P325	09/02/2010 02:11	24	23190	15.23	1.2	0.013
TRND	10070AS	09/02/2010 02:11	24	3574	10.10	2.2	0.005
P182	10070DH	09/02/2010 13:51	19	26469	23.86	0.6	0.010
P197	10070DH	09/02/2010 13:51	19	12252	23.45	0.7	0.011
10070DI	P197	09/02/2010 14:24	31	18974	4.94	3.3	0.018
P182	10070DI	09/02/2010 14:24	31	19225	17.33	3.1	0.016
10070AT	P325	09/02/2010 14:51	22	18245	10.29	1.0	0.015
TRND	10070AT	09/02/2010 14:51	22	11198	10.34	1.1	0.016
P182	10072BM	09/02/2010 15:04	21	16762	9.39	1.2	0.018
P197	10072BM	09/02/2010 15:04	21	20970	10.63	1.2	0.018

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
10070AU	P325	09/02/2010 15:35	36	21682	3.66	2.1	0.017
TRND	10070AU	09/02/2010 15:35	36	28855	7.75	2.0	0.015
P182	10072BL	09/02/2010 15:43	20	15339	16.41	0.7	0.012
P197	10072BL	09/02/2010 15:43	20	21533	17.82	0.7	0.011
P182	10072BK	09/02/2010 16:14	16	12056	2.88	0.8	0.010
P183	10072BK	09/02/2010 16:14	16	15548	11.12	0.7	0.012
P316	10070AV	09/02/2010 16:38	26	9074	25.76	1.7	0.017
P183	10070DJ	09/02/2010 17:08	19	13002	6.68	1.6	0.017
P197	10070DJ	09/02/2010 17:08	19	18139	9.28	1.5	0.017
P183	10072BN	09/02/2010 17:34	14	12741	7.95	0.8	0.014
P196	10072BN	09/02/2010 17:34	14	15924	7.01	0.9	0.014
P197	10072BN	09/02/2010 17:34	14	18461	7.75	1.0	0.016
P786	10070AW	09/02/2010 17:42	18	19158	10.85	1.2	0.013
PTSG	10070AW	09/02/2010 17:42	18	10795	5.35	1.2	0.014
P183	10072BO	09/02/2010 18:04	16	5566	16.98	0.6	0.014
10070AX	P734	09/02/2010 18:23	19	22649	20.56	0.7	0.010
10070AX	P786	09/02/2010 18:23	19	14759	13.51	0.8	0.012
10070AX	PTSG	09/02/2010 18:23	19	17189	19.44	1.0	0.012
P183	10072BP	09/02/2010 18:44	17	15357	9.82	0.8	0.013
P196	10072BP	09/02/2010 18:44	17	13949	9.82	0.5	0.010
10070AY	P734	09/02/2010 18:54	19	10968	13.33	0.6	0.011
P786	10070AY	09/02/2010 18:54	19	25608	9.48	0.8	0.012
P183	10072BQ	09/02/2010 19:15	15	17018	33.29	0.6	0.009
P193	10072BQ	09/02/2010 19:15	15	9904	10.35	0.6	0.009
P196	10072BQ	09/02/2010 19:15	15	18586	37.17	0.6	0.009
P193	10070DK	09/02/2010 20:06	16	10834	23.94	1.3	0.011
PTRB	10070DK	09/02/2010 20:06	16	20686	23.23	1.0	0.011
SVIN	10070DK	09/02/2010 20:06	16	24669	19.65	0.8	0.010
10070AZ	P734	09/02/2010 20:25	19	20491	15.74	0.4	0.008
P786	10070AZ	09/02/2010 20:25	19	19212	24.31	0.8	0.011
PTSG	10070AZ	09/02/2010 20:25	19	14574	16.75	0.5	0.009
P193	10070DL	09/02/2010 20:49	15	4988	11.17	1.3	0.005
10070BA	P734	09/02/2010 21:18	20	20678	12.76	0.5	0.011
P786	10070BA	09/02/2010 21:18	20	18471	15.50	0.7	0.012
PTSG	10070BA	09/02/2010 21:18	20	15051	21.42	0.6	0.010
P193	10072BS	09/02/2010 21:21	15	3832	7.64	1.2	0.005
P786	10072AA	09/02/2010 21:43	23	17447	4.22	0.8	0.012
PTSG	10072AA	09/02/2010 21:43	23	15493	14.54	0.7	0.012
PTRB	10070DM	09/02/2010 21:58	15	911	12.70	0.8	0.004
P786	10072AC	09/02/2010 22:20	19	17181	11.09	0.7	0.008
PTSG	10072AC	09/02/2010 22:20	19	10602	10.24	0.5	0.007
P786	10072AB	09/02/2010 22:49	20	13600	14.76	0.6	0.010
PTSG	10072AB	09/02/2010 22:49	20	14369	20.65	0.5	0.009
P193	10072BR	09/02/2010 22:55	15	8179	12.92	0.6	0.010
PTRB	10072BR	09/02/2010 22:55	15	9076	11.32	0.4	0.008
PTSG	10072AD	09/02/2010 23:22	26	6511	5.01	1.5	0.013
P193	10072BT	09/02/2010 23:41	15	13075	18.21	0.7	0.009
P198	10072BT	09/02/2010 23:41	15	28525	18.75	0.6	0.008
PTRB	10072BT	09/02/2010 23:41	15	20688	20.27	0.6	0.010
P162	P058	09/03/2010 00:00	1439	24682	12.65	0.8	0.011
P162	P316	09/03/2010 00:00	1439	97231	12.85	0.8	0.012
P169	P058	09/03/2010 00:00	1439	13132	13.42	0.6	0.010
P169	P162	09/03/2010 00:00	1439	25331	18.77	0.5	0.009
P316	P058	09/03/2010 00:00	1439	75840	11.90	1.0	0.012
P316	P169	09/03/2010 00:00	1439	85875	14.70	0.8	0.012
P325	P058	09/03/2010 00:00	1439	34627	15.54	0.7	0.011
P325	P162	09/03/2010 00:00	1439	59234	29.72	0.6	0.011
P325	P169	09/03/2010 00:00	1439	40678	26.42	0.5	0.010
P325	P316	09/03/2010 00:00	1439	48361	14.19	0.8	0.011
P325	TRND	09/03/2010 00:00	1439	25030	24.18	0.6	0.010
TRND	P058	09/03/2010 00:00	1439	20719	10.65	0.8	0.012
TRND	P162	09/03/2010 00:00	1439	40938	12.39	0.7	0.011

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
TRND	P169	09/03/2010 00:00	1439	33015	20.96	0.6	0.010
TRND	P316	09/03/2010 00:00	1439	56375	13.59	0.9	0.012
BRIB	P223	09/03/2010 00:00	1439	22393	23.22	0.5	0.009
BRIB	P224	09/03/2010 00:00	1439	8497	31.33	0.5	0.008
BRIB	P248	09/03/2010 00:00	1439	25718	17.83	0.6	0.009
BRIB	P261	09/03/2010 00:00	1439	26545	18.37	0.5	0.009
BRIB	P266	09/03/2010 00:00	1439	39976	15.36	0.6	0.010
P223	P224	09/03/2010 00:00	1439	18929	11.79	0.3	0.008
P223	P248	09/03/2010 00:00	1439	34723	20.59	0.4	0.008
P223	P261	09/03/2010 00:00	1439	48936	10.04	0.3	0.008
P223	P266	09/03/2010 00:00	1439	55999	16.05	0.4	0.009
P224	P248	09/03/2010 00:00	1439	33210	22.91	0.4	0.008
P224	P261	09/03/2010 00:00	1439	32087	24.30	0.3	0.007
P224	P266	09/03/2010 00:00	1439	48473	19.28	0.4	0.009
P248	P261	09/03/2010 00:00	1439	36397	19.23	0.4	0.009
P248	P266	09/03/2010 00:00	1439	23234	24.05	0.5	0.009
P261	P266	09/03/2010 00:00	1439	32955	13.94	0.4	0.009
PTRB	BRIB	09/03/2010 00:00	1440	76598	10.23	0.6	0.009
PTRB	P223	09/03/2010 00:00	1439	86402	10.46	0.4	0.008
PTRB	P224	09/03/2010 00:00	1439	71822	10.25	0.4	0.009
PTRB	P248	09/03/2010 00:00	1439	101055	10.46	0.5	0.009
PTRB	P261	09/03/2010 00:00	1439	72421	15.06	0.4	0.009
PTRB	P266	09/03/2010 00:00	1439	105179	17.39	0.5	0.010
P316	10072AE	09/03/2010 00:12	32	8549	10.09	1.1	0.014
PTRB	10070DN	09/03/2010 00:42	15	29812	17.15	1.3	0.016
SVIN	10070DN	09/03/2010 00:42	15	20261	8.99	1.2	0.015
P316	10072AF	09/03/2010 00:58	19	3752	16.28	1.5	0.004
P224	10072BV	09/03/2010 01:06	15	41732	25.01	1.3	0.009
PTRB	10072BV	09/03/2010 01:06	15	30136	22.84	0.9	0.009
P316	10072AG	09/03/2010 01:33	20	9834	26.25	0.9	0.014
P224	10072BW	09/03/2010 02:25	14	32910	21.18	0.8	0.011
PTRB	10072BW	09/03/2010 02:25	14	39696	20.11	0.9	0.012
P261	10072CB	09/03/2010 13:57	19	11985	8.05	1.1	0.010
P261	10072CE	09/03/2010 14:32	16	18639	11.35	0.7	0.012
P266	10072CE	09/03/2010 14:32	16	15283	11.44	0.7	0.014
P261	10072CD	09/03/2010 15:11	12	19492	12.63	0.8	0.014
P266	10072CD	09/03/2010 15:11	12	13758	27.54	0.5	0.010
10072AJ	P325	09/03/2010 15:42	23	21383	12.62	0.8	0.014
P316	10072AJ	09/03/2010 15:42	23	29398	4.55	0.7	0.012
P261	10072CC	09/03/2010 15:56	19	23426	2.77	1.5	0.015
P266	10072CC	09/03/2010 15:56	19	15700	3.36	1.3	0.013
P325	10072AK	09/03/2010 16:26	20	18246	24.88	0.5	0.009
P266	10072CF	09/03/2010 16:32	17	7820	13.43	0.7	0.010
P266	10072CG	09/03/2010 16:59	20	4011	26.77	1.5	0.005
10072AL	P058	09/03/2010 17:18	20	5308	26.13	0.9	0.013
TRND	10072AL	09/03/2010 17:18	20	15479	19.28	0.6	0.011
P266	10072CI	09/03/2010 17:28	16	6521	2.73	0.7	0.012
P248	10072CH	09/03/2010 17:54	15	12090	12.43	0.8	0.016
P266	10072CH	09/03/2010 17:54	15	11248	8.88	0.8	0.015
10072AN	P162	09/03/2010 18:09	19	16435	10.99	0.6	0.013
10072AN	P169	09/03/2010 18:09	19	9022	47.01	0.6	0.013
P058	10072AN	09/03/2010 18:09	19	12364	12.93	0.8	0.013
10072AM	P162	09/03/2010 18:49	19	13583	9.88	1.0	0.012
10072AM	P169	09/03/2010 18:49	19	17485	9.21	0.9	0.011
P058	10072AM	09/03/2010 18:49	19	11590	14.05	1.2	0.013
P248	10072CK	09/03/2010 19:20	15	4558	3.64	1.5	0.005
P248	10072CJ	09/03/2010 19:47	15	6474	14.39	0.9	0.012
P248	10072CL	09/03/2010 20:18	17	14759	12.74	0.9	0.013
P261	10072CL	09/03/2010 20:18	17	22449	9.84	0.8	0.013
BRIB	10072CM	09/03/2010 20:59	16	8843	21.67	1.2	0.014
P248	10072CM	09/03/2010 20:59	16	17814	2.62	0.9	0.011
P223	10072CN	09/03/2010 21:55	15	16526	7.81	0.7	0.012

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
P224	10072CN	09/03/2010 21:55	15	6849	10.42	0.8	0.013
P223	10072CO	09/03/2010 22:37	18	7011	19.69	1.0	0.009
P223	10072CP	09/03/2010 23:17	15	4843	10.33	2.3	0.007
P222	P219	09/04/2010 00:00	1439	28197	29.50	0.4	0.008
P222	P223	09/04/2010 00:00	1439	20343	22.62	0.4	0.008
P223	P219	09/04/2010 00:00	1439	45192	12.54	0.3	0.007
P225	P222	09/04/2010 00:00	1439	19506	13.42	0.4	0.008
P225	P223	09/04/2010 00:00	1439	3766	10.54	1.3	0.004
P222	10072CQ	09/04/2010 00:03	17	11129	13.66	0.5	0.010
P225	10072CQ	09/04/2010 00:03	17	10250	13.07	0.7	0.012
P222	10072CR	09/04/2010 00:41	16	10755	6.62	1.3	0.013
P225	10072CR	09/04/2010 00:41	16	9095	18.68	1.1	0.013
P177	P178	10/04/2010 00:00	1439	14397	7.22	0.8	0.011
P177	P219	10/04/2010 00:00	1439	27765	13.43	0.6	0.011
P177	P222	10/04/2010 00:00	1439	36417	13.60	0.7	0.011
P177	P226	10/04/2010 00:00	1439	62943	8.66	0.7	0.012
P177	P227	10/04/2010 00:00	1439	62363	10.69	0.8	0.012
P178	P219	10/04/2010 00:00	1439	21725	1.78	0.8	0.011
P178	P222	10/04/2010 00:00	1439	22022	12.73	0.9	0.012
P178	P226	10/04/2010 00:00	1439	49932	12.54	0.9	0.012
P178	P227	10/04/2010 00:00	1439	47979	9.04	0.9	0.012
P219	P177	10/04/2010 00:00	1439	27765	13.65	0.6	0.011
P219	P178	10/04/2010 00:00	1439	21725	1.78	0.8	0.011
P219	P222	10/04/2010 00:00	1439	28197	14.62	0.6	0.010
P219	P226	10/04/2010 00:00	1439	40701	15.64	0.7	0.011
P219	P227	10/04/2010 00:00	1439	48664	11.36	0.7	0.011
P222	P177	10/04/2010 00:00	1439	36417	13.59	0.7	0.011
P222	P178	10/04/2010 00:00	1439	22022	12.83	0.9	0.012
P222	P219	10/04/2010 00:00	1439	28197	14.46	0.6	0.010
P222	P226	10/04/2010 00:00	1439	32015	11.05	0.7	0.011
P222	P227	10/04/2010 00:00	1439	25974	9.45	0.7	0.012
P226	P227	10/04/2010 00:00	1439	22019	13.11	0.6	0.011
10072DB	P178	10/04/2010 19:29	20	10511	4.20	1.4	0.016
P177	10072DB	10/04/2010 19:29	20	12127	6.03	1.1	0.015
10072DA	P178	10/04/2010 20:10	19	4651	45.51	3.2	0.006
10072DA	P222	10/04/2010 20:10	19	23110	10.79	1.1	0.012
P177	10072DA	10/04/2010 20:10	19	14627	10.57	1.0	0.011
P178	10072DA	10/04/2010 20:10	19	4651	45.55	3.2	0.006
10072CZ	P219	10/04/2010 20:59	21	14825	6.44	0.9	0.016
P178	10072CZ	10/04/2010 20:59	21	10809	4.22	1.2	0.019
P219	10072CZ	10/04/2010 20:59	21	14825	6.47	0.9	0.016
P222	10072CZ	10/04/2010 20:59	21	15759	4.72	1.2	0.018
P222	10072CS	10/04/2010 21:52	21	4832	14.71	2.0	0.006
10072CT	P227	10/04/2010 22:38	20	14616	9.93	0.6	0.009
P222	10072CT	10/04/2010 22:38	20	11993	6.30	0.8	0.011
10072CU	P226	10/04/2010 23:10	19	14072	9.70	0.6	0.008
P227	10072CU	10/04/2010 23:10	19	13373	8.90	0.6	0.007
P171	P209	10/05/2010 00:00	1439	71324	10.88	0.6	0.010
P171	P210	10/05/2010 00:00	1439	37093	10.10	0.4	0.009
P171	P211	10/05/2010 00:00	1439	44497	14.77	0.7	0.012
P171	P212	10/05/2010 00:00	1439	53252	7.95	0.6	0.011
P171	P221	10/05/2010 00:00	1439	98362	7.74	0.6	0.011
P171	P227	10/05/2010 00:00	1439	116254	7.96	0.5	0.010
P171	P231	10/05/2010 00:00	1439	18188	20.11	0.4	0.009
P171	P232	10/05/2010 00:00	1439	32643	18.23	0.4	0.009
P171	SBRN	10/05/2010 00:00	1439	144137	2.04	1.2	0.013
P209	P171	10/05/2010 00:00	1439	71324	11.43	0.6	0.010
P209	P210	10/05/2010 00:00	1439	45020	11.62	0.5	0.010
P209	P211	10/05/2010 00:00	1439	43616	9.28	0.8	0.012
P209	P212	10/05/2010 00:00	1439	26342	1.54	0.6	0.010
P209	P221	10/05/2010 00:00	1439	29815	4.71	0.6	0.010
P209	P227	10/05/2010 00:00	1439	59520	4.57	0.6	0.011

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
P209	P231	10/05/2010 00:00	1439	53453	9.52	0.7	0.012
P209	P232	10/05/2010 00:00	1439	62059	10.70	0.6	0.010
P209	SBRN	10/05/2010 00:00	1439	72944	2.15	1.2	0.013
P210	P171	10/05/2010 00:00	1439	37093	10.02	0.4	0.009
P210	P211	10/05/2010 00:00	1439	7617	42.35	0.6	0.010
P210	P212	10/05/2010 00:00	1439	19954	10.81	0.5	0.009
P210	P221	10/05/2010 00:00	1439	66385	13.98	0.5	0.010
P210	P227	10/05/2010 00:00	1439	79727	7.01	0.5	0.009
P210	P231	10/05/2010 00:00	1439	26573	15.07	0.5	0.010
P210	P232	10/05/2010 00:00	1439	17047	12.14	0.4	0.008
P210	SBRN	10/05/2010 00:00	1439	113791	4.49	1.1	0.013
P211	P171	10/05/2010 00:00	1439	44497	14.93	0.7	0.012
P211	P212	10/05/2010 00:00	1439	17316	12.57	0.8	0.011
P211	P221	10/05/2010 00:00	1439	62061	10.53	0.9	0.012
P211	P227	10/05/2010 00:00	1439	73020	9.33	0.8	0.012
P211	P231	10/05/2010 00:00	1439	34051	9.91	0.9	0.012
P211	P232	10/05/2010 00:00	1439	20230	12.45	0.7	0.011
P211	SBRN	10/05/2010 00:00	1439	109605	13.43	1.5	0.015
P212	P171	10/05/2010 00:00	1439	53252	7.87	0.6	0.011
P212	P221	10/05/2010 00:00	1439	46607	11.80	0.6	0.011
P212	P227	10/05/2010 00:00	1439	63705	8.09	0.6	0.010
P212	P231	10/05/2010 00:00	1439	37959	9.88	0.7	0.011
P212	P232	10/05/2010 00:00	1439	36576	10.79	0.5	0.010
P212	SBRN	10/05/2010 00:00	1439	93896	4.37	1.2	0.013
P221	P171	10/05/2010 00:00	1439	98362	7.55	0.6	0.011
P221	P227	10/05/2010 00:00	1439	34983	20.27	0.5	0.009
P221	P231	10/05/2010 00:00	1439	81230	12.87	0.7	0.012
P221	P232	10/05/2010 00:00	1439	82267	4.59	0.6	0.010
P221	SBRN	10/05/2010 00:00	1439	47546	16.01	1.1	0.013
P222	P171	10/05/2010 00:00	1439	119772	10.52	0.6	0.011
P222	P209	10/05/2010 00:00	1439	52307	7.07	0.7	0.011
P222	P210	10/05/2010 00:00	1439	86104	2.92	0.6	0.010
P222	P211	10/05/2010 00:00	1439	80843	12.60	0.9	0.013
P222	P212	10/05/2010 00:00	1439	66983	3.67	0.7	0.011
P222	P221	10/05/2010 00:00	1439	22495	20.27	0.5	0.010
P222	P226	10/05/2010 00:00	1439	32015	14.16	0.5	0.010
P222	P227	10/05/2010 00:00	1439	25974	11.55	0.5	0.010
P222	P231	10/05/2010 00:00	1439	103050	10.58	0.8	0.012
P222	P232	10/05/2010 00:00	1439	100959	3.30	0.6	0.010
P222	SBRN	10/05/2010 00:00	1439	33175	12.54	1.1	0.013
P226	P171	10/05/2010 00:00	1439	94519	7.90	0.6	0.011
P226	P209	10/05/2010 00:00	1439	39957	3.17	0.6	0.011
P226	P210	10/05/2010 00:00	1439	58377	10.87	0.5	0.010
P226	P211	10/05/2010 00:00	1439	52034	13.30	0.8	0.012
P226	P212	10/05/2010 00:00	1439	41722	11.99	0.6	0.011
P226	P221	10/05/2010 00:00	1439	24234	8.19	0.5	0.010
P226	P222	10/05/2010 00:00	1439	32015	13.72	0.5	0.010
P226	P227	10/05/2010 00:00	1439	22019	10.44	0.5	0.009
P226	P231	10/05/2010 00:00	1439	79676	7.40	0.8	0.012
P226	P232	10/05/2010 00:00	1439	71453	11.95	0.5	0.010
P226	SBRN	10/05/2010 00:00	1439	64636	14.17	1.2	0.013
P227	P171	10/05/2010 00:00	1439	116254	8.57	0.5	0.010
P227	P209	10/05/2010 00:00	1439	59520	4.38	0.6	0.011
P227	P210	10/05/2010 00:00	1439	79727	7.58	0.5	0.009
P227	P211	10/05/2010 00:00	1439	73020	8.68	0.8	0.012
P227	P212	10/05/2010 00:00	1439	63705	8.25	0.6	0.010
P227	P221	10/05/2010 00:00	1439	34983	20.03	0.5	0.009
P227	P231	10/05/2010 00:00	1439	101664	7.50	0.7	0.011
P227	P232	10/05/2010 00:00	1439	91713	8.67	0.6	0.010
P227	SBRN	10/05/2010 00:00	1439	57403	14.95	1.2	0.013
P231	P171	10/05/2010 00:00	1439	18188	20.05	0.4	0.009
P231	P232	10/05/2010 00:00	1439	31307	14.84	0.5	0.010

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
P231	SBRN	10/05/2010 00:00	1439	126371	4.39	1.2	0.013
P232	P171	10/05/2010 00:00	1439	32643	18.78	0.4	0.009
P232	SBRN	10/05/2010 00:00	1439	129806	4.59	1.1	0.013
P177	P171	10/05/2010 00:00	1439	131528	3.28	0.5	0.010
P177	P209	10/05/2010 00:00	1439	60507	2.41	0.6	0.010
P177	P210	10/05/2010 00:00	1439	104107	12.27	0.5	0.009
P177	P211	10/05/2010 00:00	1439	100963	9.13	0.8	0.012
P177	P212	10/05/2010 00:00	1439	84234	10.64	0.6	0.010
P177	P221	10/05/2010 00:00	1439	40973	13.34	0.6	0.010
P177	P222	10/05/2010 00:00	1439	36417	16.17	0.7	0.011
P177	P226	10/05/2010 00:00	1439	62943	12.36	0.6	0.010
P177	P227	10/05/2010 00:00	1439	62363	8.66	0.6	0.010
P177	P231	10/05/2010 00:00	1439	113443	3.29	0.7	0.011
P177	P232	10/05/2010 00:00	1439	120790	3.05	0.5	0.010
P177	P178	10/05/2010 00:00	1439	14397	10.93	0.8	0.011
P177	SBRN	10/05/2010 00:00	1439	19066	13.24	1.1	0.013
P178	P171	10/05/2010 00:00	1439	125945	3.59	0.8	0.012
P178	P209	10/05/2010 00:00	1439	54765	9.41	0.8	0.011
P178	P210	10/05/2010 00:00	1439	95918	3.97	0.8	0.012
P178	P211	10/05/2010 00:00	1439	91981	9.20	1.1	0.014
P178	P212	10/05/2010 00:00	1439	75981	3.22	0.9	0.012
P178	P221	10/05/2010 00:00	1439	30119	10.59	0.7	0.011
P178	P222	10/05/2010 00:00	1439	22022	7.89	0.7	0.011
P178	P226	10/05/2010 00:00	1439	49932	12.21	0.8	0.012
P178	P227	10/05/2010 00:00	1439	47979	8.05	0.7	0.012
P178	P231	10/05/2010 00:00	1439	108185	3.98	0.9	0.013
P178	P232	10/05/2010 00:00	1439	112124	3.86	0.8	0.012
P178	SBRN	10/05/2010 00:00	1439	18194	16.13	1.2	0.013
SBRN	P177	10/05/2010 00:00	1439	19066	13.30	1.1	0.013
SBRN	P178	10/05/2010 00:00	1439	18194	16.12	1.2	0.013
10072CV	P227	10/05/2010 00:05	18	15688	5.20	0.7	0.010
P226	10072CV	10/05/2010 00:05	18	10634	6.87	0.9	0.013
P227	10072CV	10/05/2010 00:05	18	15688	5.18	0.7	0.010
10072CW	P221	10/05/2010 00:41	20	15747	19.99	0.9	0.010
10072CW	P226	10/05/2010 00:41	20	11689	21.15	1.1	0.011
P221	10072CW	10/05/2010 00:41	20	15747	2.04	1.1	0.016
P226	10072CW	10/05/2010 00:41	20	11689	1.98	1.1	0.014
10072CX	P221	10/05/2010 01:22	22	10362	11.29	0.9	0.013
P221	10072CX	10/05/2010 01:22	22	10362	11.33	0.9	0.013
P226	10072CX	10/05/2010 01:22	22	19193	11.08	0.9	0.013
10072DG	P209	10/05/2010 14:14	21	11724	11.76	0.6	0.009
P209	10072DG	10/05/2010 14:14	21	11724	11.76	0.6	0.009
P212	10072DG	10/05/2010 14:14	21	15915	9.39	0.5	0.009
10072DH	P211	10/05/2010 15:05	21	8952	25.59	0.6	0.009
P211	10072DH	10/05/2010 15:05	21	8952	2.62	0.8	0.013
P212	10072DH	10/05/2010 15:05	21	10493	5.32	0.6	0.012
P211	10072DI	10/05/2010 15:38	15	3692	45.91	2.0	0.007
P212	10072DI	10/05/2010 15:38	15	13644	10.92	0.7	0.015
10072DK	P210	10/05/2010 16:08	18	2761	12.53	1.4	0.006
P210	10072DK	10/05/2010 16:08	18	2761	12.53	1.4	0.006
P211	10072DK	10/05/2010 16:08	18	4972	32.78	1.8	0.006
10072DJ	P210	10/05/2010 16:42	19	4555	24.78	3.4	0.007
P210	10072DJ	10/05/2010 16:42	19	4555	24.84	3.4	0.007
P211	10072DJ	10/05/2010 16:42	19	8243	11.36	1.1	0.012
10072DM	P231	10/05/2010 17:15	21	17912	16.97	0.7	0.010
10072DM	P232	10/05/2010 17:15	21	17045	12.94	0.7	0.011
P210	10072DM	10/05/2010 17:15	21	9091	13.25	0.6	0.010
P232	10072DM	10/05/2010 17:15	21	17045	13.03	0.7	0.011
10072DO	P171	10/05/2010 18:20	21	18453	15.54	0.8	0.011
P171	10072DO	10/05/2010 18:20	21	18453	15.56	0.8	0.011
P231	10072DO	10/05/2010 18:20	21	18578	18.57	0.7	0.011
P232	10072DO	10/05/2010 18:20	21	14657	14.24	0.8	0.011

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
P171	10072DN	10/05/2010 18:55	21	24902	11.67	0.6	0.011
P231	10072DN	10/05/2010 18:55	21	21562	14.26	0.6	0.012
P232	10072DN	10/05/2010 18:55	21	9747	30.54	0.5	0.011
P210	10072DL	10/05/2010 19:34	19	8376	3.25	0.6	0.011
P232	10072DL	10/05/2010 19:34	19	8778	3.48	0.8	0.014
10072CY	P222	10/05/2010 21:19	18	14550	12.15	1.4	0.015
P221	10072CY	10/05/2010 21:19	18	8709	79.63	0.7	0.012
P222	10072CY	10/05/2010 21:19	18	14550	12.27	1.4	0.015
10072DE	P177	10/05/2010 22:18	19	9143	33.24	0.7	0.011
P178	10072DE	10/05/2010 22:18	19	12260	6.60	0.9	0.013
10072DC	P177	10/05/2010 23:14	20	18220	6.32	0.8	0.009
SBRN	10072DC	10/05/2010 23:14	20	2320	12.01	1.8	0.005
SBRN	10072DD	10/05/2010 23:58	18	8685	13.45	1.0	0.012
P059	P182	10/06/2010 00:00	1439	67534	11.52	0.6	0.010
P059	P188	10/06/2010 00:00	1439	51939	3.74	1.3	0.013
P059	P189	10/06/2010 00:00	1439	33395	13.04	0.8	0.012
P059	P193	10/06/2010 00:00	1439	114375	7.61	0.6	0.010
P059	P184	10/06/2010 00:00	1439	21015	11.87	0.6	0.010
P059	P186	10/06/2010 00:00	1439	30514	7.50	1.0	0.012
P059	SBRN	10/06/2010 00:00	1439	179584	8.30	1.3	0.014
P182	P188	10/06/2010 00:00	1439	19645	2.25	1.1	0.012
P182	P189	10/06/2010 00:00	1439	56567	9.37	0.8	0.012
P182	P193	10/06/2010 00:00	1439	47714	16.35	0.5	0.009
P188	P189	10/06/2010 00:00	1439	36950	3.14	1.6	0.014
P188	P193	10/06/2010 00:00	1439	66688	1.95	1.1	0.012
P189	P193	10/06/2010 00:00	1439	103356	3.76	0.8	0.012
P189	P184	10/06/2010 00:00	1439	34369	13.37	0.9	0.013
P189	P186	10/06/2010 00:00	1439	23285	1.54	1.3	0.014
SBRN	P182	10/06/2010 00:00	1439	112392	14.89	1.1	0.013
SBRN	P188	10/06/2010 00:00	1439	130474	1.56	2.1	0.016
SBRN	P189	10/06/2010 00:00	1439	166091	5.57	2.1	0.018
SBRN	P193	10/06/2010 00:00	1439	65310	13.04	1.1	0.013
P193	10072BU	10/06/2010 17:13	30	19731	26.68	0.5	0.009
SBRN	10072BU	10/06/2010 17:13	30	46101	19.58	0.8	0.011
10072BJ	P188	10/06/2010 20:49	21	16778	3.85	0.6	0.008
P182	10072BJ	10/06/2010 20:49	21	6278	10.23	0.5	0.012
10072BI	P189	10/06/2010 21:35	20	37544	7.98	0.8	0.012
P188	10072BI	10/06/2010 21:35	20	14908	10.23	0.8	0.011
10072BH	P059	10/06/2010 22:21	28	26005	6.13	1.4	0.013
10072BH	P189	10/06/2010 22:21	28	26953	5.98	1.5	0.014
P188	10072BH	10/06/2010 22:21	28	26325	4.62	1.6	0.012
P059	10072BG	10/06/2010 23:24	25	3913	22.27	1.4	0.004
P189	10072BG	10/06/2010 23:24	25	29952	8.28	1.0	0.014
P184	P185	10/07/2010 00:00	1439	16378	10.74	0.4	0.008
P184	P186	10/07/2010 00:00	1439	16900	2.04	0.9	0.011
P184	P187	10/07/2010 00:00	1439	27692	4.36	1.1	0.012
P184	P312	10/07/2010 00:00	1439	45752	5.93	0.7	0.010
P184	P313	10/07/2010 00:00	1439	50107	10.19	0.6	0.010
P184	P314	10/07/2010 00:00	1439	64075	13.35	0.5	0.009
P184	P315	10/07/2010 00:00	1439	82875	10.40	0.7	0.010
P184	P318	10/07/2010 00:00	1439	47235	11.42	0.5	0.010
P185	P186	10/07/2010 00:00	1439	23474	2.17	0.8	0.011
P185	P187	10/07/2010 00:00	1439	16210	4.54	0.9	0.011
P185	P312	10/07/2010 00:00	1439	30063	11.05	0.5	0.009
P185	P313	10/07/2010 00:00	1439	36218	11.25	0.5	0.009
P185	P314	10/07/2010 00:00	1439	49286	10.46	0.3	0.007
P185	P315	10/07/2010 00:00	1439	66928	12.19	0.5	0.009
P185	P318	10/07/2010 00:00	1439	38844	11.39	0.4	0.009
P186	P187	10/07/2010 00:00	1439	23612	1.56	1.5	0.013
P186	P312	10/07/2010 00:00	1439	44856	5.51	1.0	0.012
P186	P313	10/07/2010 00:00	1439	45047	6.45	0.9	0.011
P186	P314	10/07/2010 00:00	1439	59717	5.37	0.7	0.010

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
P186	P315	10/07/2010 00:00	1439	81032	1.58	1.0	0.012
P186	P318	10/07/2010 00:00	1439	35847	1.89	0.8	0.011
P187	P312	10/07/2010 00:00	1439	21283	2.65	1.3	0.013
P187	P313	10/07/2010 00:00	1439	22650	4.66	1.0	0.012
P187	P314	10/07/2010 00:00	1439	37055	1.61	0.9	0.011
P187	P315	10/07/2010 00:00	1439	57591	1.58	1.2	0.013
P187	P318	10/07/2010 00:00	1439	22760	4.51	1.0	0.012
P312	P313	10/07/2010 00:00	1439	11844	11.02	0.7	0.010
P312	P314	10/07/2010 00:00	1439	20077	10.76	0.5	0.009
P312	P315	10/07/2010 00:00	1439	37163	11.64	0.7	0.010
P312	P318	10/07/2010 00:00	1439	29358	13.38	0.6	0.010
P313	P314	10/07/2010 00:00	1439	14676	11.84	0.4	0.008
P313	P315	10/07/2010 00:00	1439	36746	11.23	0.6	0.010
P313	P318	10/07/2010 00:00	1439	20069	1.87	0.5	0.009
P314	P315	10/07/2010 00:00	1439	22917	11.64	0.4	0.009
P314	P318	10/07/2010 00:00	1439	31578	16.06	0.4	0.008
P315	P318	10/07/2010 00:00	1439	54422	10.44	0.6	0.010
10072BE	P186	10/07/2010 00:29	31	10826	17.63	1.2	0.011
P156	P185	10/07/2010 00:29	1410	85795	4.56	1.3	0.014
P156	P186	10/07/2010 00:29	1410	102634	1.54	1.6	0.015
P156	P187	10/07/2010 00:29	1410	79025	1.62	2.1	0.016
P156	P312	10/07/2010 00:29	1410	57801	4.53	1.5	0.015
P156	P313	10/07/2010 00:29	1410	59846	6.66	1.3	0.014
P156	P314	10/07/2010 00:29	1410	46755	7.46	1.2	0.013
P156	P315	10/07/2010 00:29	1410	24096	2.07	1.3	0.014
P156	P318	10/07/2010 00:29	1410	78311	3.25	1.3	0.014
P184	10072BE	10/07/2010 00:29	31	7878	19.14	1.1	0.010
P184	P156	10/07/2010 00:29	1410	102151	1.72	1.4	0.015
P163	P156	10/07/2010 00:29	1410	25210	3.08	1.2	0.013
10072BF	P185	10/07/2010 01:22	20	7023	17.86	0.9	0.012
P184	10072BF	10/07/2010 01:22	20	9417	10.36	1.2	0.014
P185	10072BB	10/07/2010 15:00	11	5037	29.32	0.4	0.010
P185	10072BD	10/07/2010 15:26	25	1896	17.35	4.7	0.010
10072BC	P187	10/07/2010 16:26	25	15128	11.27	1.3	0.014
P184	10072BC	10/07/2010 16:26	25	25242	4.94	1.0	0.013
P185	10072BA	10/07/2010 17:00	22	12059	14.74	0.7	0.012
P187	10072BA	10/07/2010 17:00	22	17312	11.18	1.0	0.013
10072AZ	P313	10/07/2010 17:48	26	19923	8.82	1.0	0.013
P312	10072AZ	10/07/2010 17:48	26	10080	11.31	0.9	0.010
10072AY	P313	10/07/2010 18:38	23	15730	3.37	0.6	0.010
P312	10072AY	10/07/2010 18:38	23	4267	39.62	1.7	0.006
10072AX	P314	10/07/2010 19:25	23	16225	18.18	0.9	0.012
10072AX	P315	10/07/2010 19:25	23	22700	26.55	0.9	0.012
P312	10072AX	10/07/2010 19:25	23	16020	15.25	1.1	0.014
P156	10072AV	10/07/2010 22:07	28	10388	23.62	0.9	0.009
P315	10072AV	10/07/2010 22:07	28	22936	9.58	0.8	0.010
10072AW	P156	10/07/2010 23:50	9	13263	7.18	2.8	0.020
P315	10072AW	10/07/2010 23:50	9	15637	9.36	2.6	0.019
P158	P159	10/08/2010 00:00	1439	17475	9.95	0.7	0.011
P158	P160	10/08/2010 00:00	1439	14490	10.71	0.6	0.010
P158	P161	10/08/2010 00:00	1439	25506	10.98	0.8	0.012
P158	P163	10/08/2010 00:00	1439	22934	8.75	0.6	0.010
P159	P160	10/08/2010 00:00	1439	13689	11.68	0.4	0.008
P159	P161	10/08/2010 00:00	1439	15872	17.86	0.6	0.009
P160	P161	10/08/2010 00:00	1439	11708	17.77	0.5	0.009
P162	P158	10/08/2010 00:00	1439	31803	11.25	0.7	0.011
P162	P159	10/08/2010 00:00	1439	21057	12.72	0.4	0.008
P162	P160	10/08/2010 00:00	1439	17839	13.64	0.4	0.008
P162	P161	10/08/2010 00:00	1439	6301	70.69	0.5	0.008
P162	P169	10/08/2010 00:00	1439	25331	12.87	0.4	0.008
P162	P316	10/08/2010 00:00	1439	97231	6.78	0.8	0.011
P162	P325	10/08/2010 00:00	1439	59234	15.24	0.4	0.009

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
P169	P158	10/08/2010 00:00	1439	42612	11.19	0.6	0.010
P169	P159	10/08/2010 00:00	1439	41496	10.95	0.4	0.009
P169	P160	10/08/2010 00:00	1439	30103	14.02	0.4	0.008
P169	P161	10/08/2010 00:00	1439	26874	19.51	0.5	0.009
P169	P316	10/08/2010 00:00	1439	85875	10.07	0.7	0.011
P169	P325	10/08/2010 00:00	1439	40678	14.61	0.4	0.008
P316	P158	10/08/2010 00:00	1439	126251	2.77	1.0	0.013
P316	P159	10/08/2010 00:00	1439	118258	6.63	0.8	0.011
P316	P160	10/08/2010 00:00	1439	112001	7.04	0.8	0.011
P316	P161	10/08/2010 00:00	1439	102923	7.33	0.9	0.012
P316	P325	10/08/2010 00:00	1439	48361	12.77	0.7	0.011
P325	P158	10/08/2010 00:00	1439	83175	3.35	0.7	0.010
P325	P159	10/08/2010 00:00	1439	79381	7.65	0.5	0.009
P325	P160	10/08/2010 00:00	1439	69957	8.88	0.4	0.008
P325	P161	10/08/2010 00:00	1439	63553	18.09	0.6	0.010
10072AO	P169	10/08/2010 20:58	21	19397	9.87	0.7	0.012
P162	10072AO	10/08/2010 20:58	21	6103	67.99	0.8	0.012
10072AR	P162	10/08/2010 21:38	21	5511	10.30	0.6	0.013
P161	10072AR	10/08/2010 21:38	21	799	12.93	1.6	0.005
10072AS	P160	10/08/2010 22:52	22	4768	3.97	6.2	0.007
P159	10072AS	10/08/2010 22:52	22	10513	23.09	1.9	0.012
10072AQ	P160	10/08/2010 23:23	21	2742	14.90	1.6	0.005
P159	10072AQ	10/08/2010 23:23	21	12263	4.87	0.9	0.011
P159	P157	10/09/2010 00:00	1439	28648	12.93	0.4	0.009
P159	P161	10/09/2010 00:00	1439	15872	7.97	0.7	0.010
P161	P157	10/09/2010 00:00	1439	44037	13.95	0.6	0.010
10072AP	P159	10/09/2010 00:04	20	12181	6.03	1.6	0.020
P161	10072AP	10/09/2010 00:04	20	7260	8.62	1.3	0.015
10072AT	P157	10/09/2010 17:44	61	15610	19.39	0.7	0.013
P159	10072AT	10/09/2010 17:44	61	15506	18.60	0.7	0.012
P200	P261	10/10/2010 00:00	1439	22666	12.61	0.4	0.009
10072EW	P261	10/10/2010 00:50	22	8702	11.42	0.6	0.013
P200	10072EW	10/10/2010 00:50	22	16507	13.55	0.8	0.015
P157	P163	10/13/2010 00:00	1439	21570	17.93	0.3	0.007
10072AU	P157	10/13/2010 19:50	81	9596	50.71	1.6	0.013
P163	10072AU	10/13/2010 19:50	81	15887	9.08	1.5	0.011
CIRX	VNCO	10/17/2010 00:00	1439	33268	10.61	0.6	0.009
COPR	CIRX	10/17/2010 00:00	1439	93159	10.11	0.8	0.011
COPR	CSCI	10/17/2010 00:00	1439	82075	11.16	0.8	0.011
COPR	P519	10/17/2010 00:00	1439	13075	12.49	0.8	0.011
COPR	UCLP	10/17/2010 00:00	1439	137875	13.41	0.8	0.011
COPR	WRHS	10/17/2010 00:00	1439	143105	5.53	1.1	0.012
CSCI	P519	10/17/2010 00:00	1439	78902	13.40	0.5	0.009
CSCI	P729	10/17/2010 00:00	1439	11745	26.41	0.5	0.009
CSCI	VNCO	10/17/2010 00:00	1439	21840	17.03	0.5	0.009
CSCI	UCLP	10/17/2010 00:00	1439	56174	23.15	0.5	0.009
P519	P729	10/17/2010 00:00	1439	69567	12.69	0.6	0.010
P519	UCLP	10/17/2010 00:00	1439	133535	16.37	0.6	0.010
P729	VNCO	10/17/2010 00:00	1439	13116	11.88	0.6	0.010
UCLP	CIRX	10/17/2010 00:00	1439	45941	12.17	0.6	0.009
UCLP	P729	10/17/2010 00:00	1439	64038	19.34	0.6	0.010
UCLP	VNCO	10/17/2010 00:00	1439	76864	25.38	0.6	0.010
WRHS	UCLP	10/17/2010 00:00	1439	12380	26.42	1.0	0.010
10072EB	UCLP	10/17/2010 18:25	21	7884	14.60	0.8	0.013
10072EB	WRHS	10/17/2010 18:25	21	4675	23.28	3.2	0.008
10072DY	CSCI	10/17/2010 19:45	19	3093	35.73	1.2	0.004
10072DY	P729	10/17/2010 19:45	19	9712	30.26	1.0	0.011
10072EA	CIRX	10/17/2010 20:19	22	8328	51.29	0.6	0.009
CSCI	10072EA	10/17/2010 20:19	22	11045	9.14	0.5	0.009
10072DZ	CIRX	10/17/2010 20:50	20	13979	6.17	0.6	0.010
CSCI	10072DZ	10/17/2010 20:50	20	6978	18.86	0.6	0.010
10072DX	VNCO	10/17/2010 21:45	20	11186	7.27	1.5	0.014

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
P729	10072DX	10/17/2010 21:45	20	12895	6.31	1.5	0.015
10072DW	VNCO	10/17/2010 22:21	19	3511	19.19	1.3	0.004
P729	10072DW	10/17/2010 22:21	19	12819	8.64	0.8	0.009
10072DV	COPR	10/17/2010 23:25	20	3947	4.31	4.3	0.008
10072DV	P519	10/17/2010 23:25	20	9138	30.21	0.9	0.010
P067	P278	10/18/2010 00:00	1439	18459	10.20	0.4	0.008
P067	P513	10/18/2010 00:00	1439	78385	12.36	0.5	0.009
P067	P514	10/18/2010 00:00	1439	80719	6.78	0.5	0.009
P067	P523	10/18/2010 00:00	1439	30344	21.26	0.5	0.009
P067	P525	10/18/2010 00:00	1439	22538	21.34	0.5	0.009
P067	USLO	10/18/2010 00:00	1439	40896	18.86	0.7	0.010
P278	P513	10/18/2010 00:00	1439	96704	35.31	0.4	0.008
P278	P514	10/18/2010 00:00	1439	97684	18.82	0.5	0.009
P278	P525	10/18/2010 00:00	1439	39088	14.35	0.4	0.008
P278	USLO	10/18/2010 00:00	1439	57262	20.19	0.6	0.010
P513	P514	10/18/2010 00:00	1439	24778	24.24	0.5	0.009
P513	P525	10/18/2010 00:00	1439	59300	27.42	0.5	0.009
P513	USLO	10/18/2010 00:00	1439	44893	22.77	0.6	0.010
P513	P519	10/18/2010 00:00	1439	90220	19.02	0.6	0.010
P514	P525	10/18/2010 00:00	1439	58619	14.43	0.5	0.010
P514	USLO	10/18/2010 00:00	1439	40500	20.81	0.7	0.010
P523	P278	10/18/2010 00:00	1439	48665	27.30	0.4	0.009
P523	P513	10/18/2010 00:00	1439	48049	30.42	0.5	0.009
P523	P514	10/18/2010 00:00	1439	52411	17.18	0.5	0.010
P523	P525	10/18/2010 00:00	1439	14271	14.11	0.5	0.009
P523	USLO	10/18/2010 00:00	1439	18133	19.00	0.7	0.010
P525	USLO	10/18/2010 00:00	1439	18397	20.23	0.6	0.010
P519	P514	10/18/2010 00:00	1439	79423	9.36	0.6	0.010
WRHS	PVRS	10/18/2010 00:00	1439	22713	4.16	2.1	0.017
CRHS	PVRS	10/18/2010 00:00	1439	7066	8.15	1.6	0.014
CRHS	WRHS	10/18/2010 00:00	1439	20693	16.12	1.2	0.013
P513	10072DU	10/18/2010 01:04	19	5986	12.31	0.8	0.012
P514	10072DU	10/18/2010 01:04	19	20810	14.95	0.5	0.011
10072DT	P513	10/18/2010 01:46	18	20692	8.25	1.2	0.014
10072DT	P514	10/18/2010 01:46	18	18663	8.06	1.1	0.014
USLO	10072DT	10/18/2010 01:46	18	25678	9.26	0.9	0.012
10072DS	USLO	10/18/2010 14:34	20	14207	6.44	1.5	0.019
P523	10072DS	10/18/2010 14:34	20	17909	7.76	1.1	0.017
10072DR	P523	10/18/2010 15:20	22	5282	29.41	0.6	0.010
10072DR	P525	10/18/2010 15:20	22	9463	78.28	0.7	0.011
10072DQ	P067	10/18/2010 16:17	21	11050	7.60	1.0	0.012
10072DQ	P278	10/18/2010 16:17	21	12959	7.99	1.0	0.012
PVRS	10072EC	10/18/2010 21:07	20	9893	11.25	1.6	0.016
CRHS	10072EC	10/18/2010 21:07	20	3782	32.47	3.3	0.008
10072ED	PVRS	10/18/2010 21:40	19	3006	48.59	9.0	0.009
10072ED	CRHS	10/18/2010 21:40	19	4618	16.76	5.5	0.008
BKMS	TRAK	10/20/2010 00:00	1439	46757	7.29	1.9	0.017
BKMS	FVPK	10/20/2010 00:00	1439	36379	9.21	1.2	0.014
BKMS	CRHS	10/20/2010 00:00	1439	22542	6.24	1.0	0.013
TRAK	CRHS	10/20/2010 00:00	1439	49114	10.14	2.0	0.017
CRHS	FVPK	10/20/2010 00:00	1459	35986	11.62	1.3	0.014
BKMS	BLSA	10/20/2010 00:36	1403	19053	15.49	0.9	0.012
TRAK	BLSA	10/20/2010 00:36	1403	29012	13.39	2.2	0.016
BLSA	FVPK	10/20/2010 00:36	1423	17488	10.26	1.4	0.013
CRHS	BLSA	10/20/2010 00:36	1423	22755	13.39	1.0	0.013
10072EG	BLSA	10/20/2010 21:50	20	16446	22.72	0.5	0.008
BKMS	10072EG	10/20/2010 21:50	20	17463	11.62	0.7	0.008
CRHS	10072EG	10/20/2010 21:50	20	6643	42.14	0.7	0.008
10072EF	BLSA	10/20/2010 22:38	21	5164	14.36	1.5	0.015
BKMS	10072EF	10/20/2010 22:38	21	14288	11.16	1.9	0.015
CRHS	10072EF	10/20/2010 22:38	21	19454	5.91	2.7	0.018
10072EE	BLSA	10/20/2010 23:15	21	8927	21.80	0.7	0.011

From	To	UTC Start	Duration minutes	Length meters	Ratio	Variance	RMS
BKMS	10072EE	10/20/2010 23:15	21	22563	6.94	0.8	0.012
CRHS	10072EE	10/20/2010 23:15	21	16485	10.81	1.0	0.013
10072EH	BLSA	10/20/2010 23:48	21	4485	22.68	3.2	0.008
10072EH	FVPK	10/20/2010 23:48	21	13813	11.33	1.1	0.015
BKMS	10072EH	10/20/2010 23:48	11	23326	5.27	1.6	0.018
CRHS	10072EH	10/20/2010 23:48	21	23633	8.17	1.3	0.016
P473	P472	10/21/2010 00:00	1439	22547	33.74	0.4	0.008
P474	P472	10/21/2010 00:00	1439	53400	35.65	0.4	0.009
P474	P473	10/21/2010 00:00	1439	74370	40.87	0.4	0.009
P474	P475	10/21/2010 00:00	1439	76392	9.64	0.4	0.009
P474	P478	10/21/2010 00:00	1439	21160	29.73	0.4	0.009
P475	P472	10/21/2010 00:00	1439	27942	11.44	0.4	0.009
P475	P473	10/21/2010 00:00	1439	28601	13.17	0.4	0.009
P478	P472	10/21/2010 00:00	1439	38555	34.11	0.5	0.009
P478	P473	10/21/2010 00:00	1439	56827	36.81	0.5	0.009
P478	P475	10/21/2010 00:00	1439	65166	6.19	0.5	0.009
SBCC	P472	10/21/2010 00:00	1439	90077	28.86	0.7	0.011
SBCC	P473	10/21/2010 00:00	1439	112551	30.22	0.6	0.010
SBCC	P475	10/21/2010 00:00	1439	105771	28.39	0.7	0.011
FVPK	P473	10/21/2010 00:20	1419	138061	13.32	0.6	0.010
FVPK	P475	10/21/2010 00:20	1419	127920	14.70	0.7	0.011
10072EI	TRAK	10/21/2010 00:27	19	20816	16.36	0.9	0.011
P474	10072EI	10/21/2010 00:27	19	79972	7.32	0.7	0.010
P474	CRHS	10/21/2010 00:28	1411	108326	12.74	0.6	0.010
TRAK	CRHS	10/21/2010 00:28	1411	49114	10.43	1.2	0.013
CRHS	P478	10/21/2010 00:28	1411	129228	13.19	0.7	0.010
CRHS	SBCC	10/21/2010 00:28	1411	64129	9.74	0.9	0.012
CRHS	FVPK	10/21/2010 00:28	1411	35986	13.08	0.8	0.011
10072EJ	TRAK	10/21/2010 01:07	19	13487	9.27	0.9	0.014
10072EJ	FVPK	10/21/2010 01:07	19	3016	14.19	1.4	0.006
10072EL	TRAK	10/21/2010 13:54	22	8080	16.32	1.9	0.019
10072EL	FVPK	10/21/2010 13:54	22	6631	22.11	1.9	0.019
SBCC	10072EL	10/21/2010 13:54	22	22377	3.35	1.7	0.018
10072EK	TRAK	10/21/2010 14:50	25	6742	55.98	0.8	0.013
10072EK	FVPK	10/21/2010 14:50	25	9249	28.32	0.6	0.011
SBCC	10072EK	10/21/2010 14:50	25	20939	5.20	0.8	0.012
10072EM	P478	10/21/2010 16:16	22	28161	14.06	1.0	0.013
P474	10072EM	10/21/2010 16:16	22	14640	12.66	1.1	0.014
10072EN	P478	10/21/2010 16:53	23	26599	8.76	0.7	0.010
P474	10072EN	10/21/2010 16:53	23	21606	10.95	0.5	0.008
10072EO	P478	10/21/2010 17:29	23	23455	14.75	0.8	0.012
P474	10072EO	10/21/2010 17:29	23	23097	10.40	0.5	0.011
10072EP	P472	10/21/2010 18:08	24	26801	15.12	0.8	0.013
10072EP	P478	10/21/2010 18:08	24	24505	9.15	0.6	0.012
P474	10072EP	10/21/2010 18:08	24	29652	16.12	0.6	0.012
P472	10072EQ	10/21/2010 18:52	24	18651	21.08	1.0	0.013
P478	10072EQ	10/21/2010 18:52	24	27986	14.48	0.9	0.013
P472	10072ER	10/21/2010 19:27	24	15167	6.09	1.3	0.012
P478	10072ER	10/21/2010 19:27	24	32432	6.92	1.4	0.013
P473	10072EV	10/21/2010 20:54	23	21415	14.51	0.7	0.011
P475	10072EV	10/21/2010 20:54	23	17311	15.16	0.5	0.010
P473	10072EU	10/21/2010 21:30	20	16095	11.78	0.7	0.012
P475	10072EU	10/21/2010 21:30	20	14615	10.92	0.8	0.012
P473	10072ET	10/21/2010 22:12	21	17061	8.79	0.7	0.009
P475	10072ET	10/21/2010 22:12	21	11540	9.04	0.8	0.010
10072ES	P473	10/21/2010 22:52	23	23291	21.11	0.7	0.010
10072ES	P475	10/21/2010 22:52	23	10861	17.39	0.8	0.013
P472	10072ES	10/21/2010 22:52	23	17118	22.36	0.6	0.010

In general, there are several indicators of baseline quality. For integer bias fixed solutions, the ratio should be larger than 3.0, the rms should be below 0.02, and the

variance should be near unity. Several of the baselines had higher than normal statistics, but these were generally on the longer lines between CORS. If necessary, manual re-processing was attempted on these lines, raising the elevation mask to 18° or deleting noisy satellite(s). The remaining baselines with substandard results to new stations were generally validated by adding additional lines to other CORS.

LEAST SQUARES ADJUSTMENTS

The data was adjusted using GEOLAB, a least squares adjustment program from Microsearch Corp. The processed baselines were parsed to form an input file. No scaling of the apriori baseline statistics was done. Station errors (HI and centering) of 0.005 m were also included. The ADS40 and LiDAR networks were adjusted separately, although the procedures and constraints were the same. The reference frame used for the adjustments was the SOPAC computed ITRF 2005 at epoch 2009.0.

The LiDAR minimally constrained adjustment held the CORS station **P172**, located about 42 km south of Monterey, fixed in all three dimensions (latitude, longitude, and ellipsoidal height). The estimated variance factor was 0.53. This adjustment was used to check the internal accuracy of the network, as well as to verify the consistency of the published coordinates for the 91 CORS used. The graph below in figure 5 shows the horizontal and vertical misclosures at each of the CORS versus the distance from the constrained point (**P172**). The negative distance values correspond to stations south of **P172**, while the positive distance represent stations north of **P172**:

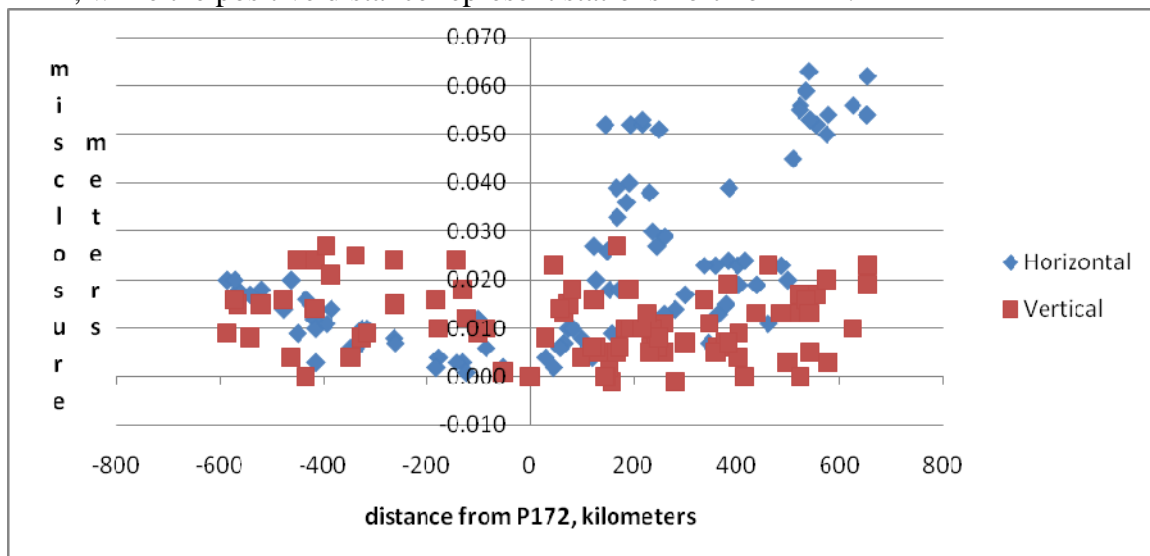


Figure 5 – misclosures at CORS, LiDAR network (horizontal distance, ellipsoidal height)

As can be seen, the horizontal misclosures to the north are somewhat higher than the values to the south. This may be due to the fact that far northern California is on the North American Plate, while the remainder, including **P171**, is on the Pacific Plate or close to the boundary. All of the vertical misclosures are between 0.000 m and +0.030 m, showing a positive bias.

A similar minimally constrained adjustment was also performed of the ADS40 network. The estimated variance factor was 0.84. The graph below in figure 6 shows the horizontal and vertical misclosures at each of the CORS versus the distance from the constrained point (**P172**) for this adjustment. The negative distance values correspond to stations south of **P172**, while the positive distance represent stations north of **P172**. The same trend north of P172 can be seen in this adjustment that was seen in the LiDAR network free adjustment:

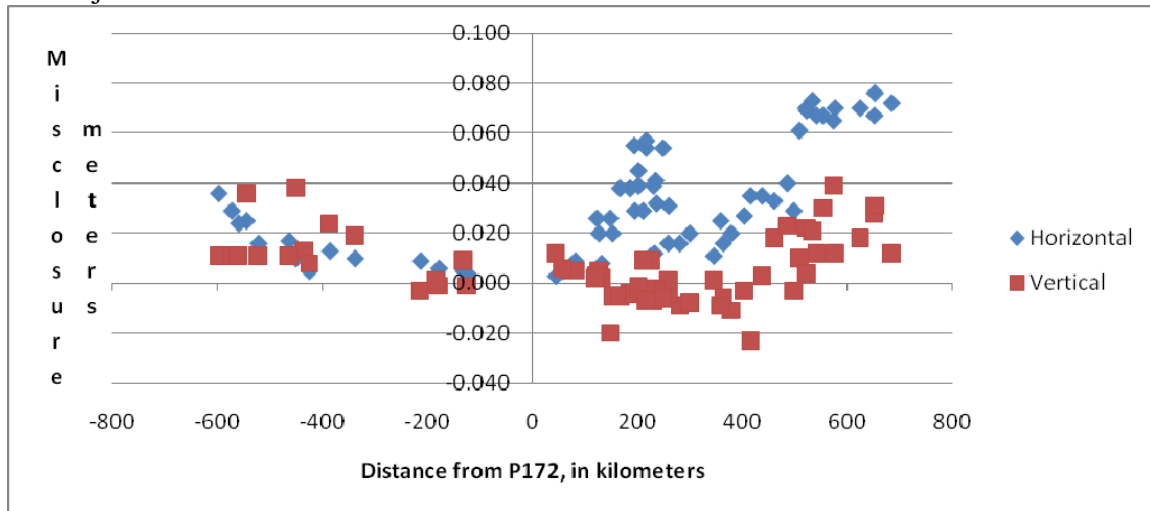


Figure 6 – Misclosures at CORS, ADS40 network

The ADS40 and LiDAR final adjustments constrained all of the CORS to their CSRC 2009.0 values (latitude, longitude, and ellipsoidal height). The estimated variance factor was 2.13 for the ADS40 network and 2.31 for the LiDAR network. Because of the multitude of constrained CORS in the two adjustments, there is no difference in the final results between adjusting the networks separately or together. These adjustments provided the final adjusted ITRF 2005 epoch 2009.0 coordinates for the networks. The results of these adjustments indicate a network accuracy of 3 cm or better. The table below shows the 2-D and 1-D Station Confidence Regions (95.000 percent, in meters) for the stations in the LiDAR network:

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
10070AA	0.023	84	0.023	0.021
10070AB	0.018	2	0.018	0.016
10070AC	0.023	46	0.023	0.021
10070AD	0.025	23	0.025	0.021
10070AE	0.019	178	0.018	0.019
10070AF	0.017	147	0.015	0.015
10070AG	0.018	22	0.018	0.015
10070AH	0.015	142	0.015	0.016
10070AI	0.026	27	0.025	0.021
10070AJ	0.026	4	0.026	0.024
10070AK	0.026	153	0.026	0.024
10070AL	0.022	151	0.019	0.026
10070AM	0.026	20	0.025	0.021
10070AN	0.026	16	0.026	0.022
10070AO	0.018	37	0.018	0.015
10070AP	0.019	1	0.018	0.016
10070AQ	0.018	11	0.018	0.016

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
10070AR	0.015	28	0.015	0.013
10070AS	0.018	131	0.018	0.016
10070AT	0.019	1	0.018	0.016
10070AU	0.020	18	0.018	0.017
10070AV	0.026	12	0.026	0.023
10070AW	0.019	165	0.018	0.017
10070AX	0.015	11	0.015	0.013
10070AY	0.018	21	0.018	0.016
10070AZ	0.015	172	0.015	0.013
10070BA	0.015	9	0.015	0.014
10070CA	0.020	19	0.019	0.019
10070CB	0.015	92	0.015	0.014
10070CC	0.018	16	0.018	0.015
10070CD	0.026	26	0.026	0.022
10070CE	0.018	177	0.018	0.017
10070CF	0.019	30	0.018	0.017
10070CG	0.020	21	0.019	0.019
10070CH	0.025	26	0.025	0.021
10070CI	0.026	31	0.026	0.024
10070CJ	0.015	60	0.015	0.012
10070CK	0.018	26	0.018	0.016
10070CL	0.018	173	0.018	0.017
10070CM	0.018	11	0.018	0.015
10070CN	0.026	9	0.026	0.022
10070CO	0.018	171	0.018	0.016
10070CP	0.019	17	0.018	0.018
10070CQ	0.019	22	0.018	0.017
10070CR	0.025	95	0.025	0.021
10070CS	0.019	20	0.018	0.016
10070CT	0.019	42	0.018	0.019
10070CU	0.026	172	0.026	0.025
10070CV	0.026	6	0.025	0.021
10070CW	0.020	14	0.018	0.016
10070CX	0.025	19	0.025	0.020
10070CY	0.025	0	0.025	0.021
10070CZ	0.026	0	0.026	0.022
10070DA	0.018	16	0.018	0.016
10070DB	0.019	176	0.018	0.018
10070DC	0.018	178	0.018	0.016
10070DD	0.019	14	0.018	0.020
10070DE	0.018	176	0.018	0.018
10070DF	0.026	51	0.026	0.024
10070DG	0.025	18	0.025	0.021
10070DH	0.018	48	0.018	0.017
10070DI	0.020	171	0.019	0.022
10070DJ	0.019	172	0.018	0.018
10070DK	0.015	172	0.015	0.015
10070DL	0.025	12	0.025	0.021
10070DM	0.025	17	0.025	0.021
10070DN	0.019	18	0.018	0.017

The next table displays the 2-D and 1-D Station Confidence Regions (95.000 percent, in meters) for the stations in the ADS40 network:

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
10072AA	0.019	7	0.019	0.017
10072AB	0.019	175	0.019	0.018
10072AC	0.019	17	0.019	0.017
10072AD	0.027	125	0.027	0.027
10072AE	0.028	41	0.027	0.024
10072AF	0.026	17	0.026	0.022

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
10072AG	0.027	30	0.027	0.026
10072AH	0.027	0	0.027	0.023
10072AI	0.027	169	0.026	0.023
10072AJ	0.020	15	0.019	0.016
10072AK	0.027	18	0.026	0.022
10072AL	0.019	164	0.019	0.016
10072AM	0.016	21	0.015	0.014
10072AN	0.016	2	0.015	0.013
10072AO	0.019	94	0.019	0.016
10072AP	0.020	136	0.019	0.018
10072AQ	0.019	29	0.019	0.016
10072AR	0.019	23	0.019	0.015
10072AS	0.020	39	0.019	0.020
10072AT	0.019	1	0.019	0.015
10072AU	0.019	170	0.019	0.018
10072AV	0.020	20	0.019	0.017
10072AW	0.021	118	0.021	0.029
10072AX	0.016	26	0.015	0.014
10072AY	0.019	13	0.019	0.016
10072AZ	0.020	148	0.019	0.018
10072BA	0.019	14	0.019	0.017
10072BB	0.027	163	0.027	0.023
10072BC	0.019	23	0.019	0.017
10072BD	0.027	171	0.027	0.022
10072BE	0.019	141	0.019	0.019
10072BF	0.019	170	0.019	0.016
10072BG	0.019	28	0.019	0.016
10072BH	0.016	21	0.015	0.014
10072BI	0.019	36	0.019	0.016
10072BJ	0.019	134	0.019	0.018
10072BK	0.019	18	0.019	0.016
10072BL	0.020	16	0.019	0.016
10072BM	0.020	7	0.019	0.017
10072BN	0.016	162	0.015	0.014
10072BO	0.027	173	0.027	0.023
10072BP	0.019	21	0.019	0.017
10072BQ	0.016	18	0.015	0.014
10072BR	0.019	169	0.019	0.019
10072BS	0.027	13	0.026	0.022
10072BT	0.016	92	0.015	0.013
10072BU	0.019	4	0.019	0.016
10072BV	0.020	22	0.019	0.019
10072BW	0.019	131	0.019	0.018
10072BX	0.020	28	0.019	0.018
10072BY	0.016	142	0.015	0.014
10072BZ	0.016	25	0.015	0.015
10072CA	0.016	19	0.015	0.014
10072CB	0.027	39	0.027	0.029
10072CC	0.021	22	0.019	0.018
10072CD	0.020	9	0.019	0.017
10072CE	0.019	176	0.019	0.017
10072CF	0.027	20	0.027	0.023
10072CG	0.026	12	0.026	0.022
10072CH	0.019	170	0.019	0.017
10072CI	0.027	164	0.027	0.023
10072CJ	0.027	176	0.027	0.024
10072CK	0.026	14	0.026	0.022
10072CL	0.019	169	0.019	0.017
10072CM	0.020	19	0.019	0.019
10072CN	0.019	27	0.019	0.018
10072CO	0.027	180	0.027	0.032
10072CP	0.026	129	0.026	0.022
10072CQ	0.019	32	0.019	0.016

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
10072CR	0.020	19	0.019	0.017
10072CS	0.026	27	0.026	0.021
10072CT	0.019	20	0.019	0.016
10072CU	0.019	32	0.019	0.018
10072CV	0.016	141	0.015	0.014
10072CW	0.014	138	0.013	0.014
10072CX	0.016	153	0.015	0.013
10072CY	0.016	108	0.016	0.014
10072CZ	0.014	139	0.013	0.013
10072DA	0.014	20	0.013	0.012
10072DB	0.019	20	0.019	0.019
10072DC	0.019	31	0.019	0.017
10072DD	0.027	143	0.027	0.025
10072DE	0.019	21	0.019	0.016
10072DF	0.020	6	0.019	0.023
10072DG	0.015	20	0.015	0.013
10072DH	0.015	166	0.015	0.014
10072DI	0.019	165	0.019	0.016
10072DJ	0.016	24	0.015	0.013
10072DK	0.015	11	0.015	0.012
10072DL	0.019	32	0.019	0.017
10072DM	0.013	7	0.013	0.012
10072DN	0.016	18	0.015	0.014
10072DO	0.013	2	0.013	0.012
10072DP	0.019	179	0.019	0.017
10072DQ	0.019	10	0.019	0.017
10072DR	0.019	16	0.019	0.016
10072DS	0.020	154	0.019	0.018
10072DT	0.016	9	0.016	0.014
10072DU	0.019	11	0.019	0.016
10072DV	0.026	92	0.023	0.025
10072DW	0.019	25	0.019	0.017
10072DX	0.019	26	0.019	0.017
10072DY	0.019	166	0.019	0.017
10072DZ	0.019	141	0.019	0.016
10072EA	0.019	132	0.019	0.016
10072EB	0.019	26	0.019	0.017
10072EC	0.020	26	0.019	0.016
10072ED	0.019	26	0.019	0.016
10072EE	0.016	141	0.015	0.015
10072EF	0.016	14	0.016	0.017
10072EG	0.016	24	0.015	0.014
10072EH	0.014	139	0.013	0.013
10072EI	0.019	147	0.019	0.017
10072EJ	0.019	170	0.019	0.016
10072EK	0.015	31	0.015	0.013
10072EL	0.016	170	0.016	0.016
10072EM	0.019	4	0.019	0.017
10072EN	0.019	172	0.019	0.016
10072EO	0.019	30	0.019	0.016
10072EP	0.015	39	0.015	0.014
10072EQ	0.019	21	0.019	0.017
10072ER	0.020	164	0.019	0.019
10072ES	0.015	169	0.015	0.014
10072ET	0.019	19	0.019	0.018
10072EU	0.019	30	0.019	0.016
10072EV	0.019	24	0.019	0.016
10072EW	0.019	145	0.019	0.016

After the adjustments, HTDP version 3.0 was used to transform the ITRF 2005 epoch 2009.0 positions to NAD83 (NSRS2007) epoch 2000.0 positions. Finally, the Geoid09

model was used to compute geoidal separations for all of the stations (using the GRS80 ellipsoidal height as determined in the transformation). The geoid separations were then applied to obtain NAVD 1988 orthometric heights.

SUMMARY

67 photo control points and 127 LiDAR control points were positioned along the California Coast for use in controlling digital photography, and LiDAR. The estimated accuracy of the adjusted coordinates is ± 0.03 m with respect to the NAD 1983 (NSRS2007) epoch 2009.0 and NAVD 1988.

Adjusted Coordinates – NAD 1983 (NSRS2007) CSRS epoch 2009.0
 GRS 1980 Ellipsoidal Heights - meters
 NAVD 1988 Orthometric Heights=Ellipsoidal Height – GEOID09; meters
 UTM: Zone 10/Zone 11 - meters

Station	Latitude	Longitude	Ellip H	NAVD88	UTM10 N	UTM10 E	UTM11 N	UTM11 E
201	41°54'34.39001" N	124°08'11.53579" W	-0.424	27.539	4640358.554	405740.798	4664429.772	-92031.956
202	41°31'07.74149" N	123°59'29.72080" W	-12.716	15.711	4596827.884	417262.678	4620016.591	-83544.078
203	41°18'06.19983" N	124°02'51.44718" W	-13.654	15.567	4572781.215	412295.570	4596274.692	-90196.535
204	41°08'49.00130" N	124°05'58.36847" W	-21.376	8.325	4555652.130	407731.340	4579431.464	-95959.316
205	40°46'11.07486" N	124°04'18.09584" W	-17.524	12.705	4513749.267	409555.235	4537322.953	-97028.408
206	40°34'20.95699" N	124°14'26.25428" W	-16.791	14.439	4492040.460	394988.911	4516571.198	-113116.696
207	40°30'18.80713" N	124°09'03.82405" W	50.399	81.348	4484470.967	402472.585	4508472.616	-106136.235
208	40°12'13.20804" N	124°15'34.60008" W	527.994	559.046	4451123.590	392798.637	4475713.975	-118109.121
209	39°11'50.70256" N	123°44'47.42452" W	-21.999	9.540	4338949.979	435538.310	4360426.661	-82836.821
210	39°09'57.10856" N	123°38'44.92960" W	-13.563	17.620	4335381.483	444208.408	4356274.174	-74388.111
211	38°29'47.88781" N	122°52'40.32164" W	-12.388	19.085	4260927.163	510650.224	4277324.415	-12764.890
212	38°30'20.89984" N	122°57'40.75771" W	-11.097	20.433	4261938.324	503372.405	4278813.443	-19984.813
213	38°19'05.01402" N	122°55'13.08644" W	-26.646	5.345	4241108.339	506966.961	4257723.754	-17747.802
214	38°04'17.32072" N	122°48'11.42761" W	1.447	33.709	4213763.984	517263.989	4229678.437	-9217.967
215	37°54'38.16981" N	122°41'49.84821" W	25.754	58.387	4195939.503	526619.055	4211229.570	-1007.192
216	38°06'16.93679" N	122°33'38.08685" W	-9.240	22.720	4217523.489	538525.103	4232062.163	12307.309
217	38°14'09.84941" N	122°37'32.79174" W	-27.946	3.785	4232074.119	532750.364	4247000.241	7473.270
218	38°15'14.57759" N	122°26'29.16996" W	-24.424	7.291	4234150.426	548870.939	4248028.971	23741.186
219	38°13'24.68108" N	122°16'29.91723" W	-25.011	6.783	4230864.224	563461.788	4243791.808	38126.451
220	38°20'32.65143" N	122°16'56.62604" W	-19.419	11.924	4244050.101	562710.019	4257032.740	38232.755
221	38°05'15.73328" N	122°13'56.56438" W	-24.344	7.728	4215824.171	567315.217	4228494.743	41005.298
222	38°13'31.15739" N	122°07'48.14481" W	-22.493	9.303	4231173.102	576146.546	4243276.194	50836.201
223	38°14'34.36455" N	121°54'50.53488" W	-23.185	8.878	4233321.010	595030.638	4244197.041	69863.343
224	38°00'40.47221" N	121°50'30.88170" W	-21.874	10.340	4207695.133	601663.234	4218140.274	74834.894
225	38°00'13.50591" N	122°03'06.69988" W	-23.051	9.043	4206655.361	583240.751	4218291.658	56342.740
226	37°59'56.60248" N	122°19'48.48944" W	-24.658	7.614	4205921.976	558813.355	4219138.106	31857.879

Station	Latitude	Longitude	Ellip H	NAVD88	UTM10 N	UTM10 E	UTM11 N	UTM11 E
227	37°56'40.12837" N	122°24'41.70567" W	-23.025	9.264	4199818.245	551700.421	4213490.570	24345.823
228	37°50'41.74842" N	122°17'50.13896" W	-27.936	4.409	4188842.558	561828.703	4201854.317	33771.789
229	37°38'38.84943" N	122°04'34.38532" W	-19.840	12.570	4166732.407	581496.854	4178469.295	52026.672
230	37°34'29.08309" N	122°20'06.95259" W	-20.810	11.781	4158841.477	558697.734	4172036.475	28710.363
231	37°24'38.20201" N	121°59'10.57983" W	-27.000	5.626	4140906.615	589711.419	4152110.083	58591.295
232	37°15'16.08687" N	122°22'19.46995" W	-18.340	14.869	4123286.720	555683.862	4136649.553	23423.807
233	36°55'02.38775" N	121°43'42.29887" W	-20.508	12.723	4086456.599	613265.496	4096157.361	78694.984
234	36°40'27.46506" N	121°40'41.93804" W	-21.485	12.407	4059555.597	618100.950	4068951.447	81839.018
235	35°19'33.02853" N	120°48'14.62887" W	-26.774	8.113	3911390.943	699601.568	3915822.614	154169.769
236	35°02'50.14299" N	120°35'29.39360" W	-0.566	34.823	3880936.597	719675.538	3884185.254	172384.788
237	34°40'37.75443" N	120°32'11.56191" W	-23.909	12.121	3840003.186	725698.414	3842935.958	175948.919
238	39°33'12.12986" N	123°43'09.84263" W	-19.506	11.191	4378434.601	438193.655	4399807.597	-77536.355
239	35°15'29.10726" N	120°53'14.10685" W	9.576	44.959	3903710.493	692199.117	3908596.694	146308.008
240	33°52'25.65197" N	118°19'04.51803" W	-21.267	14.697	3758041.096	933202.004	3748943.891	378108.987
241	33°49'33.97949" N	118°03'18.36599" W	-25.044	10.567	3753888.697	957796.572	3743375.641	402363.435
242	33°40'14.98685" N	117°51'04.67207" W	-21.994	12.912	3737574.504	977546.819	3725984.264	421081.427
243	33°17'08.83872" N	117°22'19.88486" W	-14.526	19.739	3697131.119	1024362.371	3683031.990	465343.964
244	32°59'38.15931" N	117°15'36.06129" W	-3.331	31.434	3665281.267	1036609.438	3650644.386	475708.596
245	32°45'38.62772" N	117°10'17.36285" W	-26.884	8.023	3639830.786	1046332.773	3624774.956	483937.039
246	32°38'23.47746" N	117°04'30.17709" W	-8.303	26.603	3626905.477	1056138.858	3611364.854	492960.873
247	34°06'42.29943" N	119°04'52.90013" W	-32.290	3.658	3781486.083	861508.558	3776502.669	308027.082
248	34°10'34.14118" N	119°04'16.52002" W	-25.388	10.339	3788668.984	862165.881	3783626.221	309104.302
249	36°10'11.00288" N	121°41'04.85963" W	105.516	139.547	4003574.927	618295.020	4012955.332	78543.735
P002	41°59'58.59056" N	124°12'37.32899" W	-22.659	5.370	4650441.278	399758.696	4674951.959	-97313.834
P004 NEW	41°54'29.67217" N	124°11'12.60704" W	-24.603	3.641	4640269.551	401567.272	4664634.552	-96219.098
P005 NEW	41°54'23.79279" N	124°11'50.18706" W	-12.495	15.804	4640100.255	400698.955	4664526.111	-97100.895
P011 NEW	41°43'38.13863" N	124°08'54.96382" W	-19.810	8.732	4620132.389	404469.734	4644257.329	-94727.241
P021	41°02'16.76912" N	124°06'49.97308" W	57.658	87.614	4543572.051	406373.853	4567422.635	-98156.646
P030	40°17'24.33327" N	124°20'53.39379" W	-2.548	28.823	4460827.360	385407.749	4485943.894	-124855.340
P031	40°15'37.24230" N	124°21'40.65611" W	46.794	78.199	4457542.433	384241.090	4482730.883	-126248.853

Station	Latitude	Longitude	Ellip H	NAVD88	UTM10 N	UTM10 E	UTM11 N	UTM11 E
P032	40°06'35.34217" N	124°06'16.22473" W	509.927	540.724	4440530.541	405869.828	4464208.525	-105730.085
P033 NEW	40°05'44.88368" N	124°04'28.78810" W	688.520	719.273	4438943.634	408394.455	4462446.761	-103307.984
P034	40°05'32.51623" N	124°04'32.03311" W	663.606	694.369	4438563.249	408313.008	4462071.117	-103415.439
P037	39°49'55.96986" N	123°50'57.16225" W	-26.201	4.387	4409479.820	427333.951	4431641.576	-86326.305
P040	39°40'50.09530" N	123°47'26.70052" W	-12.827	17.852	4392604.723	432187.952	4414407.469	-82600.780
P051	38°57'09.69027" N	123°44'16.85558" W	-12.736	19.526	4311785.690	436051.040	4333175.477	-84127.991
P053	38°42'11.11553" N	123°26'26.67935" W	4.111	36.118	4283920.910	461676.108	4303566.753	-60297.098
P054	38°42'03.32783" N	123°25'40.58398" W	77.722	109.680	4283675.585	462788.357	4303247.757	-59199.137
P054A	38°41'53.69978" N	123°25'39.24166" W	75.461	107.430	4283378.659	462819.395	4302948.289	-59187.603
P061 NEW	38°09'40.88779" N	122°56'15.51246" W	11.643	44.058	4223720.077	505462.818	4240412.511	-20386.246
P064 NEW	37°59'49.55203" N	123°00'30.26214" W	110.439	143.647	4205493.047	499261.933	4222564.548	-27778.142
L-201	41°54'29.35166" N	124°10'24.60968" W	-22.789	5.388	4640244.451	402672.921	4664531.534	-95113.250
L-202	41°52'41.89736" N	124°08'18.89610" W	-16.467	11.614	4636891.367	405525.187	4660971.733	-92492.050
L-203	41°51'47.21218" N	124°11'10.79550" W	-23.512	4.872	4635258.470	401539.732	4659616.435	-96599.481
L-204	41°46'39.62873" N	124°10'37.74568" W	-15.560	13.015	4625761.765	402171.710	4650058.188	-96634.111
L-205	41°37'58.67141" N	124°06'54.40388" W	177.581	206.258	4609626.486	407119.568	4633546.903	-92809.305
L-206	41°34'30.33590" N	124°02'47.73321" W	-11.706	16.841	4603129.918	412748.879	4626644.909	-87624.933
L-207	41°30'34.83649" N	123°59'18.32749" W	-6.631	21.814	4595810.092	417515.145	4618979.454	-83362.297
L-208	41°27'48.50868" N	123°56'41.97639" W	-17.341	11.028	4590640.159	421083.481	4613551.793	-80149.032
L-209	41°25'25.67902" N	124°03'45.36666" W	-23.888	5.210	4586349.380	411207.780	4609942.745	-90340.953
L-210	41°17'44.65945" N	124°03'04.98768" W	-18.785	10.459	4572120.754	411972.638	4595635.522	-90565.999
L-211	41°09'35.05110" N	124°05'57.92018" W	1.462	31.144	4557072.062	407759.724	4580852.081	-95832.347
L-212	40°55'24.20517" N	124°05'10.34000" W	78.360	108.459	4530820.633	408541.970	4554496.935	-96866.229
L-213	40°48'13.05053" N	124°10'26.35408" W	-27.735	2.950	4517620.980	400972.390	4541793.625	-105361.483
L-214	40°45'54.29910" N	124°04'06.68757" W	-16.198	14.016	4513228.715	409816.382	4536783.417	-96802.603
L-215	40°43'29.20102" N	124°10'47.81845" W	-23.641	7.148	4508875.039	400351.736	4533072.601	-106585.754
L-216	40°36'50.54051" N	124°17'35.64990" W	-27.624	3.744	4496716.925	390603.457	4521558.894	-117190.624
L-217	40°33'50.68674" N	124°09'39.18726" W	-15.936	15.083	4491015.071	401726.313	4515081.418	-106435.438
L-218	40°38'37.63833" N	124°13'02.30540" W	14.226	45.335	4499927.673	397072.241	4524332.147	-110487.344
L-219	40°30'47.68792" N	124°09'33.95862" W	-1.341	29.641	4485370.776	401775.041	4509422.085	-106773.574

Station	Latitude	Longitude	Ellip H	NAVD88	UTM10 N	UTM10 E	UTM11 N	UTM11 E
L-220	40°22'50.54664" N	124°21'58.61275" W	-23.634	7.829	4470909.367	384023.110	4496143.954	-125554.475
L-221	40°10'50.54584" N	124°14'12.57111" W	221.078	252.095	4448547.602	394702.403	4473002.568	-116376.491
L-222	39°56'33.21888" N	123°57'52.93595" W	29.597	60.291	4421827.539	417583.471	4444672.599	-95260.936
L-223	39°54'19.90263" N	123°53'28.91380" W	478.719	509.287	4417652.121	423808.055	4440067.790	-89306.667
L-224	39°39'46.77860" N	123°46'04.99555" W	-14.382	16.238	4390635.802	434117.586	4412305.047	-80800.047
L-225	39°32'20.09134" N	123°44'46.57825" W	-24.565	6.274	4376849.125	435871.739	4398375.026	-79968.923
L-226	39°26'53.33063" N	123°45'04.23667" W	75.570	106.548	4366779.112	435366.231	4388320.142	-81150.406
L-227	39°21'41.67383" N	123°48'10.94799" W	44.782	76.158	4357209.803	430818.115	4379036.864	-86347.543
L-228	39°16'16.41762" N	123°41'32.57761" W	276.833	308.001	4347104.085	440274.648	4368280.399	-77547.959
L-229	39°20'17.73952" N	123°46'37.41745" W	94.913	126.233	4354602.725	433034.125	4376276.617	-84301.493
L-230	39°15'25.19769" N	123°43'40.99856" W	154.029	185.360	4345549.263	437184.786	4366928.780	-80747.312
L-231	39°09'54.57226" N	123°38'30.53805" W	-23.219	7.951	4335300.847	444553.213	4356170.443	-74048.046
L-232	39°11'54.41870" N	123°44'24.18766" W	130.122	161.630	4339059.966	436096.620	4360499.666	-82270.112
L-233	38°57'00.42951" N	123°41'26.48254" W	5.895	37.905	4311468.077	440149.700	4332585.652	-80042.425
L-234	38°46'30.97152" N	123°29'57.85533" W	-27.425	4.492	4291956.923	456619.128	4311949.912	-64832.977
L-235	38°39'05.84019" N	123°23'58.41348" W	-0.388	31.685	4278193.607	465232.376	4297595.780	-57111.908
L-236	38°31'02.47698" N	123°14'49.96840" W	19.656	51.798	4263248.090	478448.672	4281758.574	-44856.353
L-237	38°27'11.61014" N	123°03'13.66397" W	-21.903	9.937	4256104.595	495306.111	4273500.642	-28443.188
L-238	38°28'01.35691" N	123°00'32.92042" W	-25.323	6.382	4257636.582	499202.251	4274779.548	-24441.783
L-239	38°30'03.60274" N	122°59'21.43317" W	0.294	31.874	4261404.527	500934.139	4278438.739	-22460.994
L-240	38°18'58.60278" N	122°55'23.60435" W	-21.685	10.318	4240910.517	506711.725	4257542.350	-18016.246
L-241	38°18'52.69662" N	123°00'18.89101" W	107.426	139.624	4240725.704	499541.259	4257825.132	-25207.591
L-242	38°16'35.91746" N	122°53'58.99083" W	-22.860	9.198	4236514.697	508771.168	4253007.075	-16241.027
L-243	38°12'40.54140" N	122°55'26.92991" W	-29.353	2.889	4229258.064	506640.523	4245880.622	-18846.843
L-244	38°04'08.21421" N	122°58'17.71548" W	40.690	73.498	4213465.413	502492.193	4230337.917	-24026.696
L-245	38°05'29.77635" N	122°55'35.26969" W	-27.003	5.582	4215981.366	506448.243	4232600.268	-19902.378
L-246	38°02'54.67118" N	122°47'33.30087" W	-19.901	12.405	4211218.714	518198.613	4227069.781	-8447.394
L-247	37°58'14.81147" N	122°47'30.80782" W	-15.321	17.328	4202593.539	518278.666	4218430.002	-8925.993
L-248	37°55'48.95477" N	122°41'09.71360" W	-29.644	2.825	4198124.317	527591.707	4213353.685	107.648
L-249	37°58'15.83816" N	122°34'04.67994" W	-13.166	18.985	4202692.781	537946.360	4217256.669	10767.224

Station	Latitude	Longitude	Ellip H	NAVD88	UTM10 N	UTM10 E	UTM11 N	UTM11 E
L-250	38°16'33.34212" N	122°40'21.77532" W	-19.118	12.562	4236481.213	528626.753	4251679.740	3632.963
L-251	38°15'26.19614" N	122°27'16.82733" W	-22.127	9.570	4234501.621	547710.562	4248455.920	22602.901
L-252	38°21'12.54202" N	122°17'12.55600" W	-14.126	17.168	4245276.629	562313.827	4258285.662	37916.345
L-253	38°12'41.18836" N	122°15'57.17551" W	-17.678	14.138	4229529.974	564268.510	4242404.495	38846.813
L-254	38°13'02.31120" N	122°06'27.68226" W	-25.057	6.803	4230302.620	578111.481	4242277.750	52745.138
L-255	38°15'53.17312" N	121°59'26.43835" W	-19.387	12.513	4235674.169	588297.355	4246988.226	63282.384
L-256	38°09'06.65025" N	121°59'42.54675" W	-30.678	1.465	4223139.961	588041.838	4234468.697	62212.623
L-257	38°12'21.84941" N	122°00'56.56728" W	-28.773	3.257	4229137.078	586176.385	4240587.946	60736.171
L-258	38°14'33.66078" N	121°53'34.29473" W	-23.428	8.667	4233321.276	596884.185	4244076.832	71716.994
L-259	38°11'02.63953" N	121°53'21.47510" W	-20.440	11.739	4226820.804	597273.818	4237550.809	71684.413
L-260	38°04'57.46058" N	121°50'35.74052" W	-28.505	3.785	4215614.502	601446.180	4226073.749	75130.293
L-261	38°07'57.85217" N	121°52'47.81349" W	-21.052	11.182	4221135.096	598161.543	4231807.293	72203.317
L-262	38°01'51.90686" N	121°53'28.44933" W	-30.221	1.958	4209844.103	597306.896	4220571.073	70617.371
L-263	38°00'34.45545" N	121°50'22.75960" W	-19.777	12.437	4207512.155	601863.610	4217944.338	75023.441
L-264	38°01'00.01374" N	122°01'42.48978" W	-22.810	9.291	4208109.971	585279.476	4219614.748	58476.035
L-265	37°57'57.76823" N	122°04'15.74182" W	-13.358	18.744	4202454.815	581598.727	4214196.147	54428.728
L-266	37°48'30.07436" N	122°15'09.34753" W	-24.723	7.621	4184814.906	565790.896	4197569.163	37476.532
L-267	37°44'34.68492" N	122°10'29.25238" W	-21.807	10.560	4177617.909	572703.807	4189923.814	43929.475
L-268	37°41'53.20315" N	122°08'44.34392" W	-22.755	9.666	4172664.170	575316.710	4184800.037	46225.057
L-269	37°38'07.08074" N	122°07'09.72634" W	-22.661	9.831	4165716.711	577699.210	4177696.867	48162.493
L-270	37°37'56.10692" N	122°02'56.77595" W	-24.606	7.773	4165439.019	583902.258	4177021.190	54349.882
L-271	37°32'11.01780" N	122°01'43.28714" W	-23.934	8.560	4154822.173	585813.469	4166278.682	55581.483
L-272	37°30'38.87066" N	121°57'08.47216" W	-23.910	8.550	4152054.708	592589.574	4163077.018	62182.283
L-273	37°26'58.22061" N	121°53'53.96127" W	-21.781	10.664	4145309.086	597444.463	4156019.886	66607.024
L-274	37°25'01.75991" N	121°53'27.33076" W	-18.361	14.130	4141727.610	598141.024	4152393.375	67075.088
L-275	37°23'38.60831" N	121°56'10.71999" W	-26.760	5.859	4139118.741	594153.645	4150038.388	62920.539
L-276	37°24'28.55378" N	122°01'23.02544" W	-28.133	4.502	4140574.909	586458.587	4151985.842	55316.351
L-277	37°24'45.07464" N	122°07'31.61618" W	-18.120	14.512	4140995.099	577392.518	4152984.782	46273.736
L-278	37°28'15.86172" N	122°14'22.58092" W	-20.124	12.462	4147403.519	567237.736	4160045.025	36523.334
L-279	37°34'33.11769" N	122°20'26.61772" W	-20.787	11.804	4158962.418	558214.501	4172188.466	28234.568

Station	Latitude	Longitude	Ellip H	NAVD88	UTM10 N	UTM10 E	UTM11 N	UTM11 E
L-280	37°36'36.12216" N	122°24'14.86702" W	-24.950	7.667	4162715.812	552591.878	4176304.966	22848.771
L-281	37°40'14.64098" N	122°23'33.92390" W	-17.627	14.977	4169456.684	553552.094	4182988.962	24242.391
L-282	37°45'52.09628" N	122°24'35.93118" W	-10.698	21.821	4179847.004	551967.572	4193488.419	23324.925
L-283	37°27'38.78375" N	122°26'08.05221" W	-12.766	20.155	4146138.982	549916.303	4159887.079	19109.521
L-284	37°15'06.72511" N	122°22'54.00756" W	-22.875	10.376	4122992.621	554834.969	4136409.251	22555.566
L-285	36°59'29.63273" N	122°02'15.45180" W	14.667	47.975	4094369.387	585638.878	4105816.068	51561.893
L-286	36°52'58.22262" N	121°47'53.99896" W	-30.057	3.505	4082549.550	607085.638	4092639.555	72268.286
L-287	36°53'57.53960" N	121°43'51.51941" W	-23.368	9.944	4084455.171	613063.928	4094168.549	78367.219
L-288	36°50'16.96605" N	121°46'30.00656" W	-0.136	33.562	4077606.689	609228.613	4087561.124	74100.189
L-289	36°50'26.31488" N	121°43'35.34169" W	18.118	51.655	4077951.349	613551.146	4087633.706	78444.769
L-290	36°45'51.36827" N	121°39'49.09866" W	-5.497	28.093	4069555.090	619273.339	4078877.401	83639.040
L-291	36°44'23.32158" N	121°46'07.82330" W	-29.220	4.812	4066715.940	609918.340	4076625.772	74105.190
L-292	36°41'26.39845" N	121°40'47.78898" W	-20.624	13.246	4061369.659	617930.715	4070776.220	81782.545
L-293	36°37'59.81112" N	121°41'53.46229" W	-11.861	22.070	4054981.316	616387.267	4064484.409	79838.596
L-294	36°07'21.79690" N	121°38'03.03727" W	56.961	90.972	3998423.912	622910.956	4007518.105	82841.037
L-295	35°36'04.63634" N	121°06'31.30015" W	-21.251	13.417	3941373.358	671322.875	3947504.933	127734.556
L-296	35°20'29.31972" N	120°49'25.48762" W	-23.657	11.259	3913085.981	697774.057	3917627.029	152446.573
L-297	35°11'33.58584" N	120°43'05.83960" W	-17.090	18.027	3896793.657	707739.307	3900745.985	161416.818
L-298	35°05'14.84064" N	120°35'30.36546" W	-25.272	10.003	3885394.739	719543.173	3888646.528	172521.012
L-299	34°57'29.19803" N	120°37'42.60889" W	-27.854	7.837	3870966.214	716534.707	3874414.223	168647.855
L-301	34°26'36.05252" N	119°51'13.35618" W	-13.268	22.476	3815807.278	789087.621	3815010.173	237803.704
L-302	34°14'39.51845" N	119°14'00.14067" W	-19.090	16.985	3795667.852	846933.225	3791501.589	294325.978
L-303	34°10'52.37848" N	119°11'43.50773" W	-27.898	8.239	3788796.346	850692.713	3784427.590	297670.967
L-304	34°10'41.35856" N	119°04'13.39011" W	-25.488	10.233	3788894.570	862237.488	3783846.945	309188.960
L-305	34°07'14.06304" N	119°05'17.21353" W	-32.124	3.807	3782441.326	860847.586	3777493.951	307424.065
L-306	34°04'15.36311" N	119°00'52.10451" W	-30.391	5.610	3777195.583	867859.772	3771852.259	314108.141
L-307	33°59'53.04234" N	118°26'37.79995" W	-24.461	11.331	3771311.797	920928.999	3762881.258	366656.771
L-308	33°51'24.60781" N	118°16'52.92867" W	-28.932	7.001	3756313.702	936673.467	3747020.875	381466.420
L-309	33°47'04.90519" N	118°17'27.01588" W	-24.121	11.748	3748264.605	936163.674	3739032.588	380490.135
L-310	33°45'33.68030" N	118°06'43.83259" W	-32.783	2.905	3746224.276	952860.259	3736029.886	397001.774

Station	Latitude	Longitude	Ellip H	NAVD88	UTM10 N	UTM10 E	UTM11 N	UTM11 E
L-311	33°50'10.13054" N	118°03'47.30669" W	-24.510	11.115	3754967.828	956997.990	3744496.772	401630.989
L-312	33°49'57.43751" N	118°12'06.57159" W	-24.925	10.926	3753967.062	944166.816	3744247.066	388793.693
L-313	33°45'32.78570" N	118°01'46.15213" W	-26.975	8.567	3746564.213	960530.113	3735922.787	404659.632
L-314	33°41'38.63365" N	118°00'30.75857" W	-15.365	20.103	3739436.292	962822.608	3728691.750	406528.710
L-315	33°41'14.29199" N	117°55'22.18336" W	-23.789	11.453	3739074.288	970815.364	3727867.753	414466.339
L-316	33°40'19.14076" N	117°50'11.90871" W	-24.086	10.742	3737770.717	978901.225	3726101.103	422441.214
L-317	33°36'57.75781" N	117°53'25.62795" W	-29.949	5.183	3731310.011	974212.848	3719940.376	417399.245
L-318	33°16'18.97142" N	117°22'14.37634" W	-23.311	11.016	3695600.169	1024588.346	3681495.765	465480.992
L-319	33°10'46.27809" N	117°20'56.03789" W	-13.401	21.213	3685444.676	1027175.417	3671243.220	467473.355
L-320	33°09'06.86952" N	117°18'08.91493" W	1.020	35.463	3682613.055	1031679.246	3668168.423	471792.386
L-321	33°05'17.86439" N	117°16'01.97112" W	-31.035	3.424	3675726.866	1035361.882	3661107.224	475062.820
L-322	33°01'15.08088" N	117°13'43.67388" W	-16.388	18.088	3668432.523	1039367.311	3653622.272	478631.623
L-323	32°58'32.28639" N	117°13'49.29454" W	-27.798	6.847	3663400.910	1039497.642	3648609.406	478474.831
L-324	32°45'20.89839" N	117°11'47.88542" W	-27.165	7.868	3639153.572	1044002.530	3624233.104	481580.744
L-325	32°41'37.51215" N	117°07'30.73147" W	-20.029	14.948	3632630.754	1051091.673	3617344.172	488263.798
L-326	32°38'58.92332" N	117°05'21.78360" W	-30.437	4.518	3627924.053	1054730.206	3612457.370	491617.247
L-327	32°34'52.21769" N	117°05'21.74180" W	-29.366	5.778	3620310.381	1055156.167	3604860.663	491611.949
L-602	38°13'19.30031" N	122°15'52.21335" W	-18.024	13.760	4230705.609	564379.853	4243573.432	39034.629