

APPENDIX A

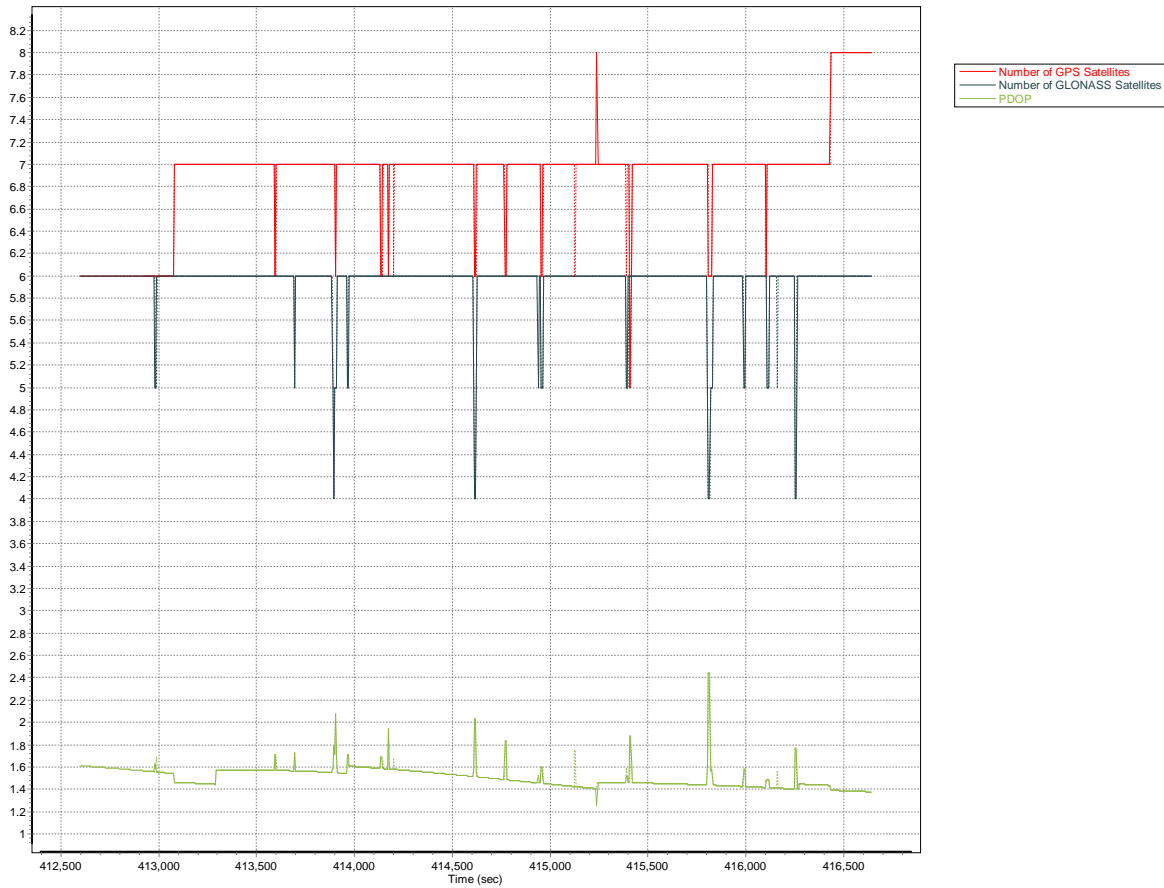
GPS / IMU PROCESSING STATISTICS AND FLIGHT LOGS

Lift GNSS Reports

There were thirty two lifts, graph reports generated from processing software are found on the following pages.

20141023A_315
20141027A_315
20141028A_315
20141029A_315
20141030A_315
20141103A_315
20141112A_315
20141113A_315
20141116A_315
20141116B_315
20141117A_315
20141119A_315
20141121A_315
20141121B_315
20141122A_315
20141123A_315
20141123B_315
20141124A_315
20141124B_315
20141124A_331
20141125A_315
20141126A_315
20141126A_331
20141127A_315
20141127A_331
20141127B_331
20141204A_331
20141205A_331
20141228A_315
20150213A_315
20150216A_315
20150217A_315

20141023A_315



Coordinate Manager

Station Information

Station ID: **H51023n_U5**

Coordinates

Latitude: **N 40 43 1.90627000**

Longitude: **W 111 53 31.30818000**

Altitude: **1.283.3060 m**

Decimal Degrees

Antenna Reference Point (ARP) coordinates Apply Changes

Antenna: **Frame**

Height: **0.000 m**

Method: **Bottom of antenna mount**

Manufacturer: **Topcon**

Type: **HiPer GD**

Offset from Measured Point to APC: **0.106 m**

Station Database

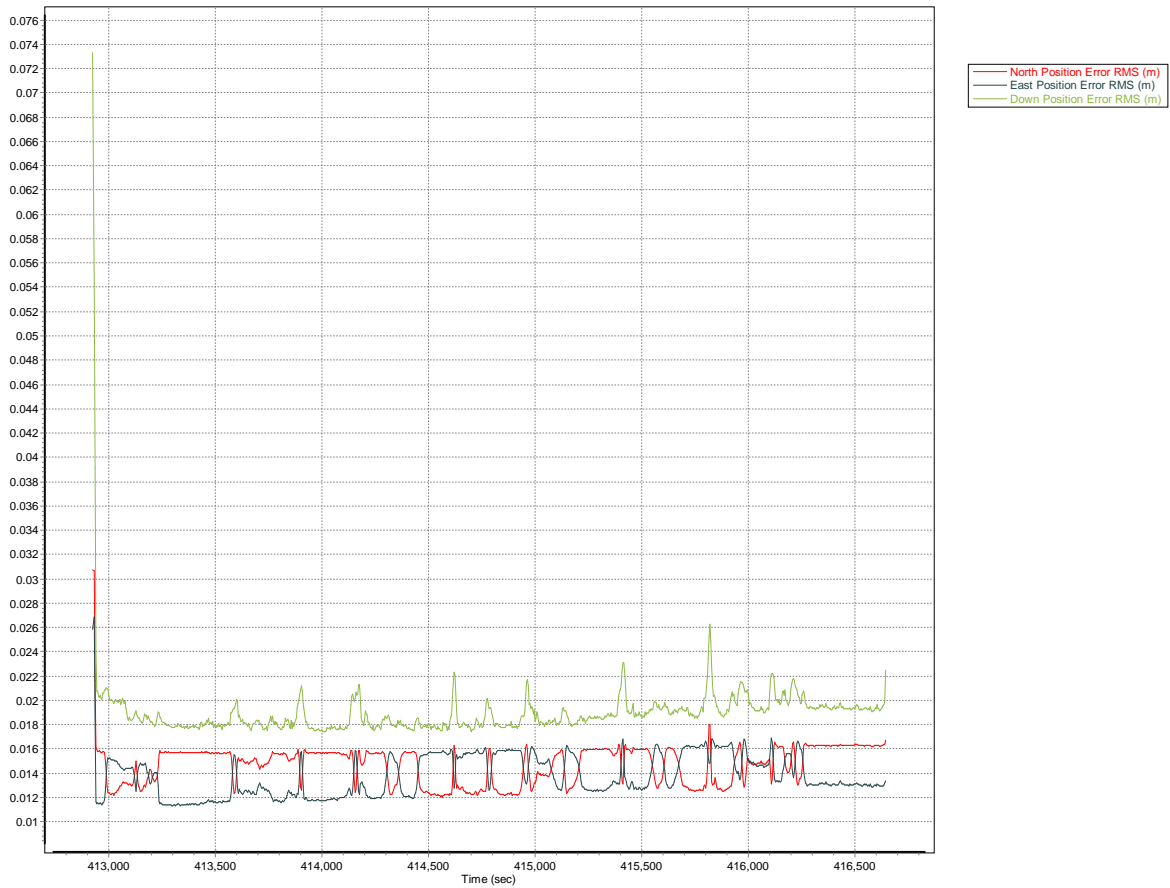
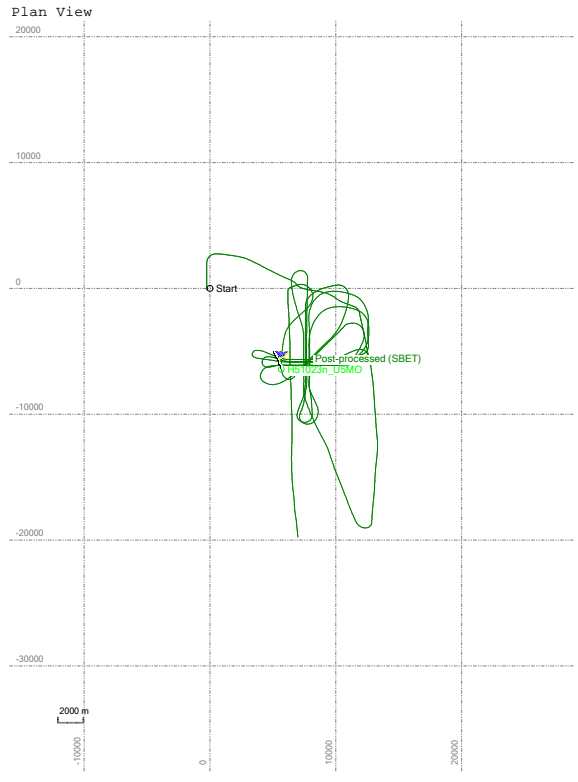
Station ID: **H51023n_U5MO** Station Fullname: **H51023n_U5MO**

Primary Service ID: Edit Coordinate Accuracy: **UNKNOWN_ACC**

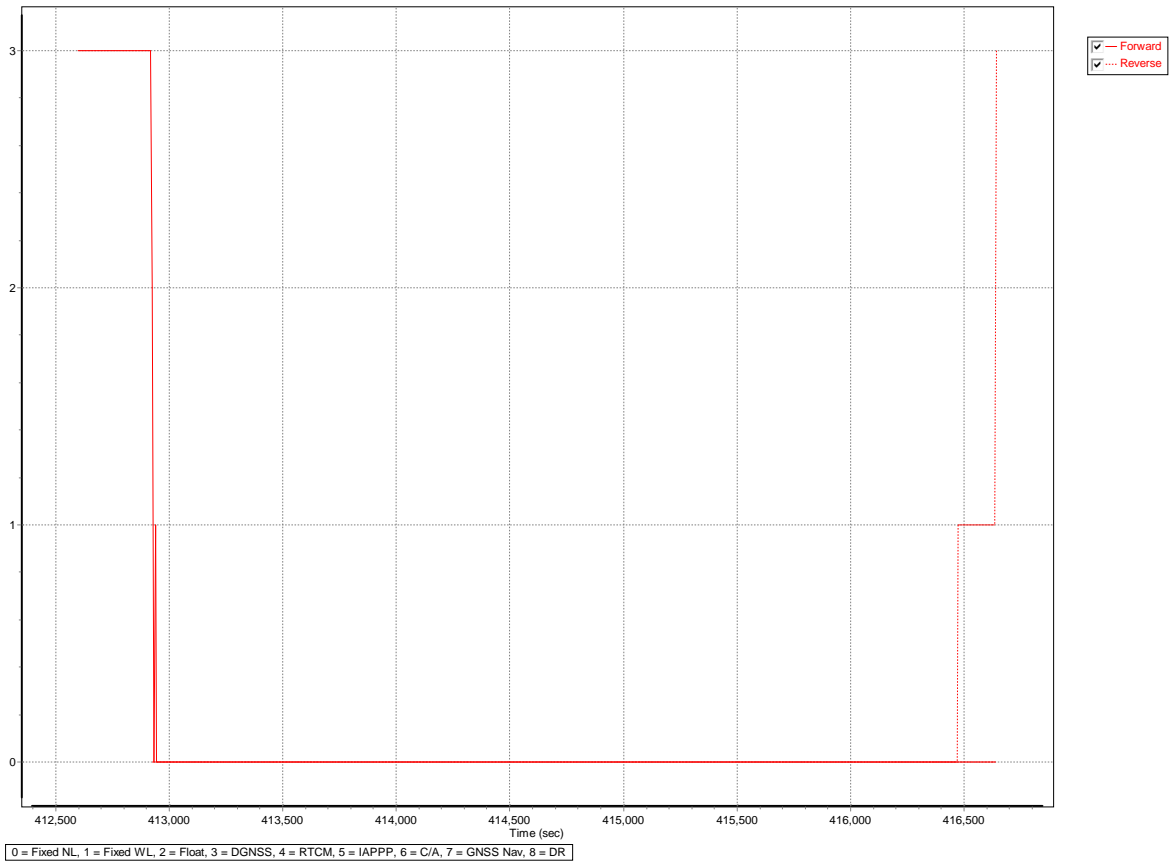
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205480556	-117.154601680556	188.002

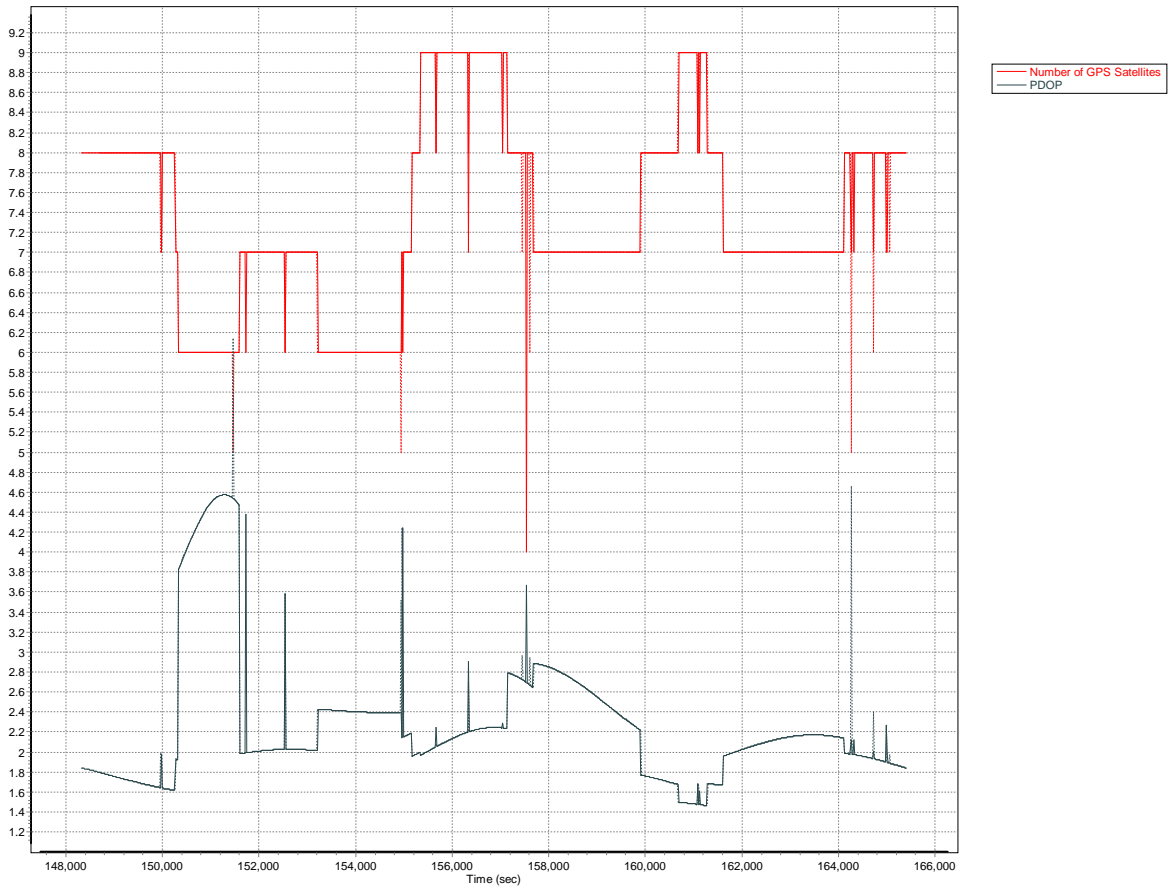
Import Coordinates Export Coordinates Close



Processing mode



20141027A_315



Coordinate Manager

Station Information

Station ID: P478

Coordinates

Latitude: N 33 14 8.56044000

Longitude: W 117 4 17.67752000

Altitude: 372.3260 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

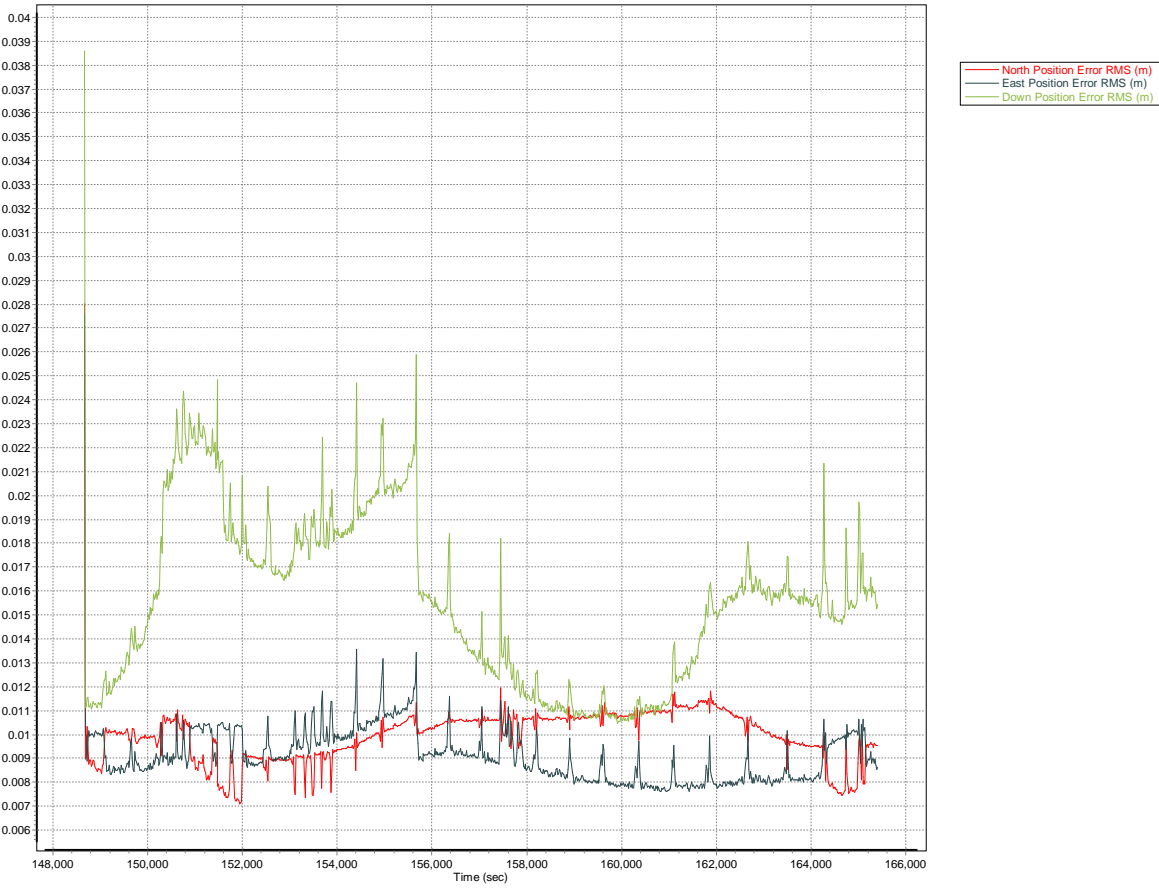
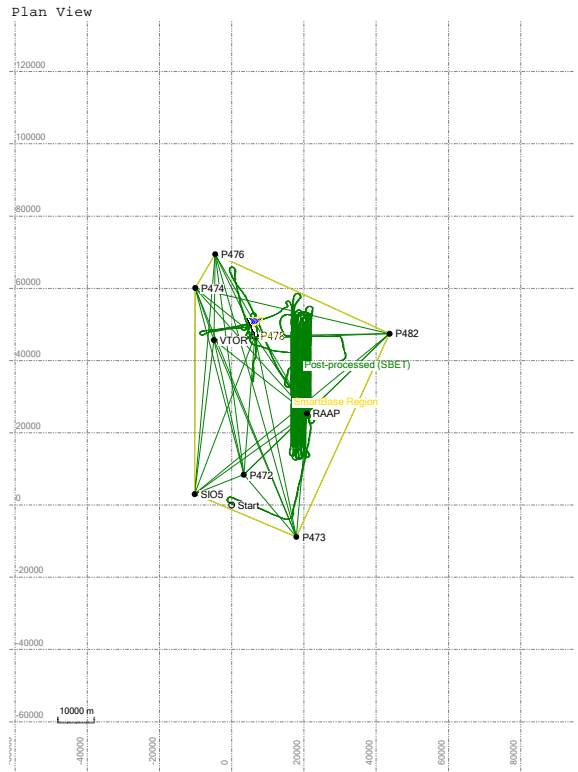
Station ID: P478 Station Fullname: P478

Primary Service ID: Edit Coordinate Accuracy: UNKNOWN_ACC

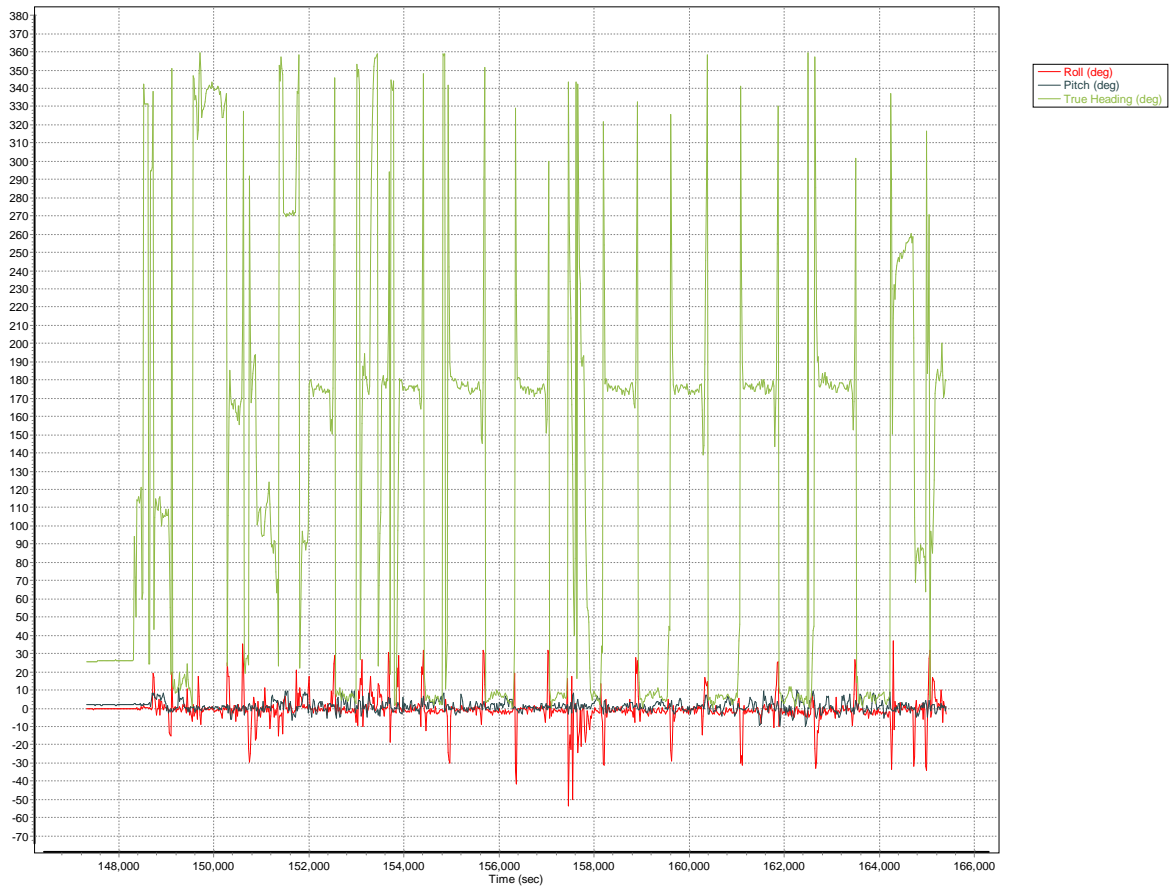
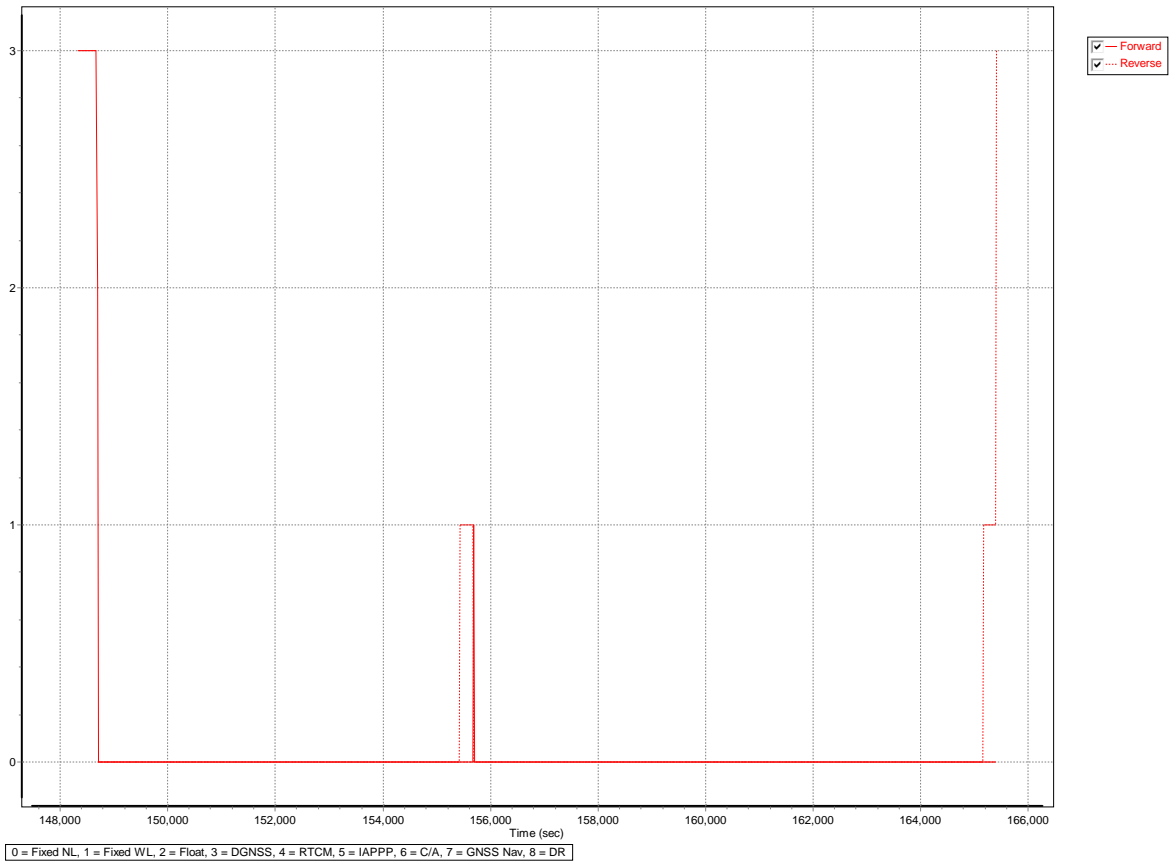
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205480556	-117.154601680556	188.002

Import Coordinates Export Coordinates Close



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	
Project Number	14185
FCMS .fpd File/Nav File	

Pilot	Manning
Technician	Leabman
Aircraft	N7269T

Date Flown	10/27/2014	
Takeoff Time (Z):	10	Local: 10AM
Landing Time (Z):	2430	Local: 4:30PM
		Airport: KMYF
		Airport: KMYF

Project Scanning Requirements	
Field of View	Ground Speed (kts): 115
Scan Rate	Hz Altitude AGL (ft): 3198
Pulse Rate Frequency	kHz MPIA or SPIA?:
Laser Output Current	%

Data Information	
LIDAR Unit	12SEN315
HD #	3
POS/IPAS File #	20141027
from → to	.158 → .184
FCMS File #	



GPS Base Location(s)	KMYF
PDOP Avoidance	
Static or Flyover?	Flyover/ Figure 8 → if flyovers, times: 10:40-10:50 PST

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	321	11:05 PST	11:09 PST		E	0	115	100 %	Cross-flight
2	312	11:13 PST	11:18 PST		S	0	115	100 %	Re-flew due to high topographic relief
3	311	11:23 PST	11:28 PST		N	0	115	100 %	
4	310				S	0	115	100 %	
5	309				N	0		100 %	
6	308				S	0		100 %	
7	307	12:15 PST	12:25 P		N	0		100 %	
8	306	12:27 PST	12:36 PST			0		100 %	
9	305	12:38 PST	12:50		N	0		100 %	Cut short due to traffic interference
10	304	12:52	13:06		S	0		100 %	
11	303	13:09	13:18		N	0		100 %	
12	302	13:21	13:31		S	0		100 %	
13	301	13:33	13:43		N	0		100 %	
14	300	13:46	13:55		S	0		100 %	
15	299	13:57	14:08		N	0		100 %	
16	298	14:12	14:23		S	0		100 %	

Additional Notes:

Mission Page ____ Of ____

Base Station Log



GNSS OBSERVATION LOG

Date 10/27/2014

Julian Date: 300

Project Number: 14185 Project Name: San Diego, California

Receiver Type: Topcon Hiper Ga Receiver S/N: 251-2224

Antenna Type: Topcon Hiper Gga Antenna S/N: 251-2224

Station ID: H3 Operator: James Leabman

Monument Type: Mag Spike

Start Time (Local / UTC): 9:45 AM PST Stop Time (Local / UTC): 4:30PM PST

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31027q.tps

Comments: Base station H6 was also set up. Data are available in H6 folder.

20141028A_315



Coordinate Manager

Station Information

Station ID: P478

Coordinates

Latitude: N 33 14 8.56044000

Longitude: W 117 4 17.67752000

Altitude: 372.3260 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P478 Station Fullname: P478

Primary Service ID: Edit

Coordinate Accuracy: UNKNOWN_ACC

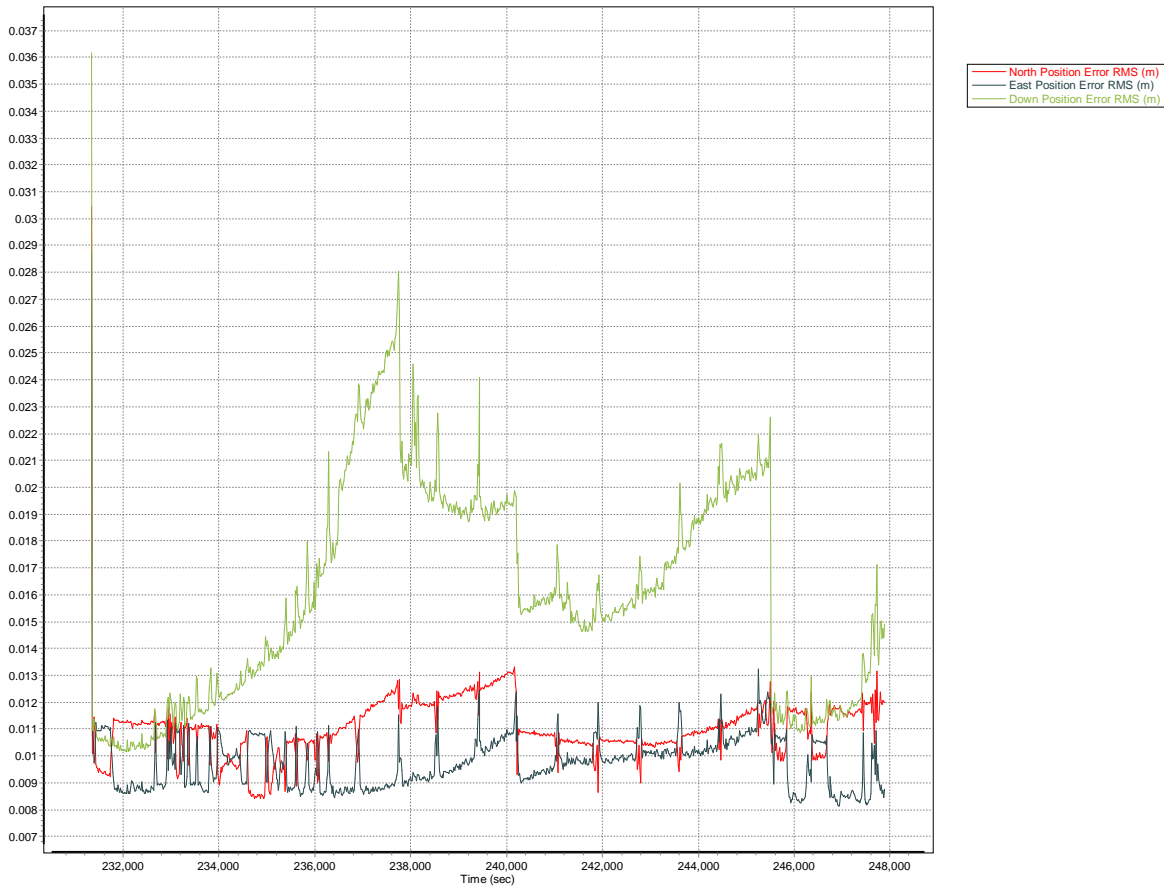
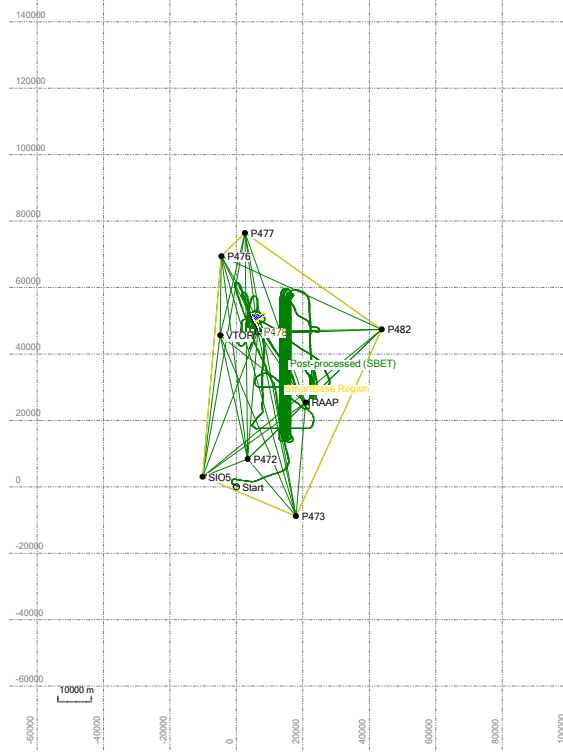
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205480556	-117.154601680556	188.002

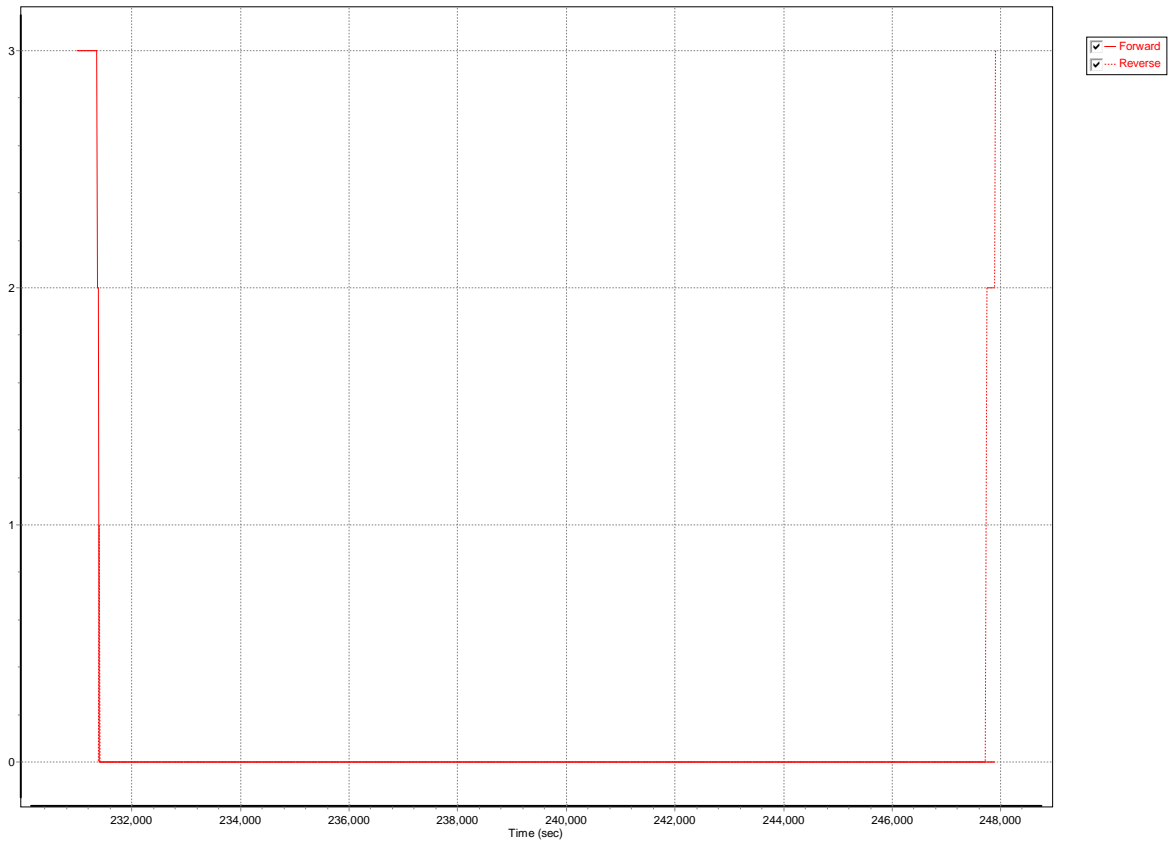
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	
Project Number	
FCMS .fpd File/Nav File	
Project Scanning Requirements	
Field of View	Ground Speed (kts):
Scan Rate	Hz Altitude AGL (ft):
Pulse Rate Frequency	kHz MPIA or SPIA?:
Laser Output Current	%

Pilot	Manning
Technician	Leabman
Aircraft	N146ZF

Date Flown	10/28/2014
Takeoff Time (Z):	Local: 9AM
Landing Time (Z):	Local: 2:45 PM

Data Information	
LIDAR Unit	
HD #	
POS/IPAS File #	
from → to	→
FCMS File #	

Weather		Ground		Airport	
Begin Temp	18				
Begin Dewpoint	13				KMYF
Begin Pressure	3002				
End Temp	24				
End Dewpoint	14				KMYF
End Pressure	2997				



GPS Base Location(s)	KMYF
PDOP Avoidance	
Static or Flyover?	→ if flyovers, times: 9:40 AM / 2:15 PM

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	320	10:11	10:16		W	0	115	100	Cross-flight
2	313	10:24	10:26		N	0	115	%	
3	314	10:28	10:30		S	0	115	%	
4	315	10:31	10:33		N	0	115	%	
5	316	10:35	10:37		S	0	115	%	
6	296	10:49	11:01		S	0	115	%	
7	295	11:03	11:14		N	0	115	%	
8	294	11:16	11:28		S	0	115	%	
9	293	11:30	11:43		N	0	115	%	
10	292	11:44	11:56		S	0	115	%	
11	291	11:58	12:10		N	0	115	<100	Dropout due to water
12	290	12:13	12:25		S	0	115	<100	Dropout due to water
13	289	12:27	12:39		N	0	115	<100	Dropout due to water
14	288	12:41	12:53		S	0	115	<100	Dropout due to water
15	287	12:55	1:07		N	0	115	%	
16	321	2:13	2:16		W	0	115	%	Cross-flight

Additional Notes:

17 323 2:26 E 0 115 Cross flight

Mission Page ____ Of ____

Base Station Log



GNSS OBSERVATION LOG

Date 10/28/2014

Julian Date: 301

Project Number: 14185 Project Name: San Diego, California
Receiver Type: Topcon Hiper Ga Receiver S/N: 251-2224
Antenna Type: Topcon Hiper Gga Antenna S/N: 251-2224
Station ID: H3 Operator: James Leabman

Monument Type: Mag Spike

Start Time (Local / UTC): 8:30 AM PST Stop Time (Local / UTC): 3:00 PM PST

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31027q.tps

Comments: Base station H6 was also set up. Data are available in H6 folder.

20141029A_315



Coordinate Manager

Station Information

Station ID: P478

Coordinates

Latitude: N 33 14 8.56044000

Longitude: W 117 4 17.67752000

Altitude: 372.3260 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P478 Station Fullname: P478

Primary Service ID: Edit

Coordinate Accuracy: UNKNOWN_ACC

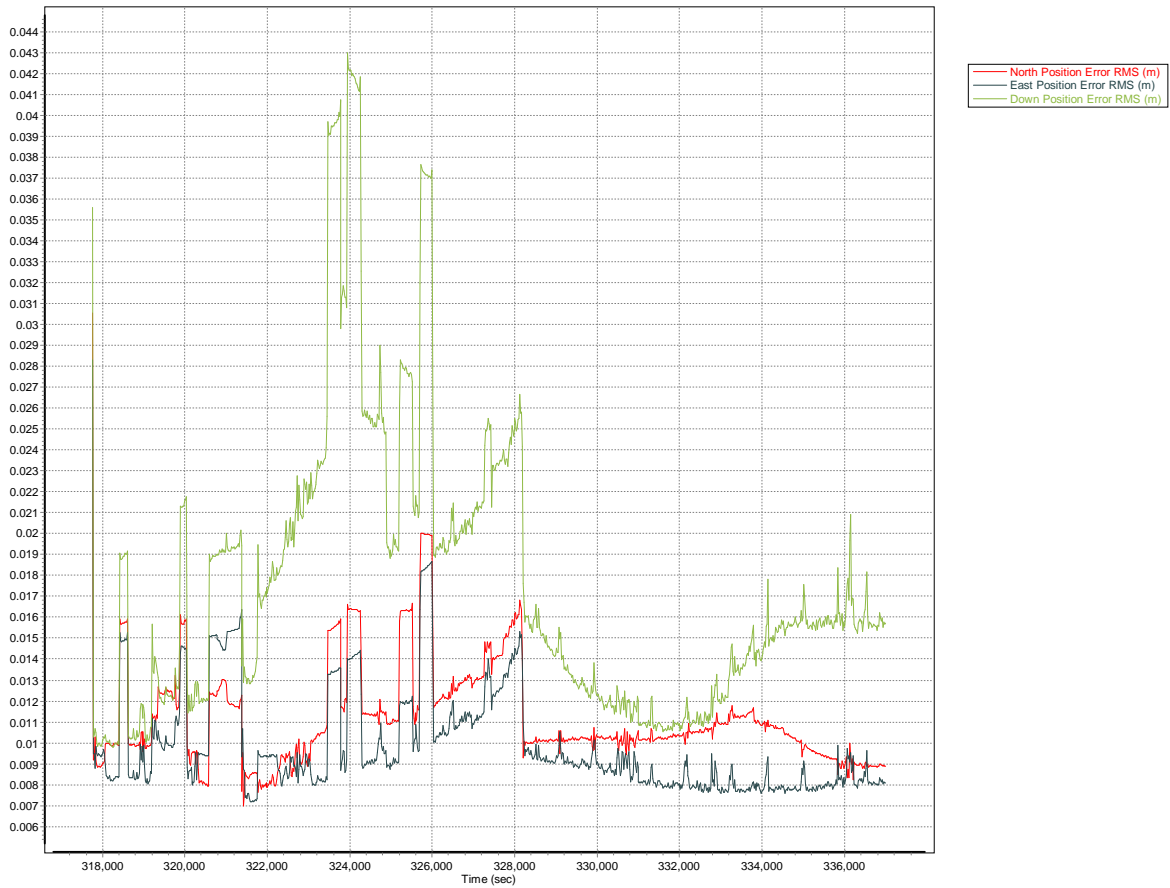
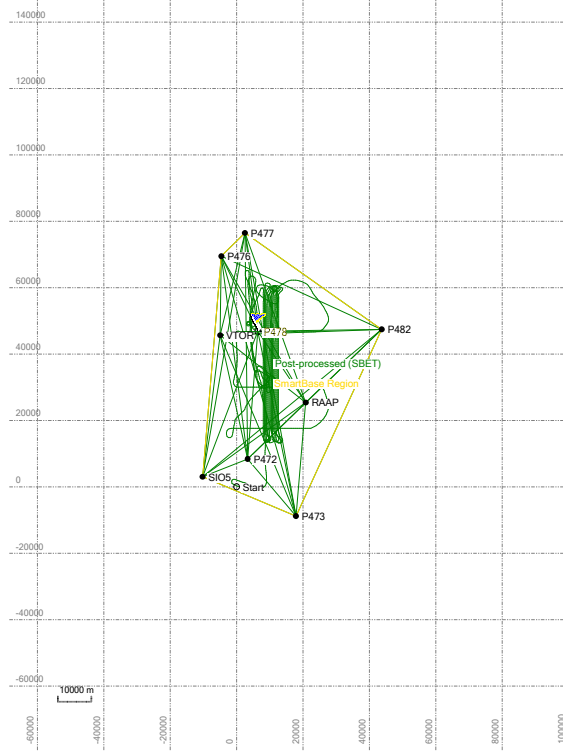
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205486111	-117.154601686111	188.002

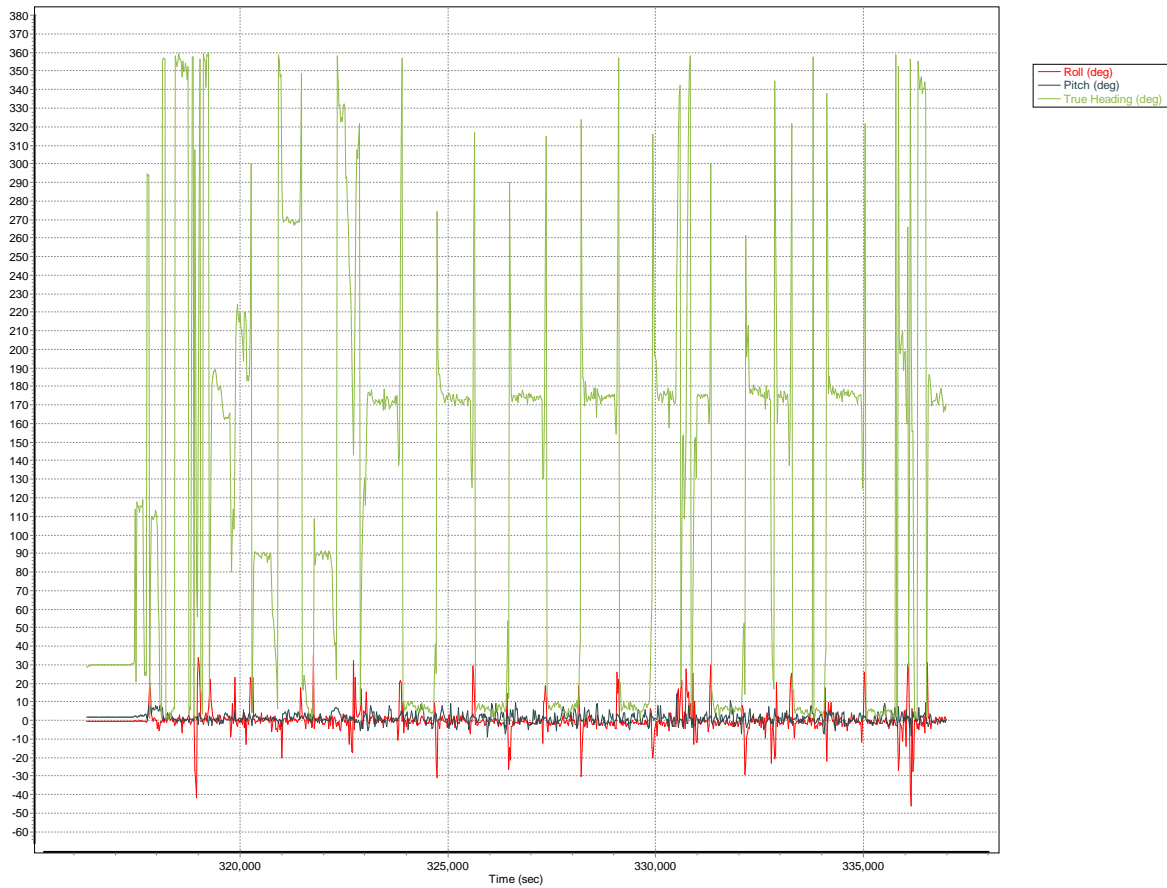
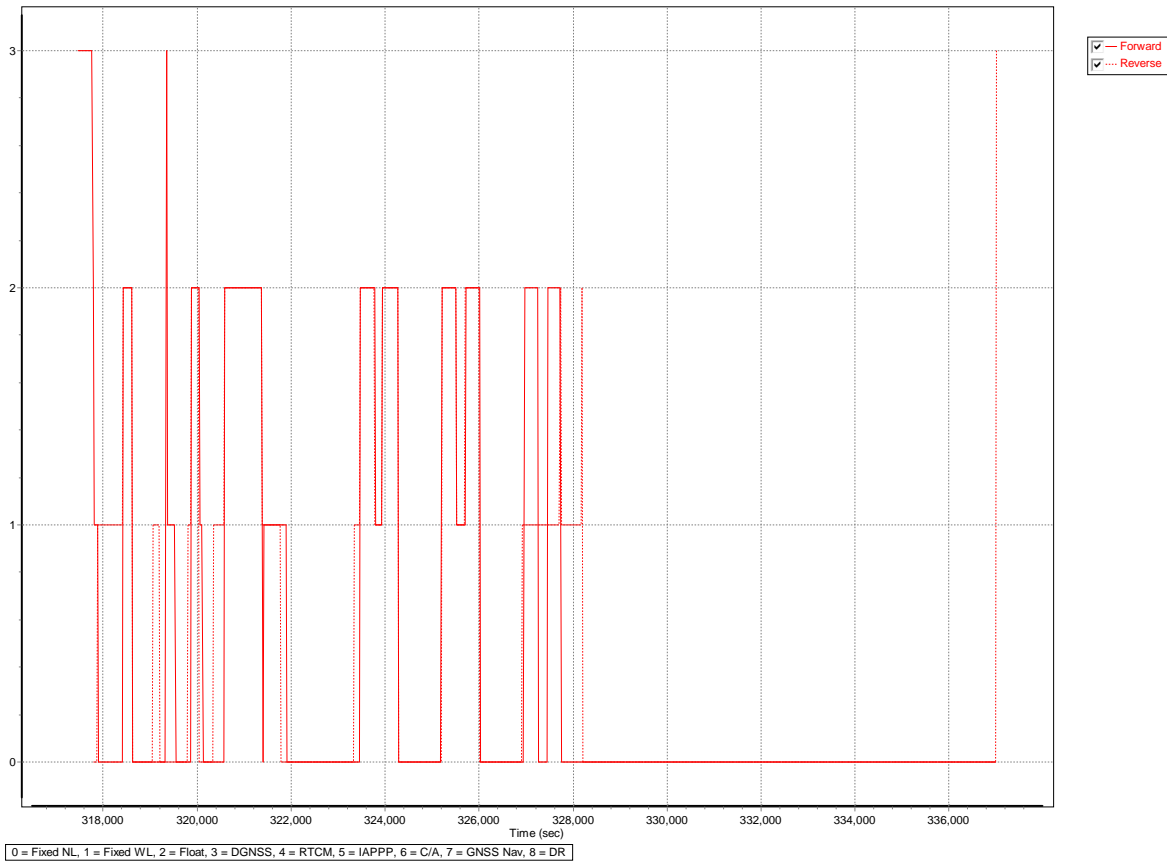
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name		
Project Number		
FCMS .fpd File/Nav File		
Project Scanning Requirements		
Field of View	Ground Speed (kts):	115
Scan Rate	Hz Altitude AGL (ft):	3198
Pulse Rate Frequency	kHz MPIA or SPIA?:	
Laser Output Current	%	

Pilot	Manning
Technician	Leabman
Aircraft	N7269T

Date Flown	10/29/2014	
Takeoff Time (Z):	Local: 9:15	Airport:
Landing Time (Z):	Local: 2:55	Airport:

Data Information	
LIDAR Unit	
HD #	3
POS/IPAS File #	20141029
from → to	,211 → ,241
FCMS File #	

Weather		Ground		Airport	
Begin Temp		21			
Begin Dewpoint		12			KMYF
Begin Pressure		3004			
End Temp		28			
End Dewpoint		09			KMYF
End Pressure		2996			



GPS Base Location(s)	
PDOP Avoidance	
Static or Flyover?	→ if flyovers, times:

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	323	9:55	10:05		E	0	115	100 %	Crossflight
2	320	10:07	10:17		W	0	115	100 %	Crossflight
3	321	10:20	10:30		E	0	115	100 %	Crossflight
4	286	10:44	10:56		S	0	115	<100 %	
5	285	10:58	11:11		N	0	115	<100 %	
6	284	11:13	11:25		S	0	115	<100 %	
7	283	11:28	11:40		N	0	115	100 %	
8	282	11:42	11:54		S	0	115	100 %	
9	281	11:56	12:08		N	0	115	100 %	
10	280	12:11	12:23		S	0	115	1000 %	
11	279	12:25	12:37		N	0	115	100 %	
12	278	12:39	13:00		S	0	115	100 %	Traffic alert- stopped line and re-initiated in middle
13	277	13:03	13:14		N	0	115	100 %	
14	276	13:16	13:33		S	0	115	100 %	Traffic advisory- stopped line and re-initiated in middle
15	275	13:35	13:48		N	0	115	100 %	
16	274	13:50	14:02		S	0	115	100 %	

Additional Notes:

17 275 14:04 14:16 N 0 115 100

Mission Page ____ Of ____

Base Station Log



GNSS OBSERVATION LOG

Date 10/29/2014

Julian Date: 302

Project Number: 14185 Project Name: San Diego, California
Receiver Type: Topcon Hiper Ga Receiver S/N: 251-2224
Antenna Type: Topcon Hiper Gga Antenna S/N: 251-2224
Station ID: H3 Operator: James Leabman

Monument Type: Mag Spike

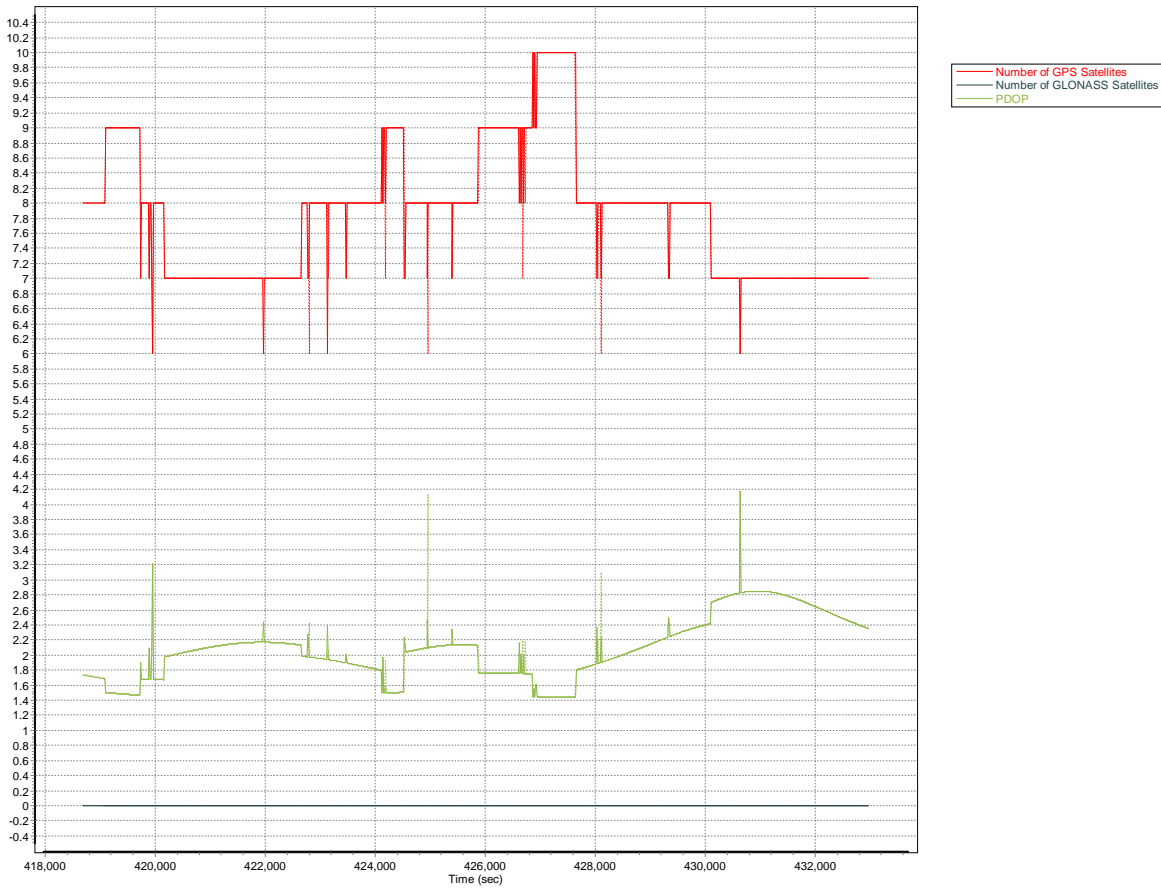
Start Time (Local / UTC): 8:30 AM PST Stop Time (Local / UTC): 3:00 PM PST

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31027q.tps

Comments: Base station H6 was also set up. Data are available in H6 folder.

20141030A_315



Coordinate Manager

Station Information

Station ID: P473

Coordinates: Latitude N 32 44 1.58057000, Longitude W 116 56 58.20691000, Altitude 189.3280 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P473, Station Fullname: P473

Primary Service ID: Edit

Secondary Service ID: Edit

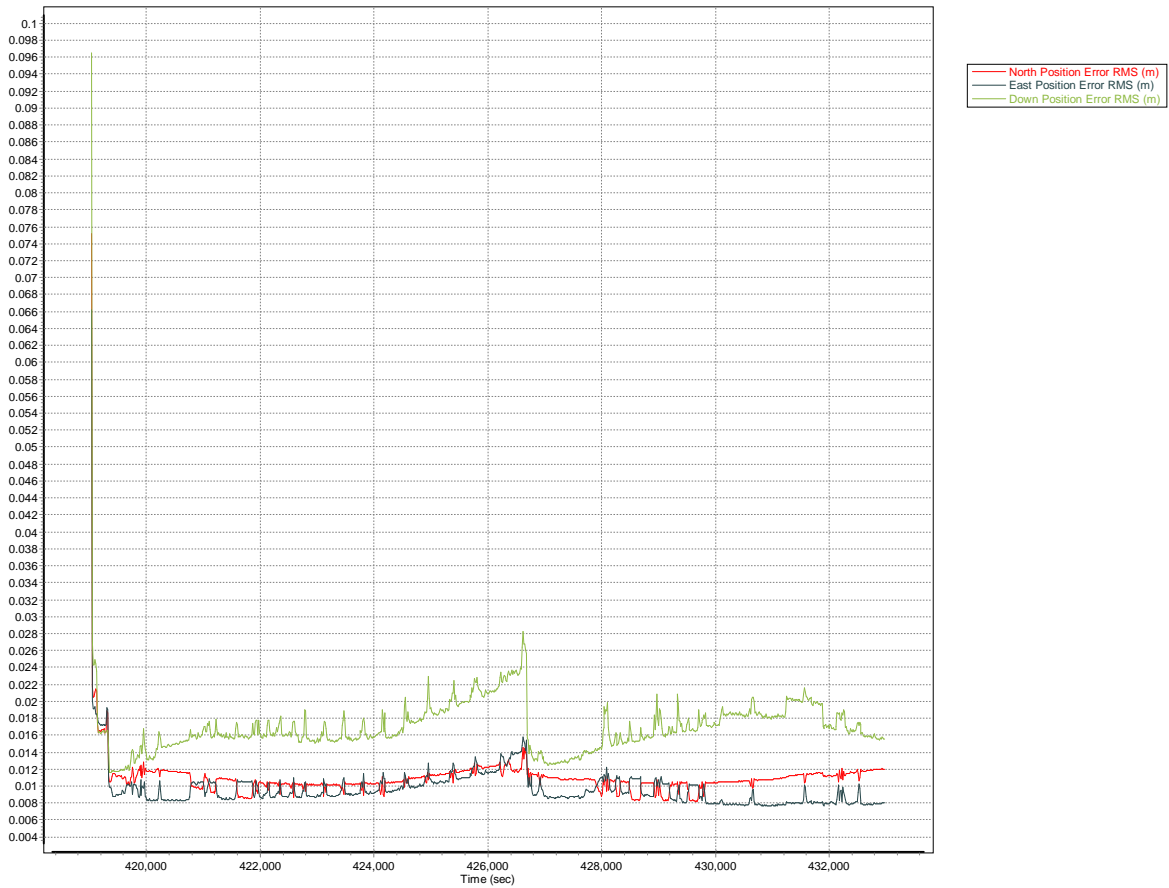
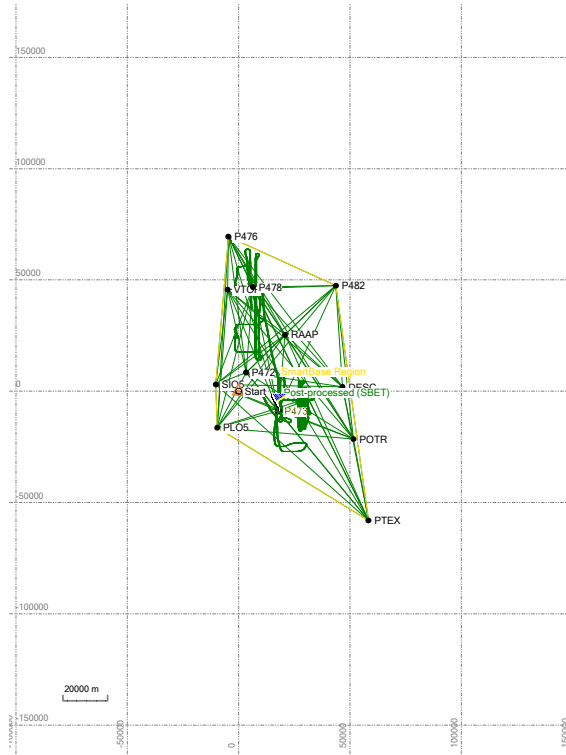
Coordinate Accuracy: UNKNOWN_ACC ▼

Add Delete Update

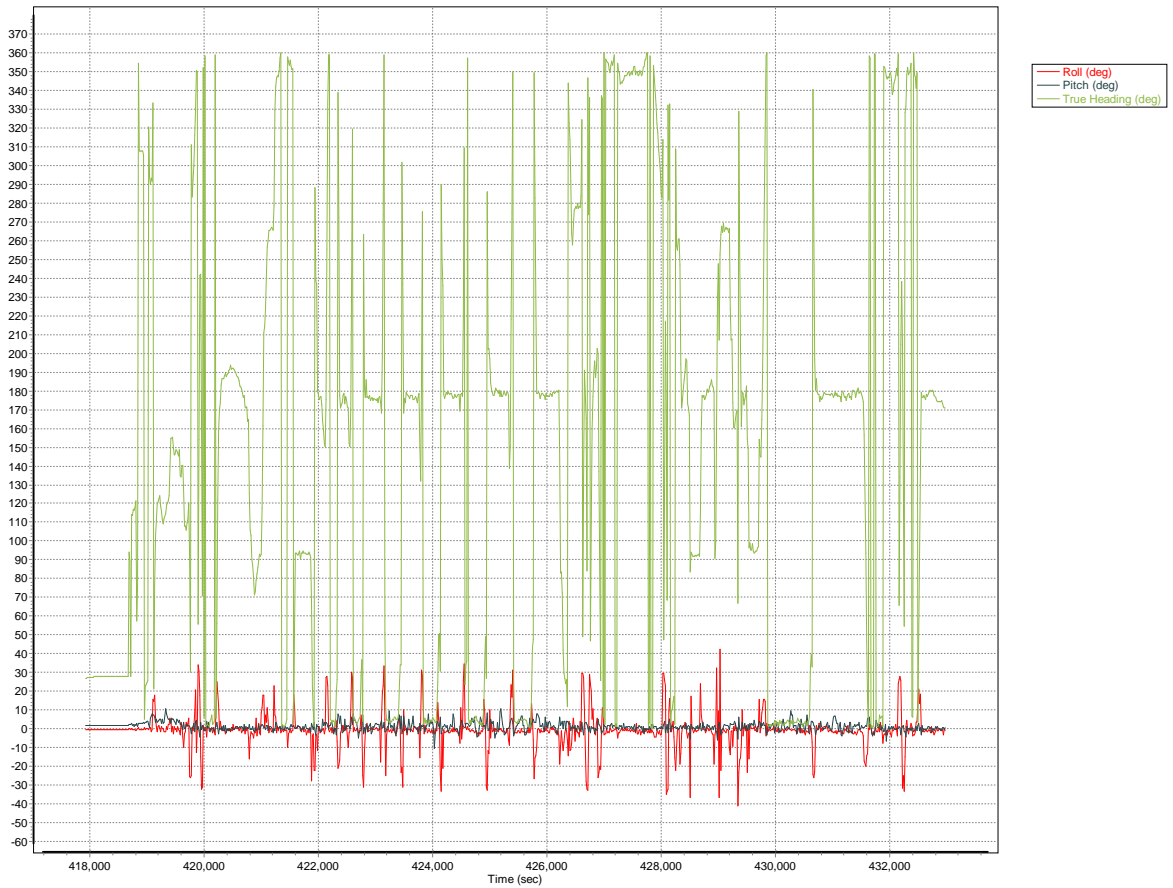
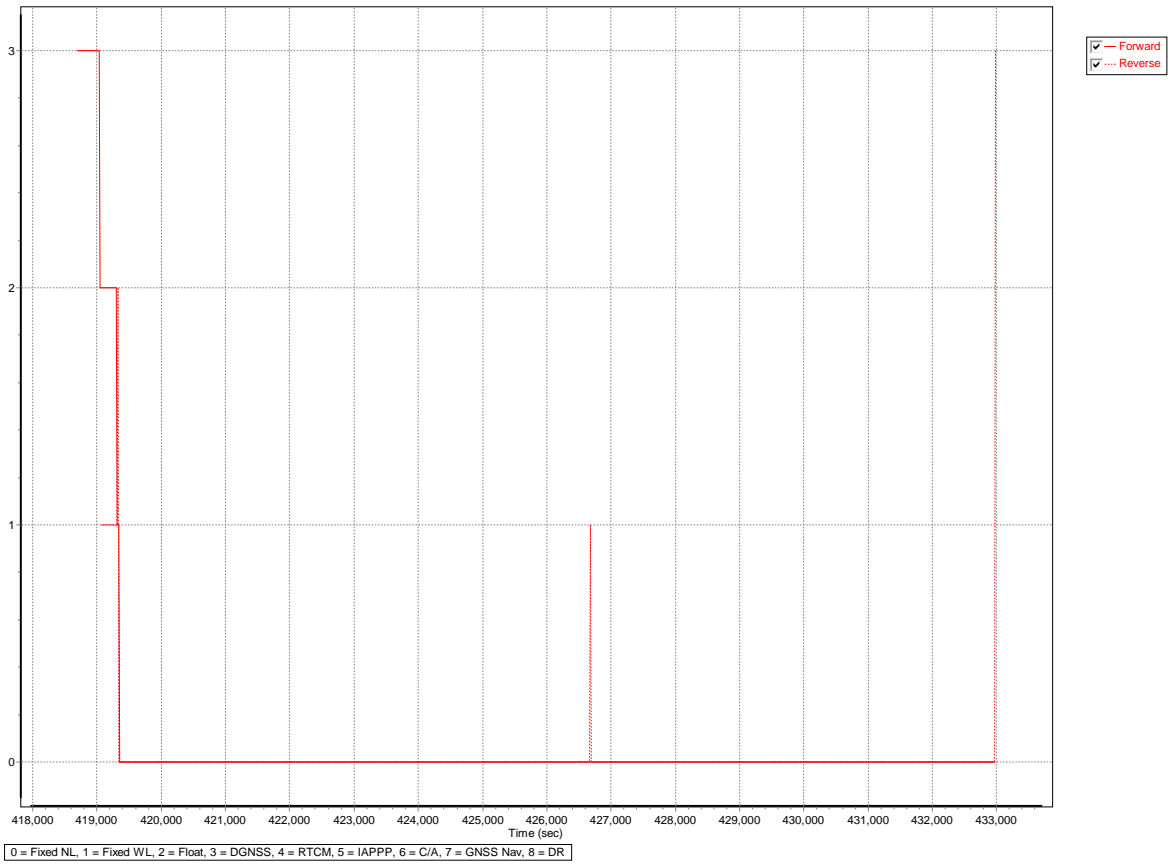
Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P473	P473	ITRF00	2014.8959	WGS84	32.880205486111	-117.184681686111	188.002

Import Coordinates Export Coordinates Close

Plan View



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name			
Project Number			
FCMS .fpd File/Nav File			
Project Scanning Requirements			
Field of View	Ground Speed (kts):		
Scan Rate	Hz Altitude AGL (ft):		
Pulse Rate Frequency	kHz MPIA or SPIA?:		
Laser Output Current	%		

Pilot	Manning	Date Flown	10/30/2014
Technician	Leabman	Takeoff Time (Z):	Local:
Aircraft	N146ZF	Landing Time (Z):	Local:
		Local:	Airport:
		Local:	Airport:

Data Information	
LIDAR Unit	
HD #	
POS/IPAS File #	
from → to	→
FCMS File #	

Weather		Ground		Airport	
Begin Temp		6			
Begin Dewpoint		7			KMYF
Begin Pressure		2997			
End Temp					
End Dewpoint					
End Pressure					



GPS Base Location(s)	
PDOP Avoidance	
Static or Flyover?	→ if flyovers, times:

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	317	13:58	14:00			0	115	%	Cross-flight
2	319	14:05	14:10			0	115	%	Cross-Flight
3	211	14:12	14:14		S	0	115	%	
4	210	14:17	14:18		N	0	115	%	
5	209	14:20	14:22		S	0	115	%	
6	208	14:23	14:25		N	0	115	%	
7	207	14:27	14:31		S	0	115	%	
8	206	14:32	14:36		N	0	115	%	
9	205	14:39	14:43		S	0	115	%	
10	204	14:44	14:47		N	0	115	%	
11	203	14:50	14:54		S	0	115	%	
12	202	14:56	15:01		N	0	115	%	
13	201	15:03	15:09		S	0	115	%	
14	200	15:11	15:15		N	0	115	%	
15	199	15:17	15:23		S	0	115	%	
16						0	115	%	

Additional Notes:

Mission Page ____ Of ____

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	
Project Number	
FCMS .fpd File/Nav File	

Pilot	
Technician	
Aircraft	

Date Flown	
Takeoff Time (Z):	Local: Airport:
Landing Time (Z):	Local: Airport:

Project Scanning Requirements	
Field of View	Ground Speed (kts):
Scan Rate	Hz Altitude AGL (ft):
Pulse Rate Frequency	kHz MP/A or SPIA?:
Laser Output Current	%

Data Information	
LIDAR Unit	
HD #	
POS/IPAS File #	
from → to	→
FCMS File #	

Weather	Ground	Airport
Begin Temp		
Begin Dewpoint		
Begin Pressure		
End Temp	22	
End Dewpoint	17	
End Pressure	2995	



GPS Base Location(s)	
PDOP Avoidance	
Static or Flyover?	→ if flyovers, times:

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
17							%	Cross-flight	
18							%	Cross-flight	
19							%	Cross-flight	
20	272	16:25	16:36		N		%	Potential cloud interference (southern extent)	
21	271	16:38			S		%		
22							%		
23							%		
							%		
							%		
							%		
							%		
							%		
							%		
							%		
							%		
							%		

Additional Notes: _____

Mission Page ____ Of ____

Base Station Log



GNSS OBSERVATION LOG

Date 10/30/2014

Julian Date:

Project Number: 14185 Project Name: San Diego, California
Receiver Type: Topcon Hiper Ga Receiver S/N: 251-2224
Antenna Type: Topcon Hiper Gga Antenna S/N: 251-2224
Station ID: H3 Operator: James Leabman

Monument Type: Mag Spike

Start Time (Local / UTC): 1:00 Stop Time (Local / UTC): 6:00

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31027q.tps

Comments: Base station H6 was also set up. Data are available in H6 folder.

20141103A_315



Coordinate Manager

Station Information

Station ID: P478

Coordinates

Latitude: N 33 14 8.56044000

Longitude: W 117 4 17.67752000

Altitude: 372.3260 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P478 Station Fullname: P478

Primary Service ID: Edit

Coordinate Accuracy: UNKNOWN_ACC

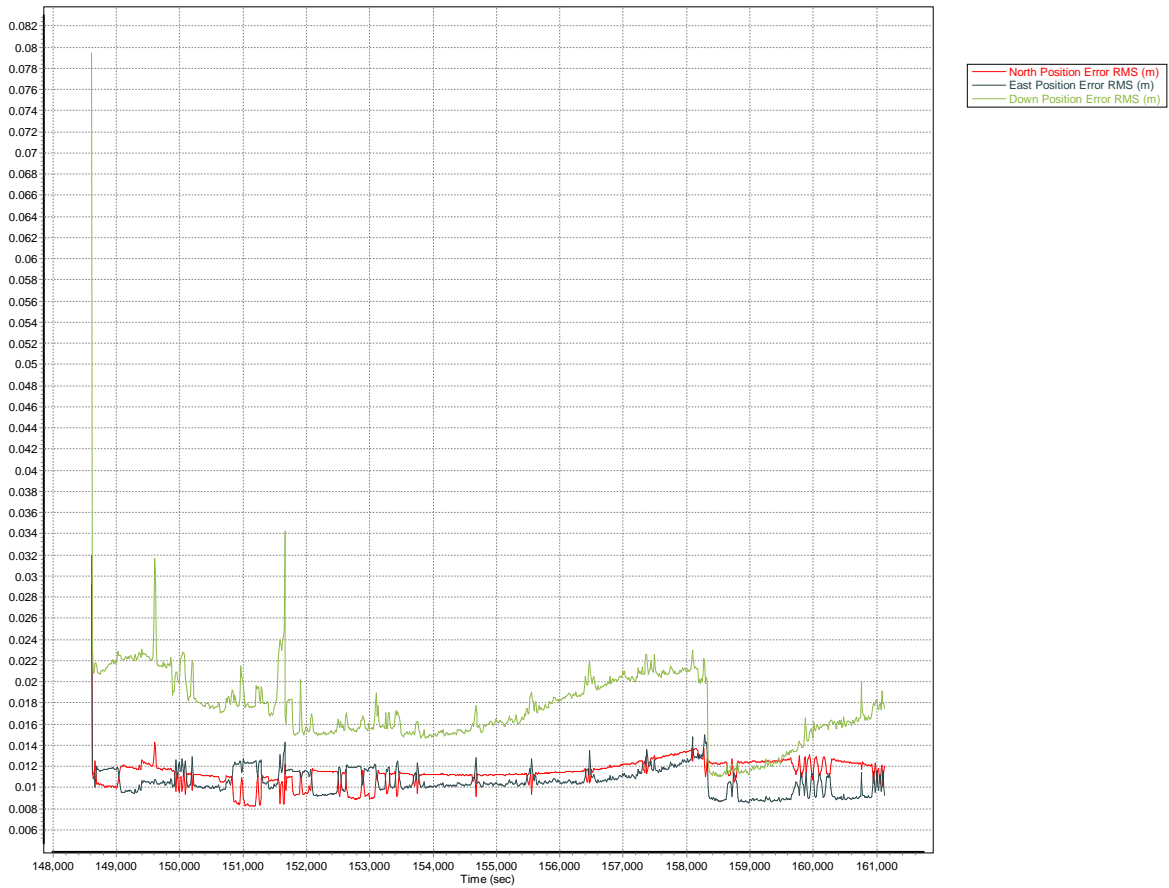
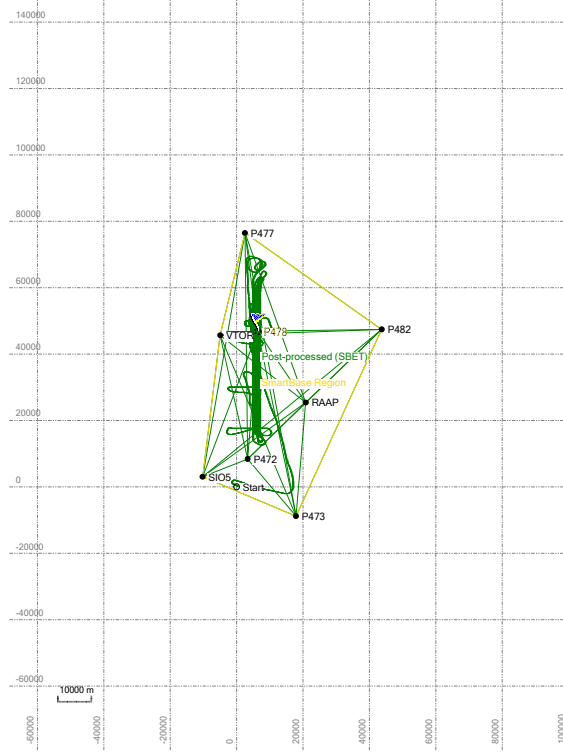
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.882254861111	-117.154681686111	188.092

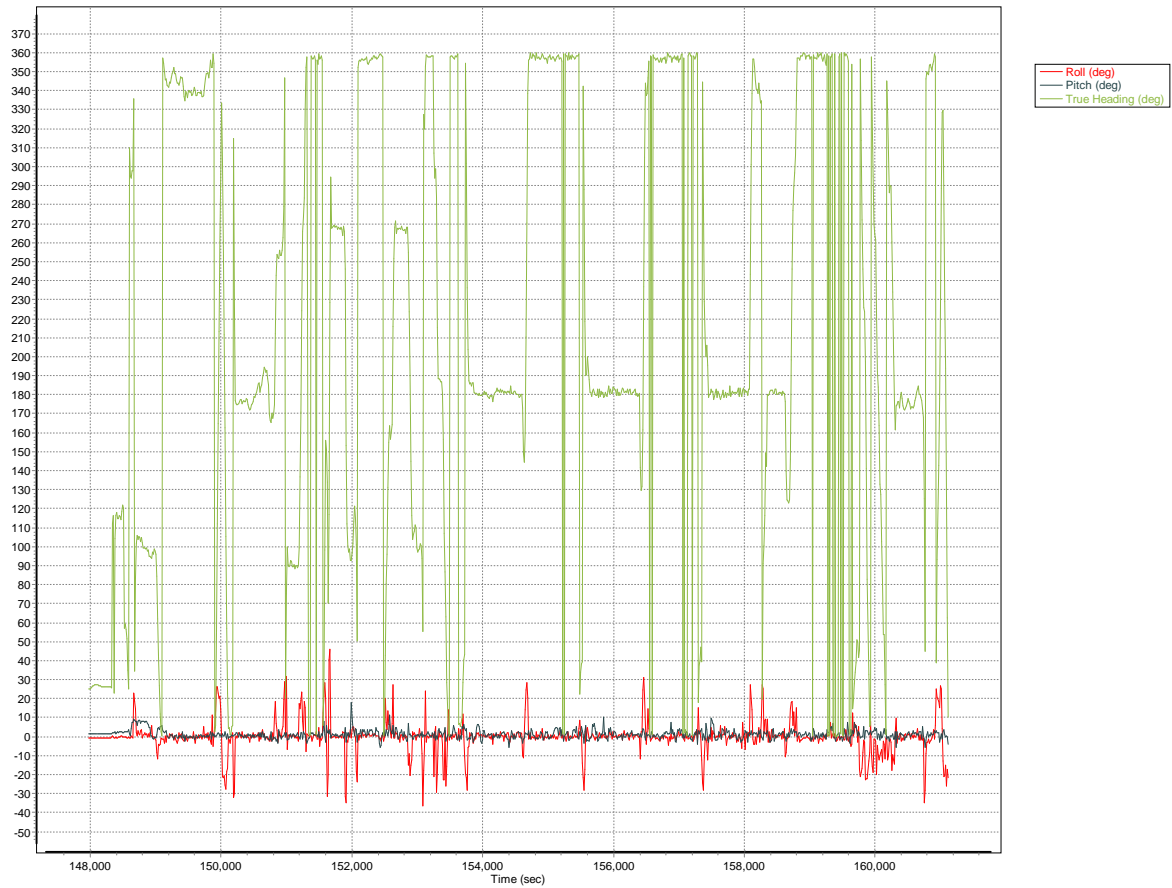
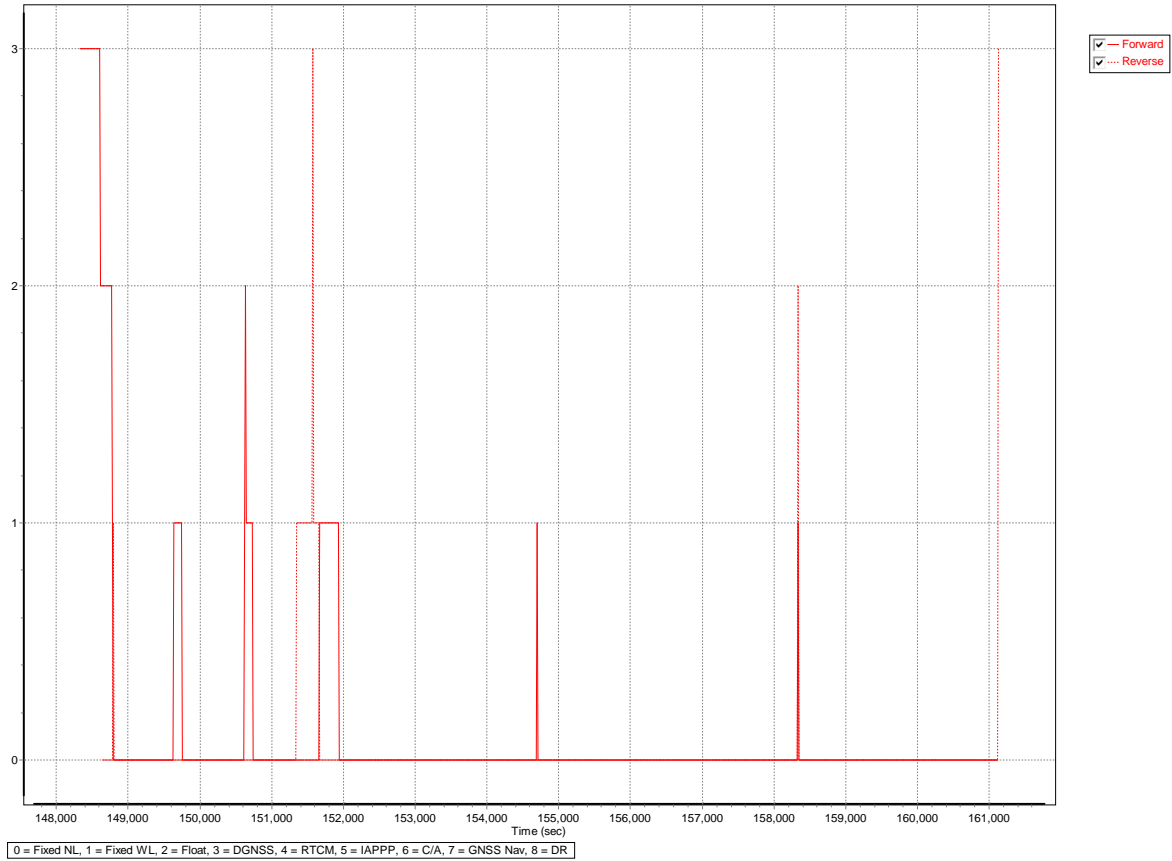
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	
Project Number	
FCMS .fpd File/Nav File	

Pilot	Manning
Technician	Leabman
Aircraft	N7269T

Date Flown	11/9/2014	
Takeoff Time (Z):	Local: 9:15 AM	Airport: KMYF
Landing Time (Z):	Local: 1:15 PM	Airport: KMYF

Project Scanning Requirements	
Field of View	Ground Speed (kts):
Scan Rate	Hz Altitude AGL (ft):
Pulse Rate Frequency	kHz MPIA or SPIA?:
Laser Output Current	%

Data Information	
LIDAR Unit	
HD #	
POS/IPAS File #	
from → to	→
FCMS File #	

Weather	Ground	Airport
Begin Temp	18	
Begin Dewpoint	08	KMYF
Begin Pressure	3013	
End Temp	22	
End Dewpoint	06	KMYF
End Pressure	3011	



GPS Base Location(s)	KMYF
PDOP Avoidance	
Static or Flyover?	→ if flyovers, times:

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	323	9:27				0	115	100 %	
2	270				N	0	115	100 %	
3	320					0	115	100 %	
4	270	10:15	10:21		N	0	115	100 %	
5	321	10:24	10:28		W	0	115	100 %	
6	270	10:32	10:40		N	0	115	100 %	
7	269	10:44	10:55		S	0	115	100 %	
8	268	10:58	11:11		N	0	115	100 %	
9	267	11:13	11:26		S	0	115	100 %	
10	266	11:29	11:41		N	0	115	less than 100%	
11	265	11:43	12:04		S	0	115	100 %	
12	264	12:07	12:20		N	0	115	100 %	
13								%	
14								%	
15								%	
16								%	

Additional Notes:

Mission Page ____ Of ____

Base Station Log



GNSS OBSERVATION LOG

Date 11/ 3/ 2014

Julian Date:

Project Number: 14185 Project Name: San Diego, California
Receiver Type: Topcon Hiper Ga Receiver S/N: 251-2224
Antenna Type: Topcon Hiper Gga Antenna S/N: 251-2224
Station ID: H3 Operator: James Leabman

Monument Type: Mag Spike

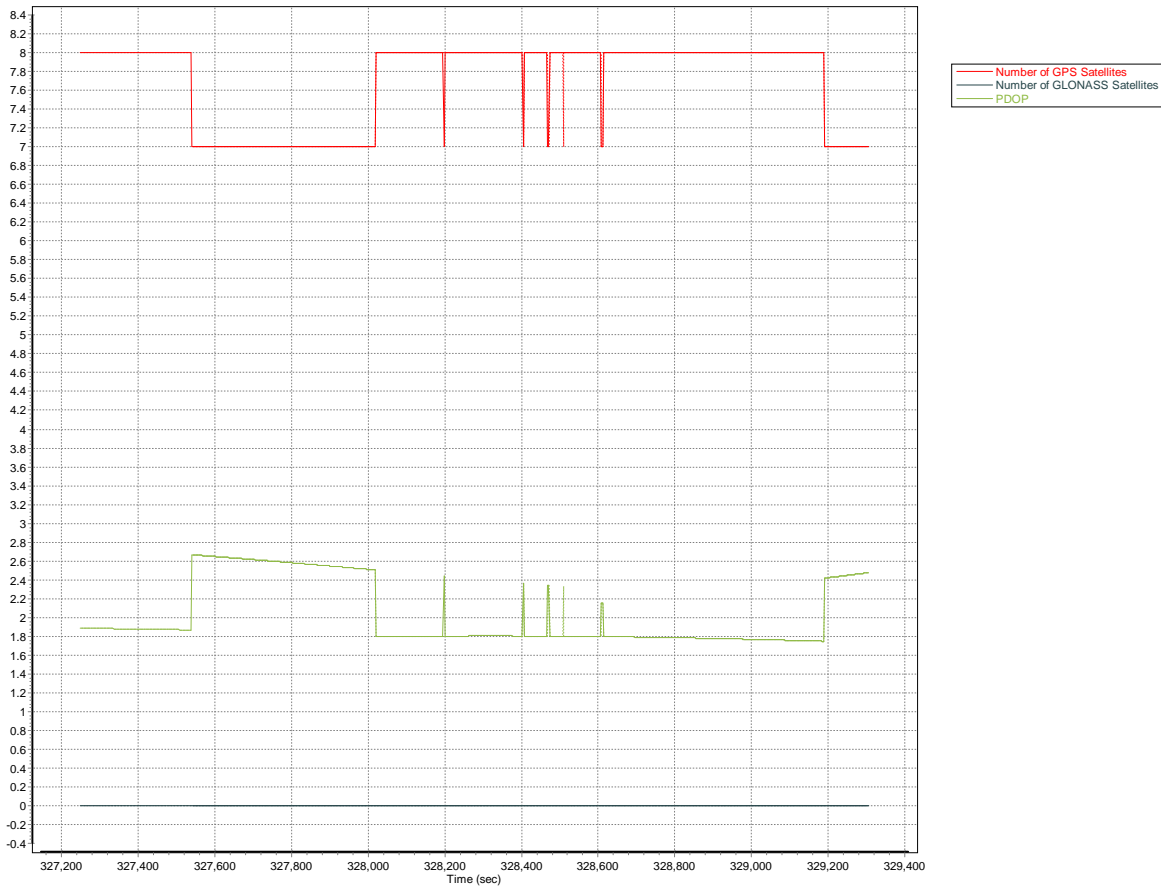
Start Time (Local / UTC): 8:25 AM PST Stop Time (Local / UTC): 1:30 PM PST

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31027q.tps

Comments: Base station H6 was also set up. Data are available in H6 folder.

20141112A_315



Coordinate Manager

Station Information

Station ID: ZLC1

Coordinates

Latitude: N 40 47 9.73905000

Longitude: W 111 57 7.78593000

Altitude: 1.287.6930 m

Decimal Degrees

Antenna Reference Point (ARP) coordinates

Antenna: Frame

Height: 0.000 m

Method: Bottom of antenna mount

Manufacturer: Micro Pulse

Type: MPLWAAS+L5

Offset from Measured Point to APC: 0.463 m

Apply Changes

Station Database

Station ID: ZLC1 Station Fullname: ZLC1

Primary Service ID: [] Edit Coordinate Accuracy: UNKNOWN_ACC

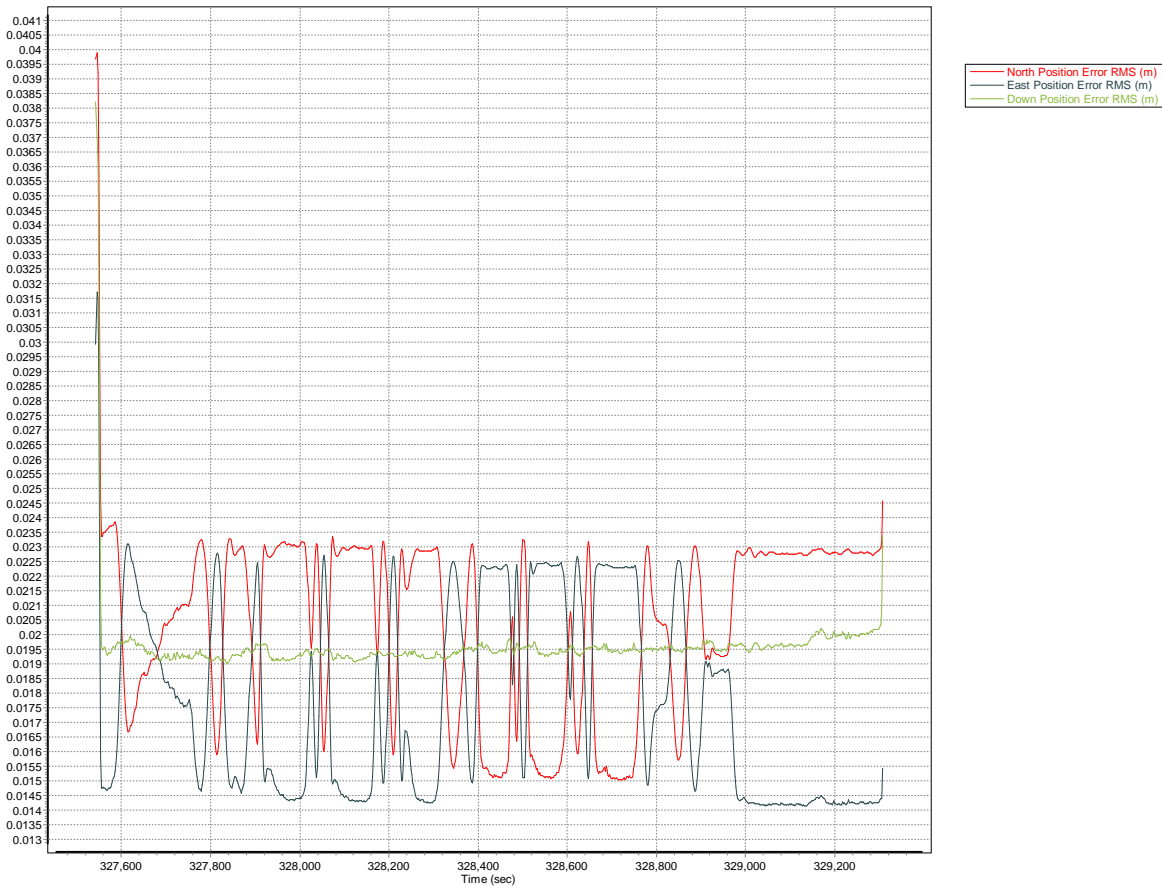
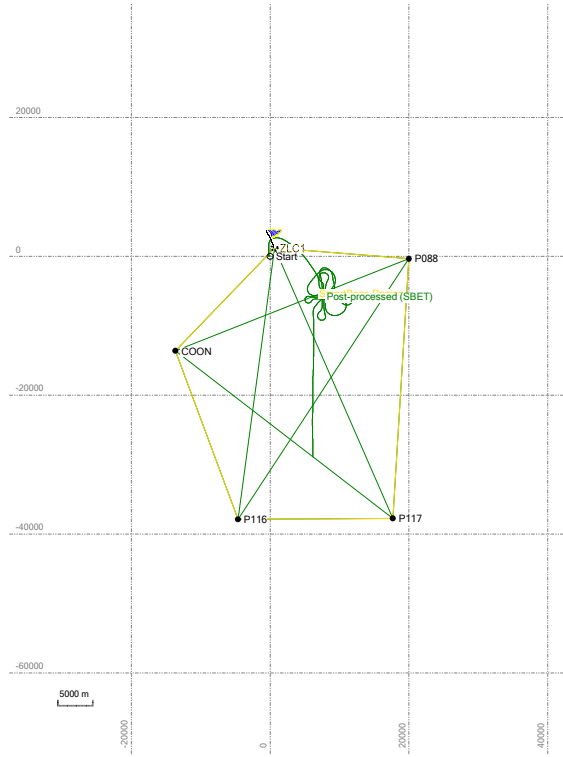
Secondary Service ID: [] Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205486111	-117.154601686111	188.002

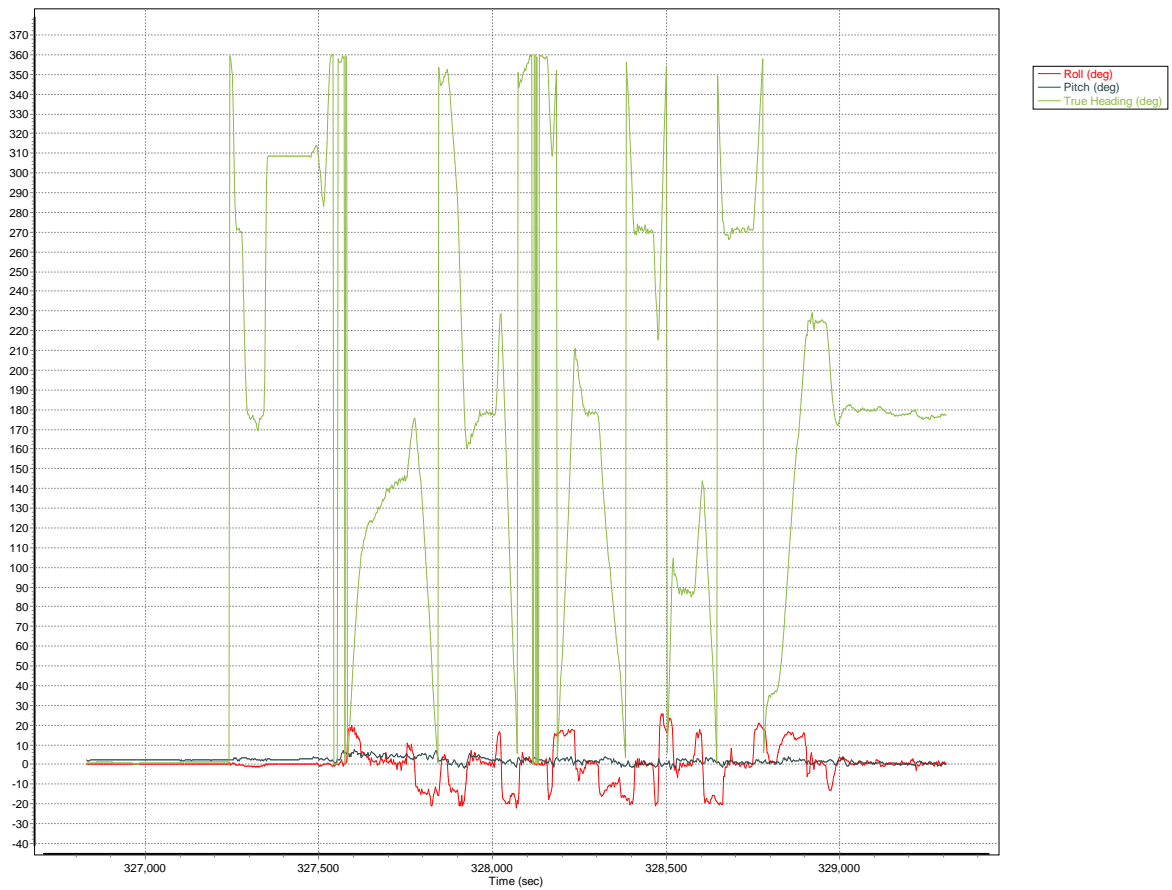
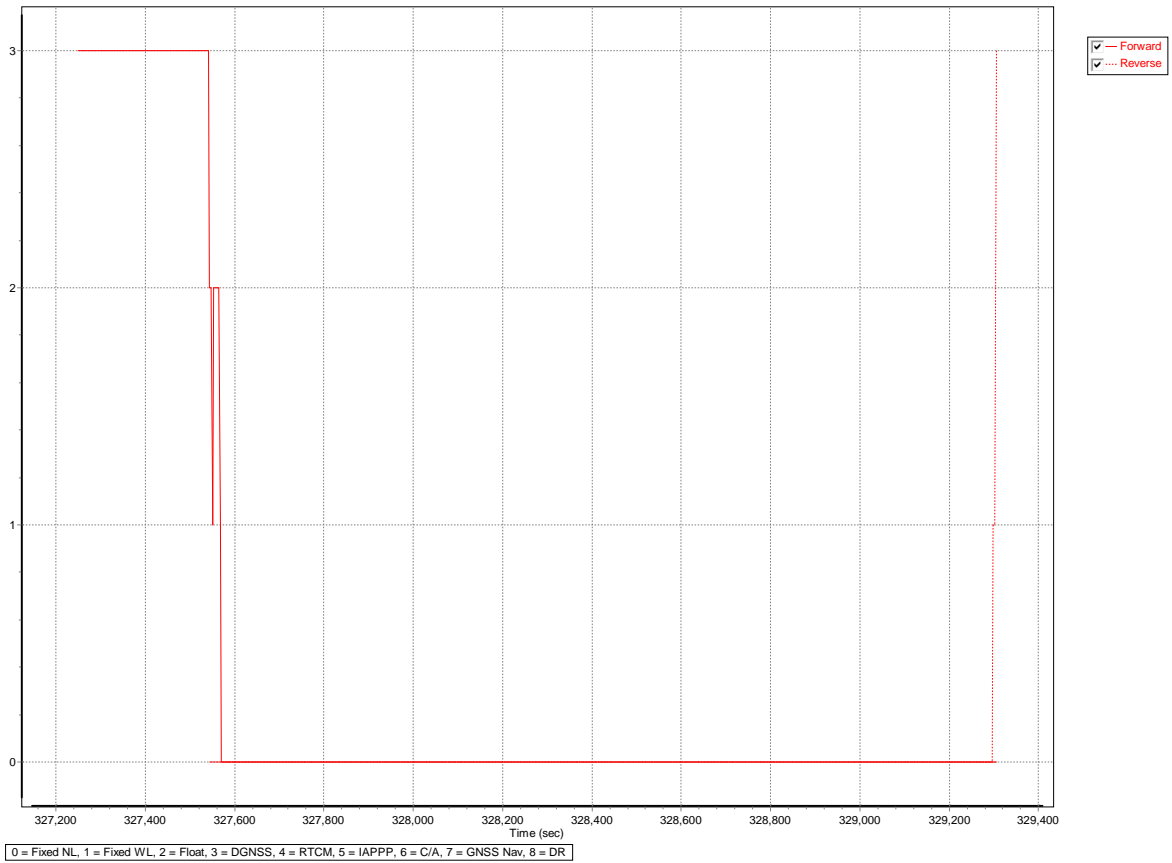
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



20141113A_315



Coordinate Manager

Station Information

Station ID: P472

Coordinates

Latitude: N 32 53 21.13975000

Longitude: W 117 6 16.85407000

Altitude: 138.6030 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P472 Station FullName: P472

Primary Service ID: Edit

Coordinate Accuracy: UNKNOWN_ACC

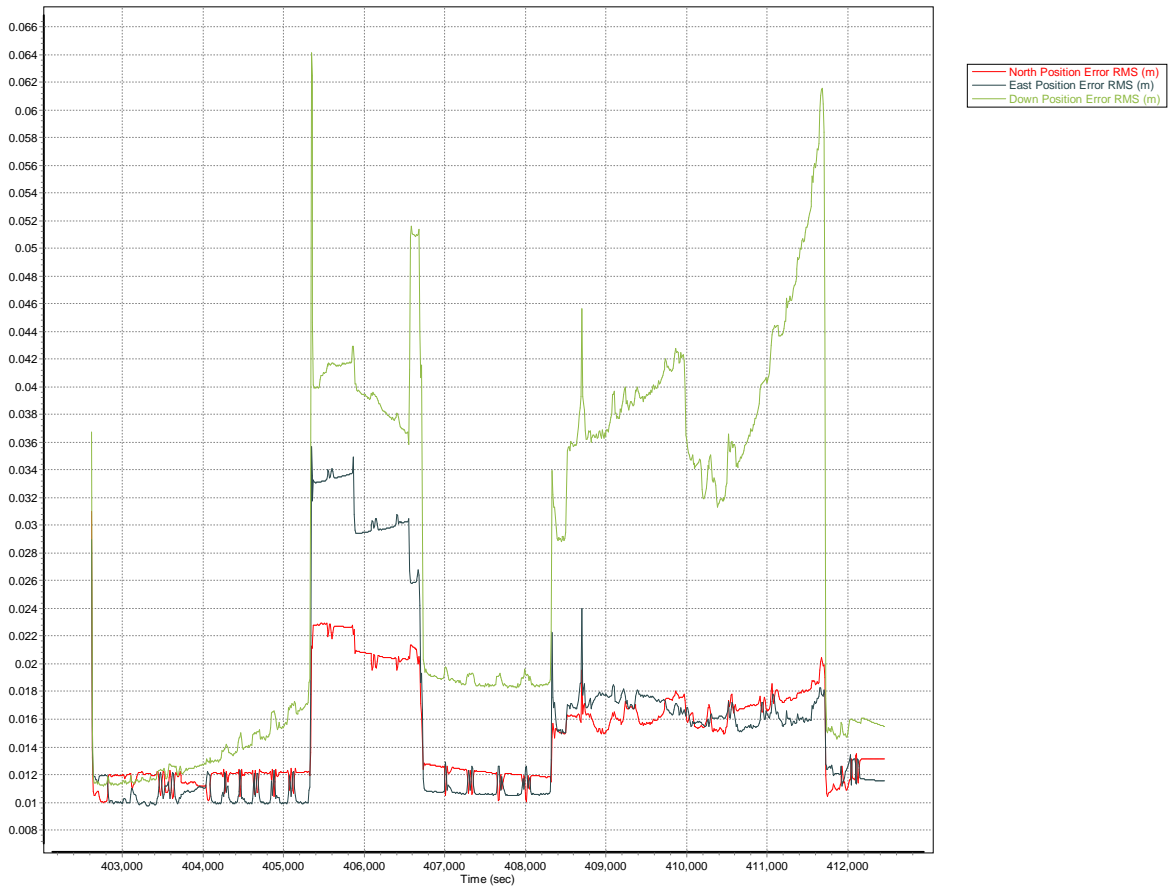
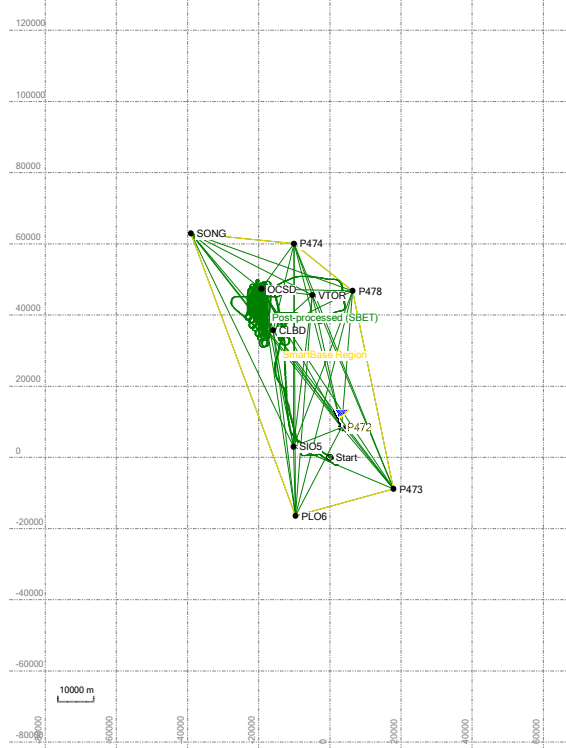
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.882254861111	-117.184681686111	138.603

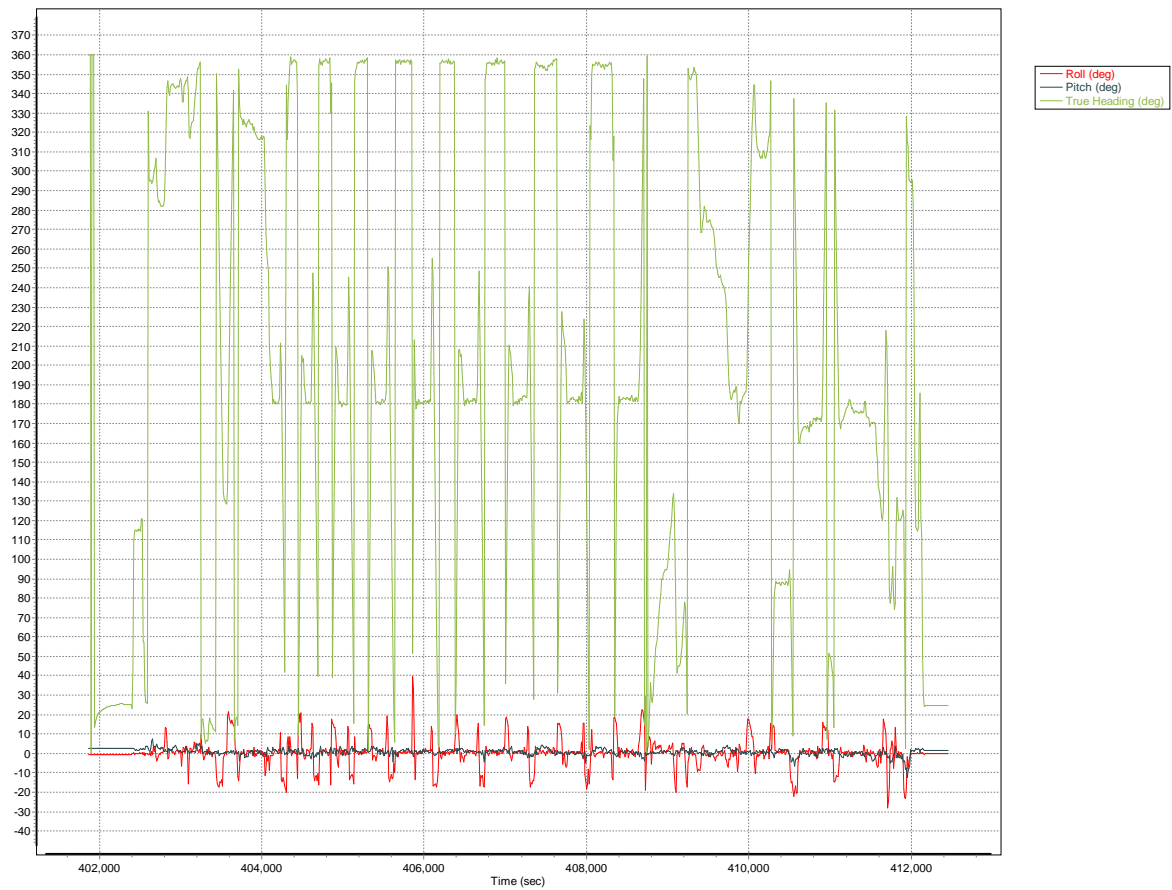
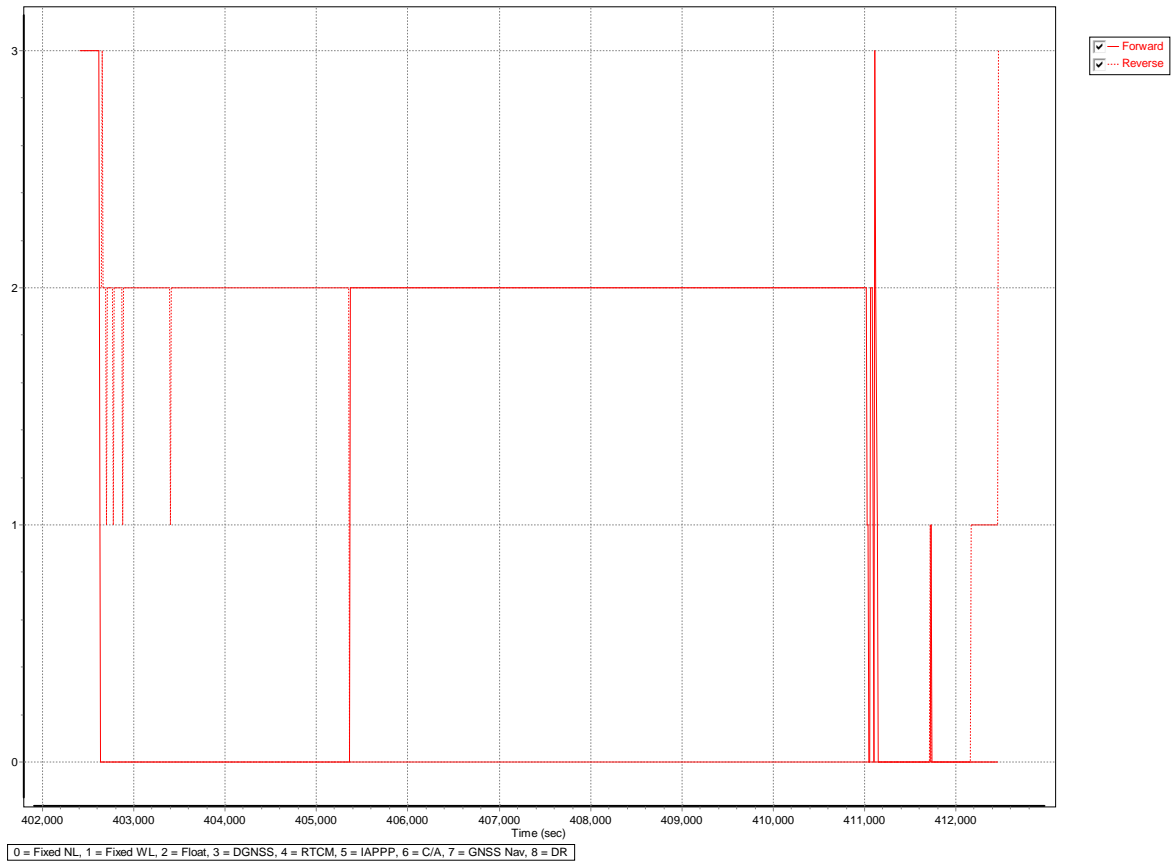
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Project Name	San Diego LIDAR	
Project Number	14185	
FCMS .fpd File/Nav File	San_Diego_H300_LIDAR_Sied_v2	
Project Scanning Requirements		
Field of View	30	Ground Speed (kts): 115
Scan Rate	42.5	Hz Altitude AGL (ft): 3198
Pulse Rate Frequency	75	kHz MPIA or SPIA?:
Laser Output Current		%

GPS Base Location(s)	Mag Spike at KMYF	
PDOP Avoidance	0930 - 1000	
Static or Flyover?	Static + Flyover + Figure 8s → If flyovers, times: 0800 - 0805, 1005 - 1010	

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Pilot	Mourao
Technician	Korzep
Aircraft	N7269T

Date Flown	11/13/14	
Takeoff Time (Z): 2345	Local: 0745	Airport: KMYF
Landing Time (Z): 0225	Local: 1025	Airport: KMYF

Data Information	
LIDAR Unit	12SEN315
HD #	2
POS/IPAS File #	20141113
from → to	402 → 417
FCMS File #	

Weather		Ground		Airport	
Begin Temp	16 C	Begin Temp	16 C	Begin Temp	KMYF
Begin Dewpoint	12 C	Begin Dewpoint	12 C	Begin Dewpoint	KMYF
Begin Pressure	30.05	Begin Pressure	30.05	Begin Pressure	KMYF
End Temp	20 C	End Temp	20 C	End Temp	KMYF
End Dewpoint	12 C	End Dewpoint	12 C	End Dewpoint	KMYF
End Pressure	30.09	End Pressure	30.09	End Pressure	KMYF



Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	57	0814	0816	3300 ft	S	0	105	<100 %	CLOUD DECK AT 3500 FT MSL
2	58	0817	0819	3250	N	0	108	<100 %	"
3	59	0821	0822	3300	S	0	95	<100 %	"
4	60	0824	0826	3300	N	0	98	<100 %	"
5	61	0827	0830	3300	S	0	108	<100 %	"
6	62	0831	0834	3300	N	0	103	<100 %	"
7	63	0835	0837	3300	S	0	95	<100 %	"
8	64	0840	0843	3300	N	0	110	<100 %	"
9	65	0844	0847	3300	S	0	110	<100 %	"
10	66	0849	0852	3300	N	0	106	<100 %	CLOUDS AT FLIGHT LEVEL IN AREA
11	67	0853	0856	3100	S	0	108	<100 %	"
12	68	0858	0902	3100	N	0	104	<100 %	"
13	69	0903	0907	3100	S	0	107	<100 %	"
14	70	0908	0913	3300	N	0	114	<100 %	"
15	71	0915	0918	3300	S	0	102	<100 %	"
16	72	0920	0924	3100	N	0	107	<100 %	"

Additional Notes:

17	73	0925	0929	3300	S	0	105	<100%	"
18	N/A	1000	1003	2900	E	0	114	100%	"

Base Station Log



GNSS OBSERVATION LOG

Date 11 / 13 / 2014

Julian Date: 317

Project Number: 14185 Project Name: San Diego LiDAR

Receiver Type: Topcon Hiper GA Receiver S/N: 251-2224

Antenna Type: Topcon Hiper GA Antenna S/N: 251-2224

Station ID: H3 Operator: Dave "Danger" Korzep

Monument Type: Mag Spike

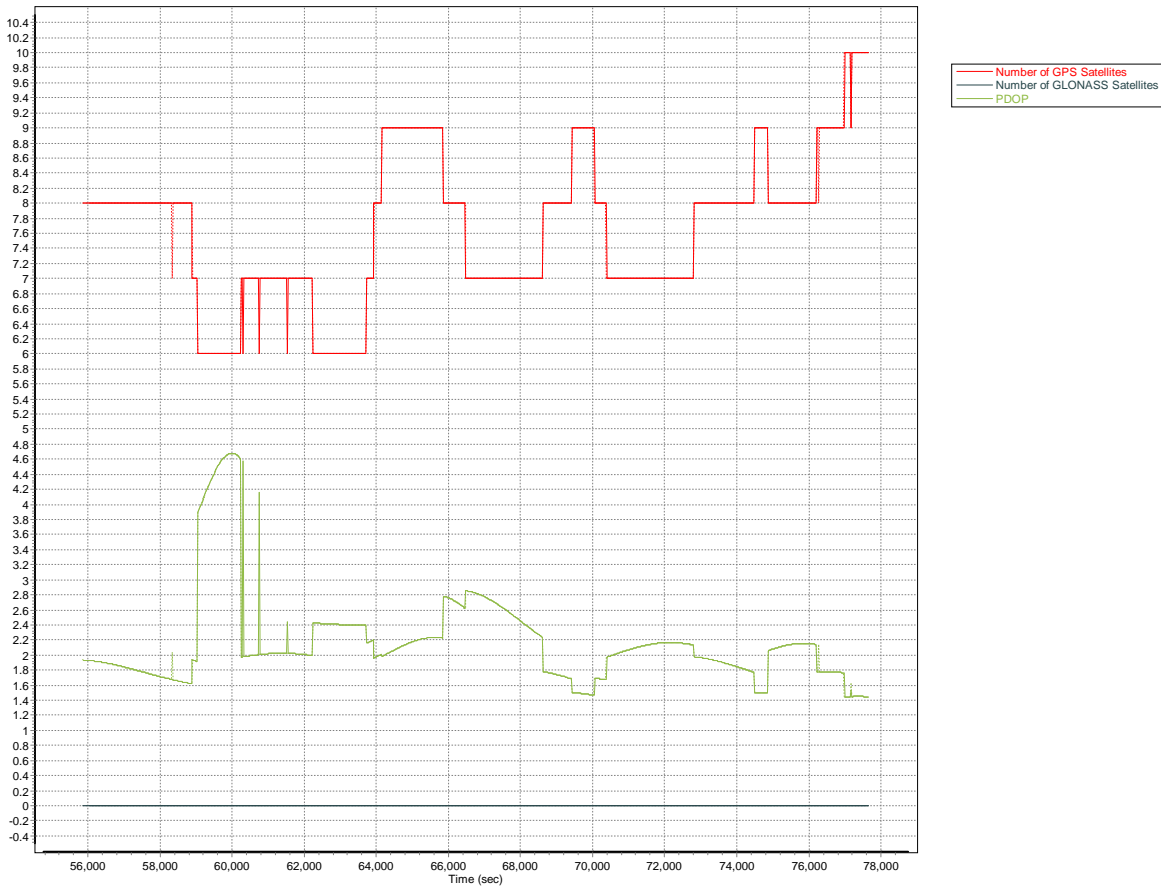
Start Time (Local / UTC): 0730 / 2330 Stop Time (Local / UTC): 1430 / 2230

Start HI (Meters): 2.106 Stop HI (Meters): 2.106 HI (Ft) 6.91

Receiver File Name: H31113q.tps

Comments: A secondary base was set up. Raw data are available under the folder entitled 'Backup Base Data'.

20141116A_315



Coordinate Manager

Station Information

Station ID: P474

Coordinates: Latitude N 33 21 18.68099000, Longitude W 117 14 55.24202000, Altitude 183.6530 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P474 Station Fullname: P474

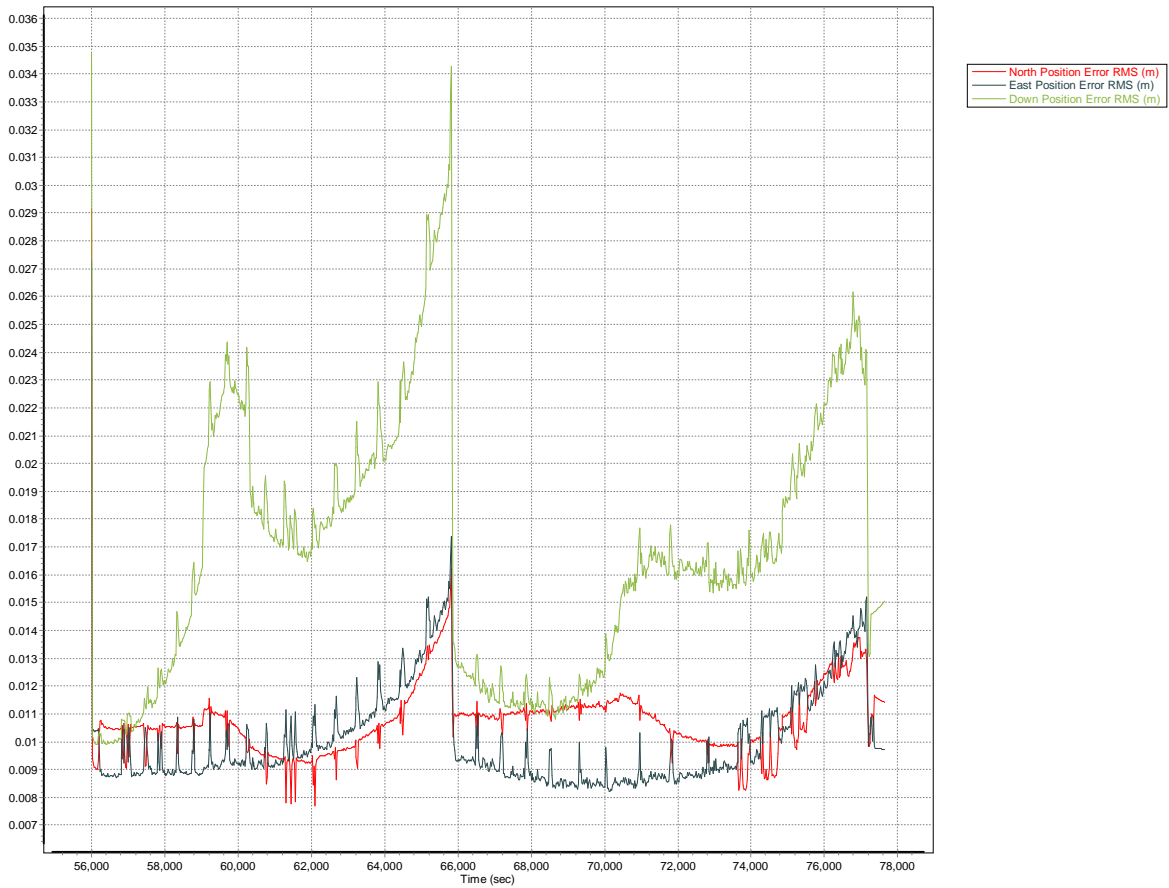
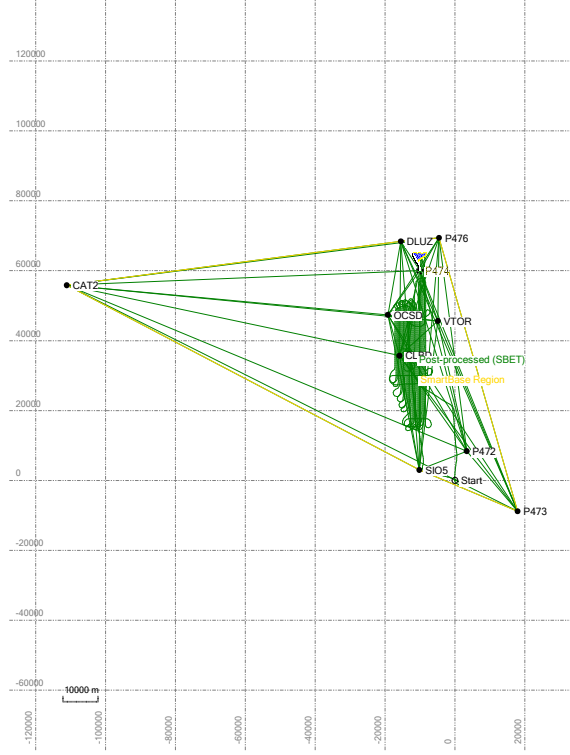
Primary Service ID: Edit Coordinate Accuracy: UNKNOWN_ACC

Secondary Service ID: Edit Add Delete Update

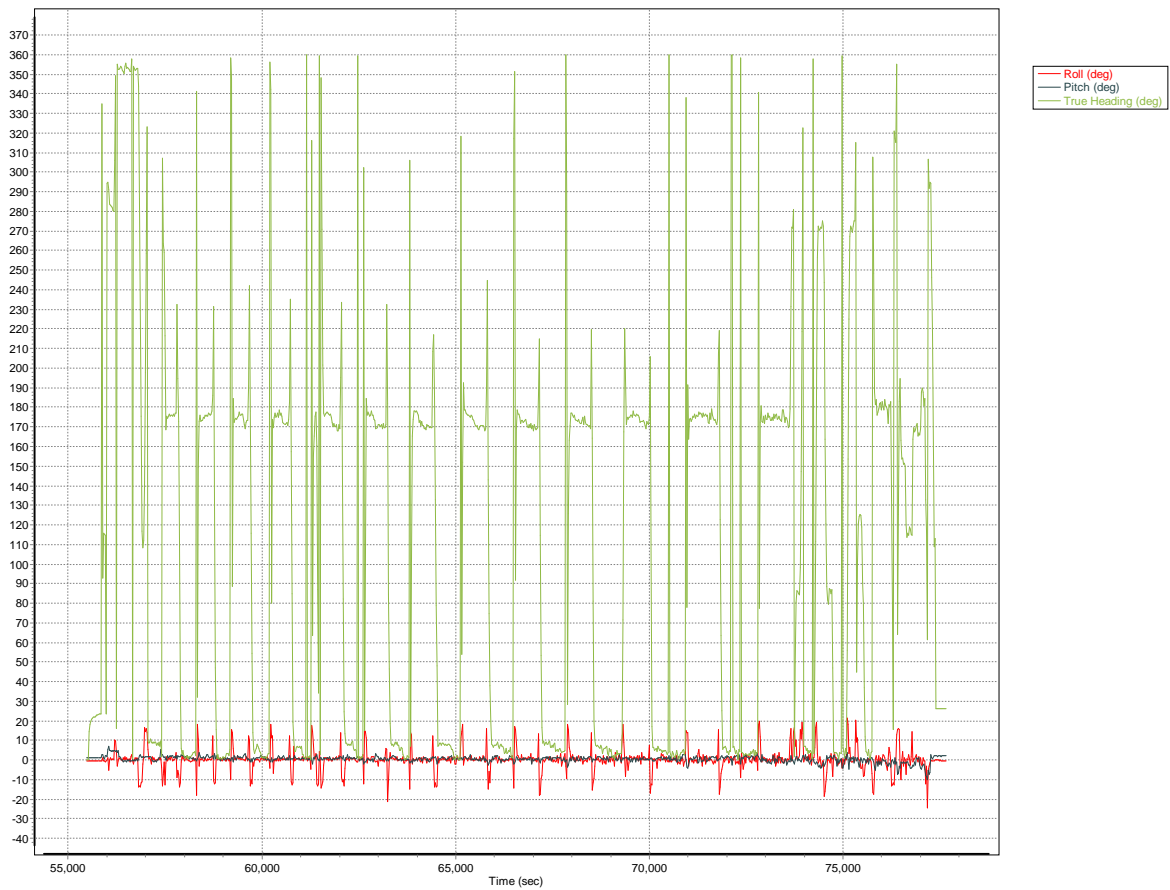
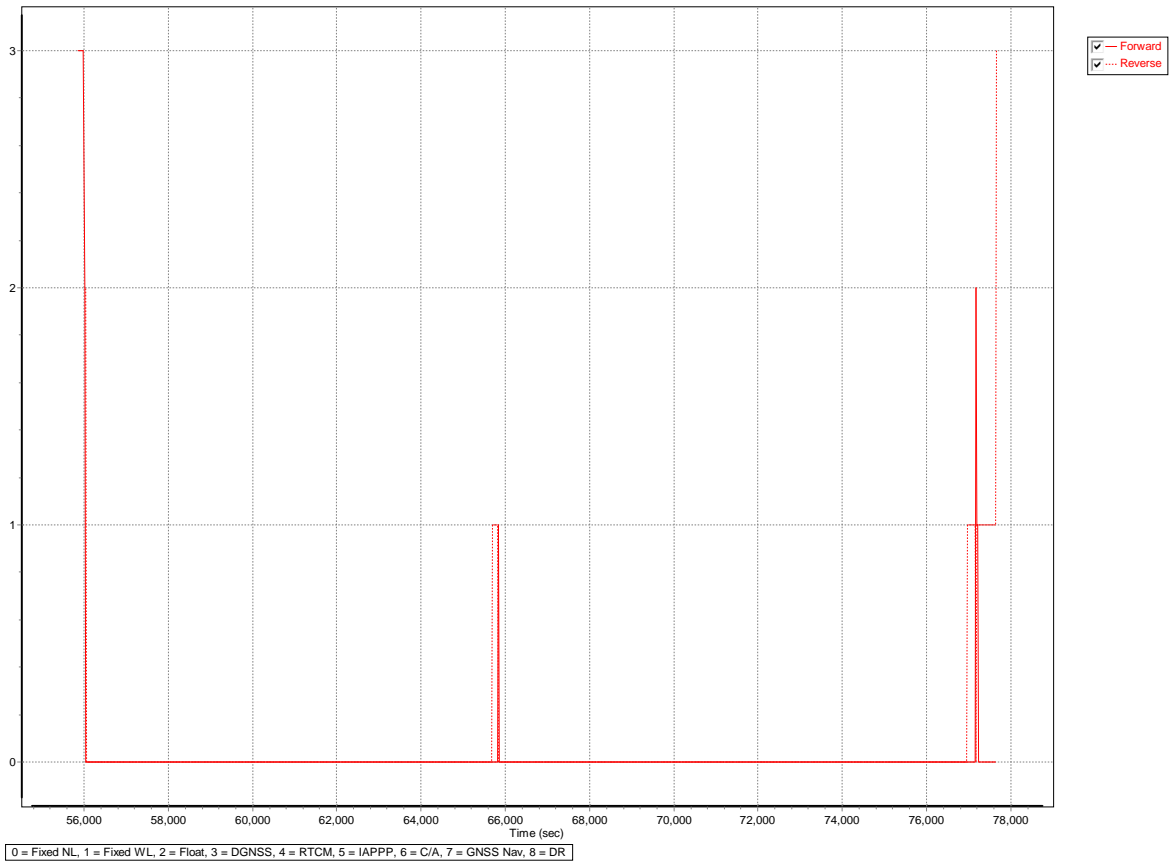
Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205480556	-117.154601686111	188.002

Import Coordinates Export Coordinates Close

Plan View



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Project Name	San Diego LIDAR	
Project Number	14185	
FCMS .fpd File/Nav File	San_Diego_H300_LIDAR_Sited_V2	
Project Scanning Requirements		
Field of View	30	Ground Speed (kts): 115
Scan Rate	42.5	Hz Altitude AGL (ft): 3198
Pulse Rate Frequency	75	kHz MPIA or SPIA?:
Laser Output Current		%

GPS Base Location(s)	Mag Spike and KMYF at	
PDOP Avoidance	N/A	
Static or Flyover?	Static + Flyovers + Figure 8s → if flyovers, times: 0750 - 0755; 1303 - 1308	

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/16/14	LIFT 1
Takeoff Time (Z):	2332	Local: 0732
Landing Time (Z):	2126	Local: 1326
Airport:	KMYF	Airport: KMYF

Data Information	
LIDAR Unit	12SEN315
HD #	2
POS/IPAS File #	20141116
from → to	418 → 450
FCMS File #	

Weather		Ground		Airport	
Begin Temp		13			
Begin Dewpoint		10			KMYF
Begin Pressure		30.11			
End Temp		22			
End Dewpoint		9			KMYF
End Pressure		30.09			



Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	74	0757	0802	3200	S	0	109	<100 %	CLEAR
2	75	0804	0810	3300	N	0	94	<100 %	"
3	76	0811	0817	3300	S	0	105	<100 %	"
4	77	0819	0825	3400	N	0	111	<100 %	"
5	78	0826	0833	3400	S	0	115	<100 %	"
6	79	0839	0842	3300	N	0	108	<100 %	"
7	80	0843	0850	3400	S	0	113	<100 %	"
8	81	0852	0900	3400	N	0	108	<100 %	"
9	82	0901	0902	3400	S	0	108	<100 %	ATC BROKE LINE TO VECTOR FOR TRAFFIC
10	82	0905	0912	3400	s	0	108	<100 %	REDO OF ABOVE LINE; CLEAR
11	83	0914	0922	3300	N	0	107	<100 %	CLEAR
12	84	0924	0932	3400	S	0	115	<100 %	"
13	212	0934	0942	3300	N	0	105	<100 %	"
14	213	0943	0952	3400	S	0	115	<100 %	"
15	214	0954	1004	3400	N	0	108	<100 %	"
16	215	1005	1015	3400	S	0	110	<100 %	"

Additional Notes:

LIDAR MISSION RECORD SHEET

Project Name	San Diego LIDAR	
Project Number	14185	
FCMS .fpd File/Nav File	San_Diego_H300_LIDAR_Sited_V2	
Project Scanning Requirements		
Field of View	30	Ground Speed (kts): 115
Scan Rate	42.5	Hz Altitude AGL (ft): 3198
Pulse Rate Frequency	75	kHz MPIA or SPIA?:
Laser Output Current		%

GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	N/A
Static or Flyover?	Statics + Flyovers + Figure 8s → if flyovers, times: 0750 - 0755; 1303 - 1308

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/16/2014	LIFT 1
Takeoff Time (Z): 1532	Local: 0732	Airport: KMYF
Landing Time (Z): 2126	Local: 1326	Airport: KMYF

Data Information	
LIDAR Unit	12SEN315
HD #	2
POS/IPAS File #	20141116
from → to	418 → 450
FCMS File #	

Weather		Ground		Airport	
Begin Temp		13			
Begin Dewpoint		10			KMYF
Begin Pressure		30.11			
End Temp		22			
End Dewpoint		9			KMYF
End Pressure		30.09			



Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
17	216	1017	1027	3300	N	0	115	<100 %	CLEAR
18	217	1028	1036	3500	S	0	115	<100 %	" "
19	218	1038	1049	3400	N	0	104	<100 %	" "
20	219	1051	1100	3500	S	0	111	<100 %	" "
21	220	1102	1114	3500	N	0	106	<100 %	CLEAR WITH MILD CHOP
22	221	1115	1125	3600	S	0	114	<100 %	" "
23	222	1127	1141	3650	N	0	102	<100 %	" "
24	223	1142	1155	3800	S	0	115	<100 %	FIRST FULL LINE ; CLEAR WITH MILD CHOP
25	224	1157	1212	3650	N	0	100	<100 %	CLEAR WITH MILD CHOP
26	225	1214	1226	3800	S	0	115	<100 %	" "
27	323	1228	1230	3700	E	0	115	<100 %	CROSSFLIGHT
28	226	1231	1236	3700	N	0	115	<100 %	CLEAR WITH MILD CHOP
29	320	1237	1240	3700	W	0	115	<100 %	CROSSFLIGHT
30	226	1244	1250	3800	N	0	115	<100 %	CONTINUATION OF LINE 226 (28)
31	321	1251	1254	3750	W	0	120	<100 %	CROSSFLIGHT
32	226	1257	1301	3800	N	0	108	<100 %	CONTINUATION OF LINE 226 (28)

Additional Notes:

Base Station Log



GNSS OBSERVATION LOG

Date 11 / 16 / 2014

Julian Date: 320

Project Number: 14185 Project Name: San Diego LiDAR
Receiver Type: Topcon Hiper GA Receiver S/N: 251-2224
Antenna Type: Topcon Hiper GA Antenna S/N: 251-2224
Station ID: H3 Operator: Dave Korzep

Monument Type: Mag Spike

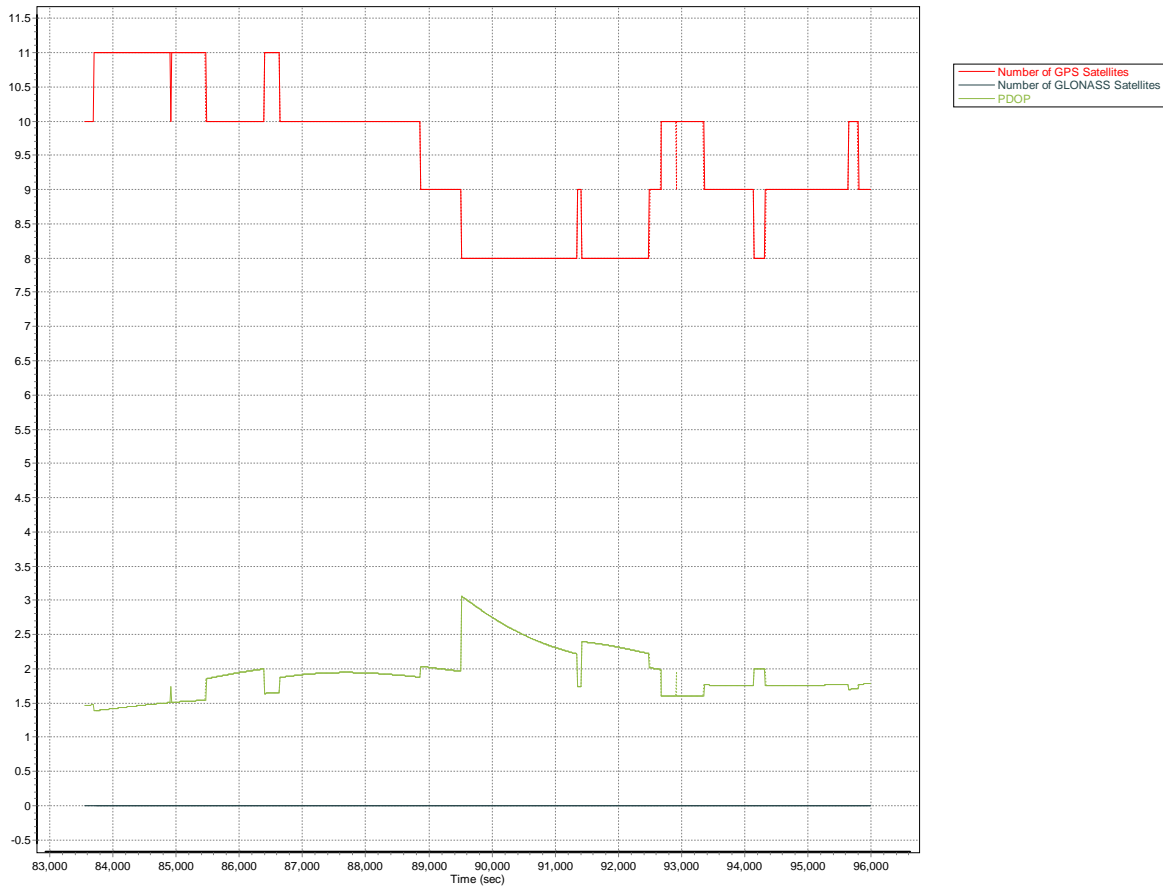
Start Time (Local / UTC): 0703 / 1503 Stop Time (Local / UTC): 1856 / 0256

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31116p.tps

Comments: A backup base station was also set up. The raw data is available in the folder entitled 'Backup Base Data'.

20141116B_315



Coordinate Manager

Station Information

Station ID: P478

Coordinates

Latitude: N 33 14 8.56044000

Longitude: W 117 4 17.67752000

Altitude: 372.3260 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P478 Station Fullname: P478

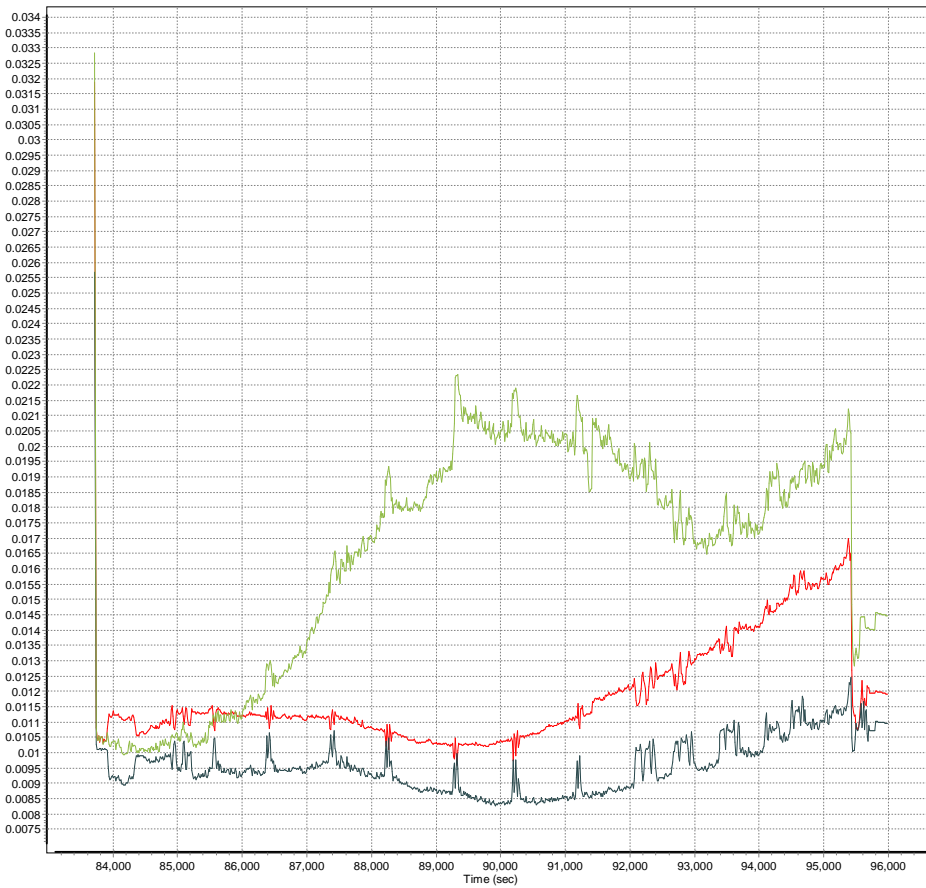
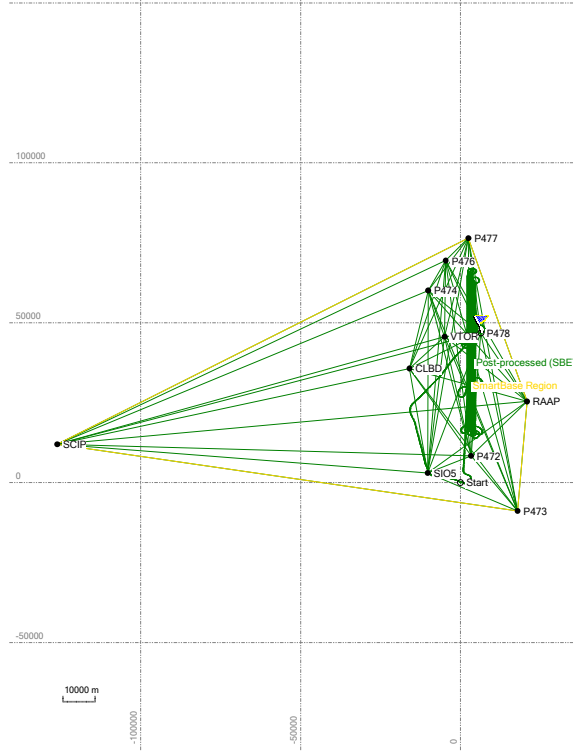
Primary Service ID: Edit Coordinate Accuracy: UNKNOWN_ACC

Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8966	WGS84	33.888205486111	-117.184681686111	188.002

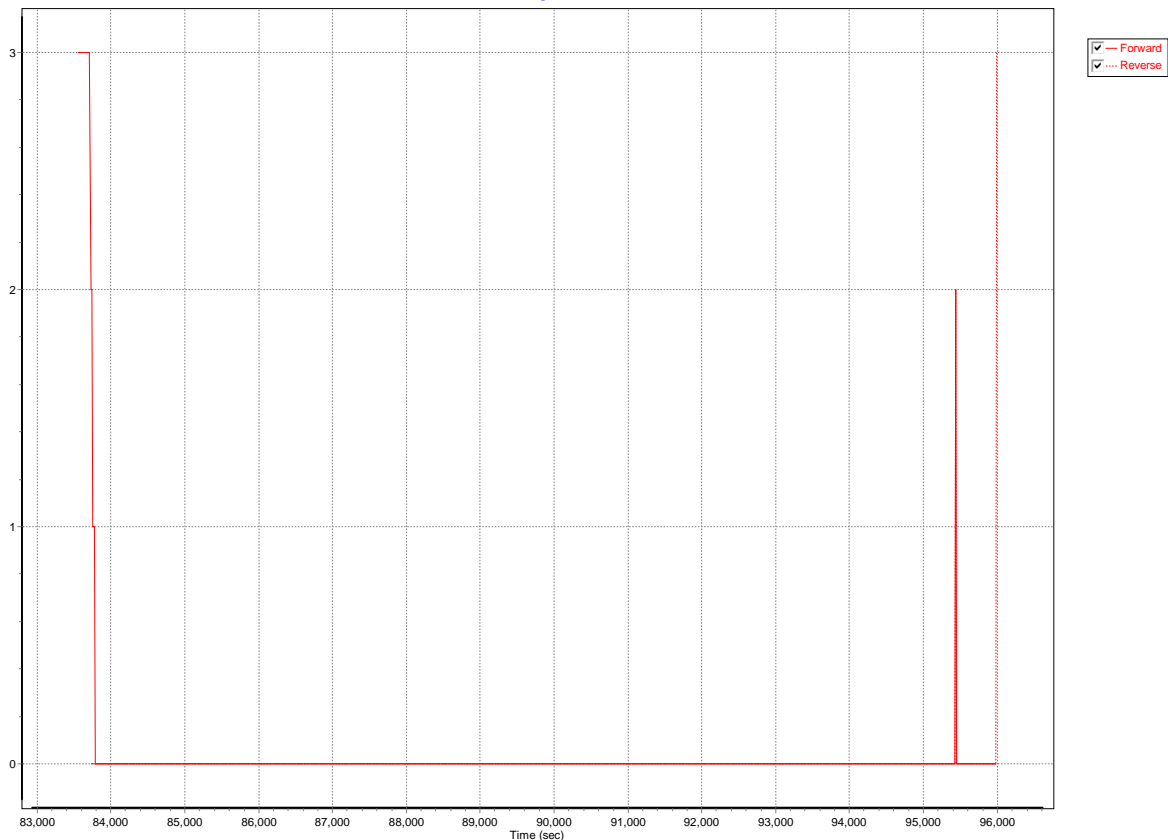
Import Coordinates Export Coordinates Close

Plan View

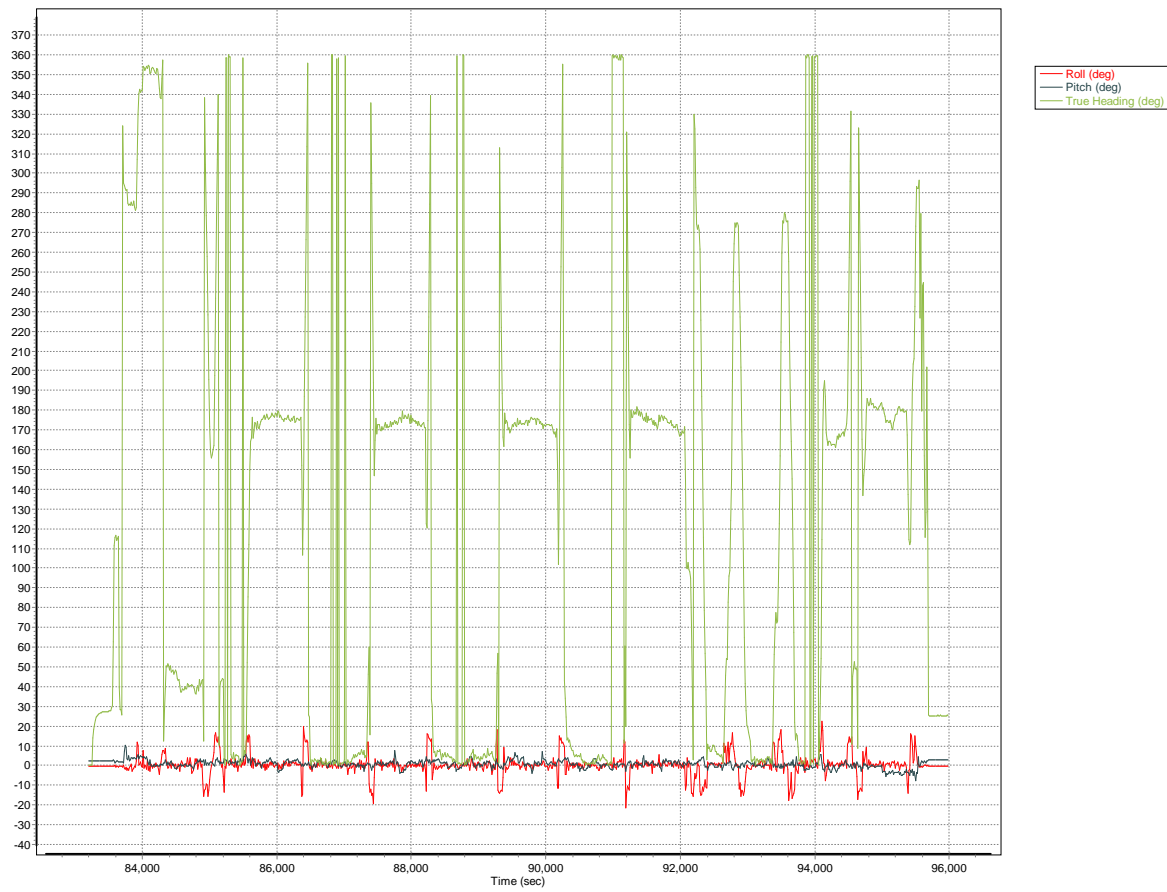


— North Position Error RMS (m)
— East Position Error RMS (m)
— Down Position Error RMS (m)

Processing mode



0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR



Flight Log

LIDAR MISSION RECORD SHEET

Project Name	San Diego LIDAR
Project Number	14185
FCMS .fpd File/Nav File	San_Diepp_H300_LIDAR_Sited_v2

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Date Flown	11/16/14	LIFT2
Takeoff Time (Z):	2314	Local: 1514
Landing Time (Z):	0231	Local: 1831
		Airport: KMYF
		Airport: KMYF

Project Scanning Requirements	
Field of View	30
Scan Rate	42.5
Pulse Rate Frequency	75
Laser Output Current	%
Ground Speed (kts):	115
Hz Altitude AGL (ft):	3198
kHz MPIA or SPIA?:	

Data Information	
LIDAR Unit	12SEN315
HD #	
POS/IPAS File #	20141116Lift2
from → to	481 → 469
FCMS File #	



GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	N/A
Static or Flyover?	Static + Flyovers + Figure 8s → If flyovers, times: 1539 -1544, 1808 -1813

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	263	1545	1558	4100	S	0	112	<100 %	CLEAR
2	262	1600	1614	4300	N	0	95	<100 %	"
3	261	1616	1629	4500	S	0	115	<100 %	"
4	260	1630	1646	4300	N	0	95	<100 %	"
5	259	1648	1702	4300	S	0	115	<100 %	"
6	258	1704	1718	4300	N	0	115	<100 %	"
7	257	1720	1733	4400	S	0	1151	<100 %	"
8	323	1735	1737	4100	w	0	115	100 %	CROSSFLIGHT
8	256	1740	1743	4300	N	0	113	<100 %	CLEAR
10	320	1744	1746	4200	w	0	115	100 %	CROSSFLIGHT
11	256	1748	1755	4100	N	0	115	<100 %	CONTINUATION OF LINE 256 (8)
12	321	1757	1759	4600	w	0	115	100 %	CROSSFLIGHT
13	256	1800	1806	4200	N	0	115	<100 %	CONTINUATION OF LINE 256 (8)
								%	
								%	
								%	

Additional Notes:

Mission Page 1 Of 1

Base Station Log



GNSS OBSERVATION LOG

Date 11 / 16 / 2014

Julian Date: 320

Project Number: 14185 Project Name: San Diego LiDAR
Receiver Type: Topcon Hiper GA Receiver S/N: 251-2224
Antenna Type: Topcon Hiper GA Antenna S/N: 251-2224
Station ID: H3 Operator: Dave Korzep

Monument Type: Mag Spike

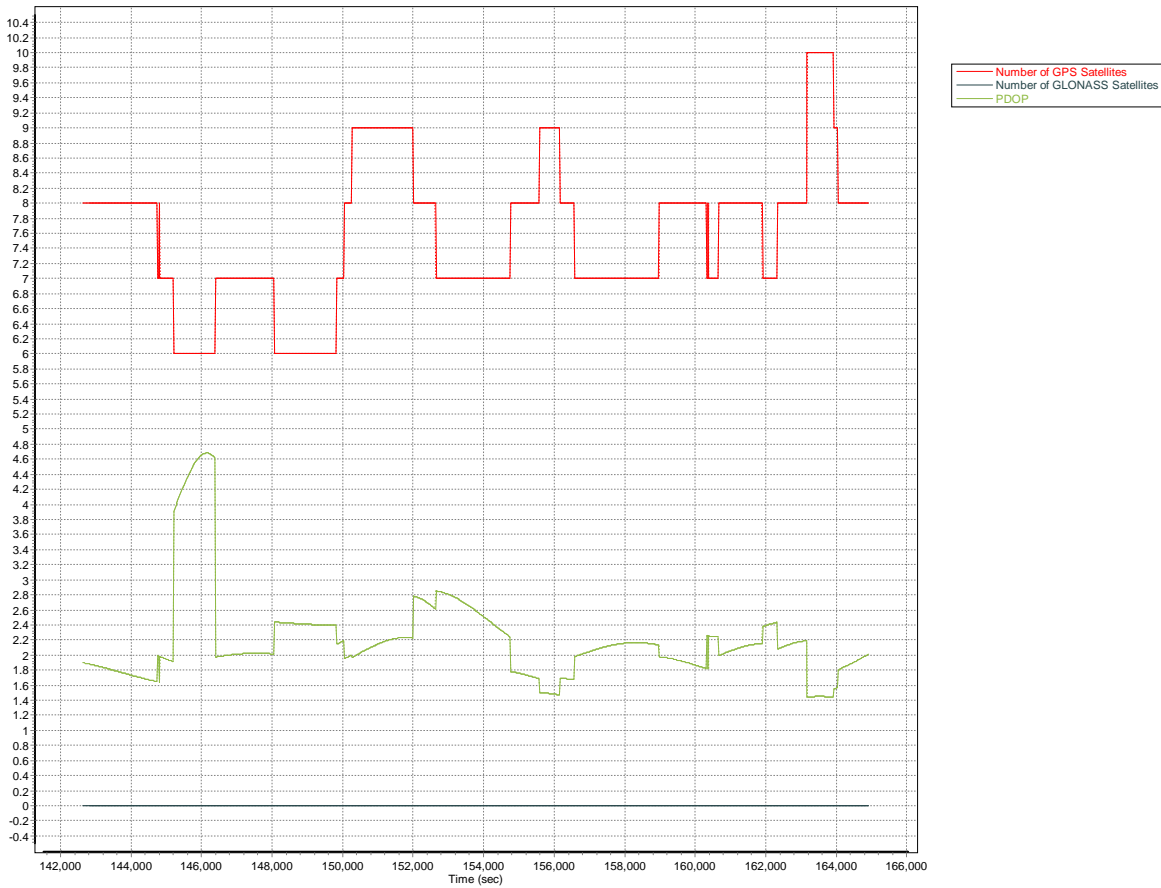
Start Time (Local / UTC): 0703 / 1503 Stop Time (Local / UTC): 1856 / 0256

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31116p.tps

Comments: A backup base station was also set up. The raw data is available in the folder entitled 'Backup Base Data'.

20141117A_315



Coordinate Manager

Station Information

Station ID: P478

Coordinates

Latitude: N 33 14 8.56044000

Longitude: W 117 4 17.67752000

Altitude: 372.3260 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P478 Station FullName: P478

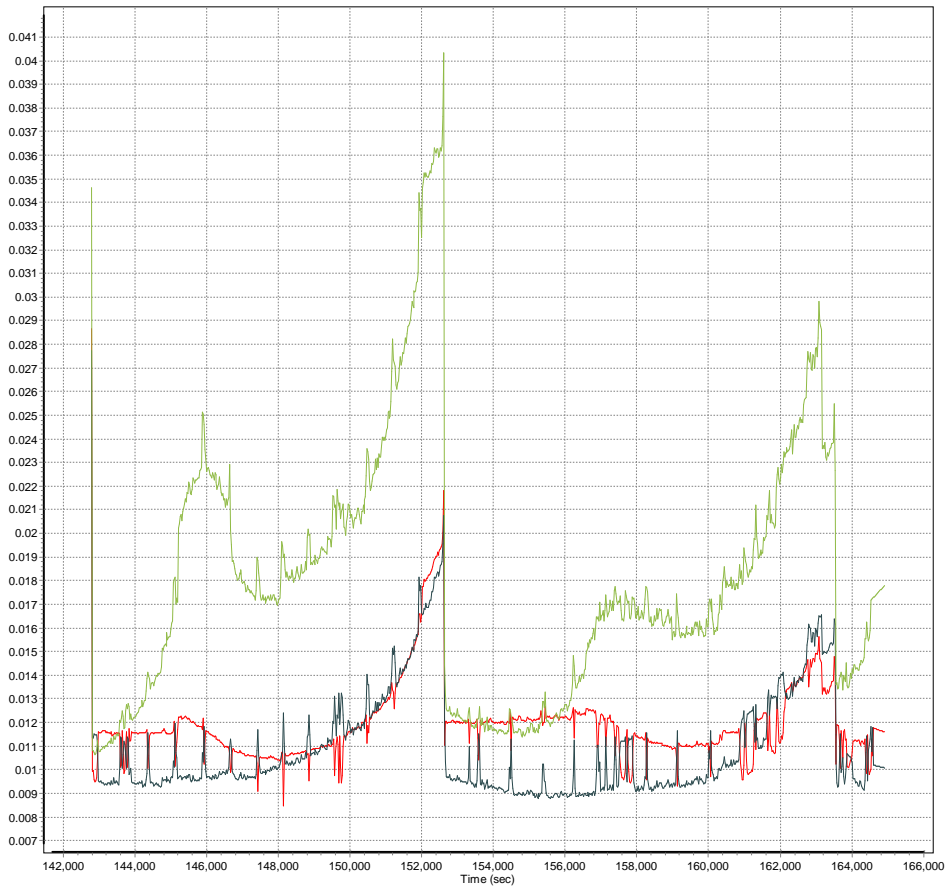
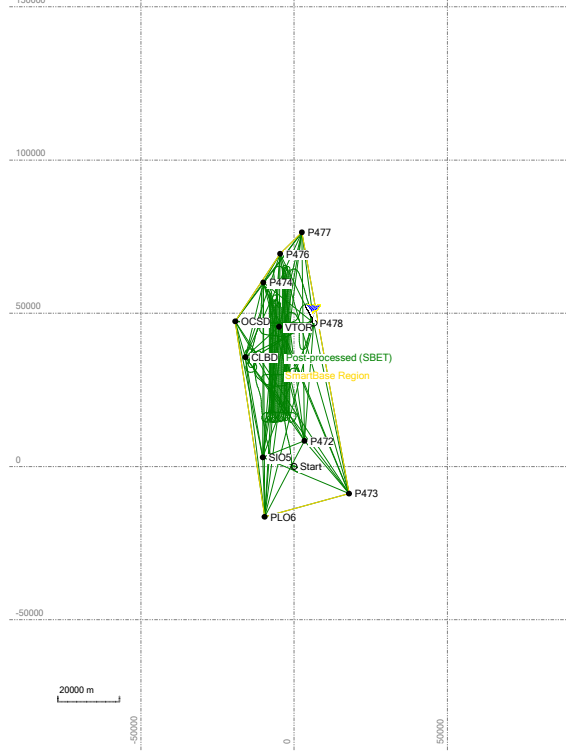
Primary Service ID: Edit Coordinate Accuracy: UNKNOWN_ACC

Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8966	WGS84	33.880205486111	-117.184681686111	188.002

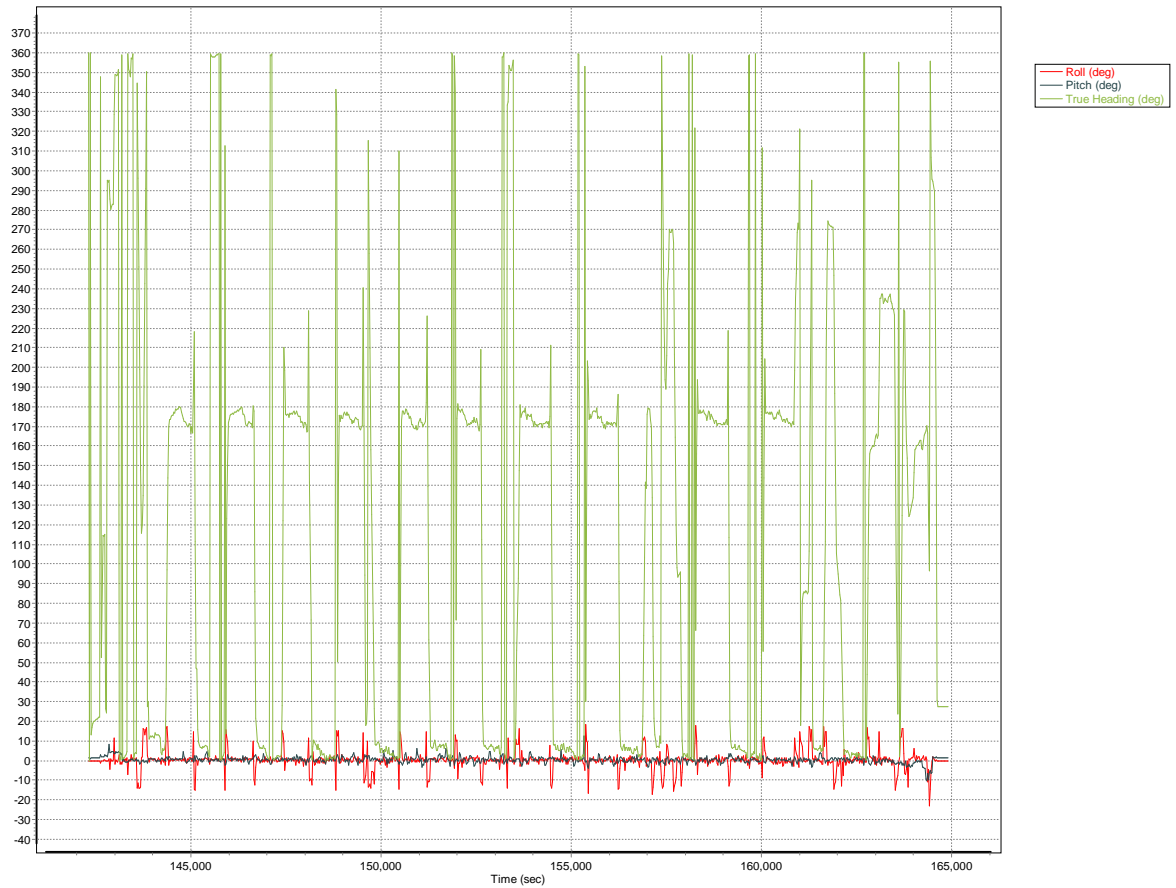
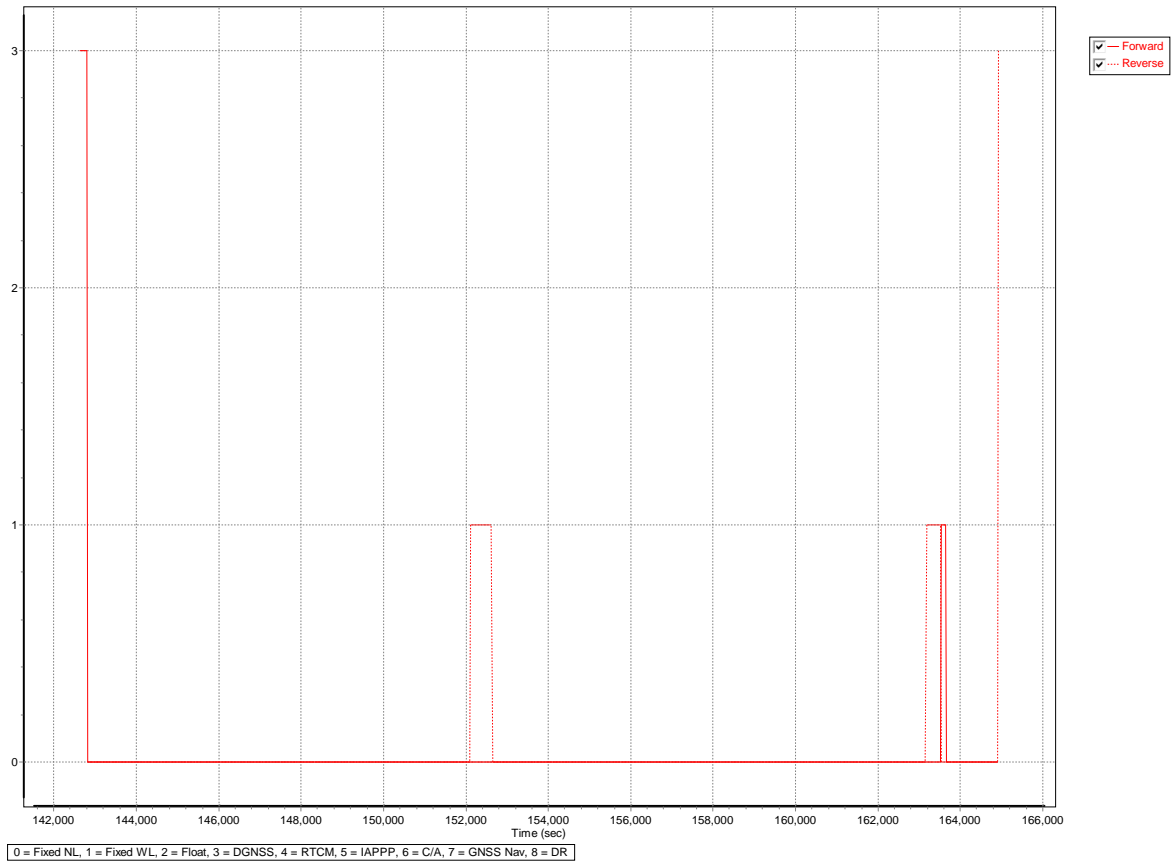
Import Coordinates Export Coordinates Close

Plan View



North Position Error RMS (m)
East Position Error RMS (m)
Down Position Error RMS (m)

Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	San Diego LIDAR		
Project Number	14185		
FCMS .fpd File/Nav File	San_Diepp_H300_LIDAR_Sited_V2		
Project Scanning Requirements			
Field of View	30	Ground Speed (kts):	115
Scan Rate	42.5	Hz Altitude AGL (ft):	3198
Pulse Rate Frequency	75	kHz MPIA or SPIA?	
Laser Output Current		%	

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/17/2014				
Takeoff Time (Z):	1540	Local:	0740	Airport:	KMYF
Landing Time (Z):	2140	Local:	1340	Airport:	KMYF

Data Information	
LIDAR Unit	12SEN315
HD #	2
POS/IPAS File #	20141117
from → to	470 → 502
FCMS File #	

Weather		Ground		Airport	
Begin Temp		11			
Begin Dewpoint		-1			KMYF
Begin Pressure		30.15			
End Temp		23			
End Dewpoint		1			KMYF
End Pressure		30.08			



1138 - 1141, 1313 - 1317

GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	N/A
Static or Flyover?	→ if flyovers, times: KCRG CORS: 0757 - 0802, 1318 - 1323 P478 CORS

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	227	0805	0816	3500	S	0	115	<100 %	CLEAR AND SMOOTH
2	228	0818	0830	3500	N	0	107	<100 %	"
3	229	0831	0842	3800	S	0	112	<100 %	"
4	230	0844	0855	3600	N	0	111	<100 %	"
5	231	0857	0907	3750	S	0	104	<100 %	"
6	232	0908	0918	3600	N	0	112	<100 %	"
7	233	0920	0930	3800	S	0	109	<100 %	"
8	234	0936	0946	3600	N	0	100	<100 %	"
9	235	0948	0958	3900	S	0	115	<100 %	"
10	236	1000	1011	3900	N	0	99	<100 %	"
11	237	1012	1022	3900	S	0	115	<100 %	"
12	238	1023	1034	3600	N	0	105	<100 %	"
13	239	1039	1052	3900	S	0	109	<100 %	"
14	240	1054	1107	3900	N	0	107	<100 %	"
15	241	1109	1122	3900	S	0	113	<100 %	"
16	242	1124	1134	3800	N	0	95	<100 %	" PULLED OFF TO DO STATIC OVER P478 (3 MIN)

Additional Notes:

Mission Page 1 Of 2

PRIOR TO FINISHING LINE 242 (16), WE PULLED OFF THE LINE AFTER A PLANNED CROSSFLIGHT. OUR BASELINE DISTANCE WAS GOING TO BE GREATER THAN 30 KM FROM OUR STATIC OVER KCRG CORS.

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	San Diego LIDAR
Project Number	14185
FCMS .fpd File/Nav File	San_Diepp_H300_LIDAR_Sited_v2

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/17/2014				
Takeoff Time (Z):	1540	Local:	0740	Airport:	KMYF
Landing Time (Z):	2140	Local:	1340	Airport:	KMYF

Project Scanning Requirements	
Field of View	30
Scan Rate	42.5
Pulse Rate Frequency	75
Laser Output Current	%
Ground Speed (kts):	115
Hz Altitude AGL (ft):	3198
kHz MPIA or SPIA?	

Data Information	
LIDAR Unit	12SEN315
HD #	2
POS/IPAS File #	20141117
from → to	470 → 502
FCMS File #	

Weather	Ground	Airport
Begin Temp	11	
Begin Dewpoint	-1	KMYF
Begin Pressure	30.15	
End Temp	23	
End Dewpoint	1	KMYF
End Pressure	30.08	

GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	N/A
Static or Flyover?	→ if flyovers, times: KCRG CORS: 0757 - 0802, 1318 - 1323 P478 CORS: 1138 - 1141, 1313 - 1317



Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
17	321	1143	1146	4000	W	0	115	<100 %	CROSSFLIGHT
18	242	1150	1156	4000	N	0	108	<100 %	CLEAR AND SMOOTH
19	243	1157	1210	3950	S	0	115	<100 %	" "
20	244	1211	1225	3800	N	0	115	<100 %	" "
21	245	1227	1240	4200	S	0	115	<100 %	" "
22	323	1242	1246	3800	E	0	115	100 %	CROSSFLIGHT
23	246	1248	1252	4000	N	0	108	<100 %	CLEAR AND SMOOTH
24	320	1254	1257	4200	W	0	120	100 %	CROSSFLIGHT
25	246	1300	1311	4200	N	0	115	<100 %	CONTINUATION OF LINE 246 (23)
								%	
								%	
								%	
								%	
								%	
								%	
								%	
								%	

Additional Notes:

Mission Page 2 Of 2

Base Station Log



GNSS OBSERVATION LOG

Date / /

Julian Date:

Project Number: 14185 **Project Name:** San Diego LiDAR
Receiver Type: Topcon Hiper GA **Receiver S/N:** 251-2224
Antenna Type: Topcon Hiper GA **Antenna S/N:** 251-2224
Station ID: H3 **Operator:** Dave Korzep

Monument Type: Mag Spike

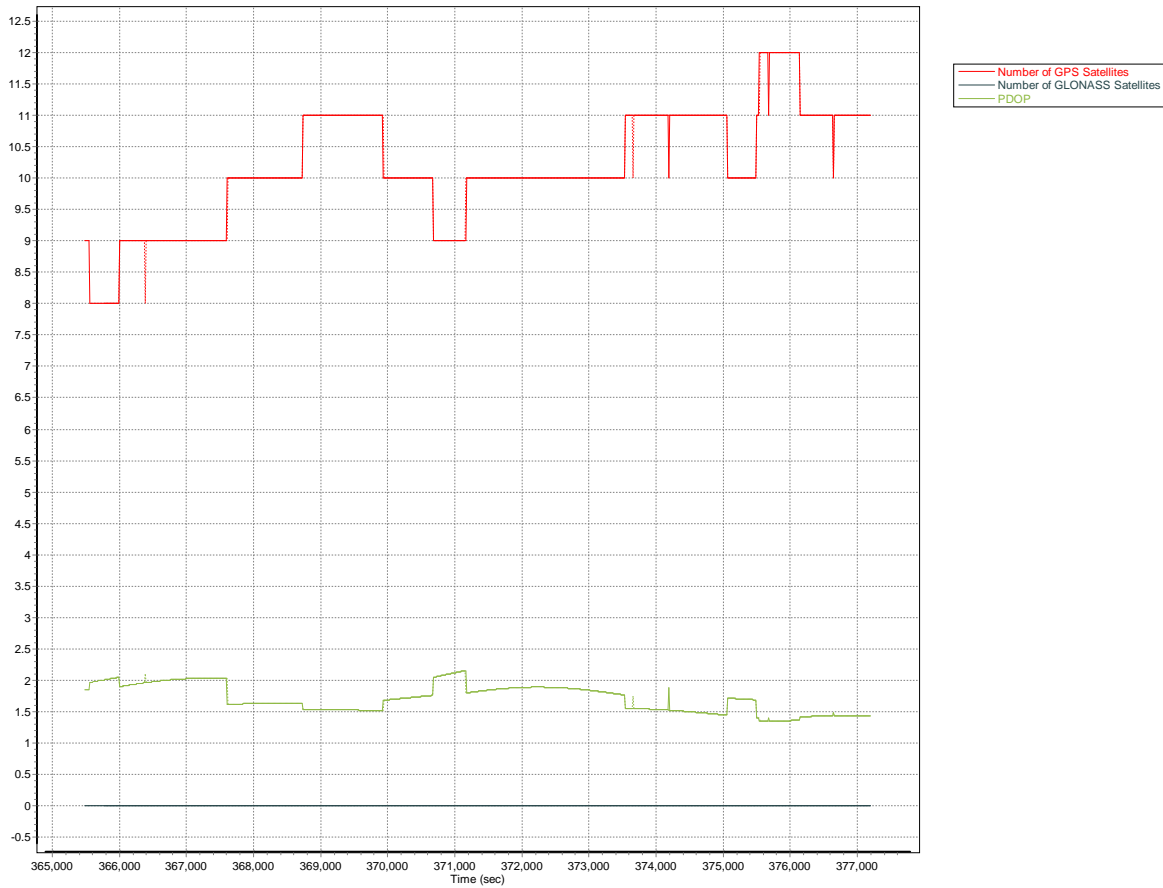
Start Time (Local / UTC): 0649 / 1449 **Stop Time (Local / UTC):** 1410 / 2210

Start HI (Meters): 2.106m **Stop HI (Meters):** 2.106m **HI (Ft)** 6.91

Receiver File Name: H311170.tps

Comments: A backup base station was also set up. The raw data is available in the folder entitled 'Backup Base Data'.

20141119A_315



Coordinate Manager

Station Information

Station ID: P478

Coordinates

Latitude: N 33 14 8.56044000

Longitude: W 117 4 17.67752000

Altitude: 372.3260 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

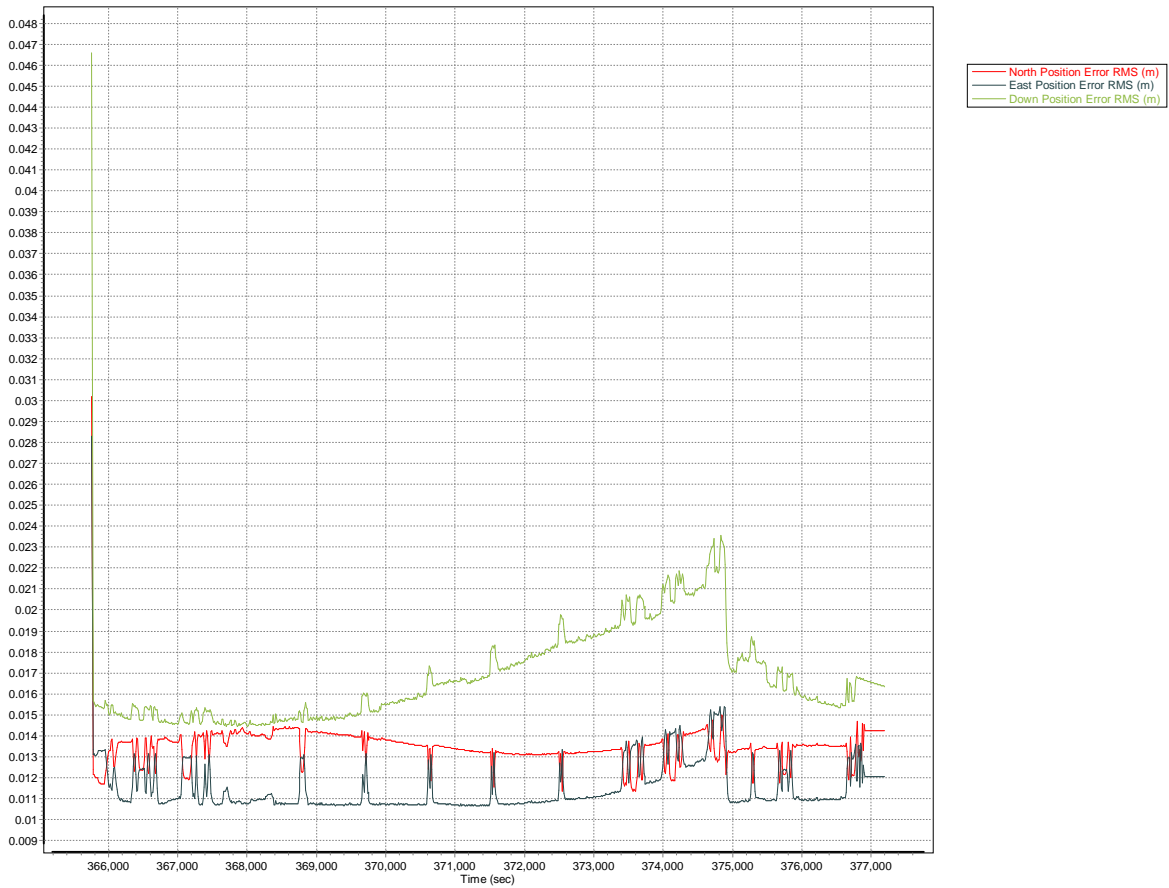
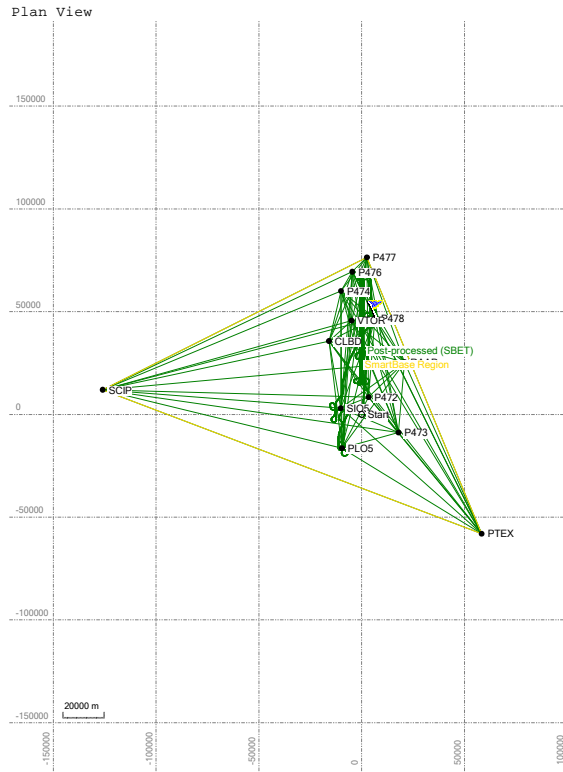
Station ID: P478 Station FullName: P478

Primary Service ID: Edit Coordinate Accuracy: UNKNOWN_ACC

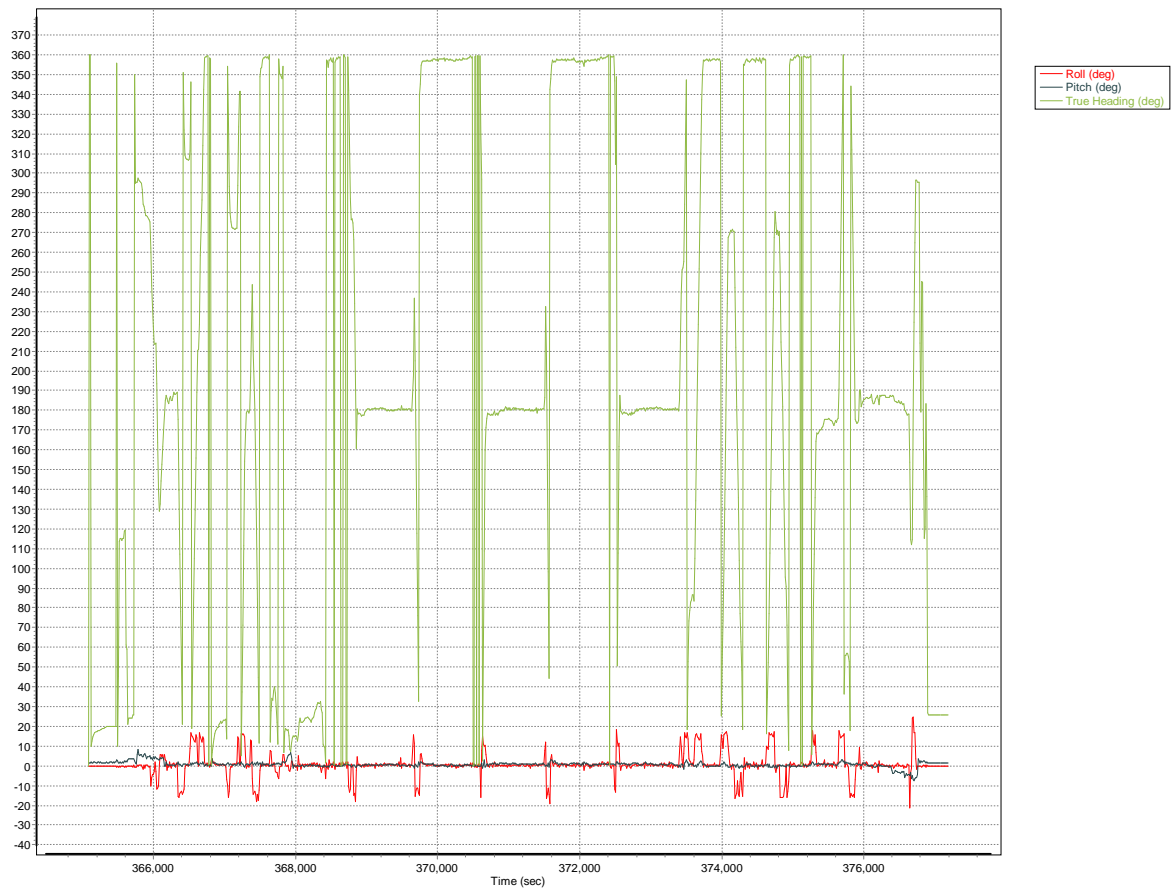
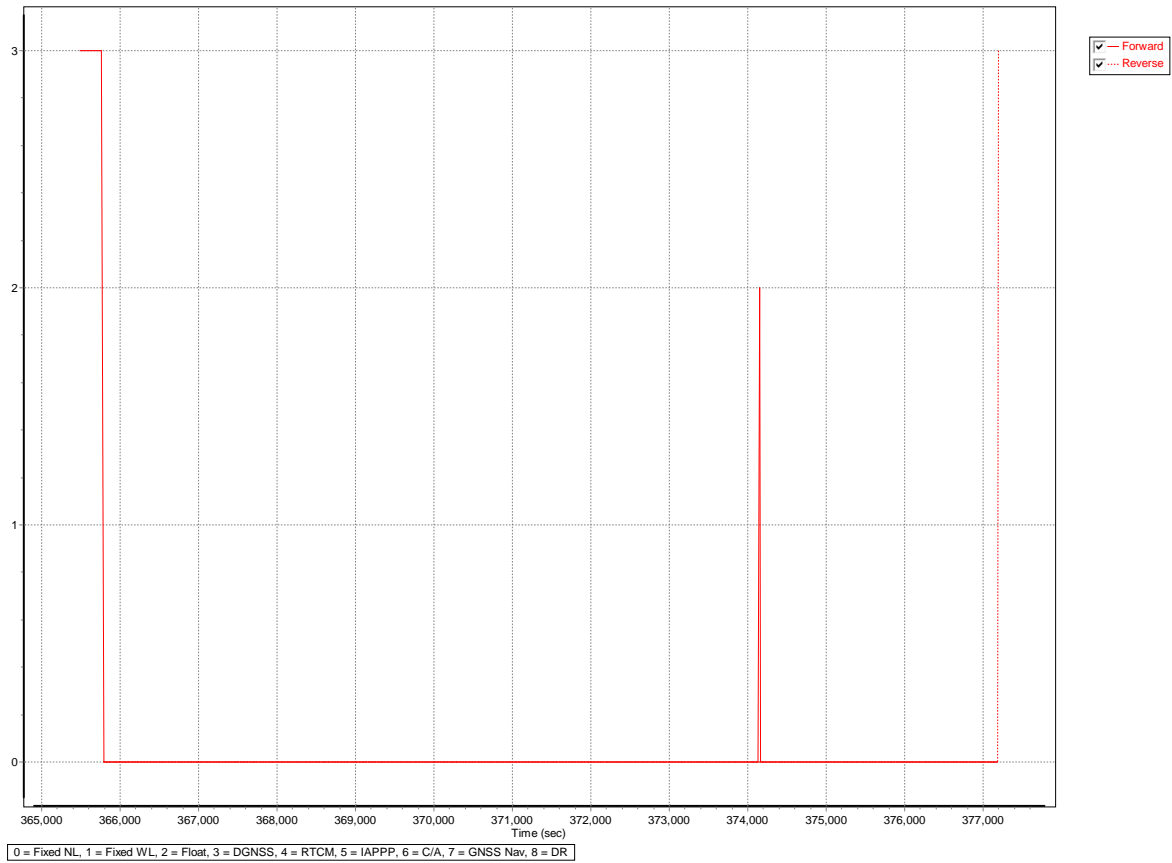
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205480556	-117.184601680556	188.002

Import Coordinates Export Coordinates Close



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	San Diego LIDAR
Project Number	14185
FCMS .fpd File/Nav File	San_Diepp_H300_LIDAR_Sited_v2

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/19/2014
Takeoff Time (Z): 0535	Local: 2135
Landing Time (Z): 0838	Local: 0038

Project Scanning Requirements	
Field of View	30
Scan Rate	42.5
Pulse Rate Frequency	75
Laser Output Current	%
Ground Speed (kts):	115
Hz Altitude AGL (ft):	3198
kHz MPIA or SPIA?:	

Data Information	
LIDAR Unit	12SEN315
HD #	2
POS/IPAS File #	20141119
from → to	503 → 520
FCMS File #	

Weather	Ground	Airport
Begin Temp	14	
Begin Dewpoint	11	KMYF
Begin Pressure	30.12	
End Temp	12	
End Dewpoint	9	KMYF
End Pressure	30.10	



GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	N/A
Static or Flyover?	→ if flyovers, times: P478: 2219 - 2224; 0015 - 0019

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	318	2157	2158	3400	W	0	109	<100 %	CROSSFLIGHT
2	85	2200	2201	3400	S	0	115	<100 %	SMOOTH
3	86	2204	2205	3400	N	0	105	<100 %	SMOOTH, KSAN ATC CONTROLLER KICKED US OUT OF THE AREA
4	247	2226	2239	4100	S	0	115	<100 %	SMOOTH, CLEAR
5	248	2241	2255	4000	N	0	105	<100 %	"
6	249	2257	2310	4000	S	0	111	<100 %	"
7	250	2312	2327	4000	N	0	107	<100 %	"
8	251	2328	2342	4000	S	0	112	<100 %	"
9	323	2344	2345	4000	E	0	115	<100 %	CROSSFLIGHT
10	252	2347	2352	4000	N	0	115	<100 %	SMOOTH, CLEAR
11	320	2353	2355	4000	W	0	115	<100 %	CROSSFLIGHT
12	252	2368	0002	4000	N	0	114	<100 %	CONTINUATION OF LINE 252 (10); POTENTIAL FOG LAYER UNDER FLIGHT LEVEL
13	321	0004	0006	4000	W	0	115	<100 %	CROSSFLIGHT
14	252	0007	0013	4000	N	0	115	<100 %	CONTINUATION OF LINE 252 (10)
								%	
								%	

Additional Notes:

Mission Page 1 Of 1

Base Station Log



GNSS OBSERVATION LOG

Date 11/ 19 / 2014

Julian Date: 323

Project Number: 14185 **Project Name:** San Diego LiDAR
Receiver Type: Topcon Hiper GA **Receiver S/N:** 251-2224
Antenna Type: Topcon Hiper GA **Antenna S/N:** 251-2224
Station ID: H3 **Operator:** Dave Korzep

Monument Type: Mag Spike

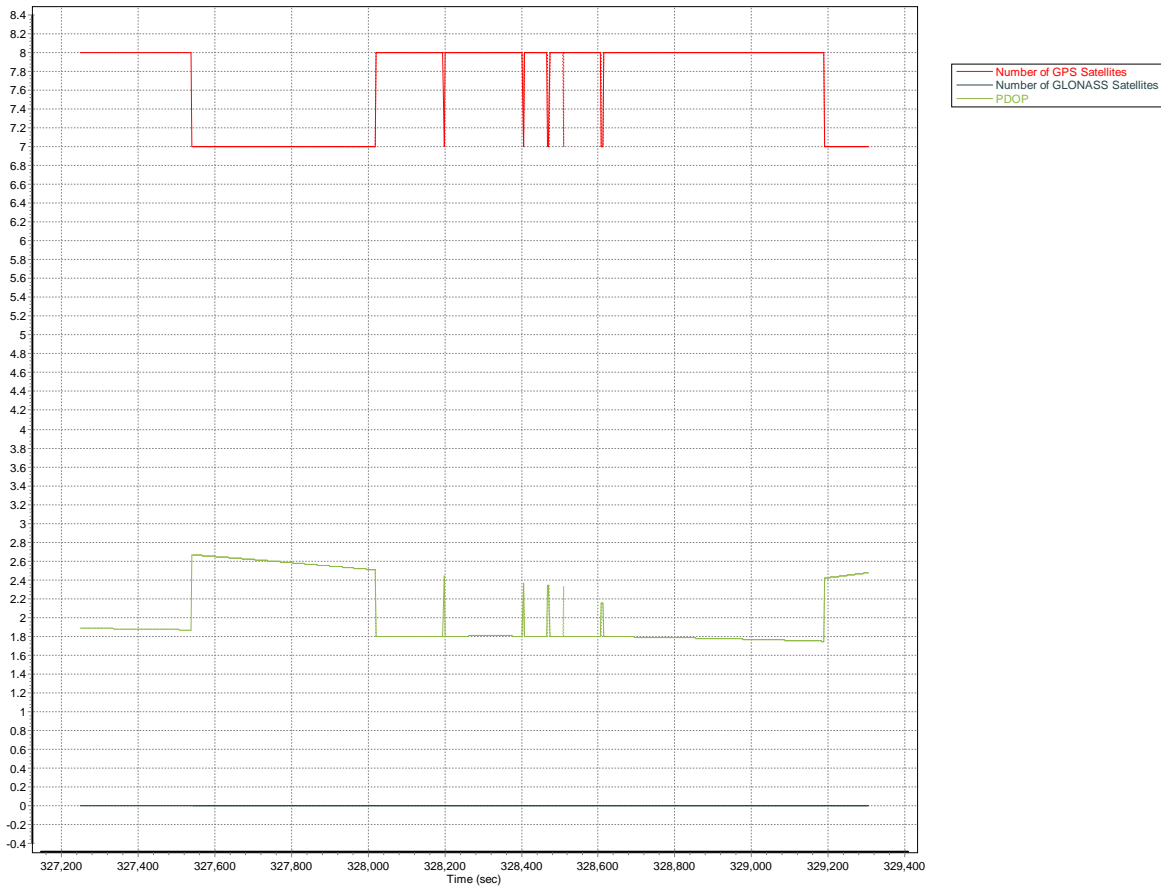
Start Time (Local / UTC): 2115 / 0515 **Stop Time (Local / UTC):** 0102 / 0902

Start HI (Meters): 2.106m **Stop HI (Meters):** 2.106m **HI (Ft)** 6.91

Receiver File Name: H31120f.tps

Comments: A backup base station was also set up. The raw data is available in the folder entitled 'Backup Base Data'.

20141121A_315



Coordinate Manager

Station Information

Station ID: ZLC1

Coordinates

Latitude: N 40 47 9.73905000

Longitude: W 111 57 7.78593000

Altitude: 1.287.6930 m

Decimal Degrees

Antenna Reference Point (ARP) coordinates

Antenna: Frame

Height: 0.000 m

Method: Bottom of antenna mount

Manufacturer: Micro Pulse

Type: MPLWAAS+L5

Offset from Measured Point to APC: 0.463 m

Apply Changes

Station Database

Station ID: ZLC1 Station FullName: ZLC1

Primary Service ID: [] Edit

Coordinate Accuracy: UNKNOWN_ACC

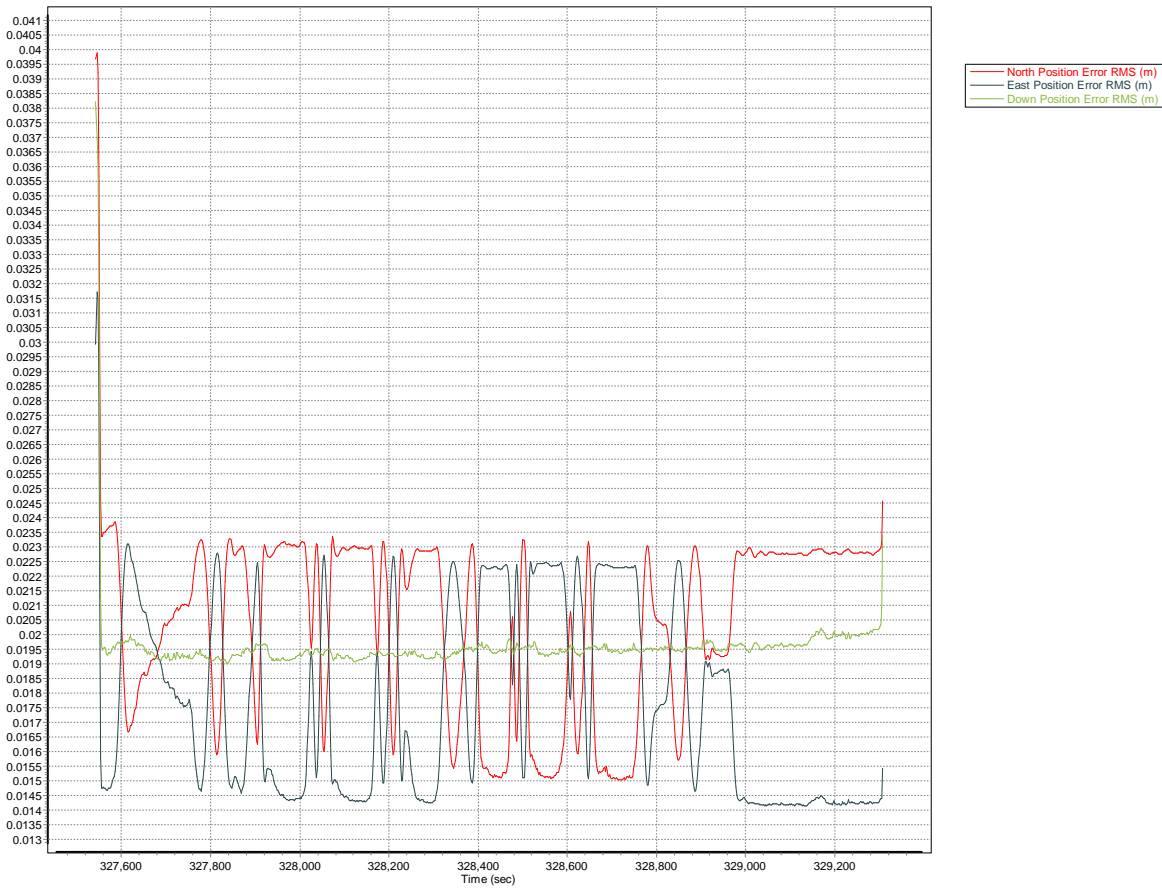
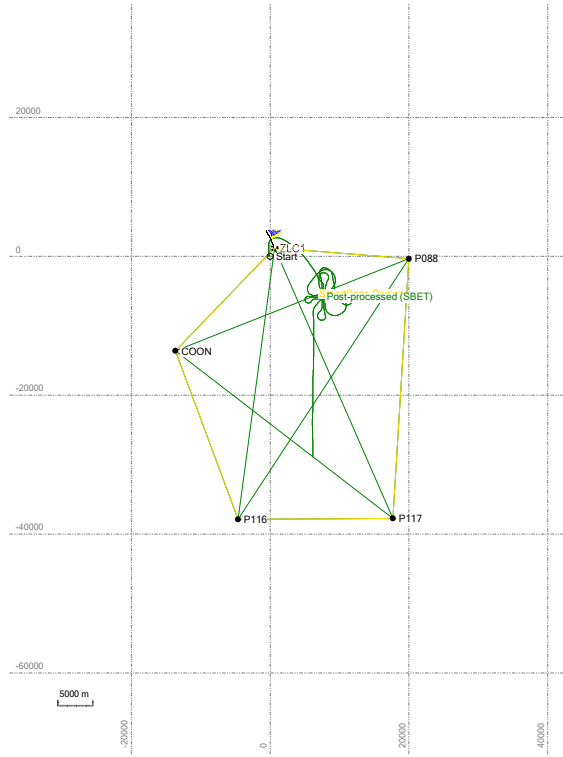
Secondary Service ID: [] Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205486111	-117.154601686111	188.002

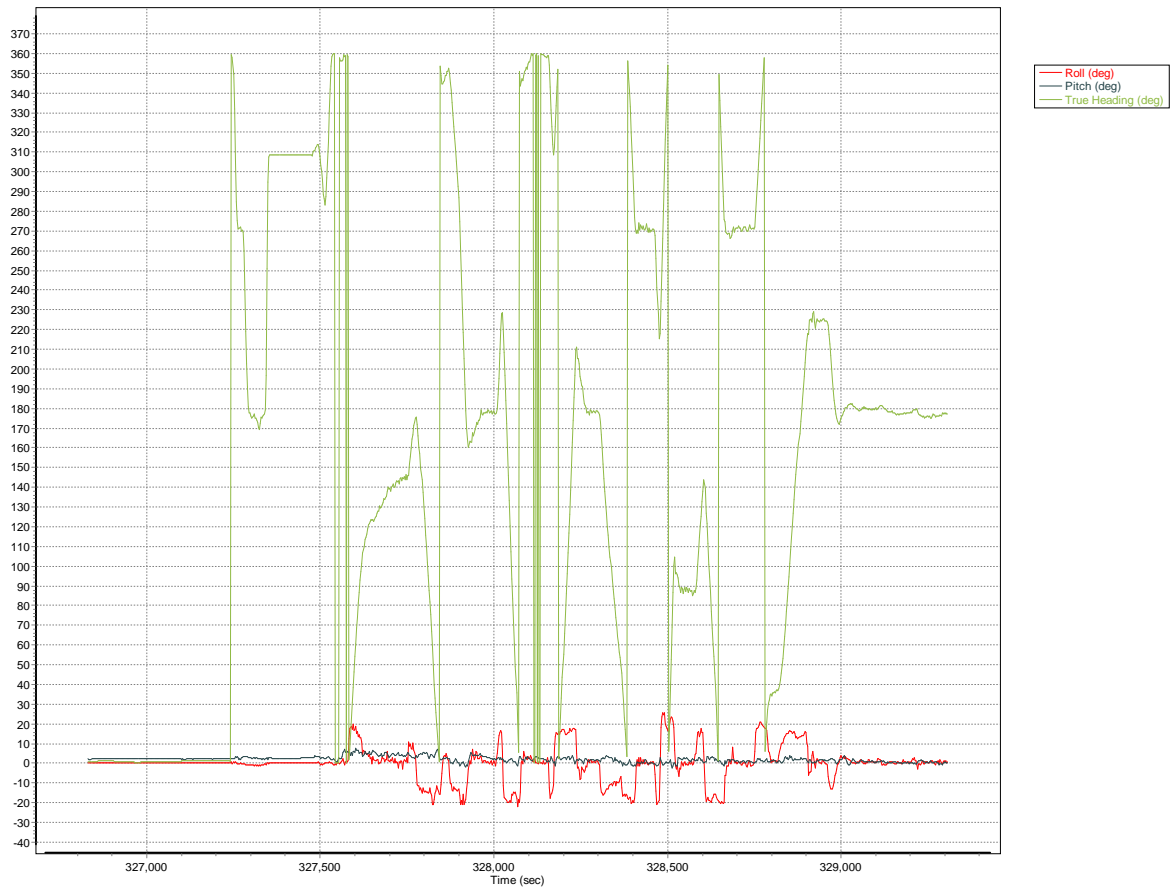
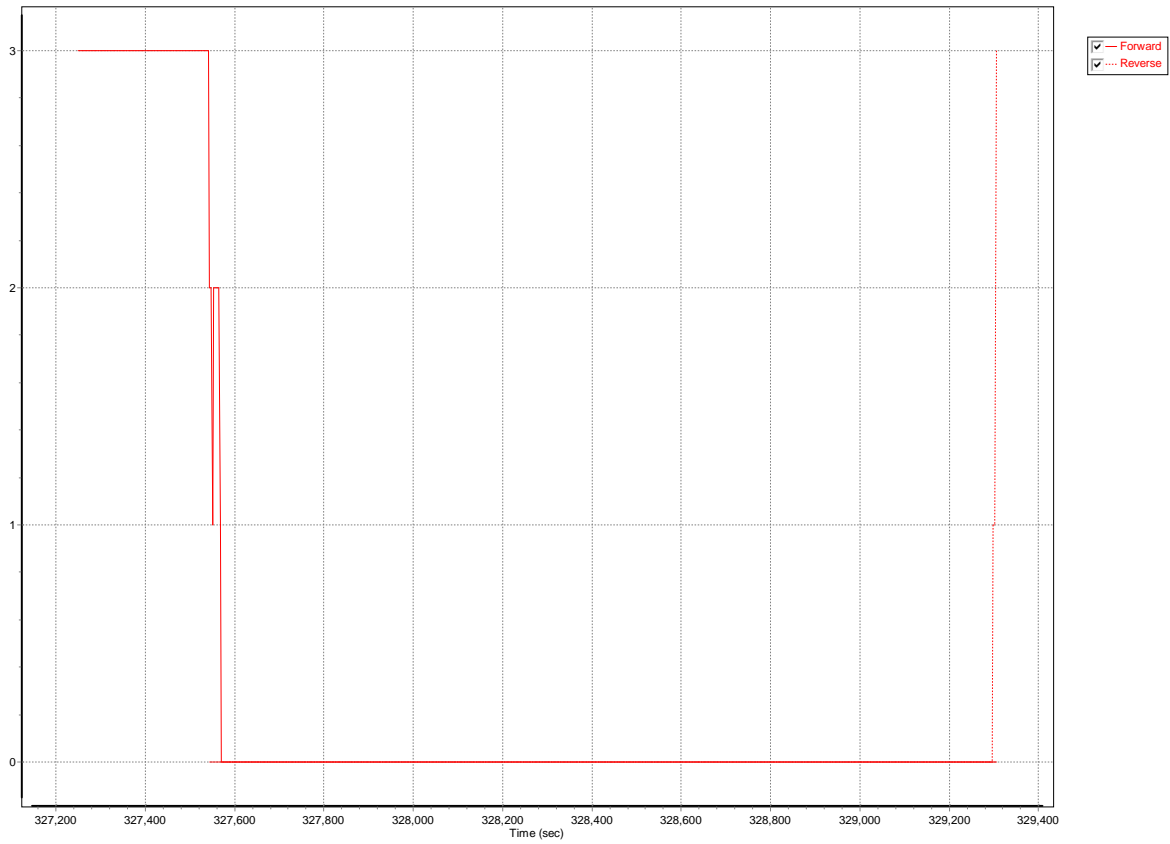
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	San Diego LIDAR
Project Number	14185
FCMS .fpd File/Nav File	San_Diego_H300_LIDAR_Sited_v2

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/21/2014	LIFT 1
Takeoff Time (Z): 0027	Local: 1627	Airport: KMYF
Landing Time (Z): 0224	Local: 1824	Airport: KMYF

Project Scanning Requirements	
Field of View	30
Scan Rate	42.5
Pulse Rate Frequency	75
Laser Output Current	%
Ground Speed (kts):	115
Hz Altitude AGL (ft):	3198
kHz MPIA or SPIA?:	

Data Information	
LIDAR Unit	12SEN315
HD #	2
POS/IPAS File #	20141121
from → to	521 → 532
FCMS File #	

GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	n/a
Static or Flyover?	→ if flyovers, times: 1651 - 1656; 1759 - 1803



Weather	Ground	Airport
Begin Temp	18	
Begin Dewpoint	11	KMYF
Begin Pressure	29.96	
End Temp	17	
End Dewpoint	12	KMYF
End Pressure	30.00	

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	253	1657	1711	4100	S	0	112	<100 %	SMOOTH AND CLEAR
2	254	1712	1727	4000	N	0	112	<100 %	"
3	255	1729	1741	4300	S	0	115	<100 %	"
4	323	1742	1744	3900	E	0	95	<100 %	CROSSFLIGHT
5	320	1747	1749	4000	W	0	115	<100 %	CROSSFLIGHT
6	321	1754	1756	4000	E	0	110	<100 %	CROSSFLIGHT
								%	
								%	
								%	
								%	
								%	
								%	
								%	
								%	
								%	
								%	
								%	
								%	
								%	

Additional Notes:

Mission Page 1 Of 1

Base Station Log



GNSS OBSERVATION LOG

Date 11 / 21 / 2014 Lifts 1 & 2

Julian Date: 325

Project Number: 14185 Project Name: San Diego LiDAR
Receiver Type: Topcon Hiper GA Receiver S/N: 251-2224
Antenna Type: Topcon Hiper GA Antenna S/N: 251-2224
Station ID: H3 Operator: Dave Korzep

Monument Type: Mag Spike

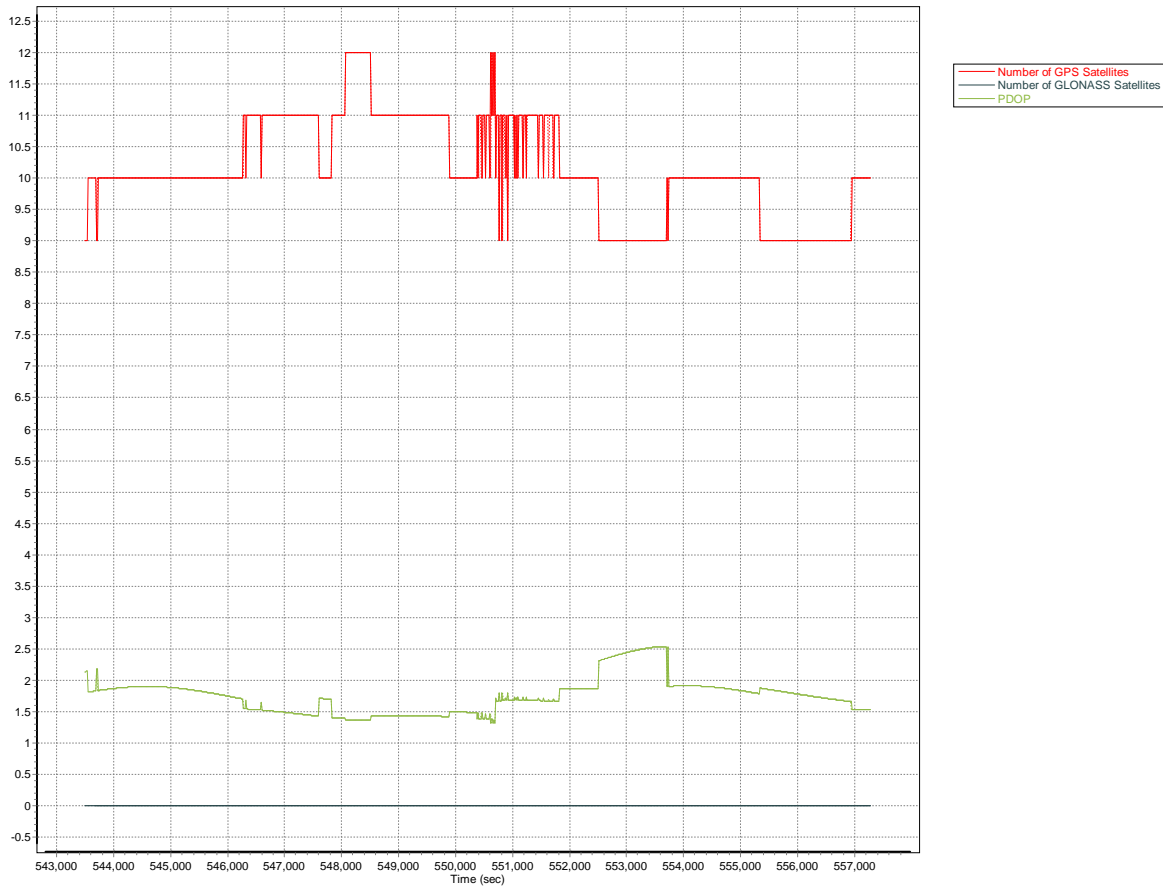
Start Time (Local / UTC): 1405 / 2205 Stop Time (Local / UTC): 1627 / 0027
2249 / 0649 0300 / 1100

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31122a.tps ; H31122g.tps

Comments: A backup base station was also set up. The raw data is available in the
folder entitled 'Backup Base Data'.

20141121B_315



Coordinate Manager

Station Information

Station ID: SIO5

Coordinates

Latitude: N 32 50 26.63269000

Longitude: W 117 14 58.83411000

Altitude: 186.2840 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Topcon

Type: TPS CR.G3 w/SCIT

Offset from Measured Point to APC: 0.105 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: SIO5 Station FullName: SIO5

Primary Service ID: Edit

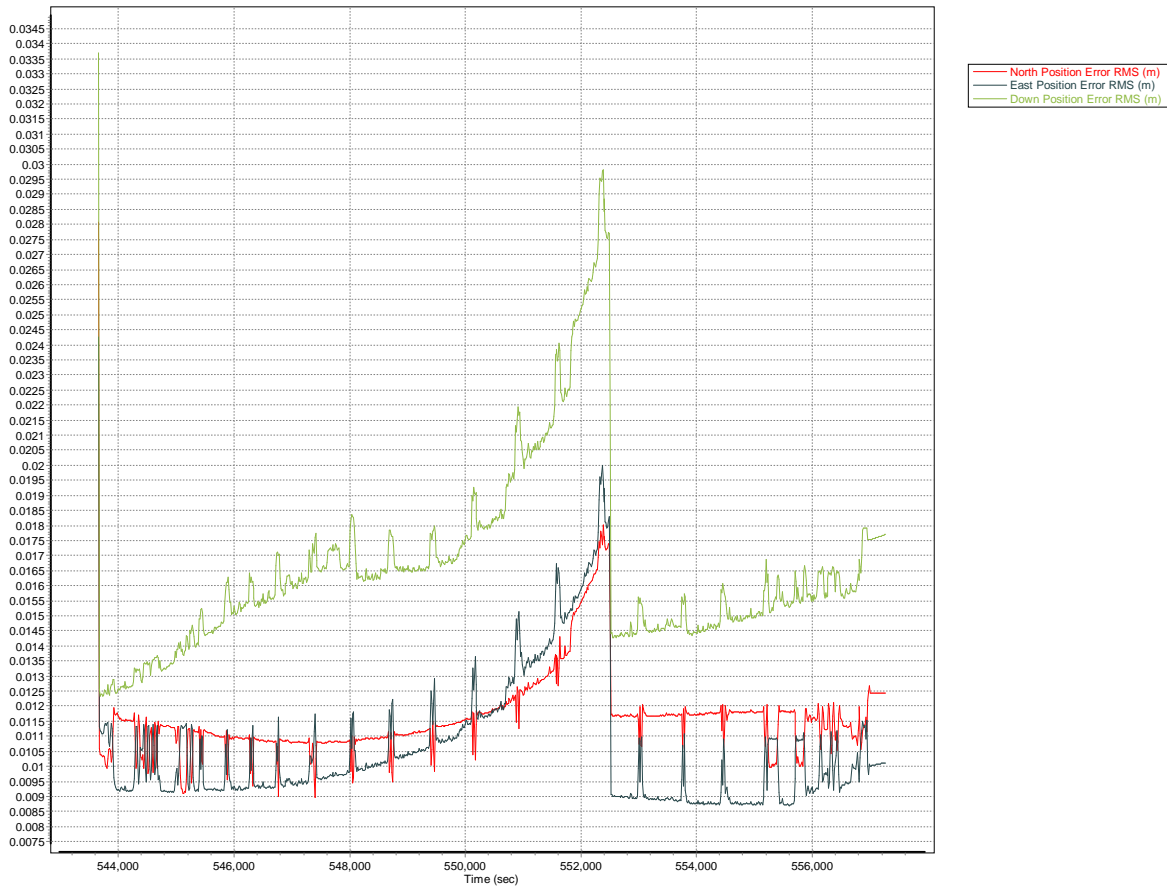
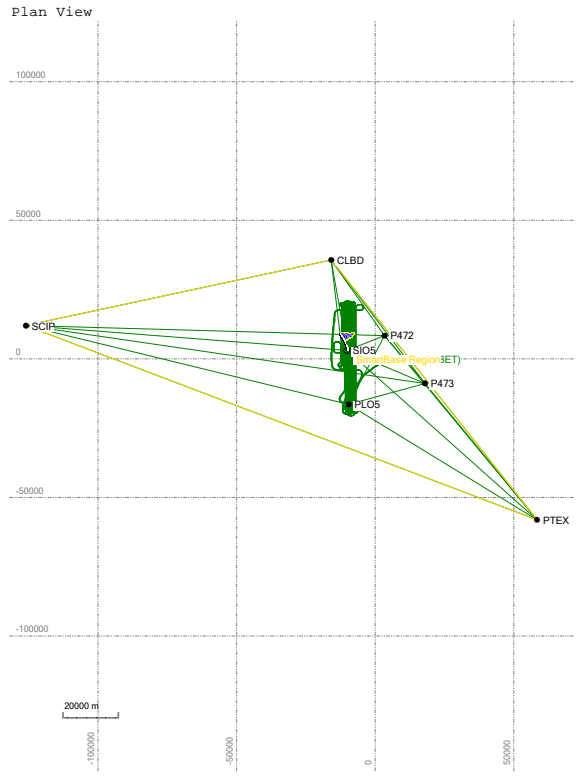
Coordinate Accuracy: UNKNOWN_ACC

Secondary Service ID: Edit Add Delete Update

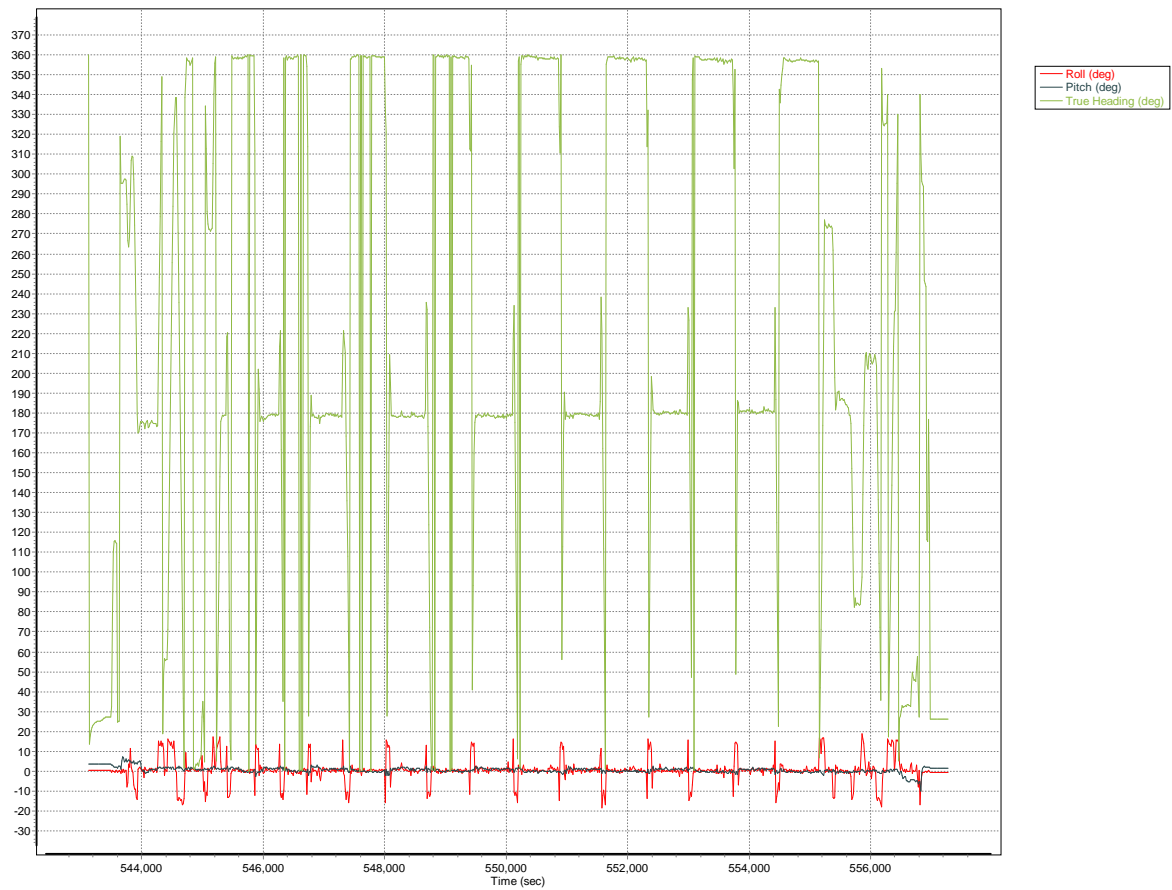
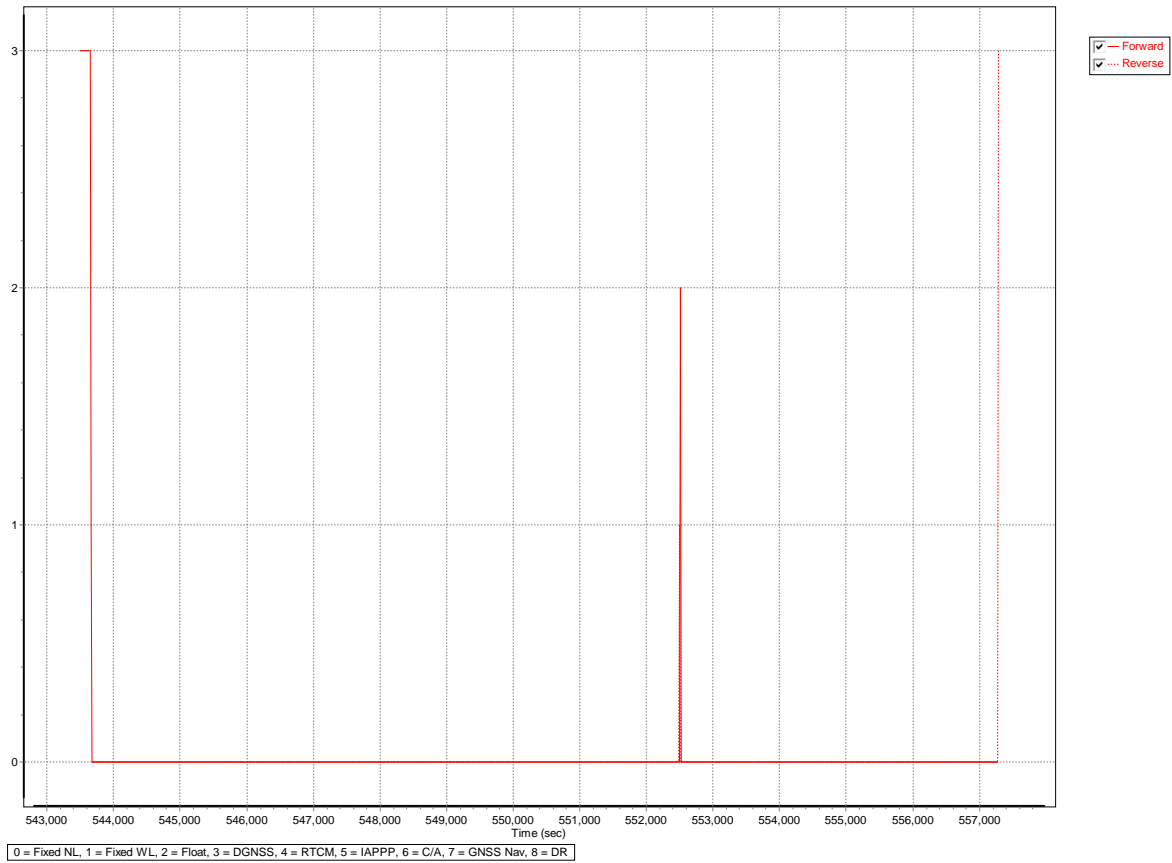
Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8966	WGS84	33.888205486111	-117.184681686111	188.002

Import Coordinates Export Coordinates

Close



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	San Diego LIDAR		
Project Number	14185		
FCMS .fpd File/Nav File	San_Diego_H300_LIDAR_Sited_v2		
Project Scanning Requirements			
Field of View	30	Ground Speed (kts):	115
Scan Rate	42.5	Hz Altitude AGL (ft):	3198
Pulse Rate Frequency	75	kHz MPIA or SPIA?:	
Laser Output Current	%		

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/21/2014	LIFT2
Takeoff Time (Z): 0700	Local: 2300	Airport: KMYF
Landing Time (Z): 1040	Local: 0240	Airport: KMYF

Data Information	
LIDAR Unit	12SEN315
HD #	2
POS/IPAS File #	20141121Lift2
from → to	533 → 553
FCMS File #	

Weather	Ground	Airport
Begin Temp	14	
Begin Dewpoint	11	KMYF
Begin Pressure	30.07	
End Temp	12	
End Dewpoint	10	KMYF
End Pressure	30.07	



GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	n/a
Static or Flyover?	→ if flyovers, times: n/a

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	318	2323	2324	3250	W	0	107	<100 %	CROSSFLIGHT
2	87	2327	2329	3400	S	0	99	<100 %	SMOOTH AND CLEAR; WIND OUT OF NORTH
3	88	2330	2336	3400	N	0	115	<100 %	"
4	89	2338	2343	3500	S	0	115	<100 %	"
5	90	2345	2351	3400	N	0	111	<100 %	"
6	91	2352	0000	3400	S	0	115	<100 %	"
7	92	0002	0012	3400	N	0	110	<100 %	"
8	93	0013	0023	3400	S	0	115	<100 %	"
9	94	0024	0035	3400	N	0	112	<100 %	"
10	95	0037	0047	3400	S	0	115	<100 %	"
11	96	0049	0100	3400	N	0	112	<100 %	"
12	97	0101	0111	3500	S	0	115	<100 %	"
13	98	0113	0124	3500	N	0	110	<100 %	"
14	99	0125	0135	3500	S	0	115	<100 %	"
15	100	1037	0148	3500	N	0	112	<100 %	"
16	101	0149	0159	3500	S	0	115	<100 %	"

Additional Notes:

17	102	0201	0211	3500	N	0	110	<100	"
18	323	0212	0215	3500	W	0	111	<100	CROSSFLIGHT
19	319	0221	0224	3500	E	0	120	<100	CROSSFLIGHT

Base Station Log



GNSS OBSERVATION LOG

Date 11 / 21 / 2014 Lifts 1 & 2

Julian Date: 325

Project Number: 14185 Project Name: San Diego LiDAR
Receiver Type: Topcon Hiper GA Receiver S/N: 251-2224
Antenna Type: Topcon Hiper GA Antenna S/N: 251-2224
Station ID: H3 Operator: Dave Korzep

Monument Type: Mag Spike

Start Time (Local / UTC): 1405 / 2205 Stop Time (Local / UTC): 1627 / 0027
2249 / 0649 0300 / 1100

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31122a.tps ; H31122g.tps

Comments: A backup base station was also set up. The raw data is available in the
folder entitled 'Backup Base Data'.

20141122A_315



Coordinate Manager

Station Information

Station ID: P473

Coordinates

Latitude: N 32 44 1.58057000

Longitude: W 116 56 58.20691000

Altitude: 189.3280 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P473 Station FullName: P473

Primary Service ID: Edit

Coordinate Accuracy: UNKNOWN_ACC

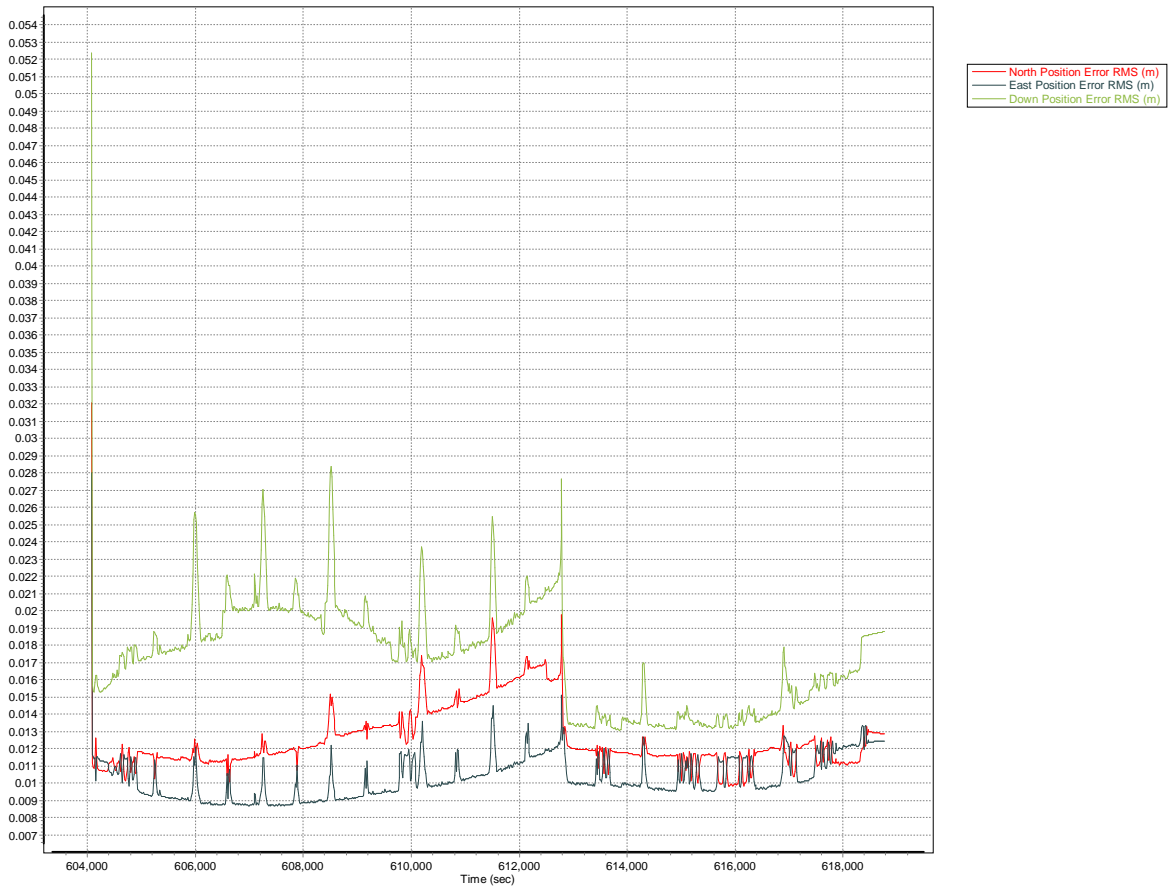
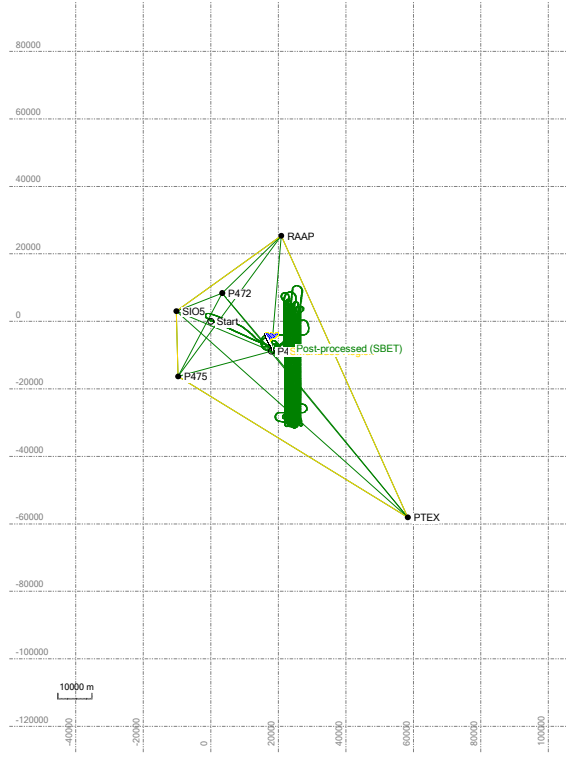
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P473	P473	ITRF00	2014.8959	WGS84	32.880205486111	-117.184681686111	188.002

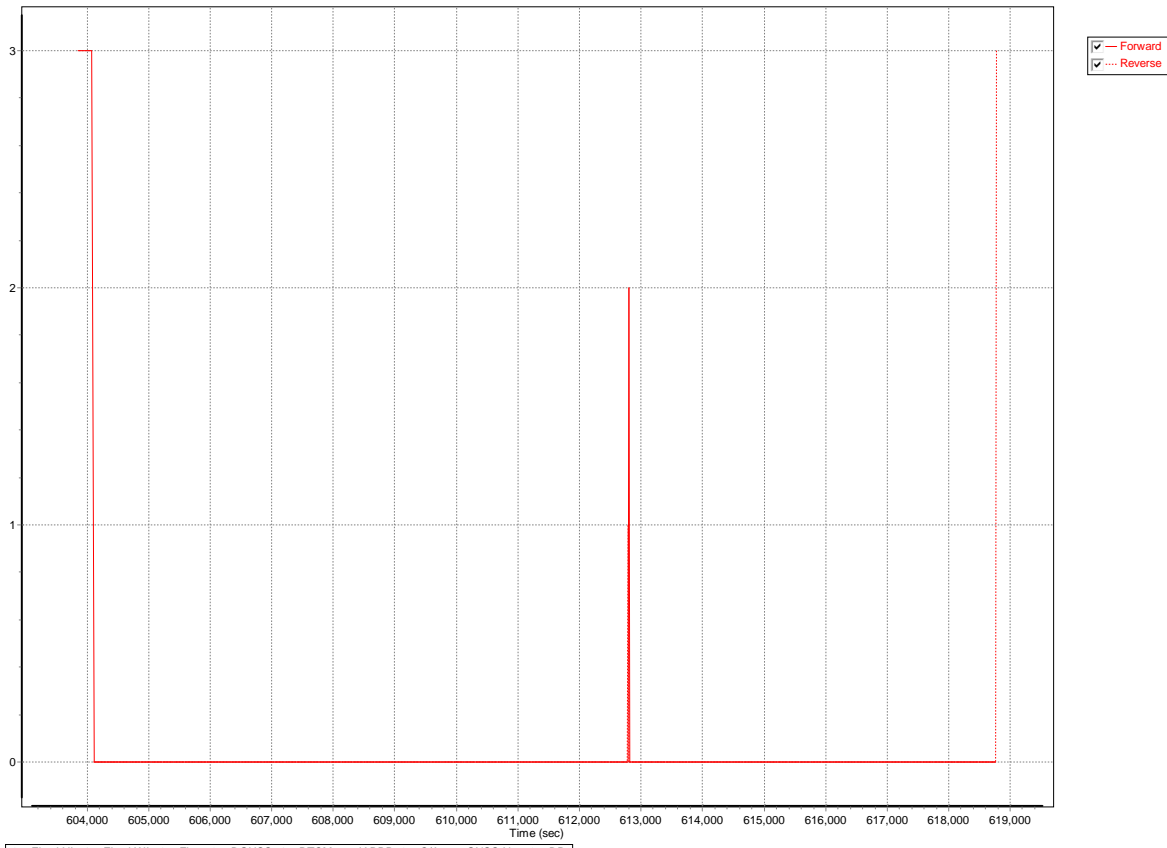
Import Coordinates Export Coordinates

Close

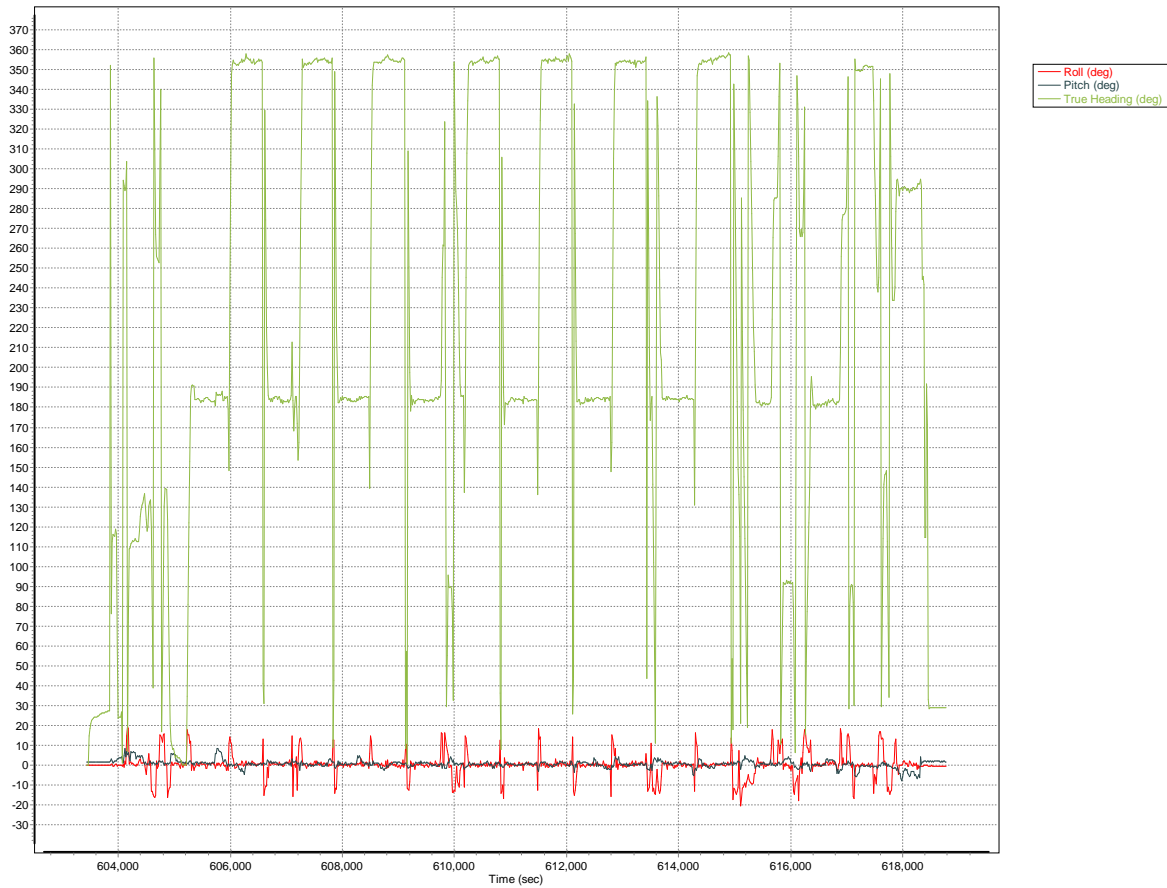
Plan View



Processing mode



0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	San Diego LIDAR	
Project Number	14185	
FCMS .fpd File/Nav File	San_Diepp_H3000_LIDAR_Sited_V2	
Project Scanning Requirements		
Field of View	30	Ground Speed (kts): 115
Scan Rate	42.5	Hz Altitude AGL (ft): 3198
Pulse Rate Frequency	75	kHz MPIA or SPIA?:
Laser Output Current		%

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/22/2014	
Takeoff Time (Z): 2335	Local: 1535	Airport: KMYF
Landing Time (Z): 0344	Local: 1944	Airport: KMYF

Data Information	
LIDAR Unit	12SEN315
HD #	2
POS/IPAS File #	20141122
from → to	554 → 576
FCMS File #	

Weather		Ground		Airport	
Begin Temp		21			
Begin Dewpoint		10			KMYF
Begin Pressure		30.04			
End Temp		16			
End Dewpoint		13			KMYF
End Pressure		30.05			



GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	n/a
Static or Flyover?	→ if flyovers, times: 1603 - 1606; 1926 - 1930

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	198	1609	1618	4500 - 5500	S	0	113	<100 %	CLOUDS TO WEST, MOIST
2	197	1619	1628	5500 - 4500	N	0	113	<100 %	"
3	196	1630	1637	4500 - 5500	S	0	115	<100 %	TRAFFIC CAUSED US TO CUT LINE SHORT, REFLOWN LATER
4	195	1640	1649	4600	N	0	110	<100 %	THICKENING CLOUDS TO WEST
5	194	1650	1700	5000	S	0	111	<100 %	"
6	193	1701	1711	5000	N	0	115	<100 %	"
7	192	1712	1721	4600	S	0	109	<100 %	"
8	317	1722	1725	4400	E	0	117	<100 %	CROSSFLIGHT
9	192	1726	1728	4600	S	0	115	<100 %	CONTINUATION OF LINE 192 (7)
10	191	1729	1739	4500	N	0	110	<100 %	CLOUDS BELOW FLIGHT LEVEL TO WEST OF LINE
11	190	1740	1750	4500	S	0	112	<100 %	"
12	189	1751	1800	4500	N	0	112	<100 %	"
13	188	1802	1812	4500	S	0	114	<100 %	"
14	187	1813	1822	4500	N	0	115	<100 %	"
15	186	1826	1837	4500	S	0	107	<100 %	"
16	185	1838	1847	4500	N	0	113	<100 %	"

Additional Notes:

Base Station Log



GNSS OBSERVATION LOG

Date 11 / 22 / 2014

Julian Date: 326

Project Number: 14185 **Project Name:** San Diego LiDAR
Receiver Type: Topcon Hiper GA **Receiver S/N:** 251-2224
Antenna Type: Topcon Hiper GA **Antenna S/N:** 251-2224
Station ID: H3 **Operator:** Dave Korzep

Monument Type: Mag Spike

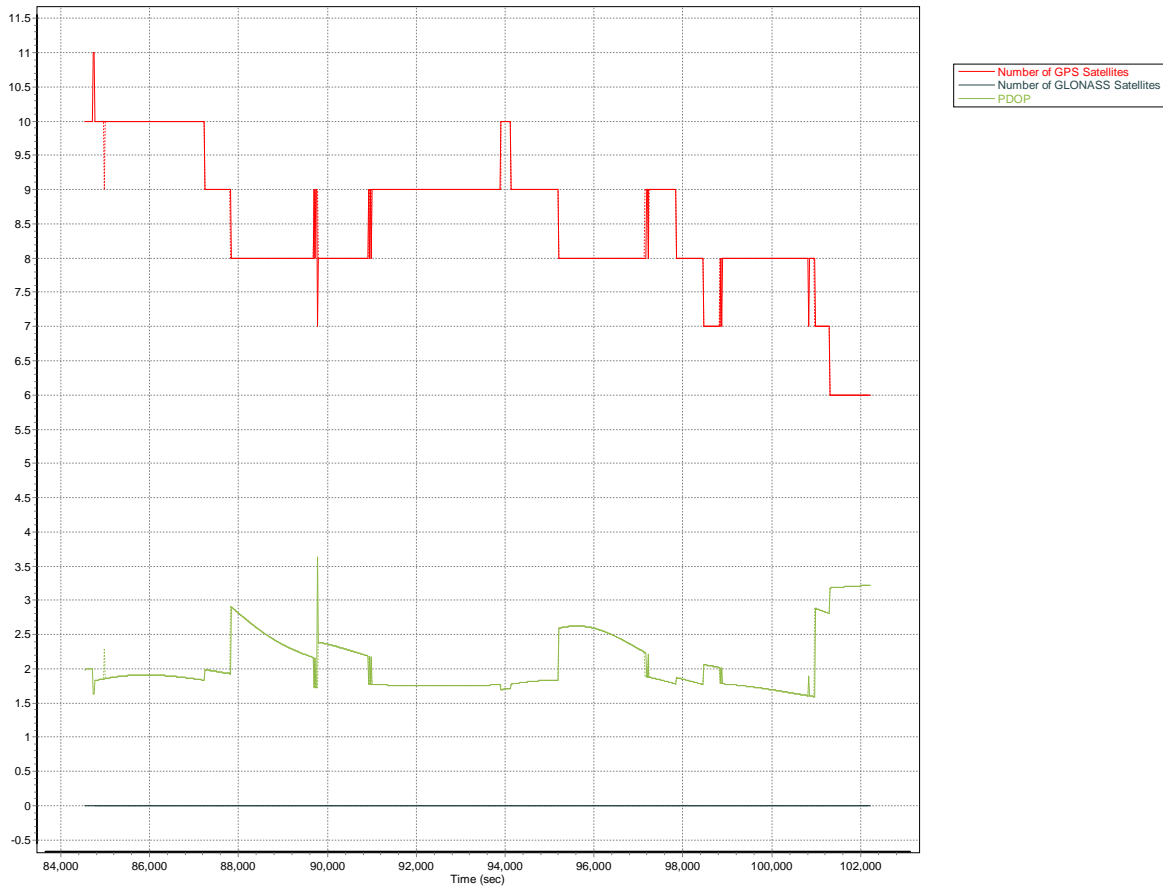
Start Time (Local / UTC): 1507 / 2307 **Stop Time (Local / UTC):** 2010 / 0410

Start HI (Meters): 2.106m **Stop HI (Meters):** 2.106m **HI (Ft)** 6.91

Receiver File Name: H31122x.tps

Comments: A backup base station was also set up. The raw data is available in the folder entitled 'Backup Base Data'.

20141123A_315



Coordinate Manager

Station Information

Station ID: SIO5

Coordinates

Latitude: N 32 50 26.63269000

Longitude: W 117 14 58.83411000

Altitude: 186.2840 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Topcon

Type: TPS CR.G3 w/SCIT

Offset from Measured Point to APC: 0.105 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: SIO5 Station FullName: SIO5

Primary Service ID: Edit

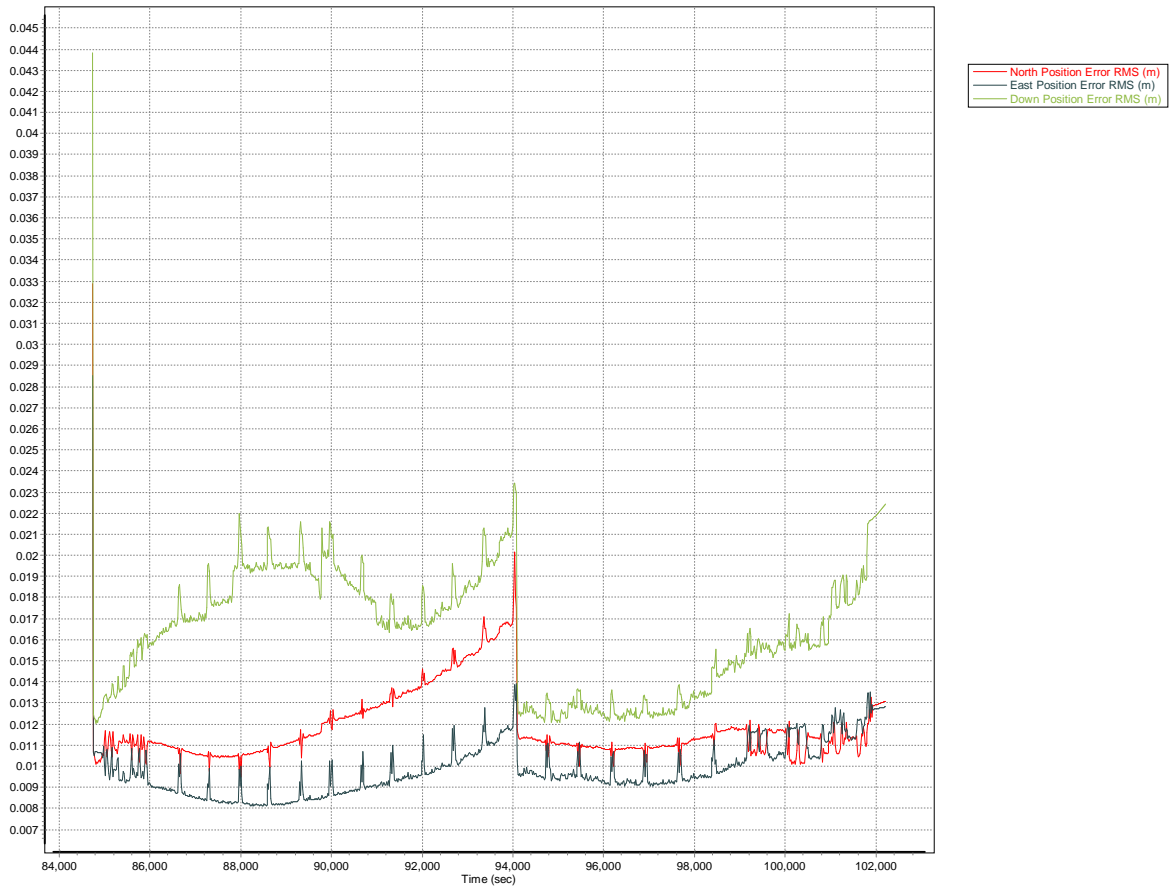
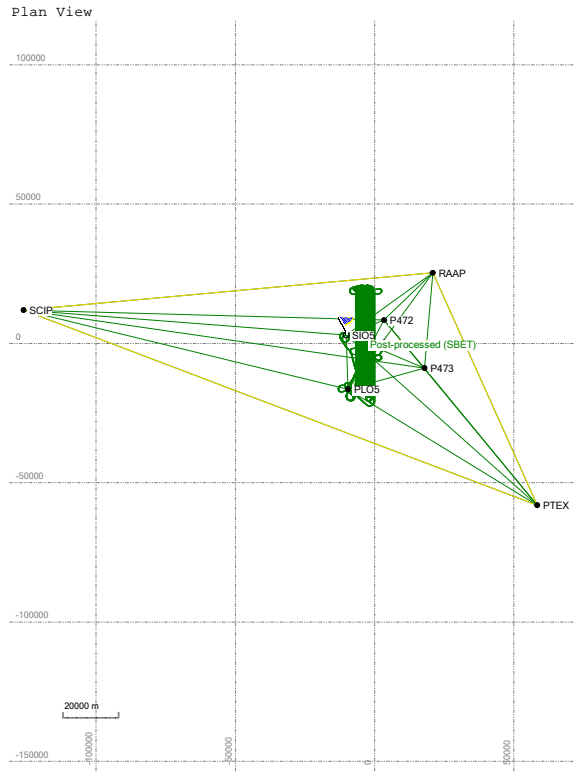
Coordinate Accuracy: UNKNOWN_ACC

Secondary Service ID: Edit Add Delete Update

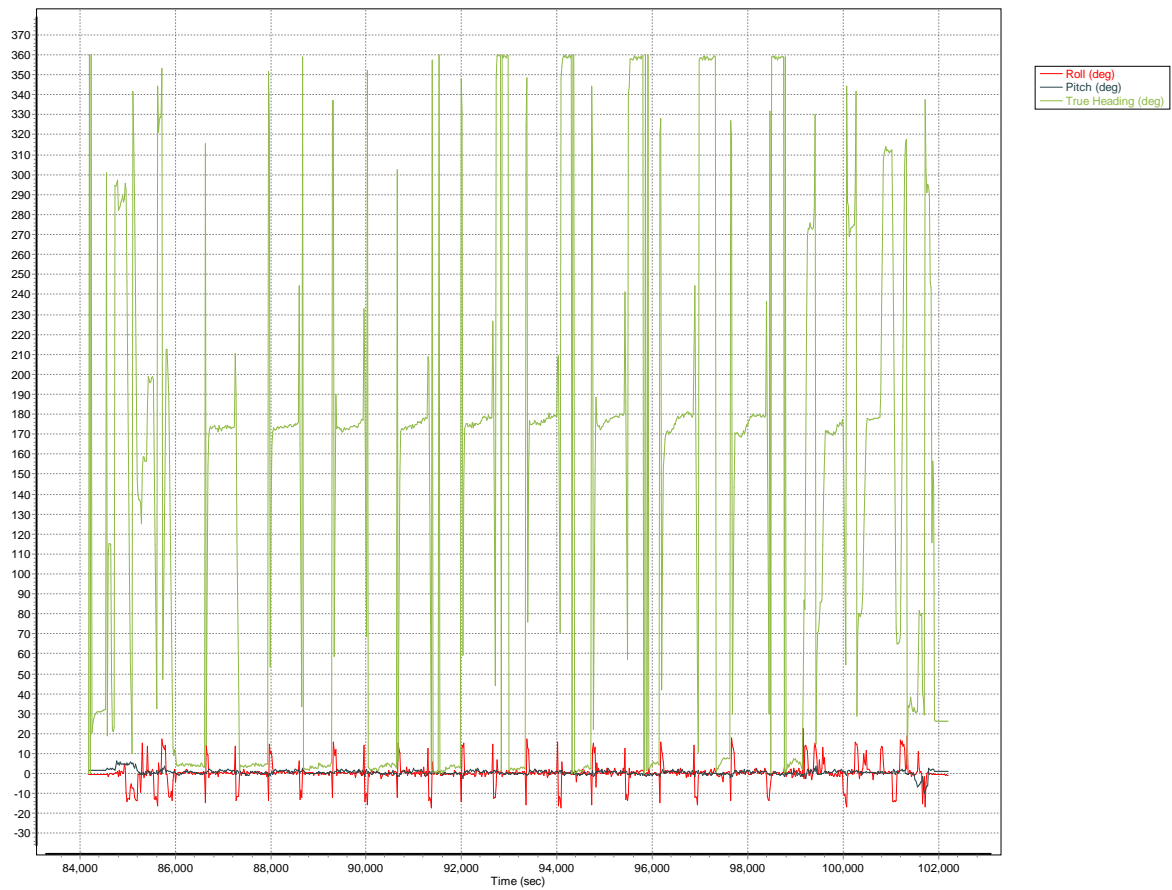
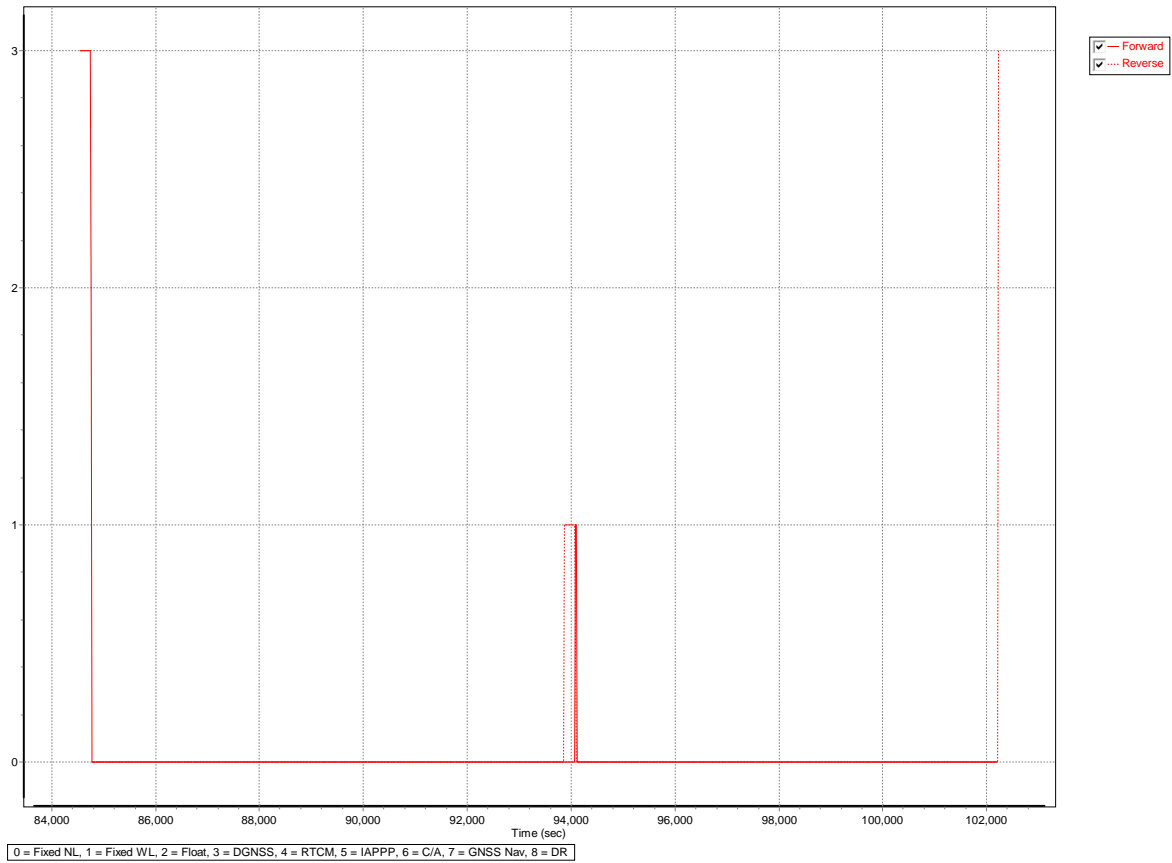
Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8966	WGS84	32.880205486111	-117.154601686111	188.002

Import Coordinates Export Coordinates

Close



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Project Name	San Diego LIDAR	
Project Number	14185	
FCMS .fpd File/Nav File	San_Diego_H300_LIDAR_Sited_v2	
Project Scanning Requirements		
Field of View	30	Ground Speed (kts): 115
Scan Rate	42.5	Hz Altitude AGL (ft): 3198
Pulse Rate Frequency	75	kHz MPIA or SPIA?
Laser Output Current		%

GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	n/a
Static or Flyover?	Static + Flyovers + Figure 8s → if flyovers, times: n/a

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/23/2014	
Takeoff Time (Z):	2331	Local: 1531
Landing Time (Z):	0416	Local: 2016
	Airport: KMYF	Airport: KMYF

Data Information	
LIDAR Unit	12SEN315
HD #	2
POS/IPAS File #	20141123
from → to	577 → 603
FCMS File #	

Weather		Ground		Airport	
Begin Temp		23			
Begin Dewpoint		11			KMYF
Begin Pressure		30.05			
End Temp		16			
End Dewpoint		11			KMYF
End Pressure		30.11			



Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	103	1552	1602	3500	N	0	108	<100 %	CLEAR, SMOOTH
2	104	1603	1613	"	S	0	117	<100 %	"
3	105	1614	1625	"	N	0	112	<100 %	"
4	106	1626	1635	"	S	0	114	<100 %	"
5	107	1637	1647	"	N	0	111	<100 %	"
6	108	1648	1658	"	S	0	113	<100 %	"
7	109	1659	1709	"	N	0	112	<100 %	"
8	110	1710	1720	"	S	0	115	<100 %	"
9	111	1722	1732	"	N	0	116	<100 %	"
10	112	1733	1743	"	S	0	115	<100 %	"
11	113	1744	1754	"	N	0	113	<100 %	"
12	114	1755	1805	"	S	0	119	<100 %	"
13	115	1807	1817	"	N	0	113	<100 %	"
14	116	1819	1829	"	S	0	118	<100 %	MILD CHOP
15	117	1830	1841	"	N	0	116	<100 %	"
16	118	1843	1853	"	S	0	118	<100 %	"

Additional Notes:

Base Station Log



GNSS OBSERVATION LOG

Date 11 / 23 / 2014

Julian Date: 227

Project Number: 14185 Project Name: San Diego LiDAR
Receiver Type: Topcon Hiper GA Receiver S/N: 251-2224
Antenna Type: Topcon Hiper GA Antenna S/N: 251-2224
Station ID: H3 Operator: Dave Korzep

Monument Type: Mag Spike

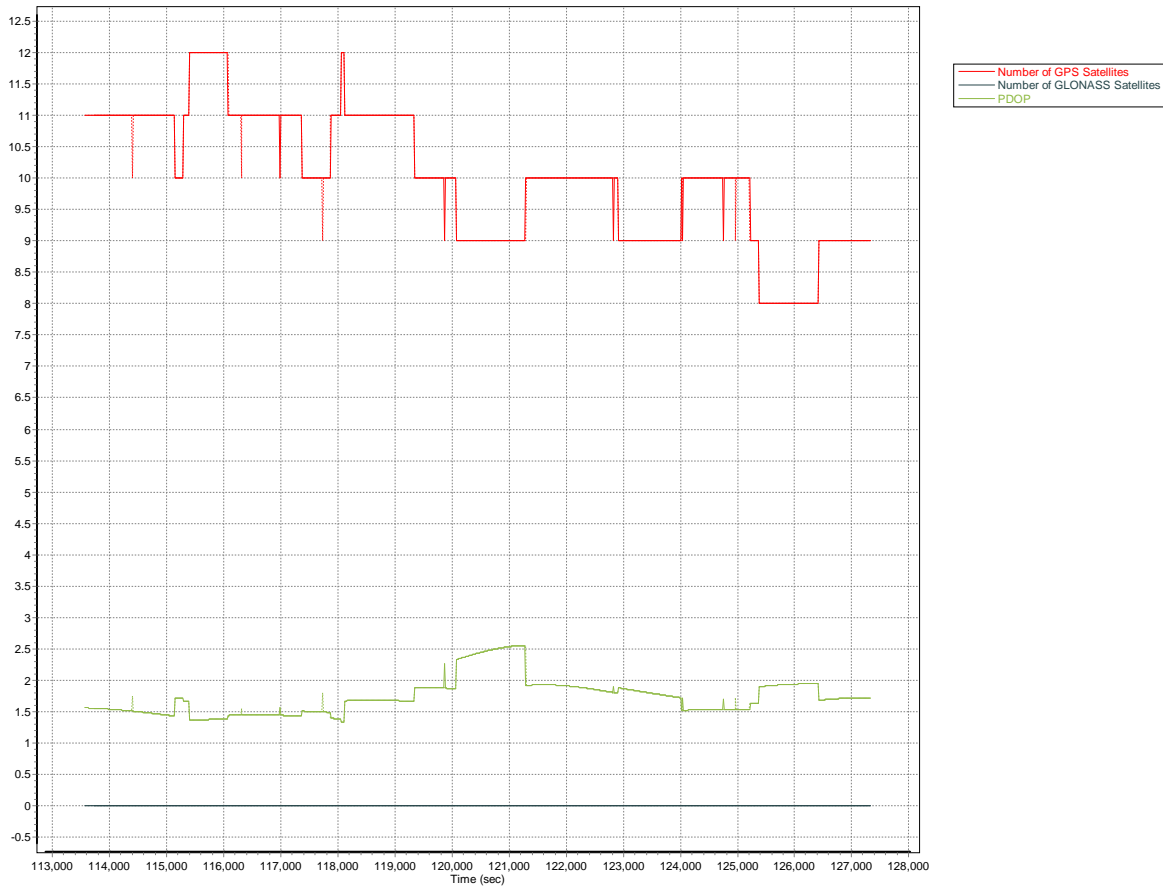
Start Time (Local / UTC): 1510 / 2310 Stop Time (Local / UTC): 2046 / 0446
2318 / 0718 0345 / 1145

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31123X.tps / H31124h.tps

Comments: A backup base station was also set up. The raw data is available in the
folder entitled 'Backup Base Data'.

20141123B_315



Coordinate Manager

Station Information

Station ID: P473

Coordinates

Latitude: N 32 44 1.58057000

Longitude: W 116 56 58.20691000

Altitude: 189.3280 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P473 Station FullName: P473

Primary Service ID: Edit

Coordinate Accuracy: UNKNOWN_ACC

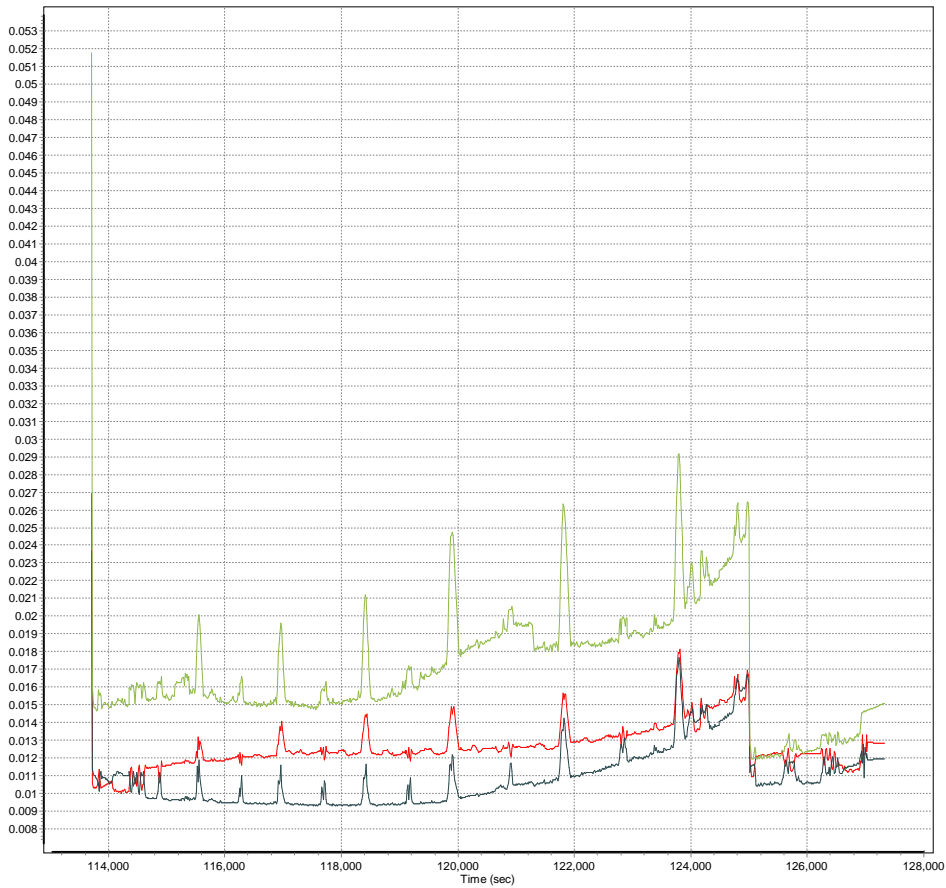
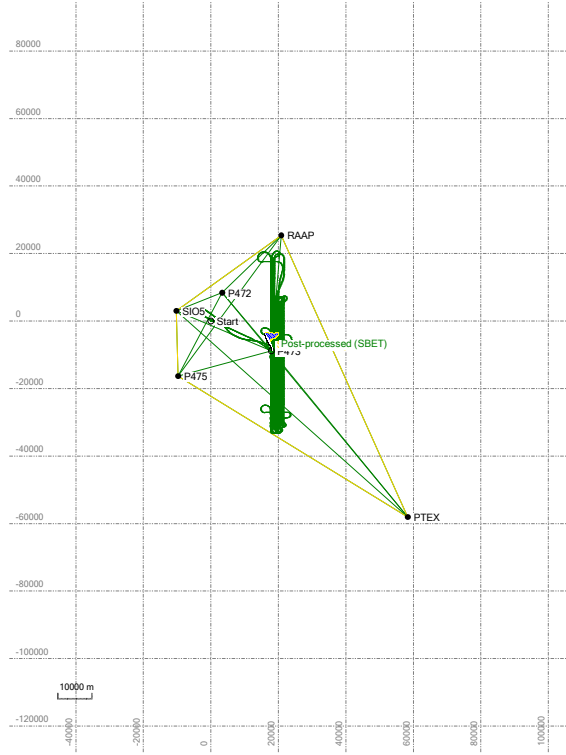
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P473	P473	ITRF00	2014.8959	WGS84	32.880205486111	-117.184681686111	188.002

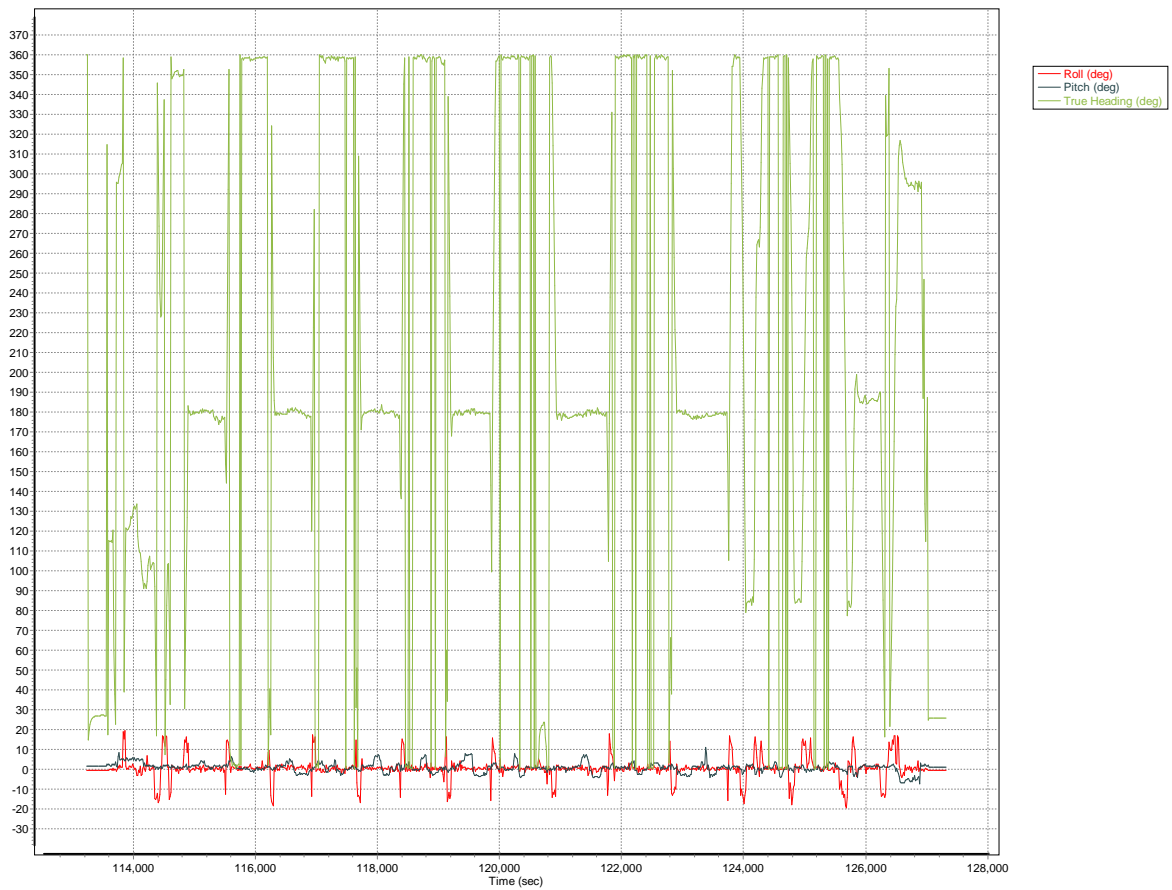
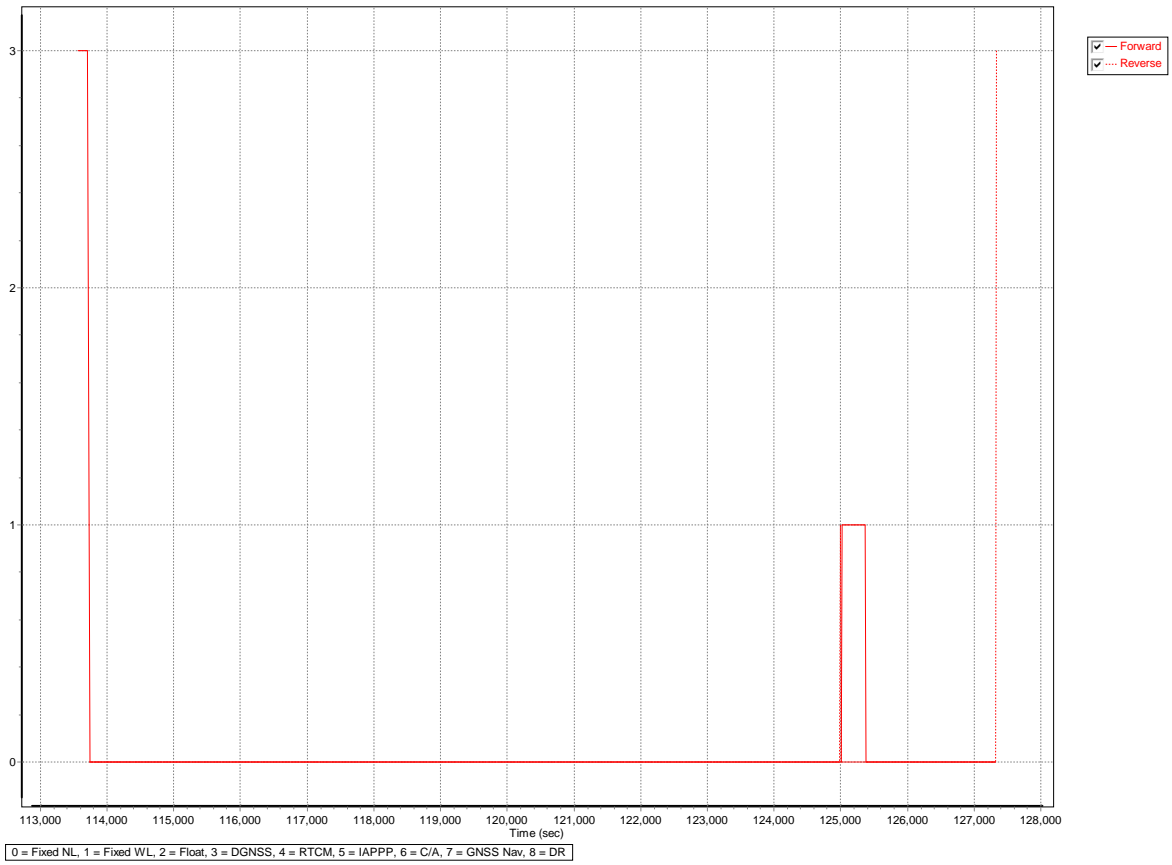
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Project Name	San Diego LIDAR	
Project Number	14185	
FCMS .fpd File/Nav File	San_Diepp_H300_LIDAR_Sited_v2	
Project Scanning Requirements		
Field of View	30	Ground Speed (kts): 115
Scan Rate	42.5	Hz Altitude AGL (ft): 3198
Pulse Rate Frequency	75	kHz MPIA or SPIA?:
Laser Output Current		%

GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	n/a
Static or Flyover?	→ if flyovers, times: 2349 - 2353; 0257 - 0302

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/23/2014	LIFT 2
Takeoff Time (Z): 0724	Local: 2324	Airport: KMYF
Landing Time (Z): 1115	Local: 0315	Airport: KMYF

Data Information	
LIDAR Unit	12SEN315
HD #	2
POS/IPAS File #	20141123Lift2
from → to	604 → 624
FCMS File #	

Weather		Ground		Airport	
Begin Temp		14			
Begin Dewpoint		5			KMYF
Begin Pressure		30.14			
End Temp		12			
End Dewpoint		-4			KMYF
End Pressure		30.12			



Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	184	2354	0004	4100	S	0	115	<100 %	REFLOWN FROM 11/22 ATTEMPT; SMOOTH AND CLEAR
2	183	0005	0016	4100	N	0	110	<100 %	MILD CHOP FROM WAKE TURBULENCE
3	182	0017	0027	4700	S	0	118	<100 %	SMOOTH
4	181	0029	0039	4600	N	0	102	<100 %	"
5	180	0041	0051	4100 - 5000	S	0	115	<100 %	"
6	179	0053	0104	5000 - 4100	N	0	115	<100 %	"
7	178	0106	0116	4700	S	0	115	<100 %	"
8	177	0118	0129	4800	N	0	108	<100 %	"
9	176	0134	0148	4900	S	0	115	<100 %	"
10	175	0150	0205	4600	N	0	105	<100 %	"
11	174	0207	0221	4700	S	0	109	<100 %	"
12	173	0222	0225	4700	N	0	99	<100 %	"
13	317	0226	0228	4800	E	0	108	<100 %	CROSSFLIGHT
14	173	0230	0237	4100	N	0	105	<100 %	CONTINUATION OF 173 (12)
15	319	0239	0241	4100	E	0	110	<100 %	CROSSFLIGHT
16	173	0243	0251	4100	N	0	110	<100 %	CONTINUATION OF 173 (12)

Additional Notes:

17 323 0253 0255 5100 E 0 117 <100 CROSSFLIGHT

Mission Page 1 Of 1

Base Station Log



GNSS OBSERVATION LOG

Date 11 / 23 / 2014

Julian Date: 227

Project Number: 14185 Project Name: San Diego LiDAR
Receiver Type: Topcon Hiper GA Receiver S/N: 251-2224
Antenna Type: Topcon Hiper GA Antenna S/N: 251-2224
Station ID: H3 Operator: Dave Korzep

Monument Type: Mag Spike

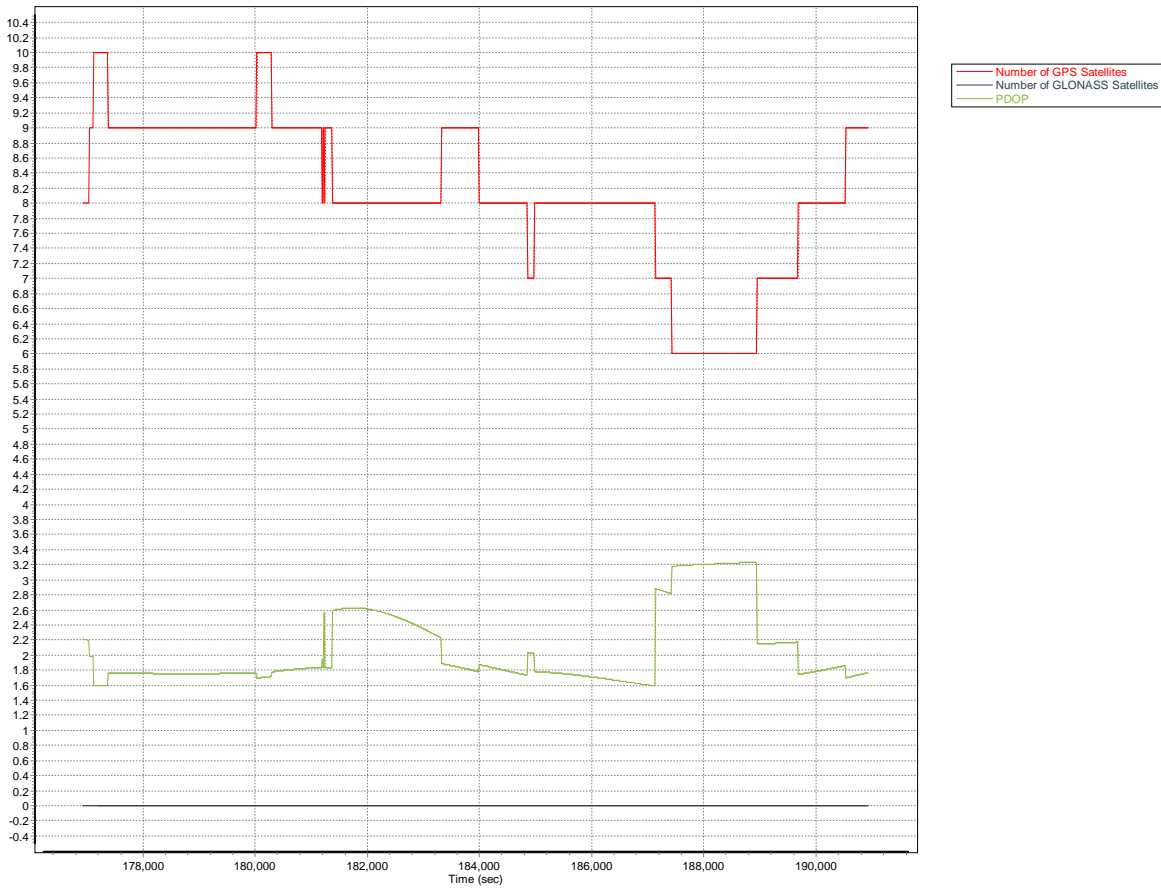
Start Time (Local / UTC): 1510 / 2310 Stop Time (Local / UTC): 2046 / 0446
2318 / 0718 0345 / 1145

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31123X.tps / H31124h.tps

Comments: A backup base station was also set up. The raw data is available in the
folder entitled 'Backup Base Data'.

20141124A_315



Coordinate Manager

Station Information

Station ID: P472

Coordinates

Latitude: N 32 53 21.13975000

Longitude: W 117 6 16.85407000

Altitude: 138.6030 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P472 Station Fullname: P472

Primary Service ID: Edit

Secondary Service ID: Edit

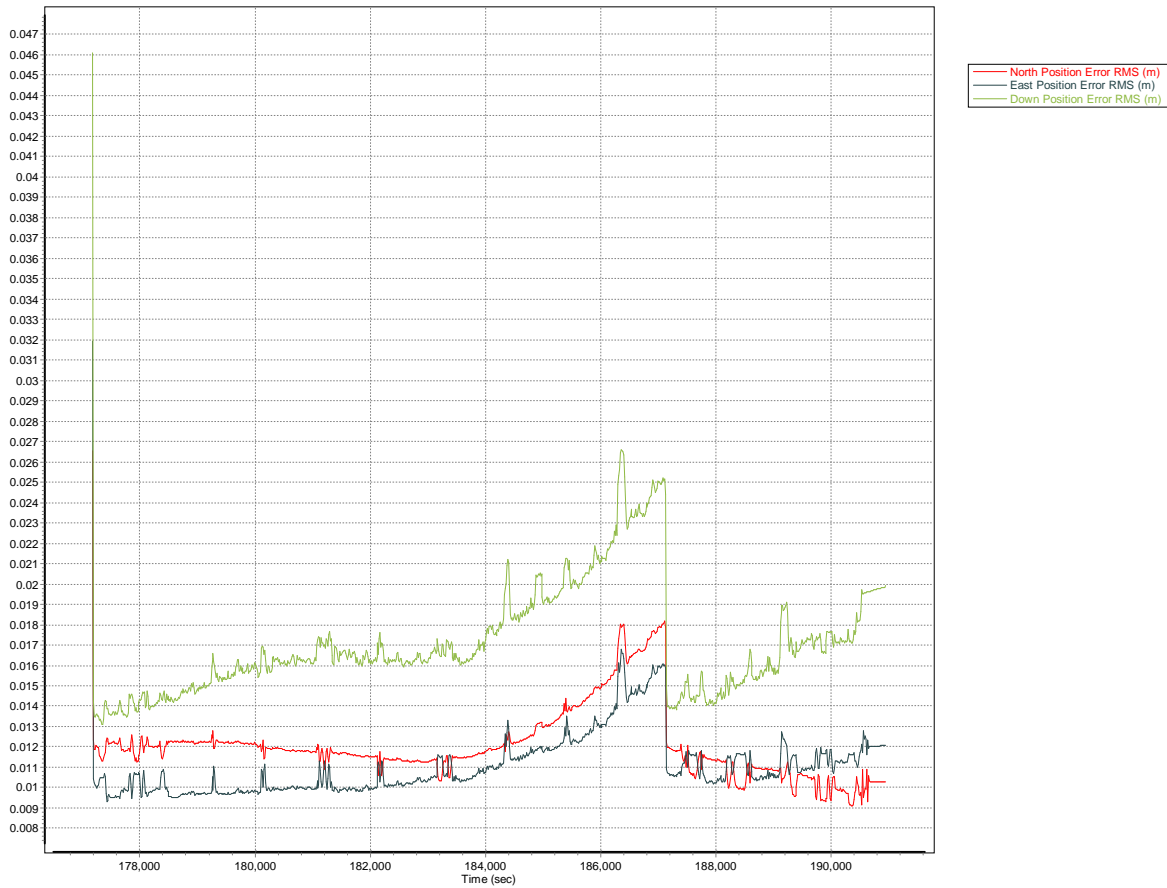
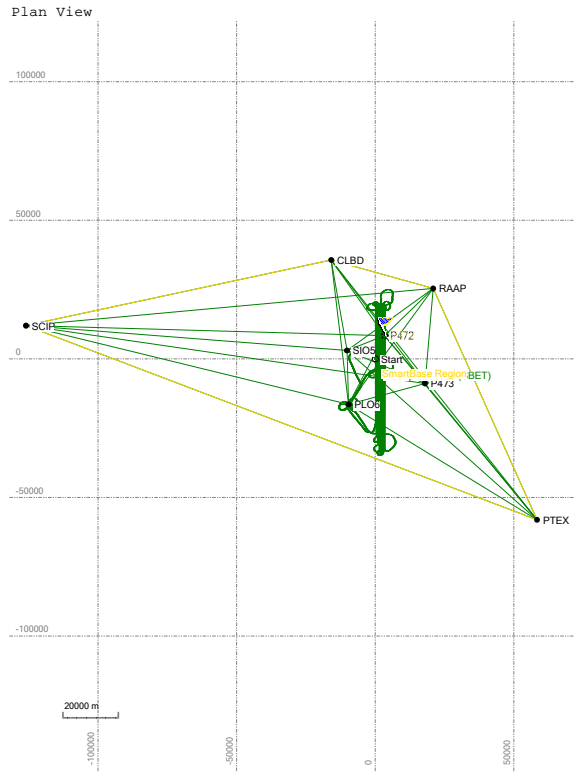
Coordinate Accuracy: UNKNOWN_ACC

Add Delete Update

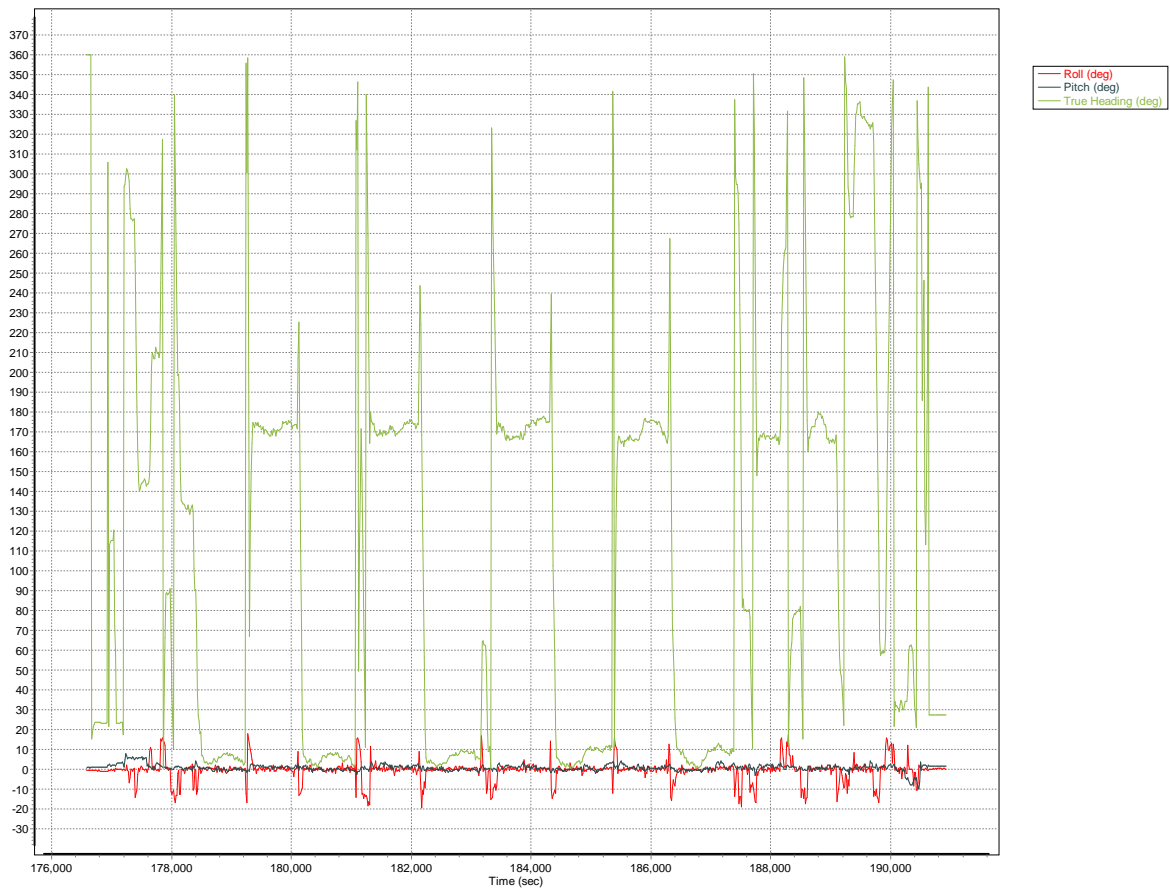
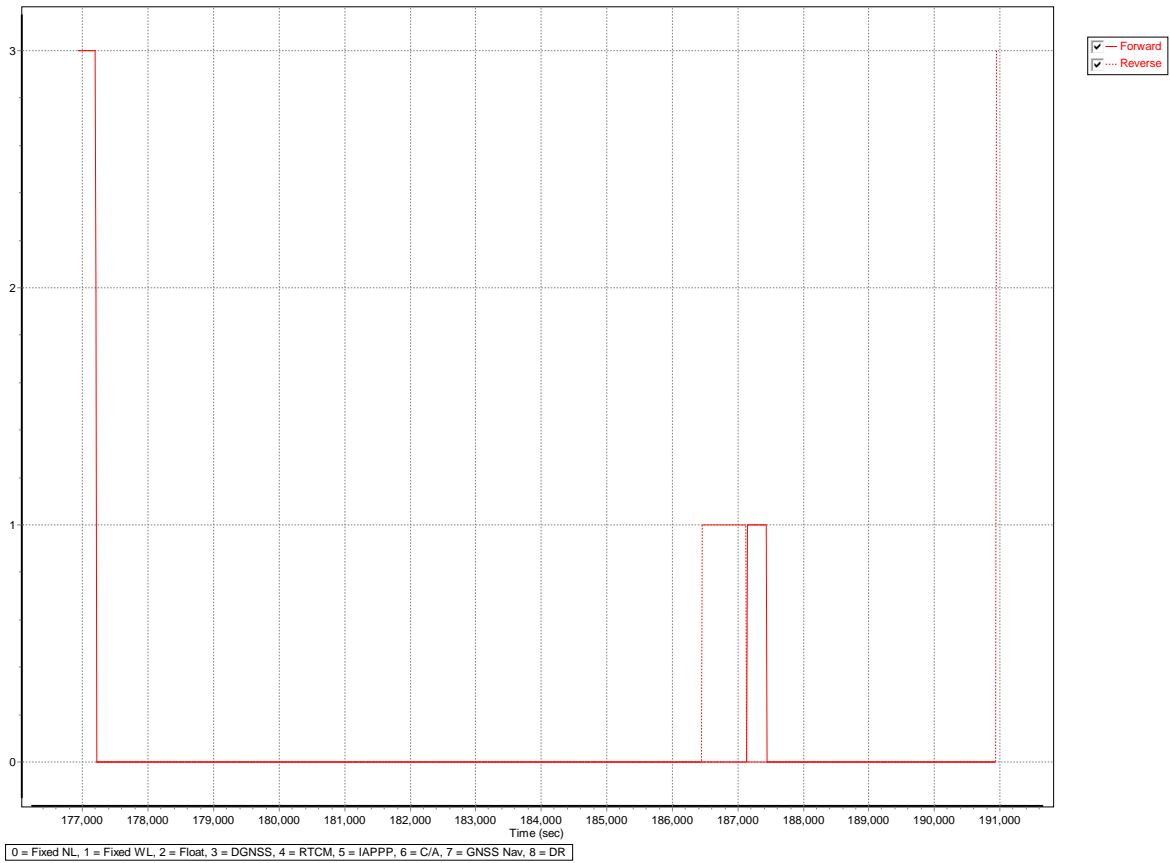
Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328

Import Coordinates Export Coordinates

Close



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Project Name	San Diego LIDAR	
Project Number	14185	
FCMS .fpd File/Nav File	San_Diepp_H300_LIDAR_Sited_v2	
Project Scanning Requirements		
Field of View	30	Ground Speed (kts): 115
Scan Rate	42.5	Hz Altitude AGL (ft): 3198
Pulse Rate Frequency	75	kHz MPIA or SPIA?:
Laser Output Current		%

GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	n/a
Static or Flyover?	→ if flyovers, times: 1728 - 1731; 2036 - 2039

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/24/2014	
Takeoff Time (Z): 0115	Local: 1715	Airport: KMYF
Landing Time (Z): 0455	Local: 2055	Airport: KMYF

Data Information	
LIDAR Unit	12SEN315
HD #	3
POS/IPAS File #	20141124
from → to	625 → 645
FCMS File #	

Weather		Ground		Airport	
Begin Temp		21			
Begin Dewpoint		-2			KMYF
Begin Pressure		30.21			
End Temp		20			
End Dewpoint		-7			KMYF
End Pressure		30.25			



Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	123	1733	1746	3500	N	0	109	<100 %	MILD CHOP
2	124	1747	1801	3500	S	0	119	<100 %	"
3	125	1802	1816	3500	N	0	102	<100 %	"
4	126	1821	1834	3500	S	0	121	<100 %	"
5	127	1835	1851	3500	N	0	115	<100 %	"
6	128	1857	1911	3500	S	0	118	<100 %	"
7	129	1912	1928	3500	N	0	98	<100 %	"
8	130	1929	1944	3500	S	0	118	<100 %	"
9	131	1945	2002	3500	N	0	104	<100 %	"
10	323	2004	2006	3900	E	0	97	<100 %	" CROSSFLIGHT
11	132	2008	2014	3500	S	0	115	<100 %	MILD CHOP
12	319	2017	2020	3500	E	0	83	<100 %	CROSSFLIGHT
13	132	2022	2030	3500	S	0	114	<100 %	CONTINUATION OF 132 (11)
14	317	2033	2035	3500	W	0	120	<100 %	CROSSFLIGHT
								%	
								%	

Additional Notes:

Base Station Log



GNSS OBSERVATION LOG

Date 11 / 24 / 2014

Julian Date: 328

Project Number: 14185 Project Name: San Diego LiDAR
Receiver Type: Topcon Hiper GA Receiver S/N: 251-2224
Antenna Type: Topcon Hiper GA Antenna S/N: 251-2224
Station ID: H3 Operator: Dave Korzep

Monument Type: Mag Spike

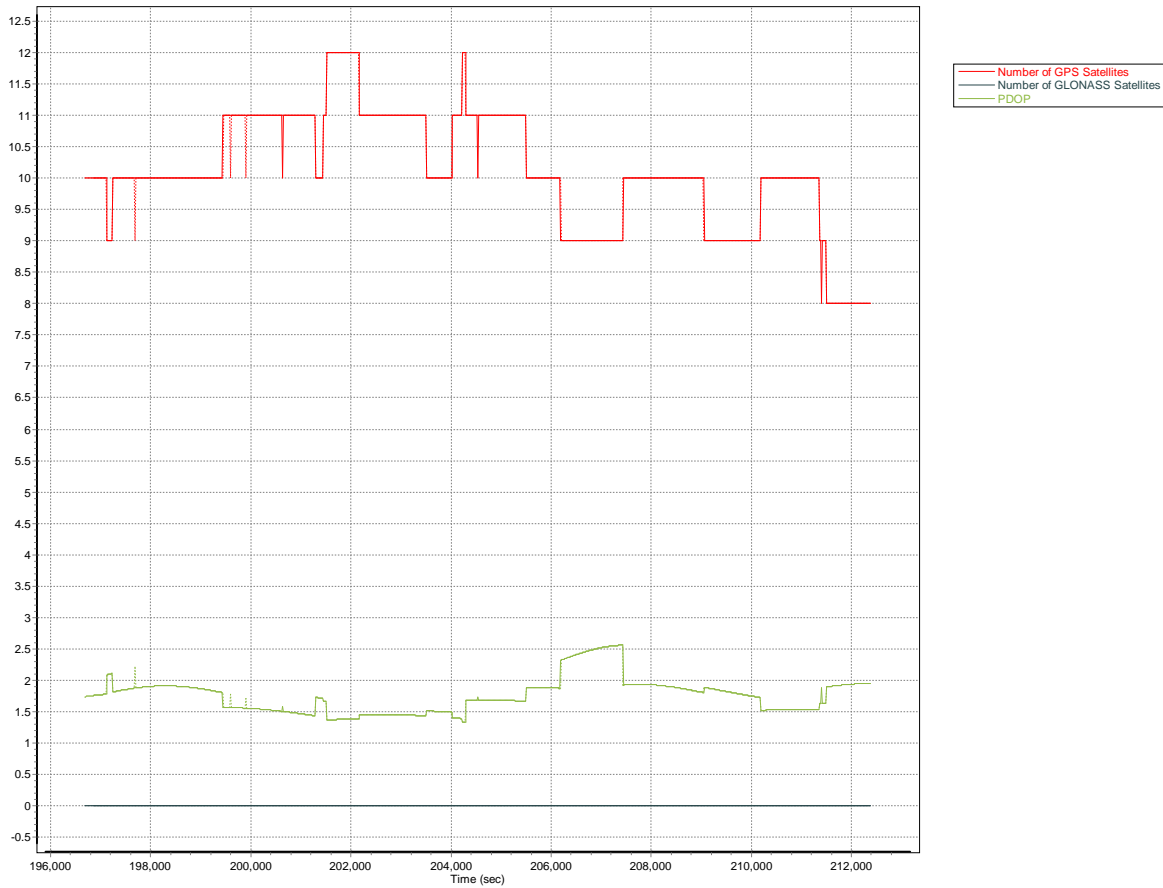
Start Time (Local / UTC): 1650 / 0050 Stop Time (Local / UTC): 2115 / 0515
2224 / 0624 0312 / 1112

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31125a.tps / H31125g.tps

Comments: A backup base station was also set up. The raw data is available in the
folder entitled 'Backup Base Data'.

20141124B_315



Coordinate Manager

Station Information

Station ID: P472

Coordinates

Latitude: N 32 53 21.13975000

Longitude: W 117 6 16.85407000

Altitude: 138.6030 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P472 Station Fullname: P472

Primary Service ID: Edit

Coordinate Accuracy: UNKNOWN_ACC

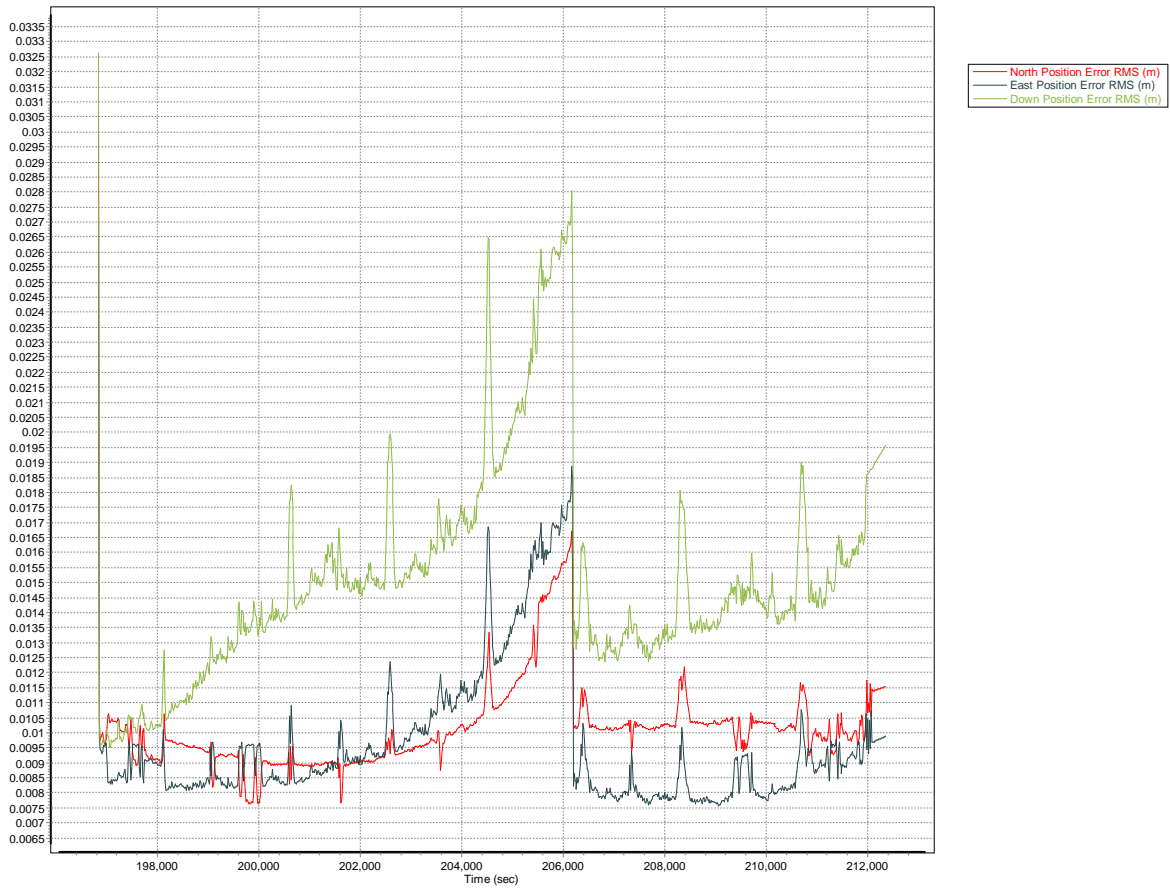
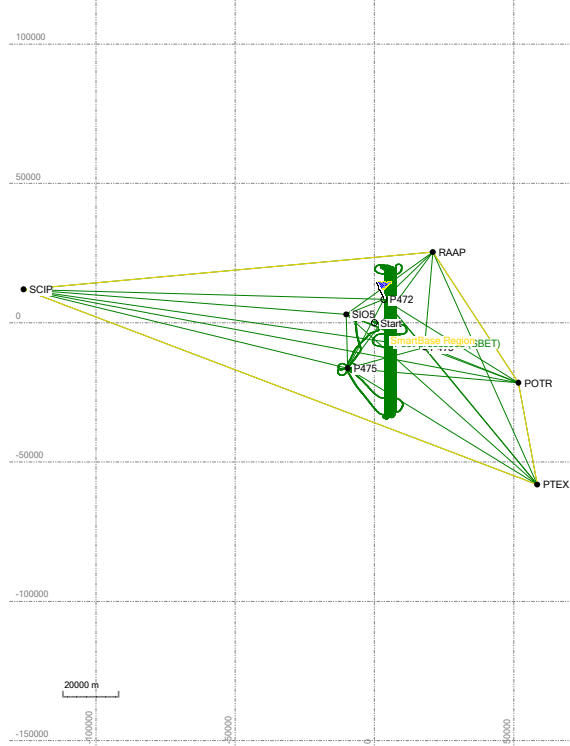
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.882305485111	-117.104601085111	138.603

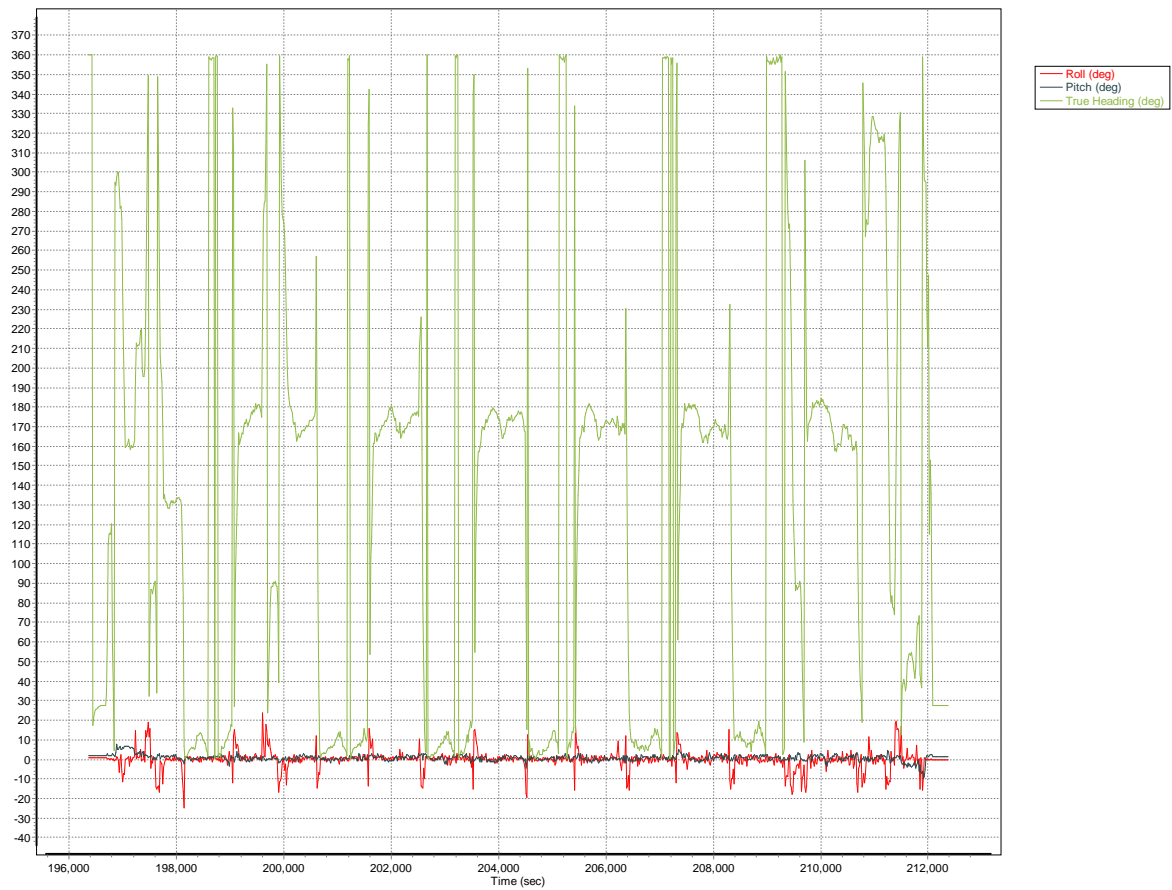
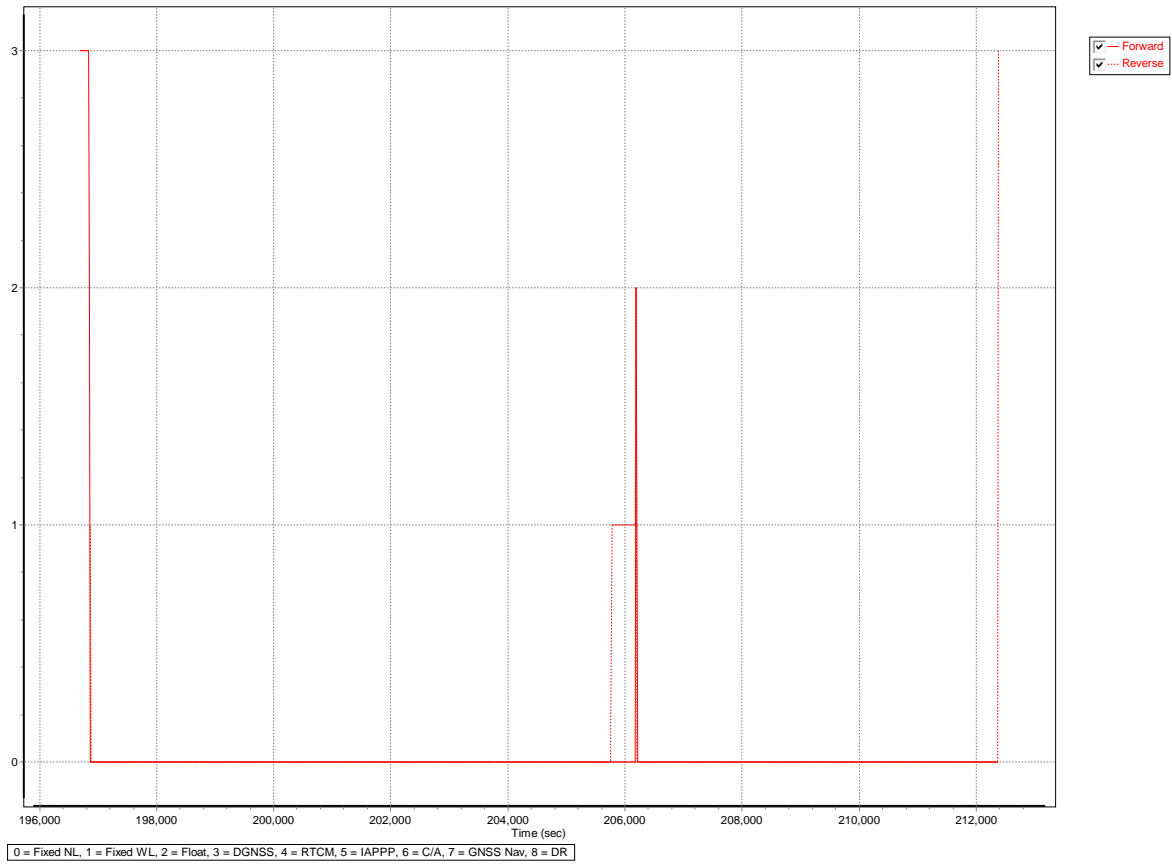
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Project Name	San Diego LIDAR		
Project Number	14185		
FCMS .fpd File/Nav File	San_Diego_H300_LIDAR_Sited_v2		
Project Scanning Requirements			
Field of View	30	Ground Speed (kts):	115
Scan Rate	42.5	Hz Altitude AGL (ft):	3198
Pulse Rate Frequency	75	kHz MPIA or SPIA?:	
Laser Output Current		%	

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/24/2014	LIFT 2
Takeoff Time (Z):	0629	Local: 2329
Landing Time (Z):	0552	Local: 0252
Local: 2329	Local: 0252	Airport: KMYF
Local: 0252	Airport: KMYF	Airport: KMYF

Data Information	
LIDAR Unit	12SEN315
HD #	3
POS/IPAS File #	20141124Lift2
from → to	646 → 669
FCMS File #	

Weather		Ground		Airport	
Begin Temp		21			
Begin Dewpoint		-9			KMYF
Begin Pressure		30.21			
End Temp		14			
End Dewpoint		-9			KMYF
End Pressure		30.31			



GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	n/a
Static or Flyover?	→ If flyovers, times: 2255 - 2300; 0235 - 0239

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	133	2301	2316	3500	N	0	111	<100 %	MODERATE TURBULANCE
2	134	2317	2325	4000	S	0	115	<100 %	BROKE OFF LINE FOR A BOEING 747
3	319	2327	2330	3500	E	0	120	<100 %	CROSSFLIGHT
4	134	2332	2342	3500	S	0	114	<100 %	MODERATE TURBULANCE
5	135	2343	2359	3500	N	0	113	<100 %	"
6	136	2359	0014	3500	S	0	118	<100 %	"
7	137	0015	0031	3700	N	0	117	<100 %	"
8	138	0032	0047	4000	S	0	119	<100 %	"
9	139	0048	0102	3500	N	0	117	<100 %	"
10	140	0103	0118	3500	S	0	114	<100 %	"
11	141	0119	0134	3600	N	0	120	<100 %	
12	142	0135	0150	3500	S	0	116	<100 %	"
13	143	0152	0208	4000	N	0	105	<100 %	"
14	323	0210	0213	4100	E	0	95	<100 %	CROSSFLIGHT
15	144	0215	0230	4100	S	0	111	<100 %	MODERATE TURBULANCE
16	317	0232	0234	3500	W	0	115	<100 %	CROSSFLIGHT

Additional Notes:

Base Station Log



GNSS OBSERVATION LOG

Date 11 / 24 / 2014

Julian Date: 328

Project Number: 14185 Project Name: San Diego LiDAR
Receiver Type: Topcon Hiper GA Receiver S/N: 251-2224
Antenna Type: Topcon Hiper GA Antenna S/N: 251-2224
Station ID: H3 Operator: Dave Korzep

Monument Type: Mag Spike

Start Time (Local / UTC): 1650 / 0050 Stop Time (Local / UTC): 2115 / 0515
2224 / 0624 0312 / 1112

Start HI (Meters): 2.106m Stop HI (Meters): 2.106m HI (Ft) 6.91

Receiver File Name: H31125a.tps / H31125g.tps

Comments: A backup base station was also set up. The raw data is available in the folder entitled 'Backup Base Data'.

20141124A_331



Coordinate Manager

Station Information

Station ID: ZLC1

Coordinates

Latitude: N 40 47 9.73905000

Longitude: W 111 57 7.78593000

Altitude: 1.287.6930 m

Decimal Degrees

Antenna Reference Point (ARP) coordinates

Antenna: Frame

Height: 0.000 m

Method: Bottom of antenna mount

Manufacturer: Micro Pulse

Type: MPLWAAS+L5

Offset from Measured Point to APC: 0.463 m

Apply Changes

Station Database

Station ID: ZLC1 Station FullName: ZLC1

Primary Service ID: [] Edit Coordinate Accuracy: UNKNOWN_ACC

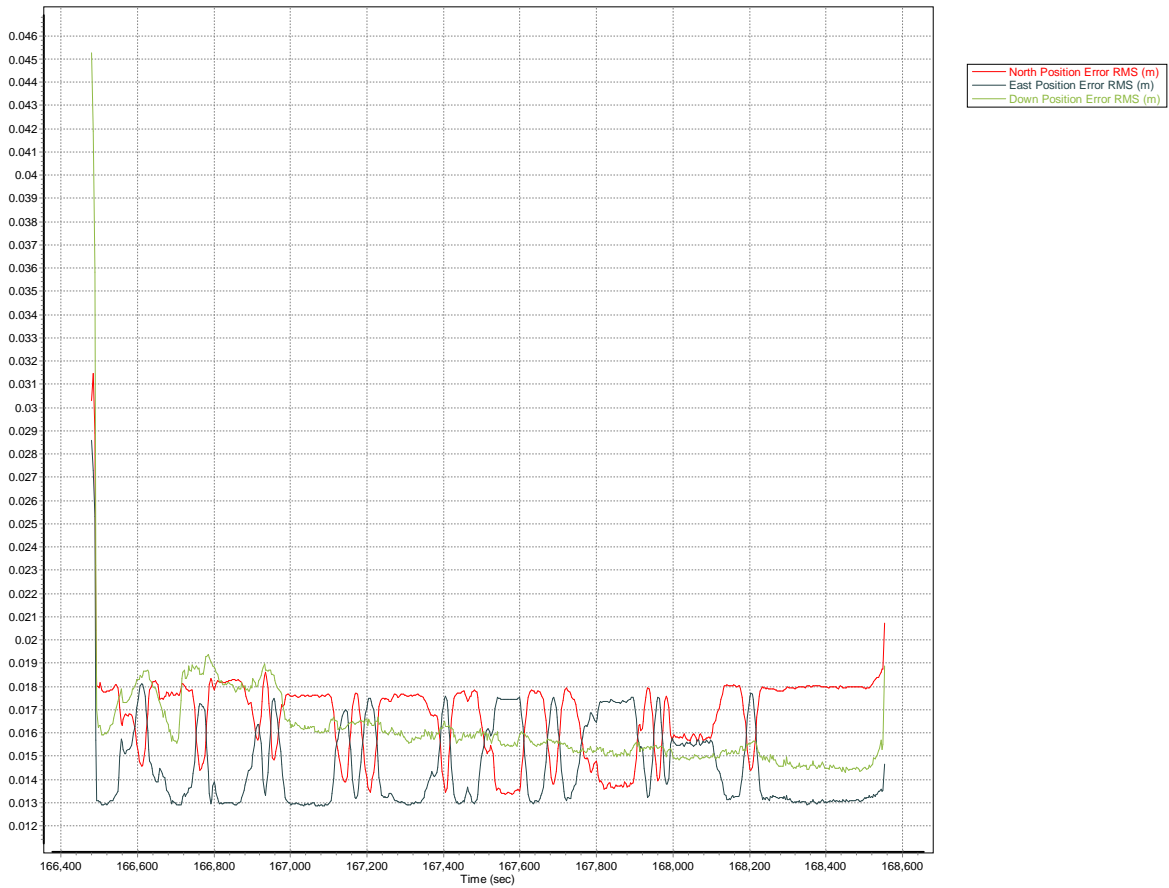
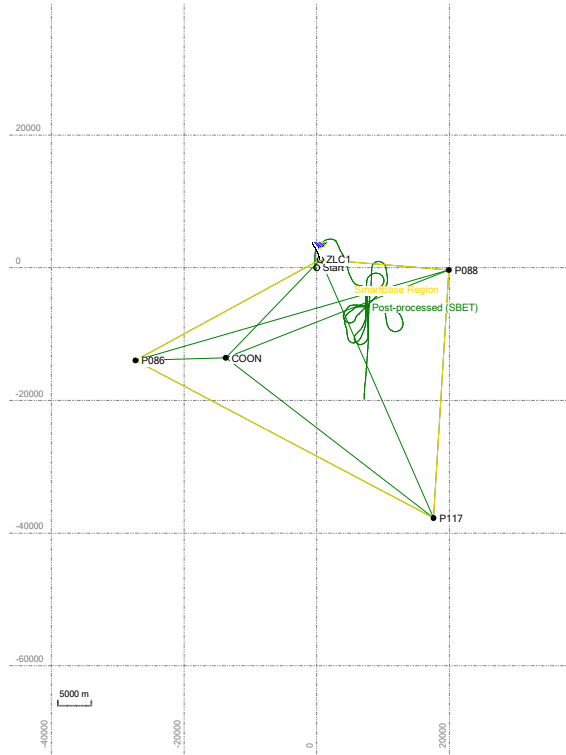
Secondary Service ID: [] Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8996	WGS84	33.888205486111	-117.184681686111	188.002

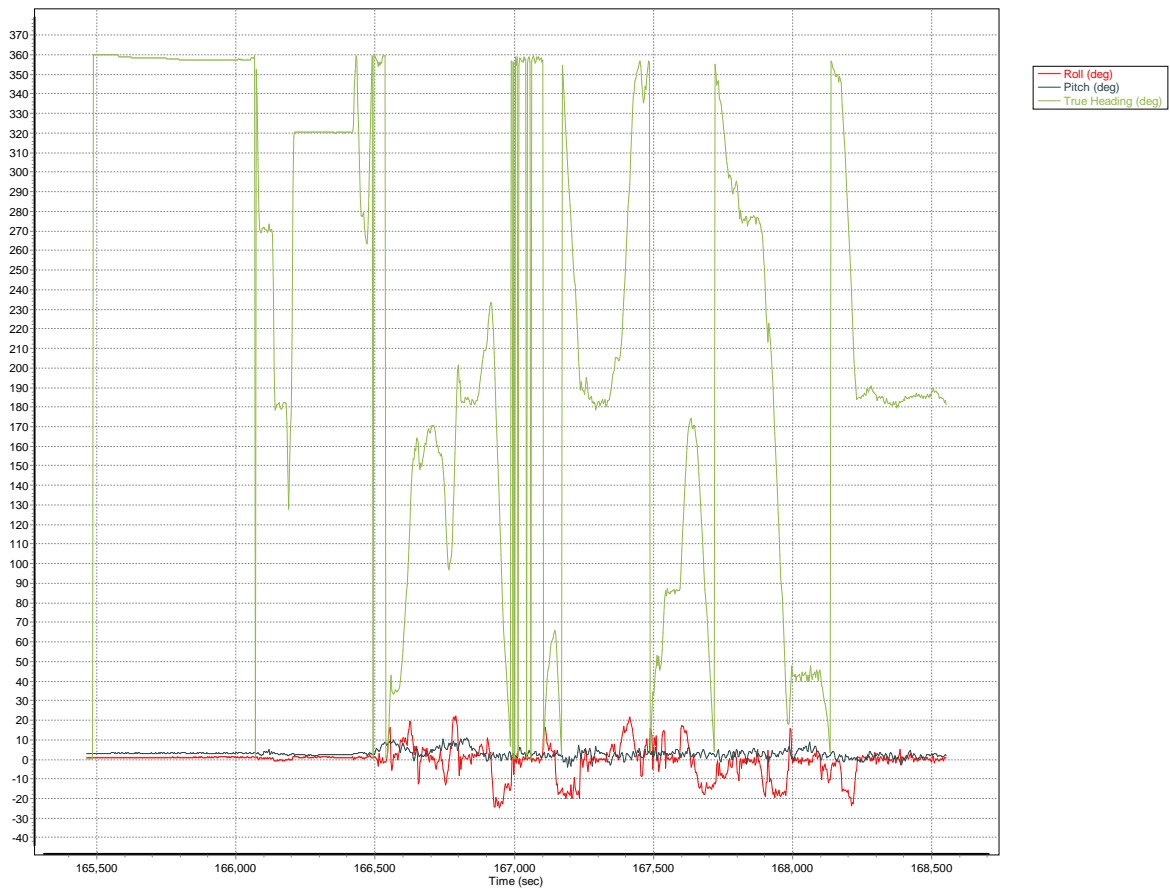
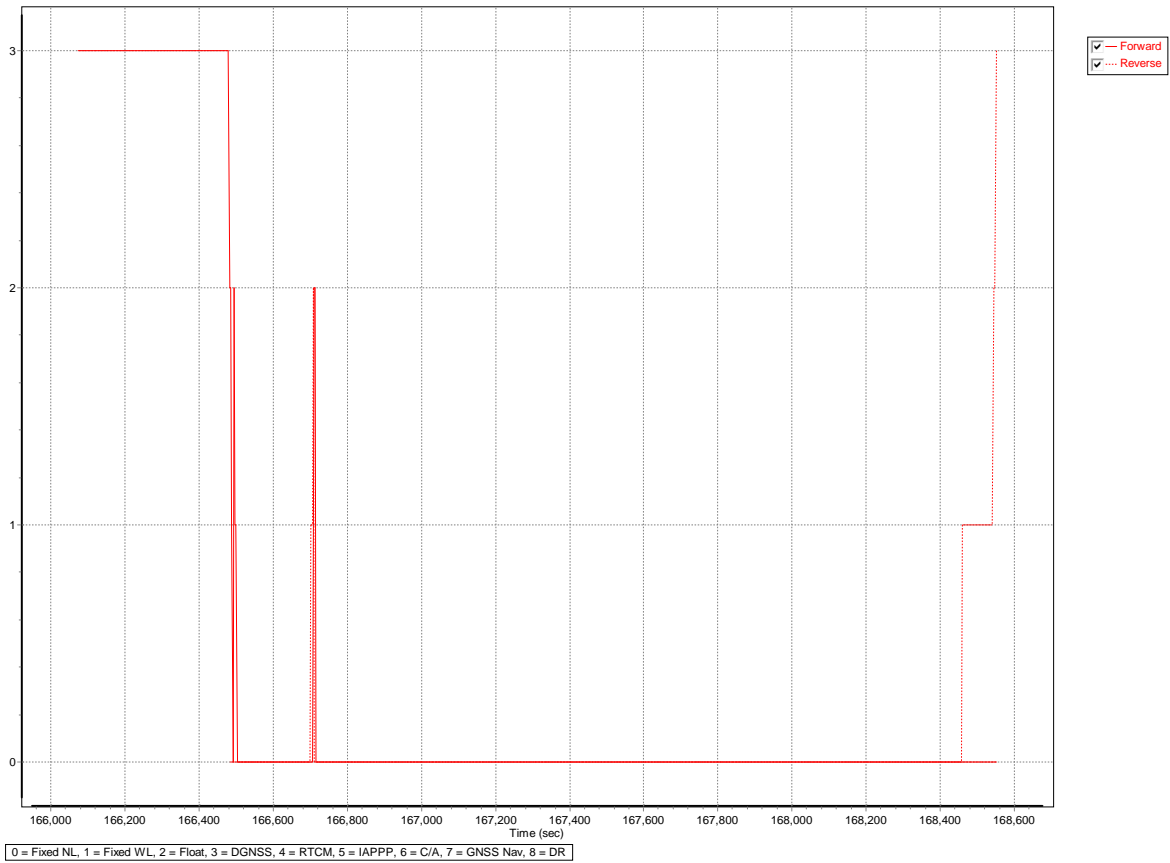
Import Coordinates Export Coordinates

Close

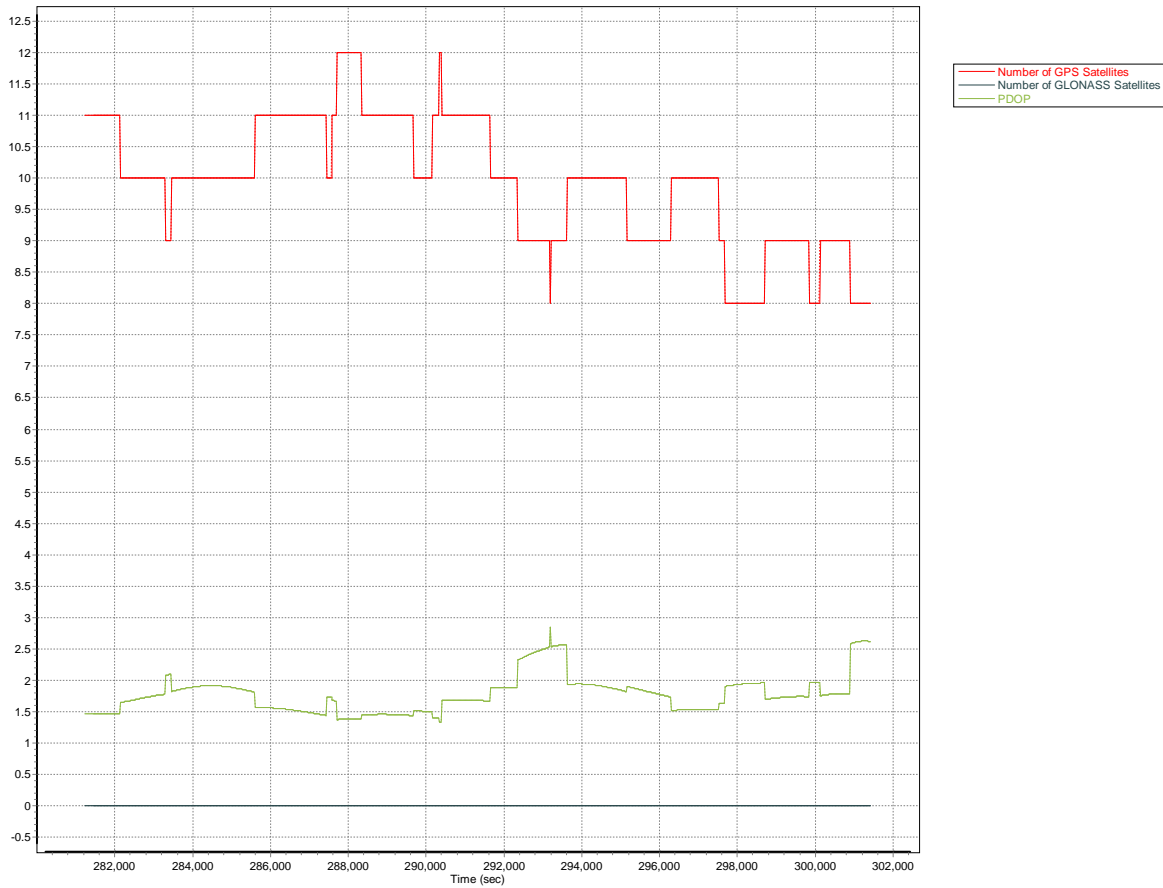
Plan View



Processing mode



20141125A_315



Coordinate Manager

Station Information

Station ID: P473

Coordinates

Latitude: N 32 44 1.58057000

Longitude: W 116 56 58.20691000

Altitude: 189.3280 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P473 Station Fullname: P473

Primary Service ID: Edit

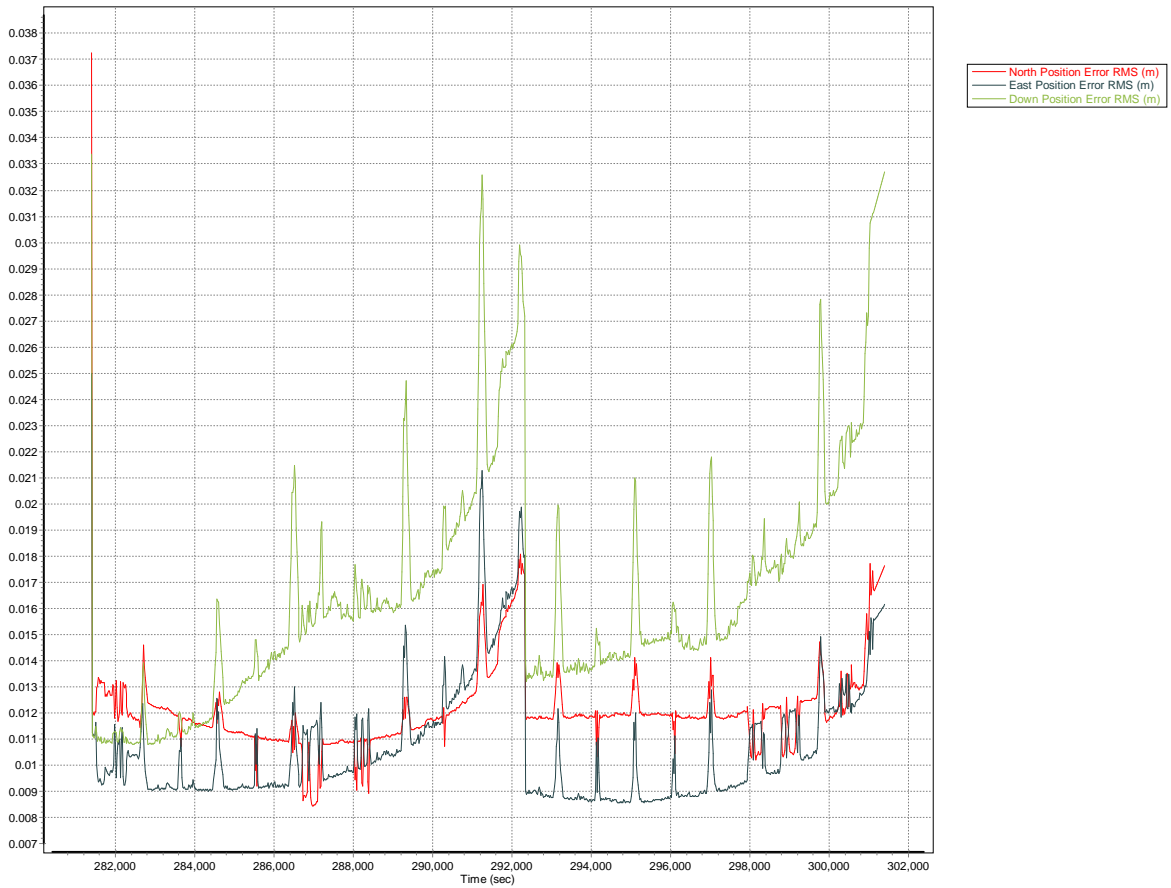
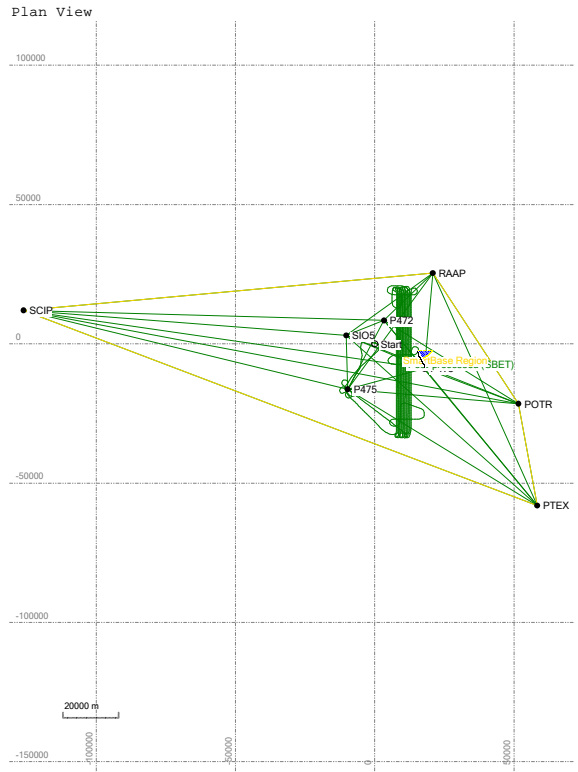
Coordinate Accuracy: UNKNOWN_ACC

Secondary Service ID: Edit Add Delete Update

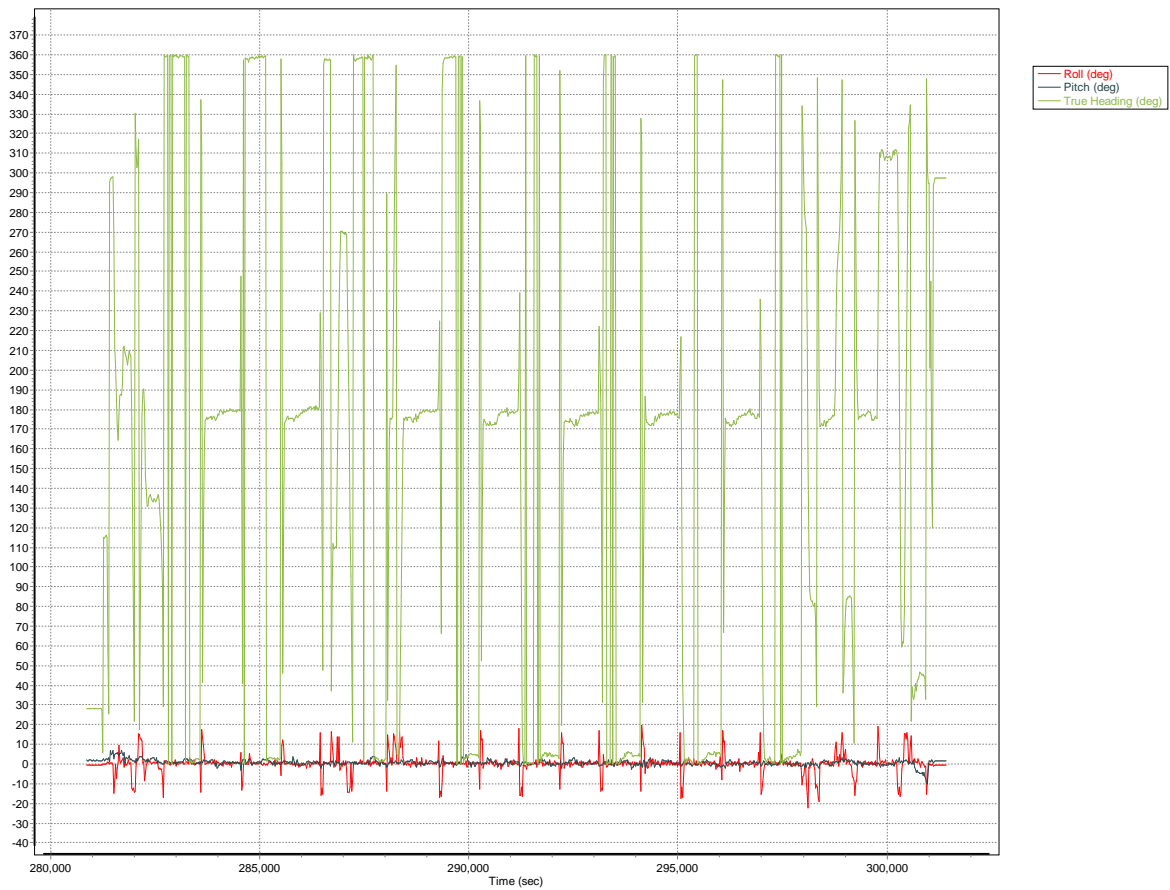
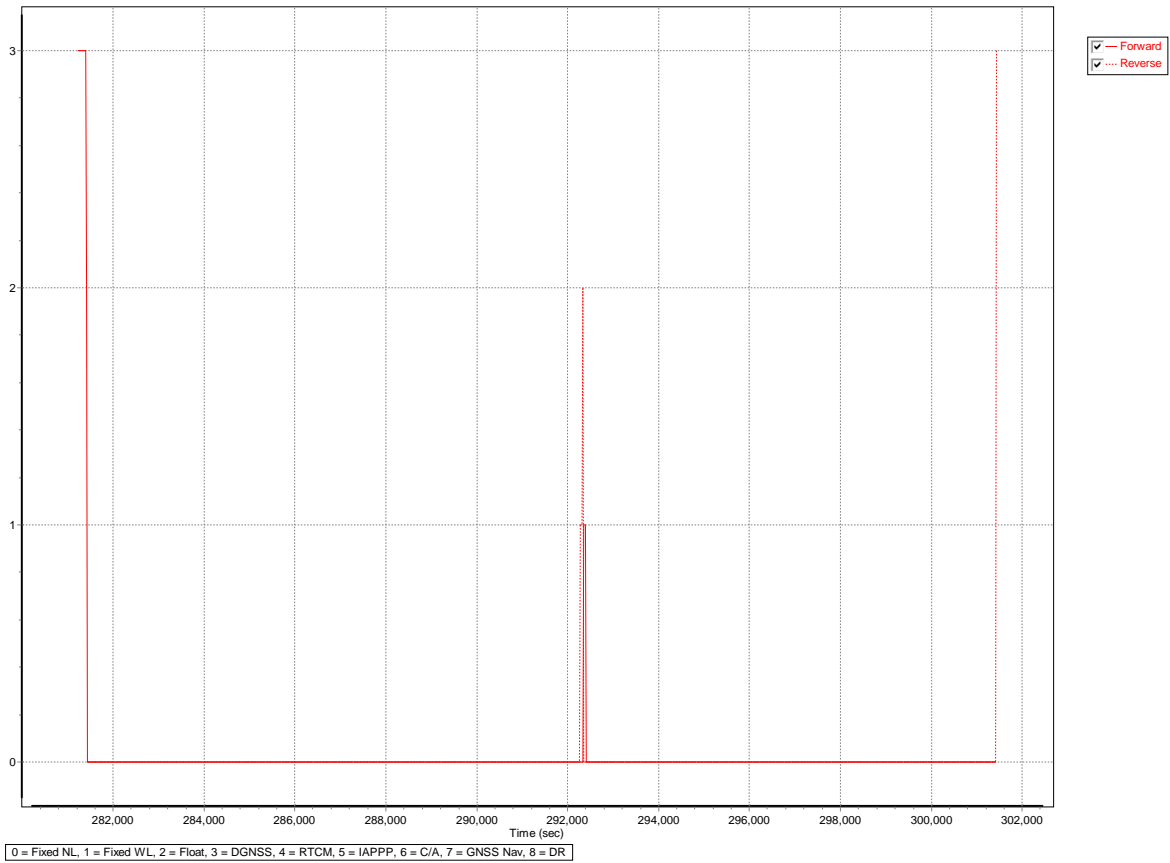
Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P473	P473	ITRF00	2014.8959	WGS84	33.882954861111	-117.184681686111	188.002

Import Coordinates Export Coordinates

Close



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	San Diego LIDAR
Project Number	14185
FCMS .fpd File/Nav File	San_Diepp_H300_LIDAR_Sited_v2

Pilot	Mourao
Technician	Kozep
Aircraft	N7268T

Date Flown	11/25/2014
Takeoff Time (Z): 0608	Local: 2208
Landing Time (Z): 11353	Local: 0335
Airport: KMYF	Airport: KMYF

Project Scanning Requirements	
Field of View	30
Scan Rate	42.5
Pulse Rate Frequency	75
Laser Output Current	%
Ground Speed (kts):	115
Hz Altitude AGL (ft):	3198
kHz MPIA or SPIA?:	

Data Information	
LIDAR Unit	12SEN315
HD #	3
POS/IPAS File #	20141125
from → to	670 → 700
FCMS File #	

Weather	Ground	Airport
Begin Temp	16	
Begin Dewpoint	-6	KMYF
Begin Pressure	30.28	
End Temp	12	
End Dewpoint	-3	KMYF
End Pressure	30.22	

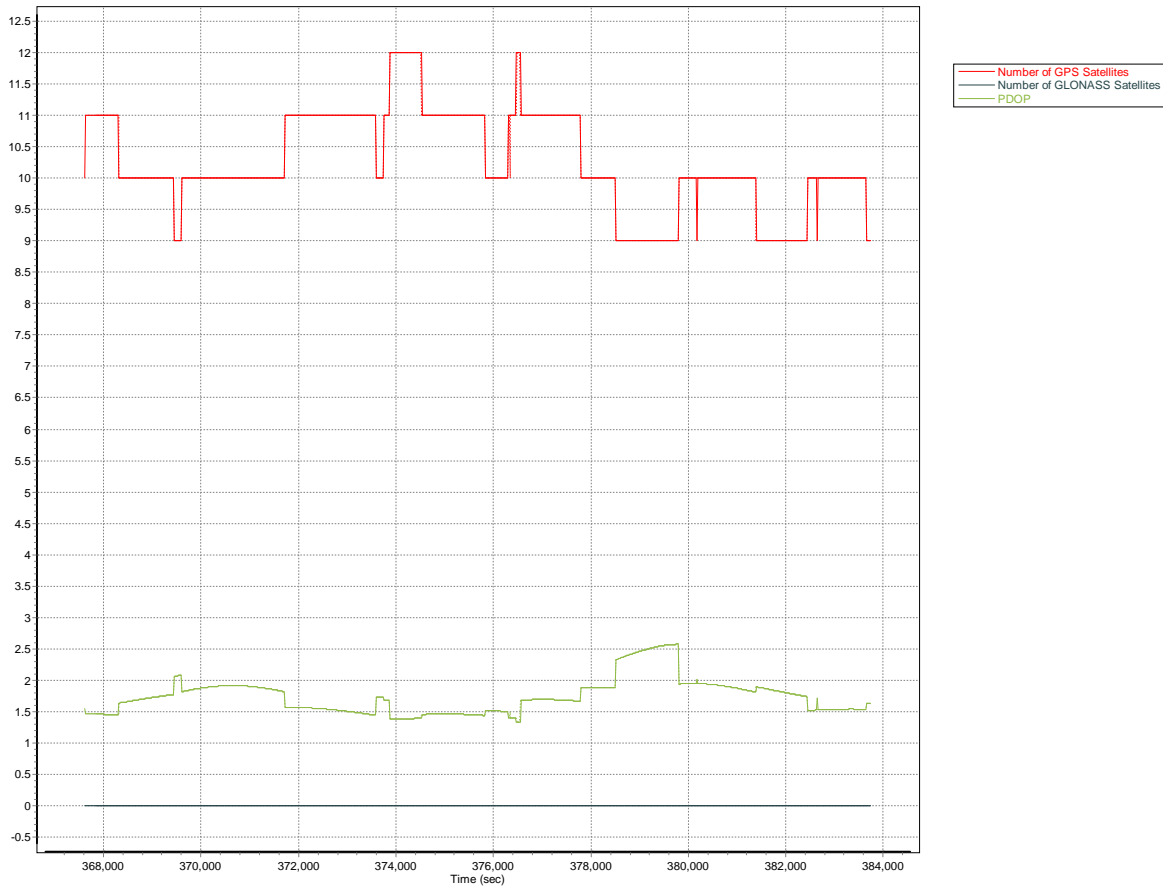


GPS Base Location(s)	Mag Spike at KMYF
PDOP Avoidance	n/a
Static or Flyover?	→ If flyovers, times: 2224 - 2229 , 0317 - 0322

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	145	2230	2245	3750	N	0	111	<100 %	SMOOTH AND CLEAR
2	146	2247	2301	3750	S	0	120	<100 %	"
3	147	2302	2317	3750	N	0	113	<100 %	"
4	148	2318	2333	3750	S	0	111	<100 %	"
5	149	2334	2337	3750	N	0	115	<100 %	BROKE OFF LINE FOR TRAFFIC
6	317	2340	2343	3500	W	0	113	<100 %	CROSSFLIGHT
7	149	2345	2359	3750	N	0	117	<100 %	CONTINUATION OF 149 (5)
8	150	0006	0020	3750	S	0	115	<100 %	SMOOTH AND CLEAR
9	151	0021	0036	3750	N	0	108	<100 %	"
10	152	0038	0052	3750	S	0	112	<100 %	MILD CHOP
11	153	0053	0108	3750	N	0	115	<100 %	SMOOTH AND CLEAR
12	154	0110	0124	3750	S	0	112	<100 %	MILD CHOP
13	155	0125	0140	3750	N	0	117	<100 %	SMOOTH AND CLEAR
14	156	0142	0156	3750	S	0	117	<100 %	"
15	157	0157	0212	3750	N	0	117	<100 %	"
16	158	0214	0228	3750	S	0	120	<100 %	"

Additional Notes:

20141126A_315



Coordinate Manager

Station Information

Station ID: P473

Coordinates

Latitude: N 32 44 1.58057000

Longitude: W 116 56 58.20691000

Altitude: 189.3280 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P473 Station Fullname: P473

Primary Service ID: Edit

Secondary Service ID: Edit

Coordinate Accuracy: UNKNOWN_ACC

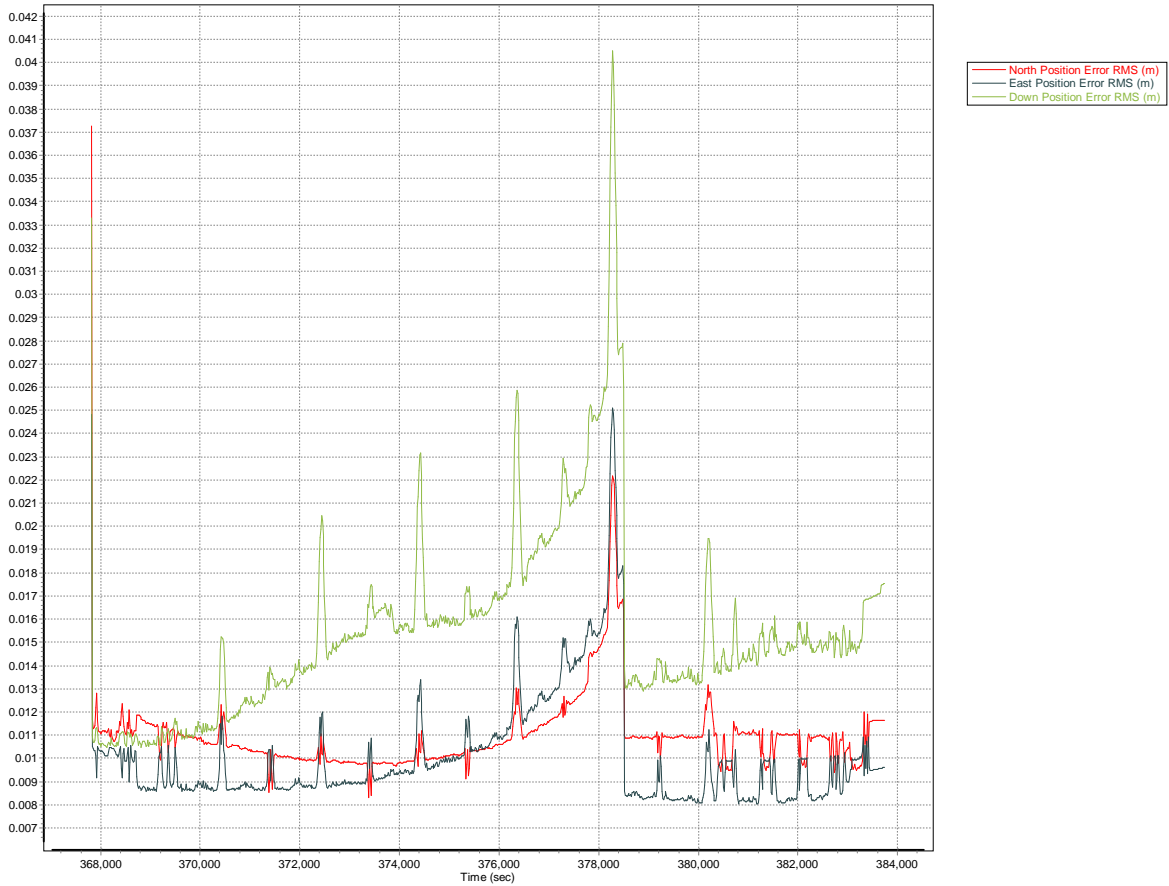
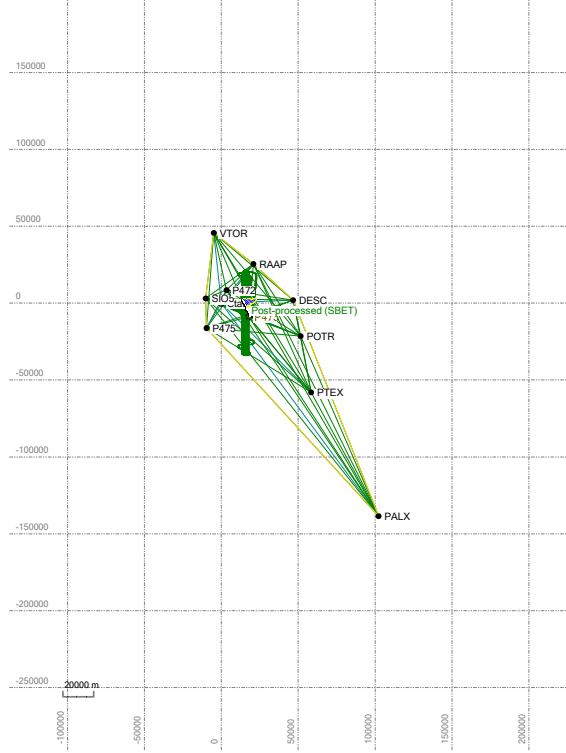
Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P473	P473	ITRF00	2014.8959	WGS84	32.882954951111	-117.184691696111	188.002

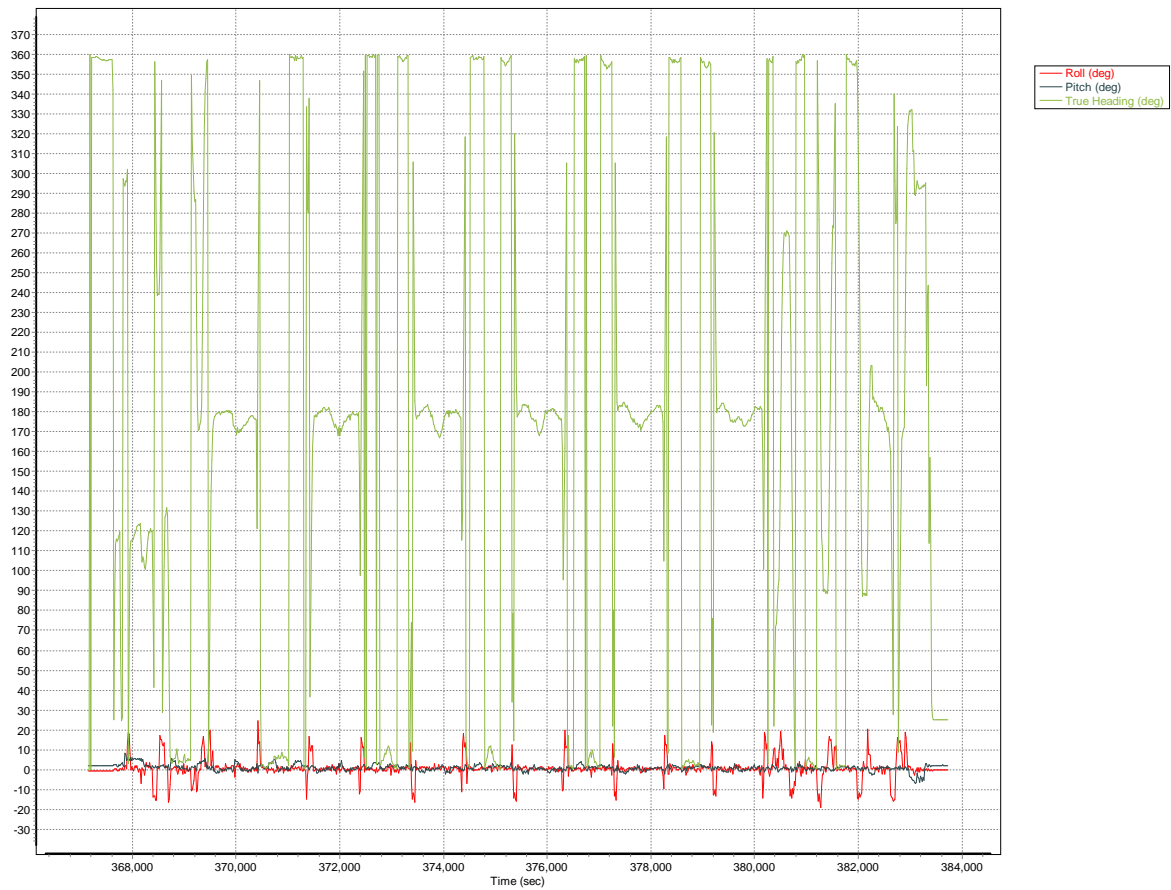
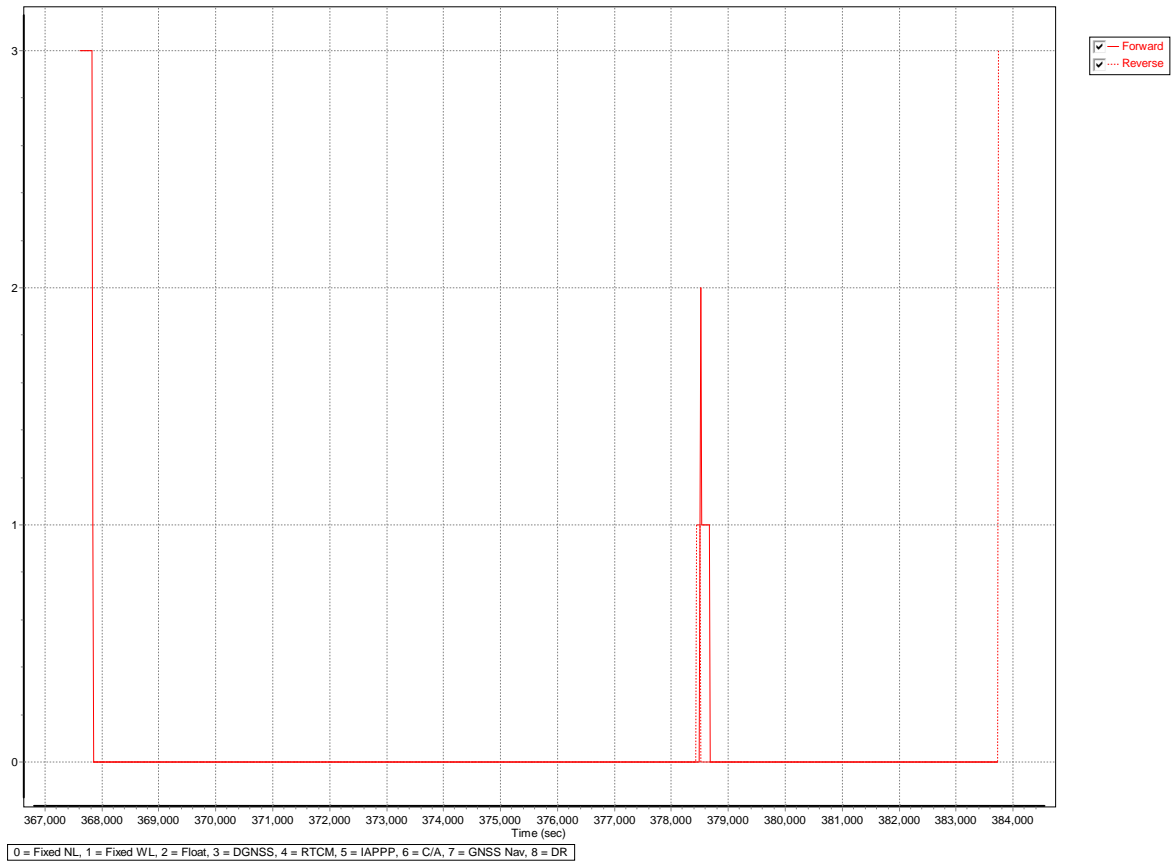
Import Coordinates Export Coordinates

Close

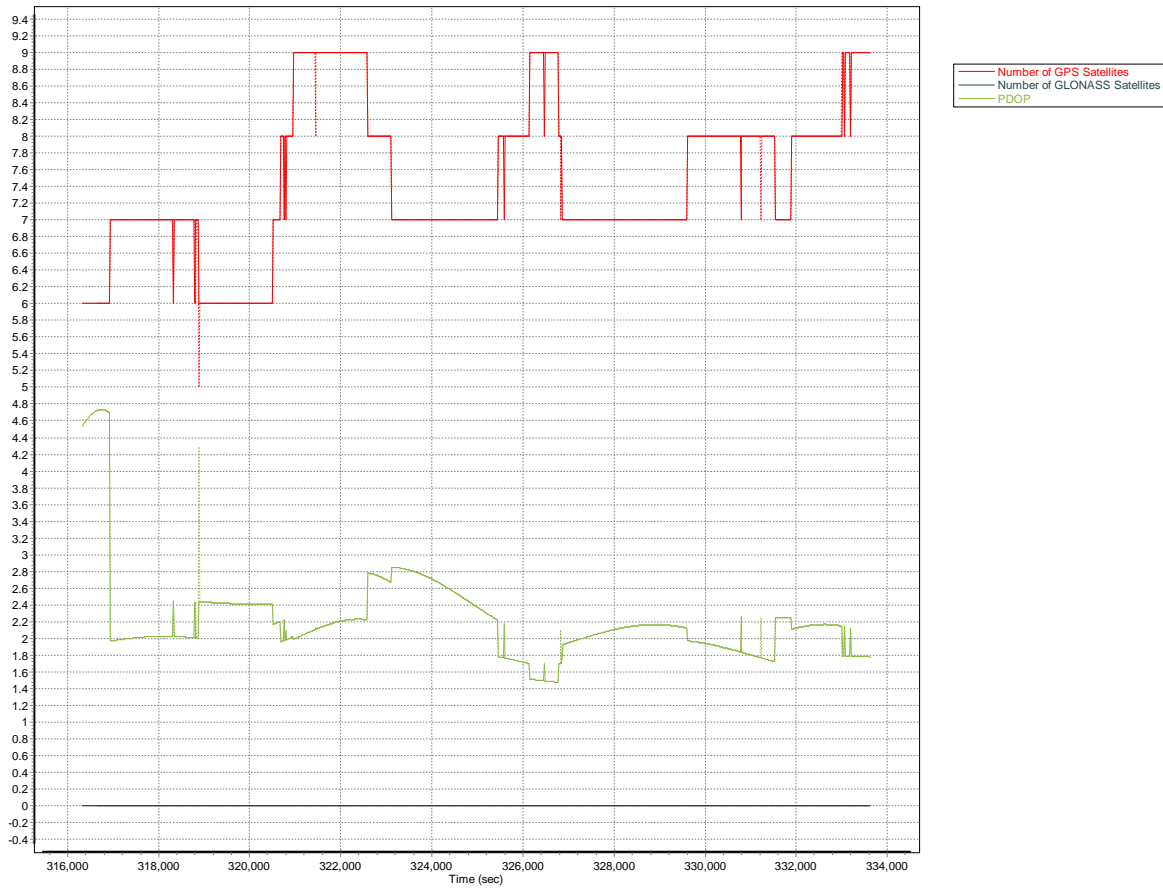
Plan View



Processing mode



20141126A_331



Coordinate Manager

Station Information

Station ID: SIO5

Coordinates

Latitude: N 32 50 26.63269000

Longitude: W 117 14 58.83411000

Altitude: 186.2840 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Topcon

Type: TPS CR.G3 w/SCIT

Offset from Measured Point to APC: 0.105 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: SIO5 Station FullName: SIO5

Primary Service ID: Edit

Coordinate Accuracy: UNKNOWN_ACC

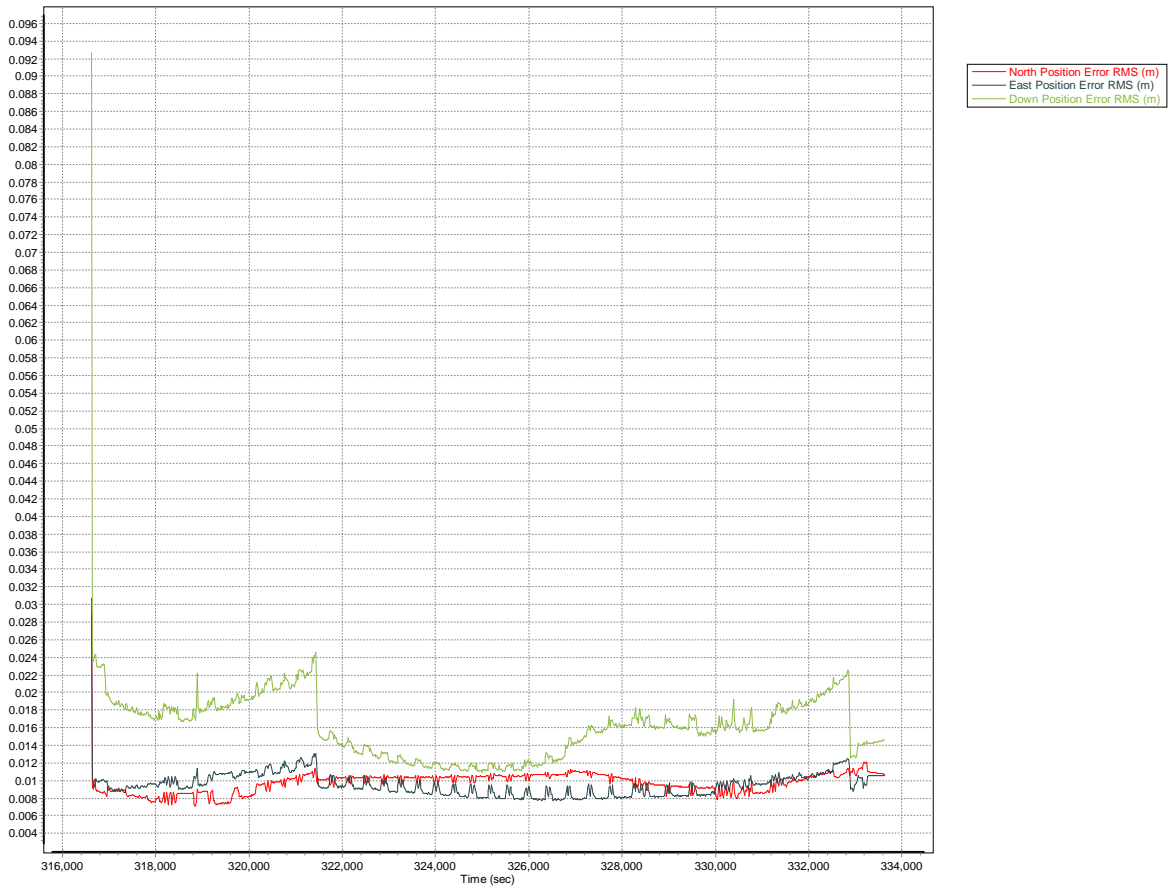
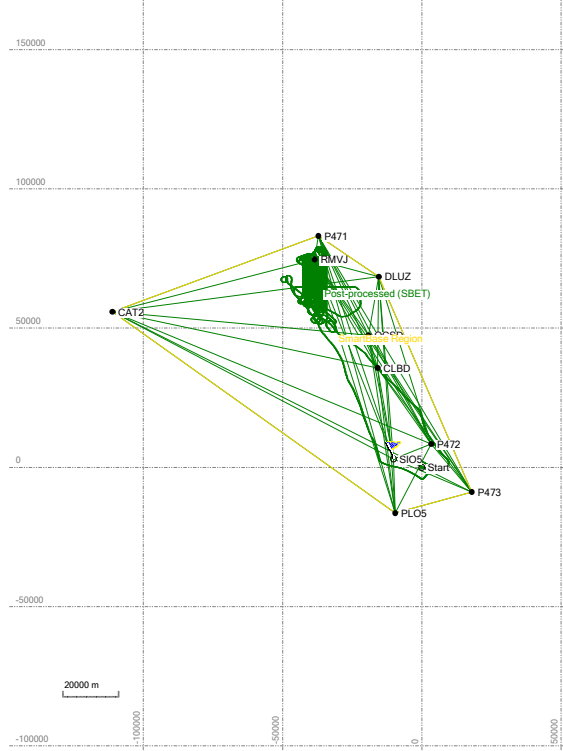
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205480556	-117.154601680556	188.002

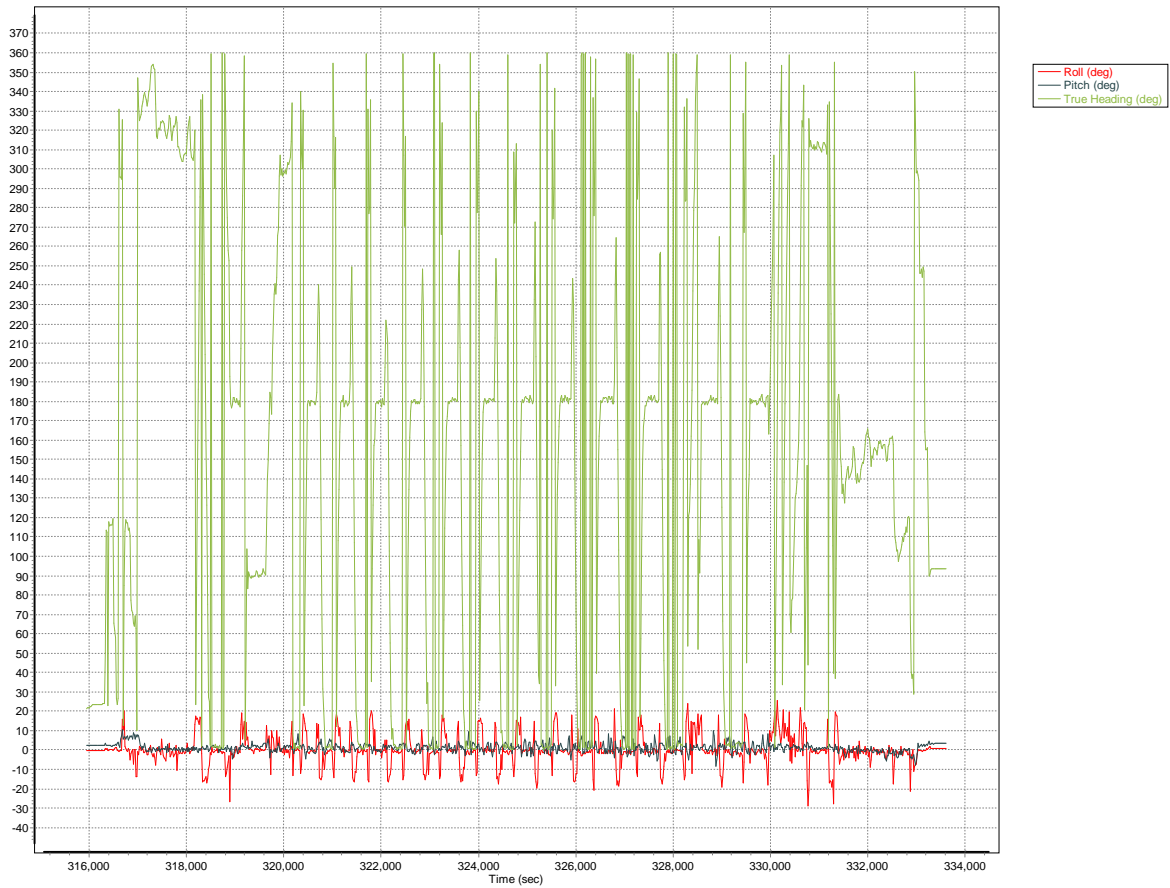
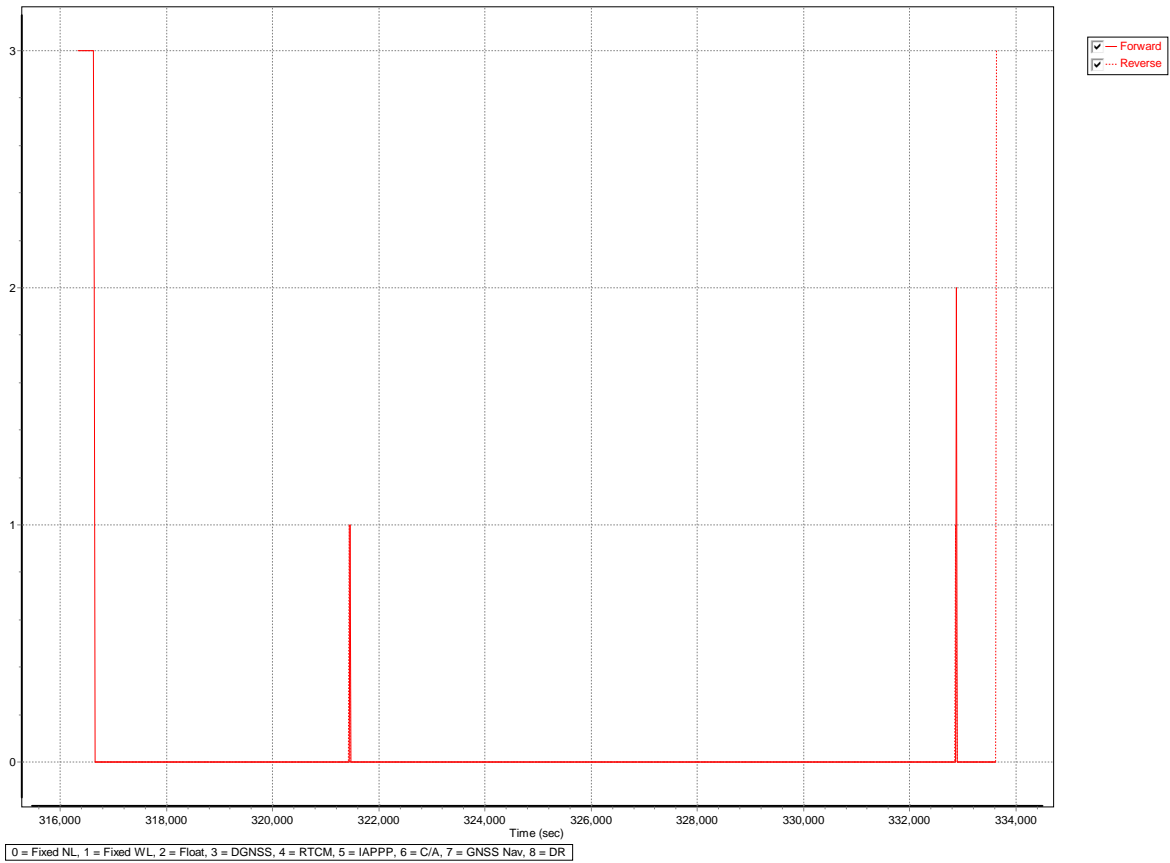
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



Flight Log

11-26

LIDAR MISSION RECORD SHEET

Project Name: **SAN DIEGO LIDAR**
 Project Number: **14185**
 FCMS .ipol File/Nav File: **PENDLETON - SUB - 11500 - SLED - V1**

Quantum Spatial 523 Wellington Way - Lexington KY 40503 859.277.8700

Date Flown: **11-26-14**
 Takeoff Time (Z): Local: **KMYF**
 Landing Time (Z): Local: **KMYF**

Project Scanning Requirements

Field of View	31	Ground Speed (kts):	115
Scan Rate	42.5	Hz Altitude AGL (ft):	3200
Pulse Rate Frequency	75	KHz/MPIA or SPIA2:	
Laser Output Current		%	

Data Information

LIDAR Unit	135EN331
HD #	2
POS/PIAS File #	2014 11 26
from - to	106 -> 131
FCMS File #	

GPS Base Location(s): **KMYF**
 PDOP Avoidance
 Static or Flyover? **Static** → if flyovers, times:



Weather

Begin Temp	12	Ground	12	Airport	KMYF
Begin Dewpoint					
Begin Pressure	30.22				
End Temp	24				
End Dewpoint					
End Pressure	30.15				

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Tide, Etc.)
1	70	8:40	8:46	1350		0	115	100%	
2	1	8:30	8:37	1160				%	
3	98	8:40	8:46	1090				%	
4	2	8:48	8:58	1100				%	
5	3	9:00	9:04	1120				%	
6	4	9:01	9:09	1115				%	
7	5	9:11	9:15	1170				%	
8	6	9:17	9:21	1090				%	
9	7	9:23	9:27	1090				%	
10	8	9:29	9:33	1080				%	
11	9	9:35	9:39	1100				%	
12	10	9:41	9:46	1070				%	
13	11	9:48	9:52	1070				%	
14	12	9:54	9:58	1090				%	
15	13	10:01	10:04	1100				%	
16	14	10:06	10:11	1100				%	

Mission Page 1 of 1

Additional Notes:

15	10:16	1100
16	10:20	115
17	10:27	1130
18	10:33	1150
19	10:41	1160
20	10:47	1160
21	10:52	1161
22		
23		

11:01
12:00
11:21

11:09
11:21
11:30
11:38

11:16
11:24
11:32

22
23
24
25
24
27
28
29

Base Station Log



GNSS OBSERVATION LOG

Date 11 / 26 / 2014

Julian Date: 330

Project Number: 14185 **Project Name:** San Diego LiDAR

Receiver Type: Topcon Hiper GA **Receiver S/N:** 251-2224

Antenna Type: Topcon Hiper GA **Antenna S/N:** 251-2224

Station ID: H3 **Operator:** Dave Korzep

Monument Type: Mag Spike

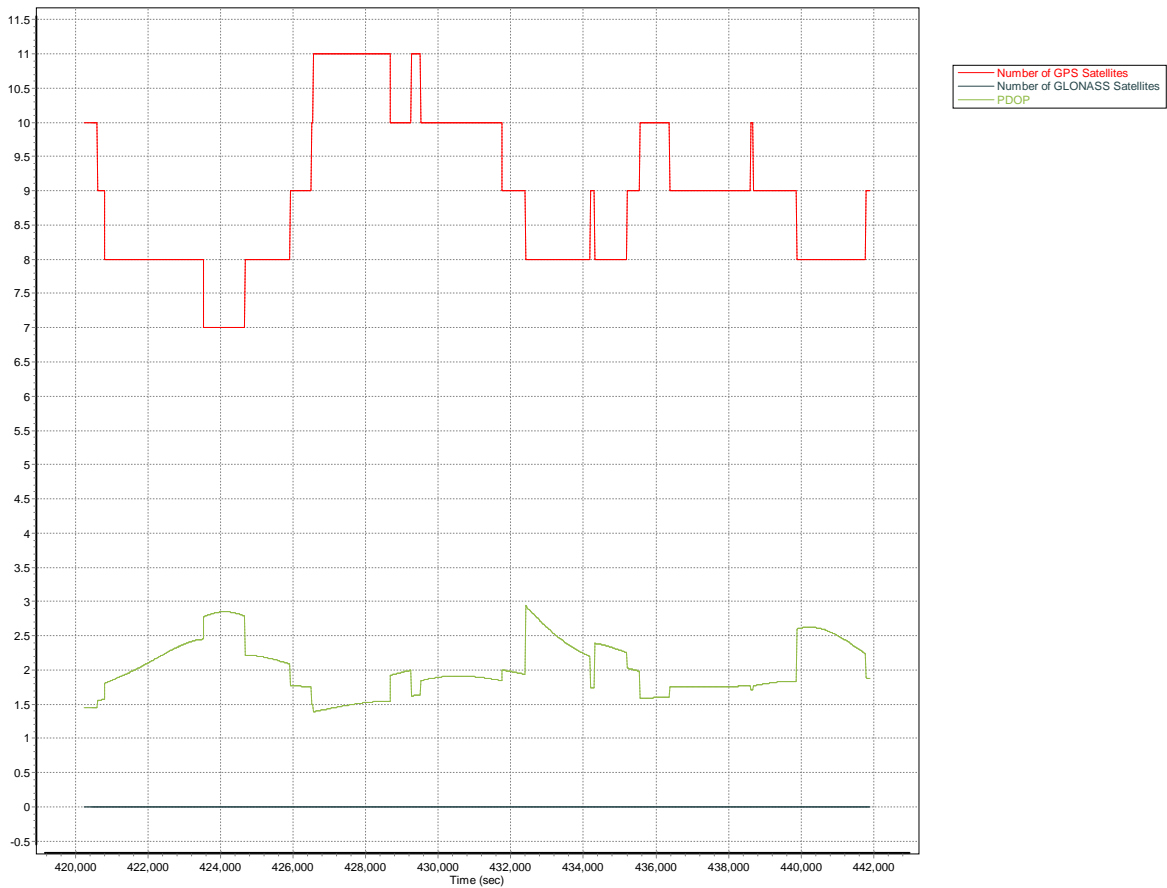
Start Time (Local / UTC): 2145 / 0545 **Stop Time (Local / UTC):** 0253 / 1053

Start HI (Meters): 2.106m **Stop HI (Meters):** 2.106m **HI (Ft)** 6.91

Receiver File Name: H31127f.tps

Comments: A backup base station was also set up. The raw data is available in the folder entitled 'Backup Base Data'.

20141127A_315



Coordinate Manager

Station Information

Station ID: P474

Coordinates

Latitude: N 33 21 18.68099000

Longitude: W 117 14 55.24202000

Altitude: 183.6530 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P474 Station Fullname: P474

Primary Service ID: Edit

Secondary Service ID: Edit

Coordinate Accuracy: UNKNOWN_ACC

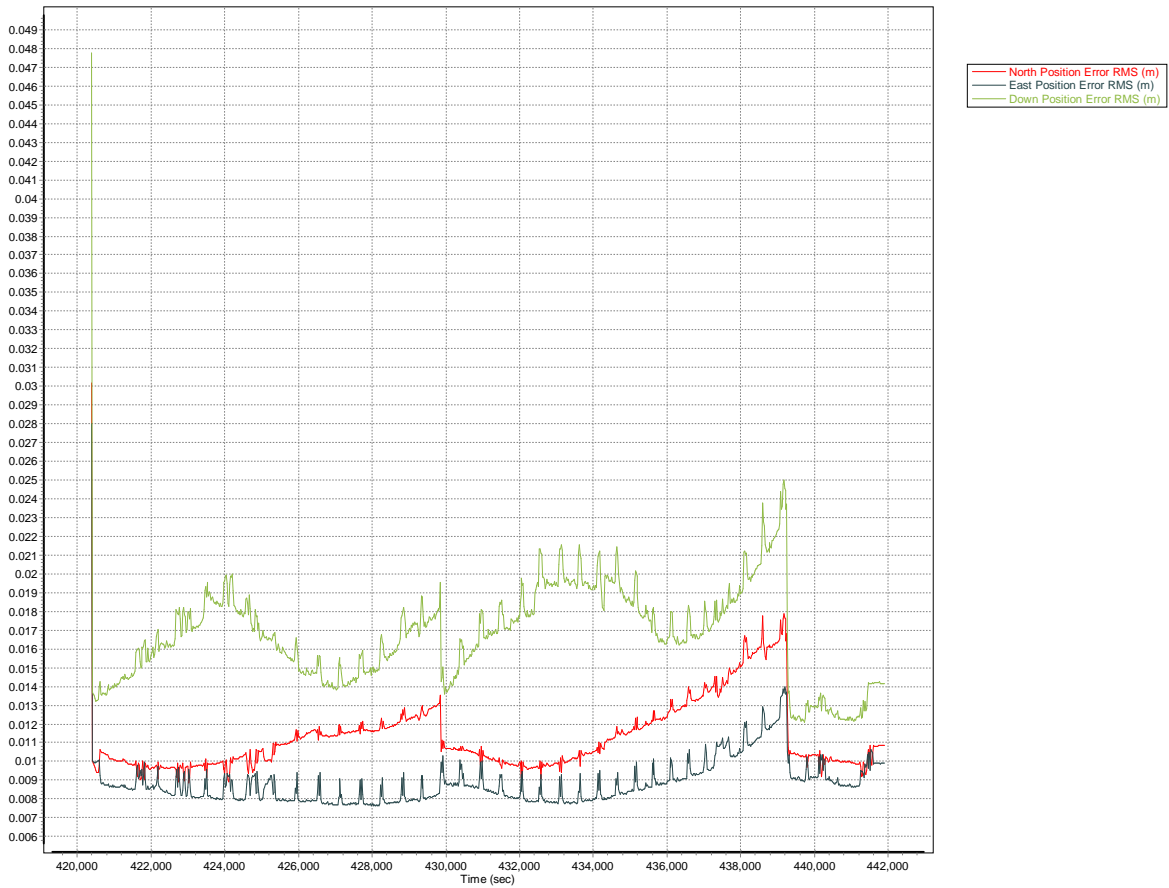
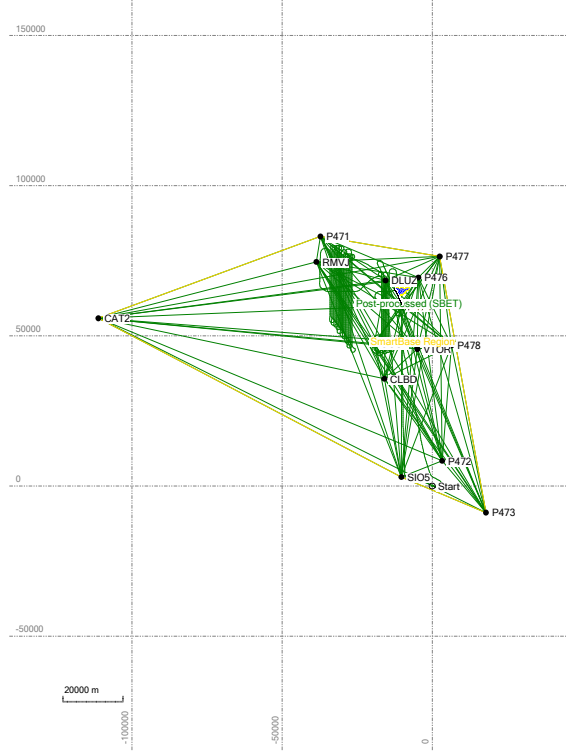
Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248578338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.882254861111	-117.184681686111	198.002

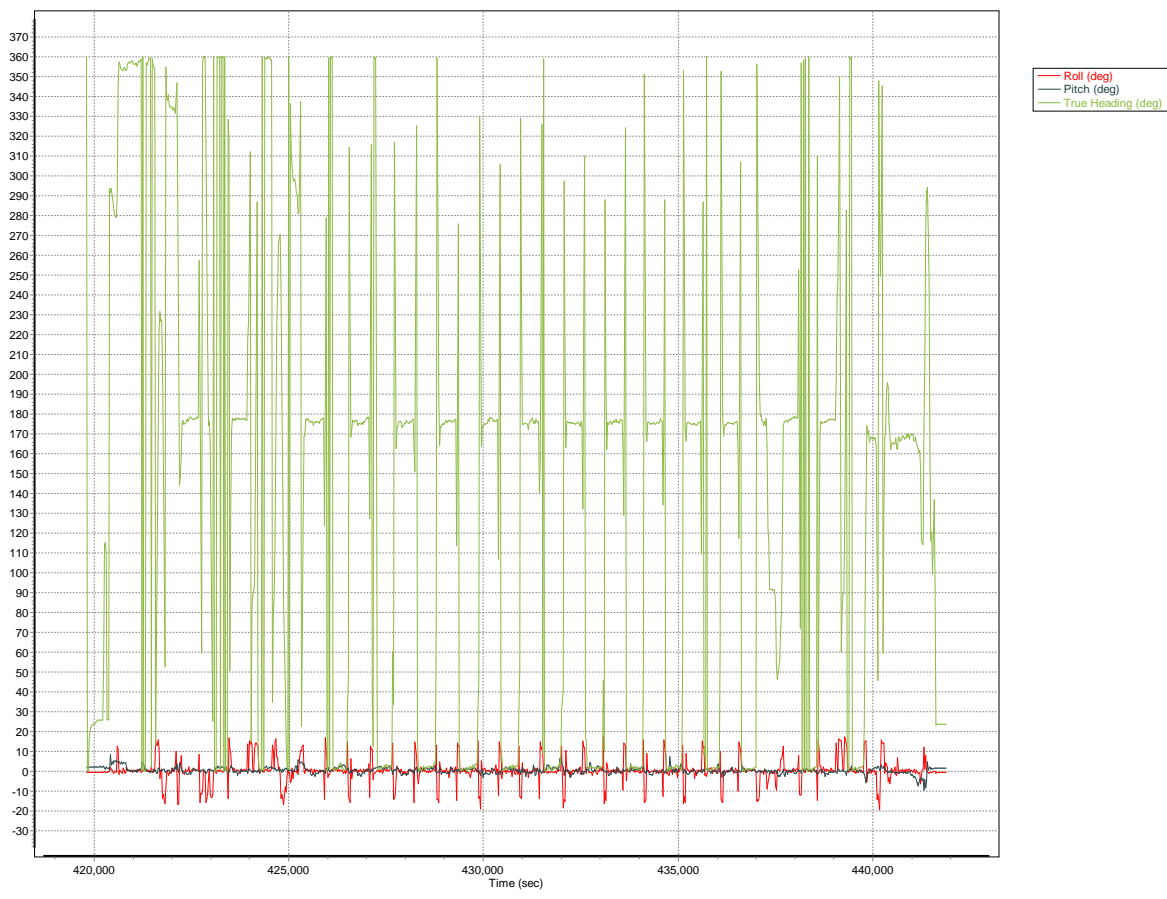
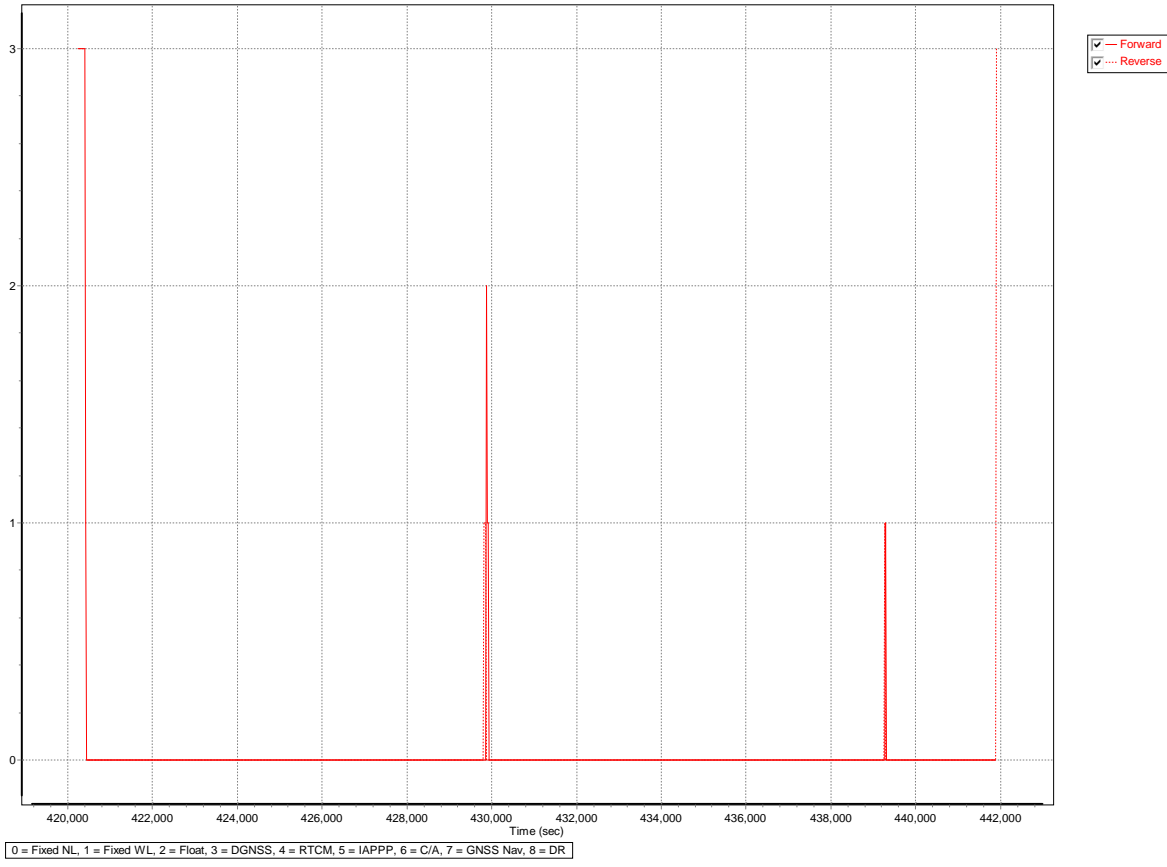
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Quantum Spatial 523 Wellington Way -Lexington KY 40503 859.277.8700

Project Name	San Diego LIDAR	
Project Number	14185	
FCMS .fpd File/Nav File	San_Diepp_H300_LIDAR_Sited_v2	
Project Scanning Requirements		
Field of View	30	Ground Speed (kts): 115
Scan Rate	42.5	Hz Altitude AGL (ft): 3198
Pulse Rate Frequency	75	kHz MPIA or SPIA?:
Laser Output Current		%

Pilot	Mourao
Technician	Kozsep
Aircraft	N7268T

Date Flown	11/27/2014	
Takeoff Time (Z): 2045	Local: 1245	Airport: KMYF
Landing Time (Z): 0236	Local: 1836	Airport: KMYF

Data Information	
LIDAR Unit	12SEN315
HD #	0
POS/IPAS File #	20141127
from → to	726 → 758
FCMS File #	

Weather		Ground		Airport	
Begin Temp		32			
Begin Dewpoint		-6			KMYF
Begin Pressure		30.05			
End Temp		19			
End Dewpoint		-1			KMYF
End Pressure		30.03			

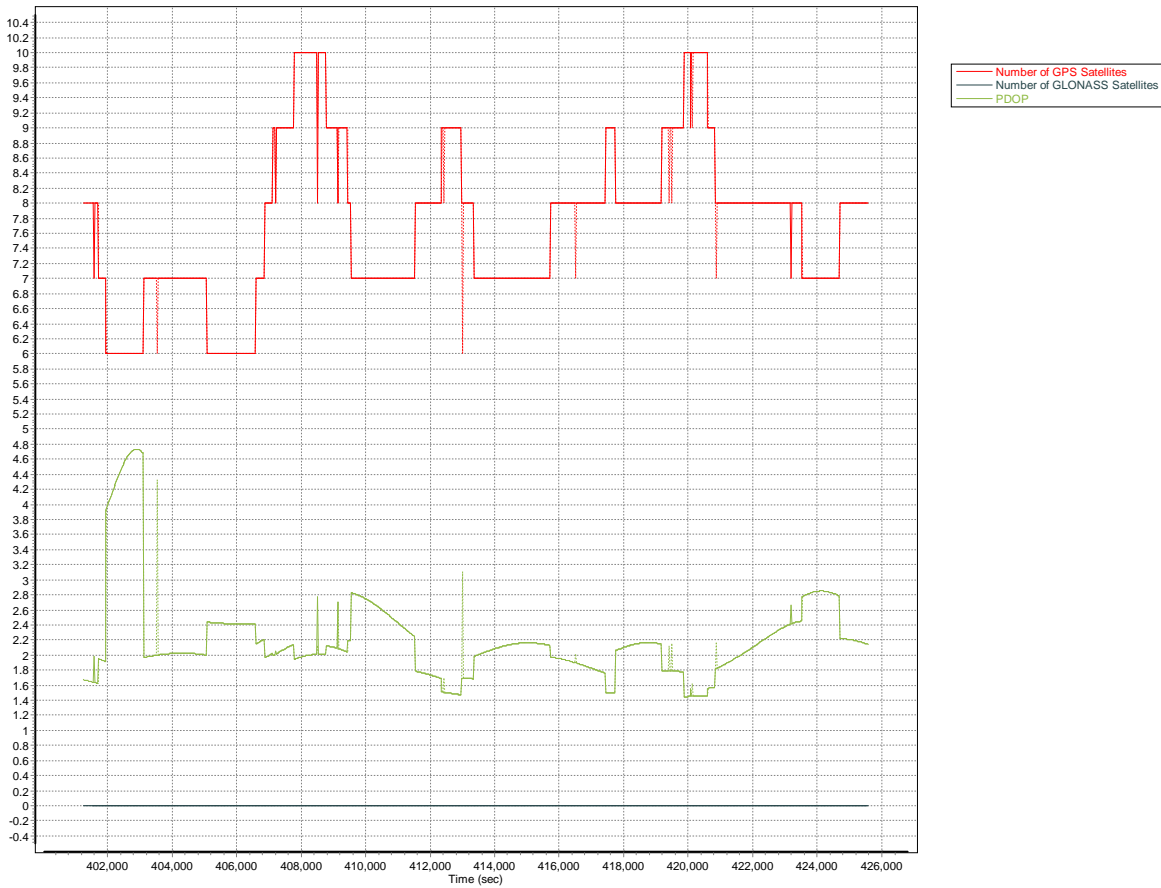


GPS Base Location(s)	Mag Spike at KMYF	
PDOP Avoidance	n/a	
Static or Flyover?	Statics + Flyovers + Figure 8s → if flyovers, times: 1311 - 1314; 1809 - 1813	

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
17	39	1525	1531	4400	S	0	115	<100 %	ALL LINES SMOOTH UNLESS OTHERWISE DENOTED
18	38	1533	1540	4000	N	0	110	<100 %	
19	37	1542	1549	4200	S	0	116	<100 %	
20	36	1551	1559	4200	N	0	111	<100 %	
21	35	1600	1607	4200	S	0	116	<100 %	
22	34	1609	1617	4100	N	0	116	<100 %	
23	33	1618	1625	4100	S	0	113	<100 %	
24	32	1626	1634	4100	N	0	107	<100 %	
25	31	1635	1642	4000	S	0	115	<100 %	
26	30	1643	1650	4000	N	0	115	<100 %	
27	29	1652	1658	4100	S	0	116	<100 %	
28	28	1700	1707	4100	N	0	116	<100 %	
29	27	1708	1714	4100	S	0	117	<100 %	
30	26	1716	1722	4100	N	0	112	<100 %	
31	98	1727	1730	4400	E	0	114	<100 %	
32	79	1733	1740	3700	S	0	119	<100 %	

Additional Notes:

20141127A_331



Coordinate Manager

Station Information

Station ID: P474

Coordinates

Latitude: N 33 21 18.68099000

Longitude: W 117 14 55.24202000

Altitude: 183.6530 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

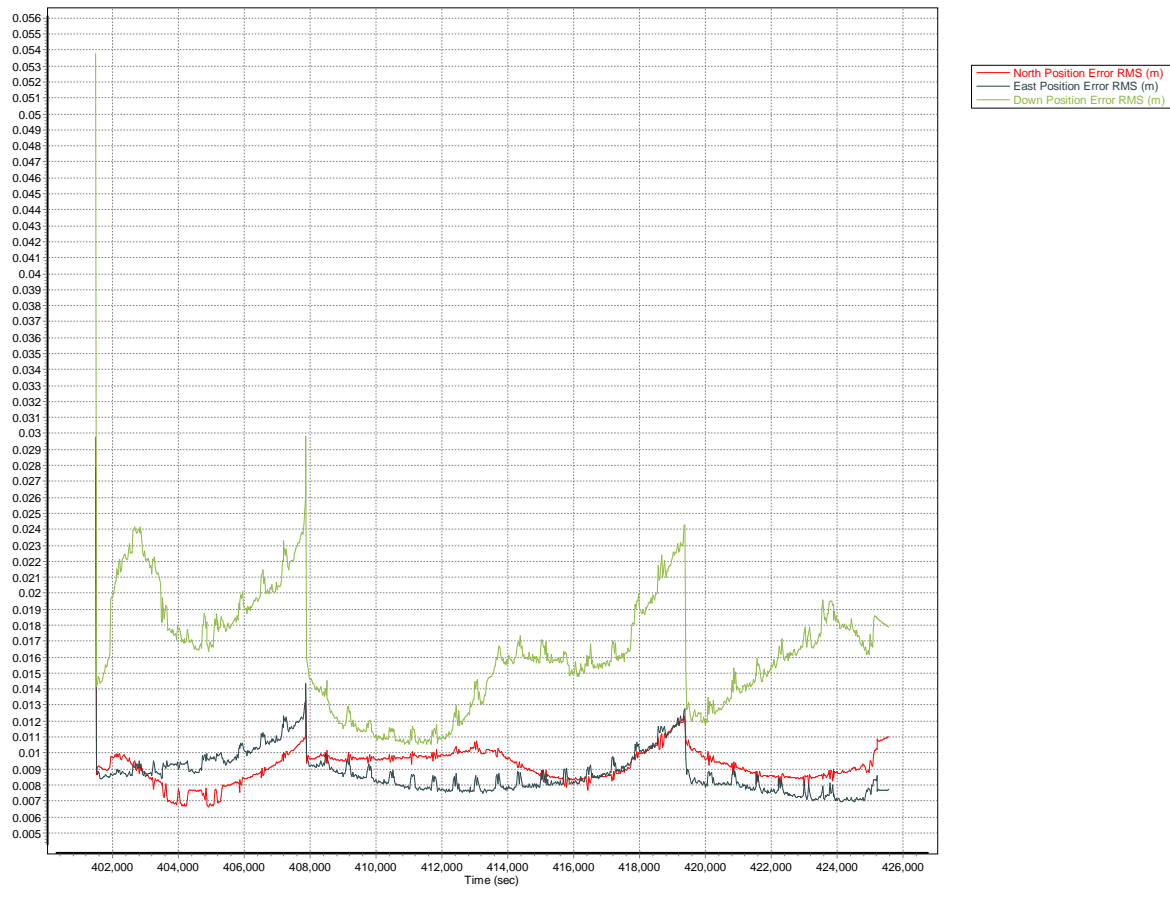
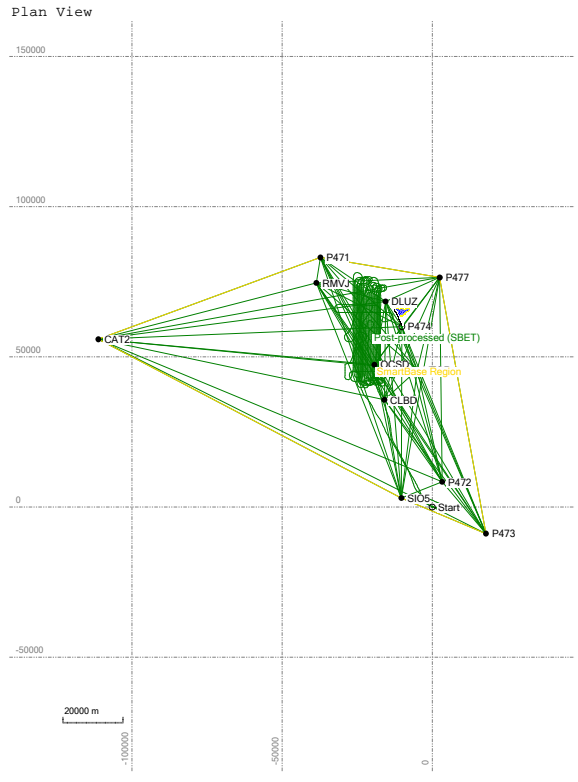
Station ID: P474 Station Fullname: P474

Primary Service ID: Edit Coordinate Accuracy: UNKNOWN_ACC

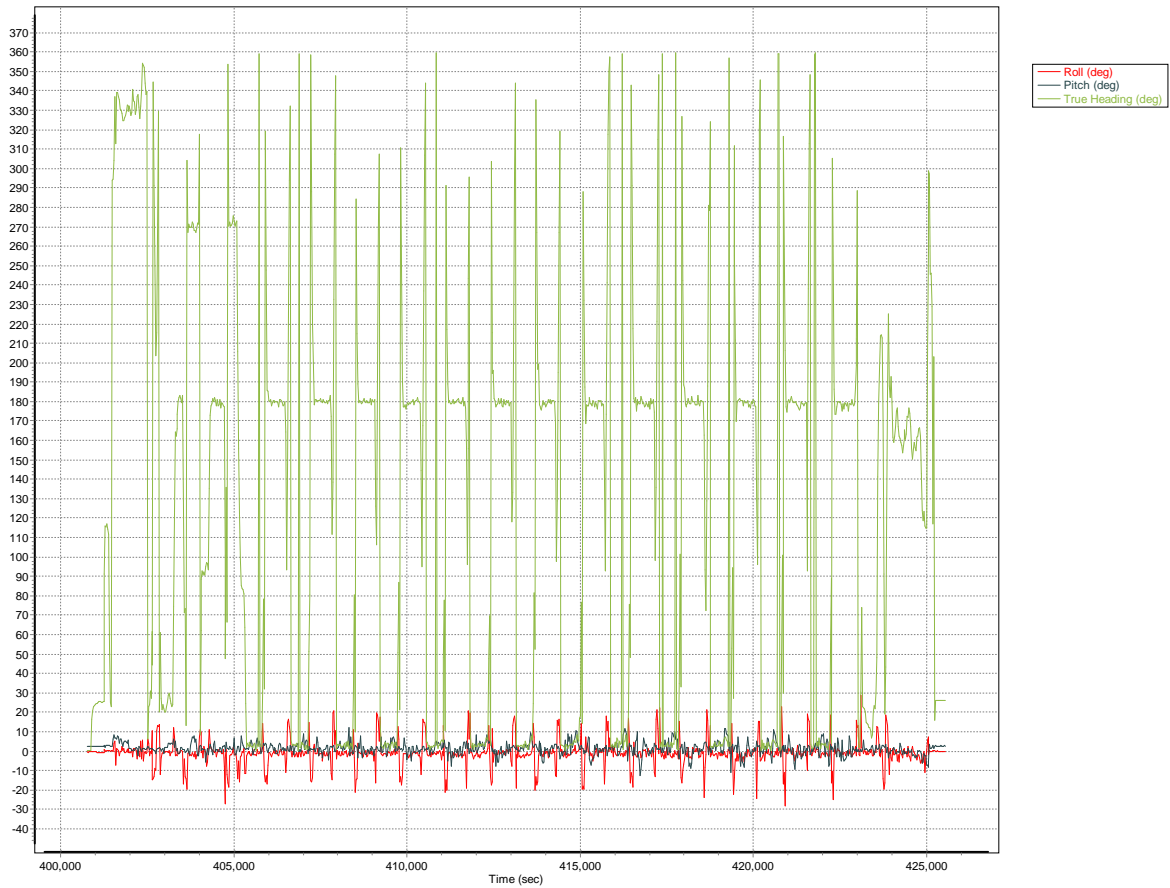
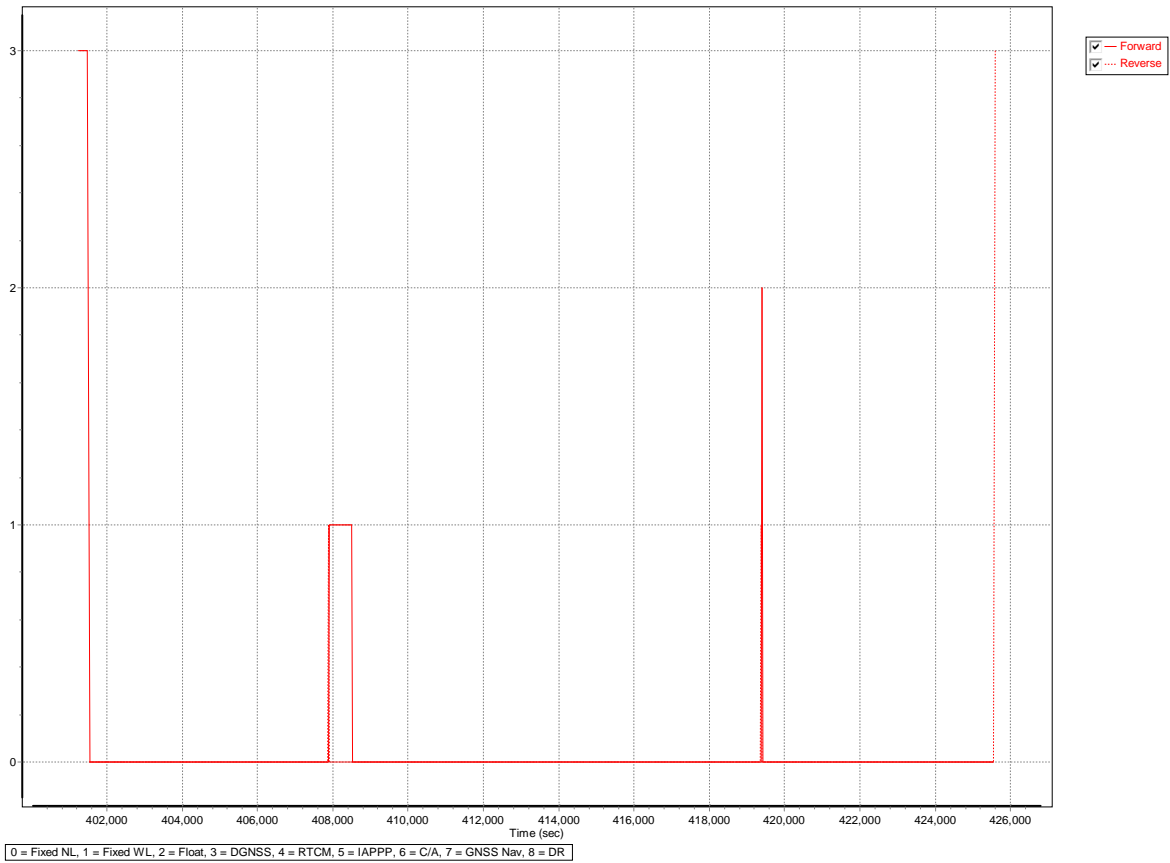
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.899205486111	-117.184691086111	128.693

Import Coordinates Export Coordinates Close



Processing mode



Flight Log

11-27-2014

LIDAR MISSION RECORD SHEET

Project Name	SAN DIEGO LIDAR		
Project Number	14188		
FCMS .jpd File/Nav File	PENDLETON - SUR - H300 - SLED - V1		
Project Scanning Requirements			
Field of View	30	Ground Speed (Kts):	115
Scan Rate	47.5	HZ Altitude AGL (ft):	3000
Pulse Rate Frequency	7.5	KHz MP4 or SPIA?:	
Laser Output Current		%	

Quantum Spatial 523 Wellington Way - Lexington KY 40503 859.277.8700

Pilot	MANN, MCA
Technician	WHITE
Aircraft	27DV
Date Flown	11-27-14
Takeoff Time (Z):	Local:
Landing Time (Z):	Local:
Airport:	KMYF
Airport:	KMYF

Data Information	
LIDAR Unit	13 SEN33
HD #	2
POSIPAS File #	2141127
from -- to	132 -> 187
FCMS File #	

Weather	
Begin Temp	14
Begin Dewpoint	
Begin Pressure	3009
End Temp	31
End Dewpoint	
End Pressure	3001



GPS Base Location(s)	KMYF
PDOP Avoidance	Static
Static or Flyover?	Static Flyover

Flight Line #	Line #	Start Record	Stop Record	ALT. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
74	1	8:02	8:04	1230	S	0	115	7 100 %	
98	2	8:07	8:12	1175	W			%	
74	3	8:17	8:25	1169	S			%	
96	4	8:27	8:30	1100	W			%	
73	5	8:35	8:42	1050	N			%	
72	6	8:45	8:54	1146	S			%	
71	7	8:57	9:05	1085	N			%	
70	8	9:08	9:16	1270	S			%	
69	9	9:19	9:27	1165	N			%	
68	10	9:29	9:37	1265	S			%	
67	11	9:40	9:48	1284	N			%	
66	12	9:51	9:59	1250	S			%	
65	13	10:02	10:10	980	N			%	
64	14	10:13	10:21	1650	S			%	
63	15	10:23	10:31	1070	N			%	
62	16	10:35	10:43	1800	S			%	

Mission Page 1 of 2

0

Additional Notes:
 17 10:45 10:53 1056 N
 60 18 10:56 11:04 1670 S
 59 19 11:07 11:15 1050 N
 58 20 11:19 11:27 1630 S
 57 21 11:30 11:38 1050 N
 56 22 11:40 11:50 1670 S
 55 23 11:55 12:00 1670 S

24

LIDAR MISSION RECORD SHEET

Project Name: **SAN DIEGO LIDAR**
 Project Number: **14185**
 FCMS .jpd File/Nav File: **REYNOLDS-H-SUB-1300-SEED V1**

Quantum Spatial 523 Wellington Way - Lexington KY 40503 859.277.3700

Pilot: **MAMMOLA** Date Flown: **11-27-14**
 Technician: **WHITE** Takeoff Time (Z): Local: **KMYF**
 Aircraft: **27DV** Landing Time (Z): Local: **KMYF**

Project Scanning Requirements

Field of View	30	Ground Speed (KTS)	
Scan Rate	42.5	Hz Altitude AGL (ft)	
Pulse Rate Frequency	75	KHz MPIA or SPIA?	
Laser Output Current		%	

Data Information

LIDAR Unit	135EN37
HD #	2
POS/IPAS File #	20141127
from -- to	132-137
FCMS File #	

GPS Base Location(s): **KMYF**

POOP Avoidance

Static or Flyover? **Static/Flyover/PLS** → if flyovers, times:



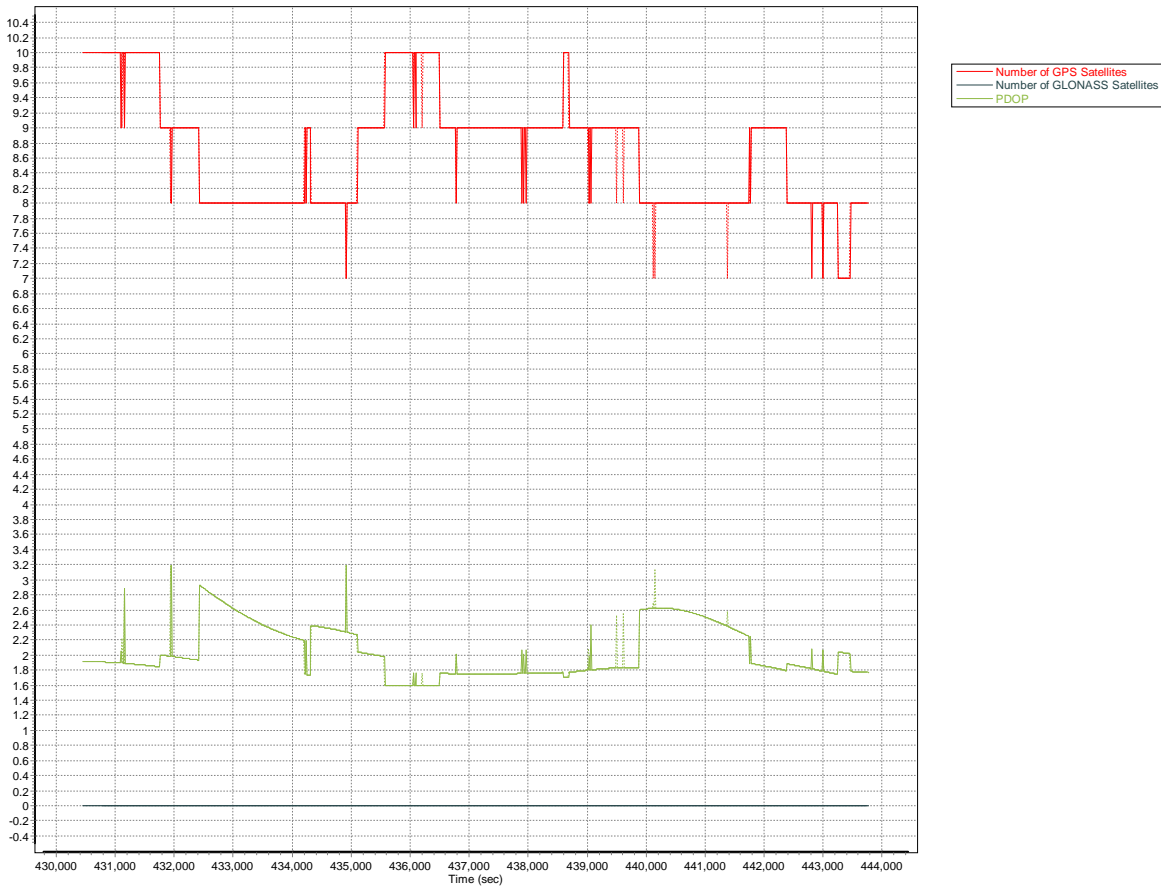
Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Rids, Etc.)
54	24	12:06	12:15	1720	S	0	145	<100	
53	25	12:19	12:28	976	N				
52	26	12:31	12:41	1695	S				
57	27	12:44	12:52	970	N				
50	28	12:55	1:05	1685	S				
49	29	1:07	1:16	976	N				
48	30	1:19	1:28	1610	S				
48	1	4:12	4:16	1230	W				
83	2	4:21	4:28	1320	S				
97	3	4:31	4:33	1050	E				
84	4	4:40	4:47	1100	N				
85	5	4:50	4:57	1300	S				
86	6	5:00	5:07	1121	N				
87	7	5:11	5:18	1290	S				
88	8	5:21	5:27	1100	N				
89	9	5:31	5:38	1315	S				

Mission Page 2 Of 7

END LIFT

Additional Notes:
 10 5:29
 11 5:39
 12 5:59
 13 6:10
 14 6:16
 15 6:26

20141127B_331



Coordinate Manager

Station Information

Station ID: P474

Coordinates

Latitude: N 33 21 18.68099000

Longitude: W 117 14 55.24202000

Altitude: 183.6530 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Choke Ring w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

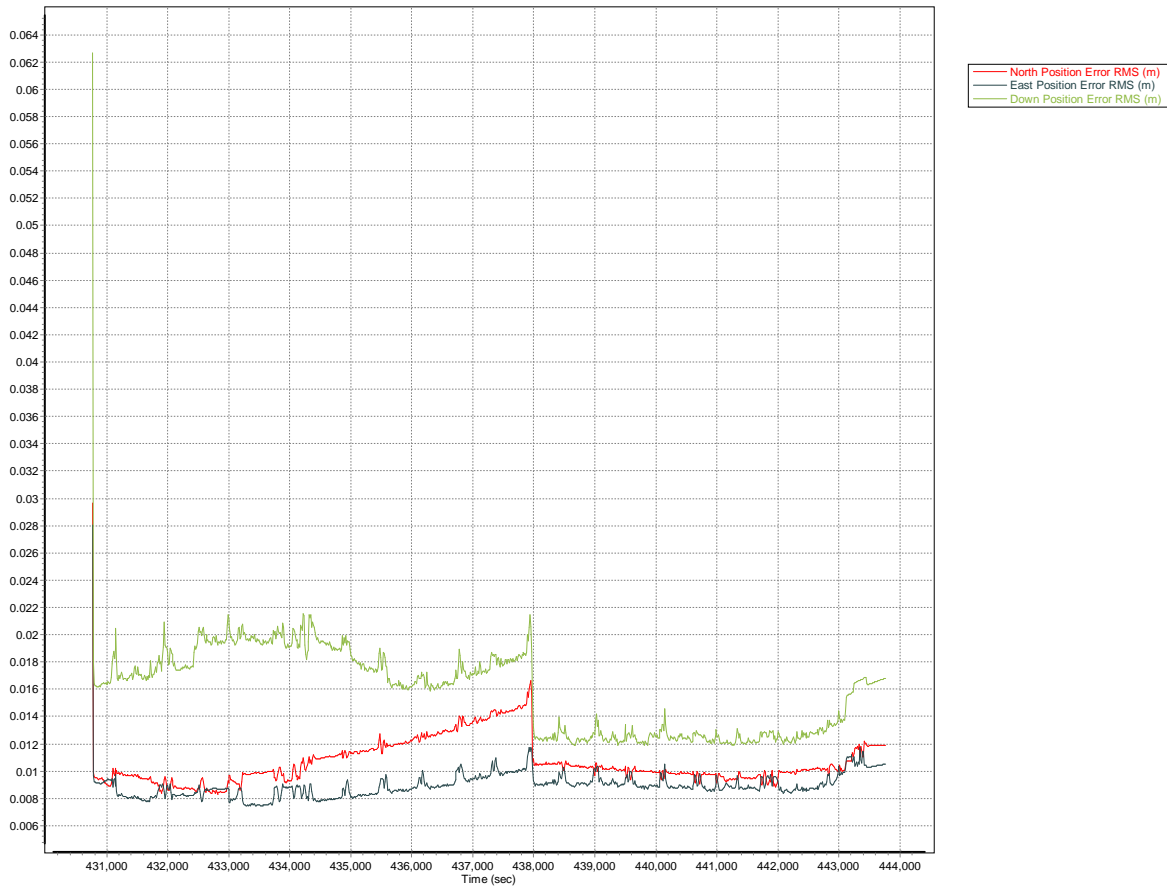
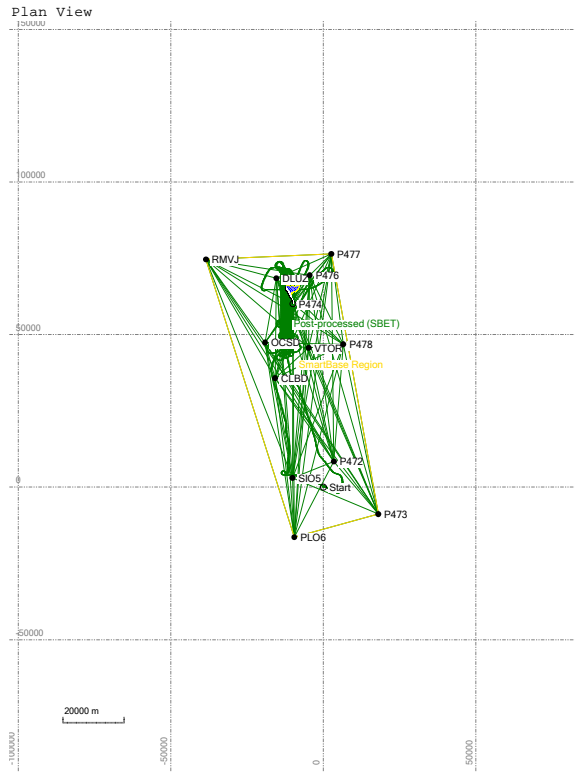
Station ID: P474 Station FullName: P474

Primary Service ID: Edit Coordinate Accuracy: UNKNOWN_ACC

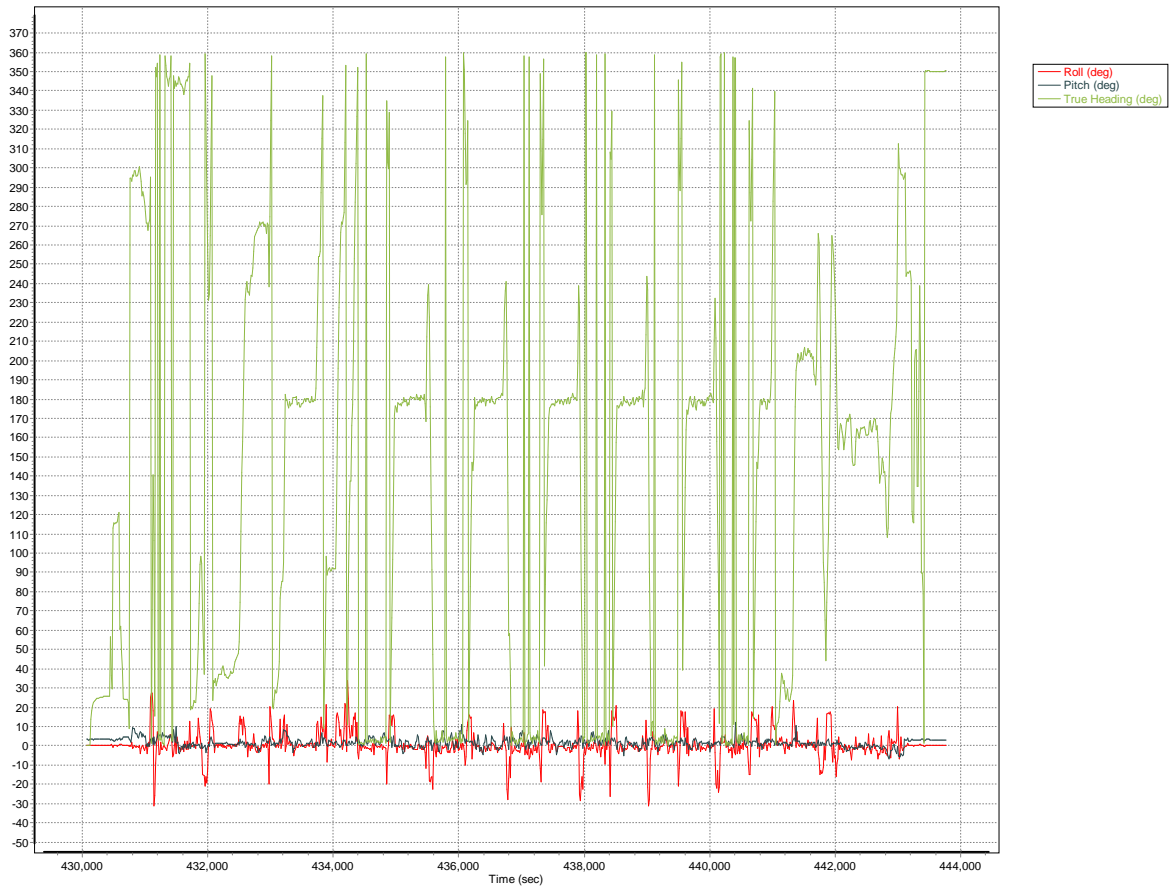
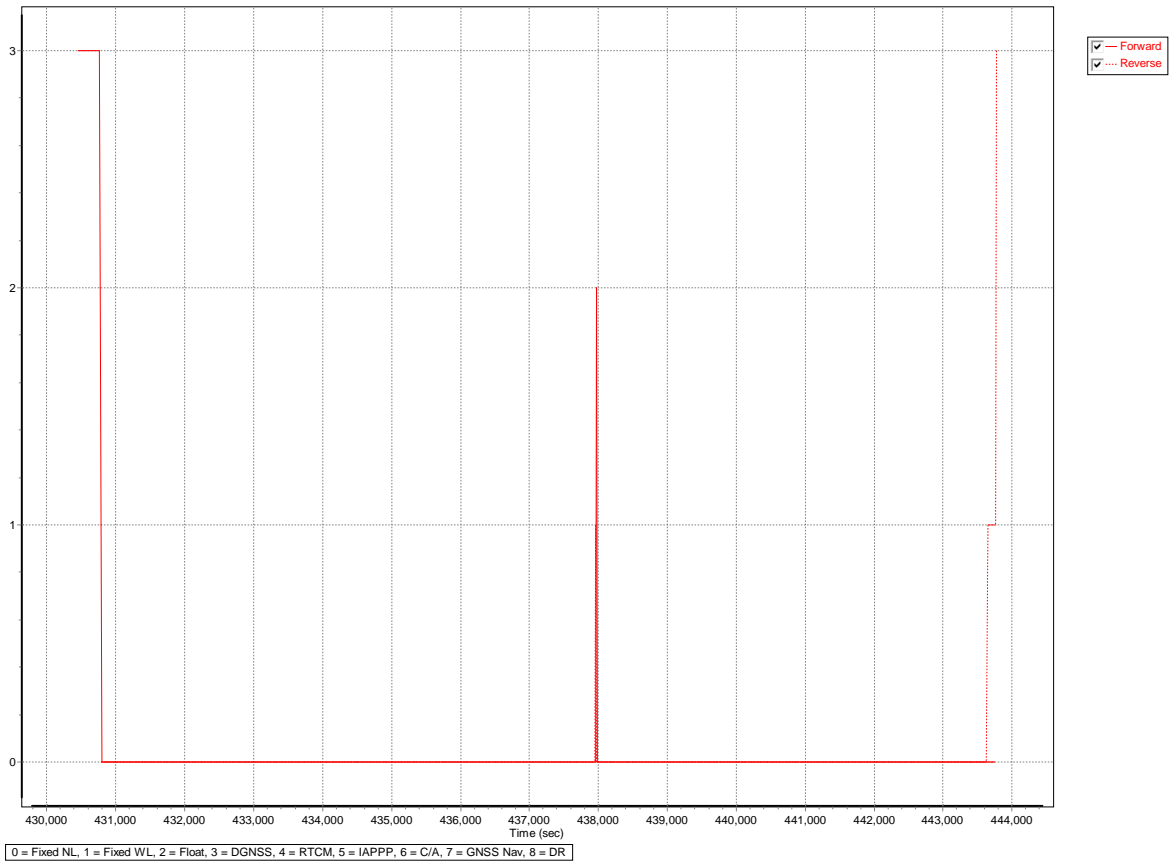
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.18779847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248578338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205480556	-117.184601686111	198.002

Import Coordinates Export Coordinates Close



Processing mode



Flight Log

24

LIDAR MISSION RECORD SHEET

Project Name: SAN DIEGO LIDAR
 Project Number: 14185
 FCMS .jpd File/Nav File: REYNOLDS-H-SUB-1300-SEED V1

Quantum Spatial 523 Wellington Way - Lexington KY 40503 859.277.3700

Pilot: MAMMOLA Date Flown: 11-27-14
 Technician: WHITE Takeoff Time (Z): Local: Airport: KMYF
 Aircraft: 27DV Landing Time (Z): Local: Airport: KMYF

Project Scanning Requirements

Field of View: 30 Ground Speed (KTS):
 Scan Rate: 42.5 Hz Altitude AGL (ft):
 Pulse Rate Frequency: 75 kHz MPIA or SPIA?:
 Laser Output Current: %

Weather

Begin Temp: 14 Ground: Airport
 Begin Dewpoint: 3009 KMYF
 Begin Pressure: 31
 End Temp: 30.0 KMYF
 End Dewpoint:
 End Pressure:

Data Information

LIDAR Unit: 135EN37
 HD #: Z
 POS/IPAS File #: 20141127
 from -- to: 132-187
 FCMS File #:



GPS Base Location(s): KMYF
 PDOP Avoidance:
 Static or Flyover? Static/Flyover/PLS → if flyovers, times:

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Rids, Etc.)
54	24	12:06	12:15	1720	S	0	145	<100 %	
53	25	12:19	12:28	976	N			%	
52	26	12:31	12:41	1695	S			%	
57	27	12:44	12:52	970	N			%	
50	28	12:55	1:05	1685	S			%	
49	29	1:07	1:16	976	N			%	
48	30	1:19	1:28	1610	S			%	
48	1	4:12	4:16	1230	W			%	
83	2	4:21	4:28	1320	S			%	
97	3	4:31	4:33	1050	E			%	
84	4	4:40	4:47	1100	N			%	
85	5	4:50	4:57	1300	S			%	
86	6	5:00	5:07	1121	N			%	
87	7	5:11	5:18	1290	S			%	
88	8	5:21	5:27	1100	N			%	
89	9	5:31	5:38	1315	S			%	

Mission Page 2 Of 2

END LIFT

Additional Notes:
 11 5:29
 12 5:59
 13 6:10
 14 6:16
 15 6:26

20141204A_331



Coordinate Manager

Station Information

Station ID: P475

Coordinates

Latitude: N 32 39 59.01141000

Longitude: W 117 14 38.11759000

Altitude: -24.2850 m

Decimal Degrees

Antenna Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: TRM59800-80 w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P475 Station FullName: P475

Primary Service ID: Edit

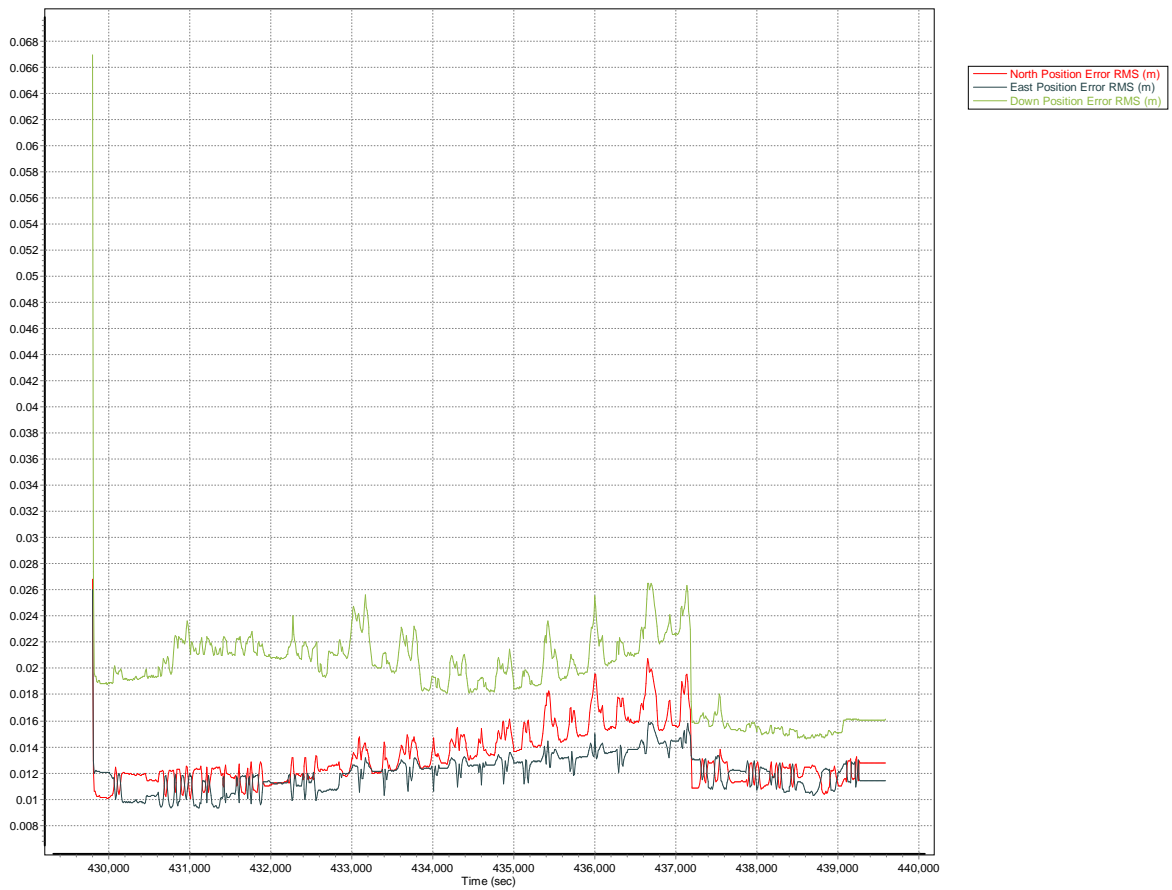
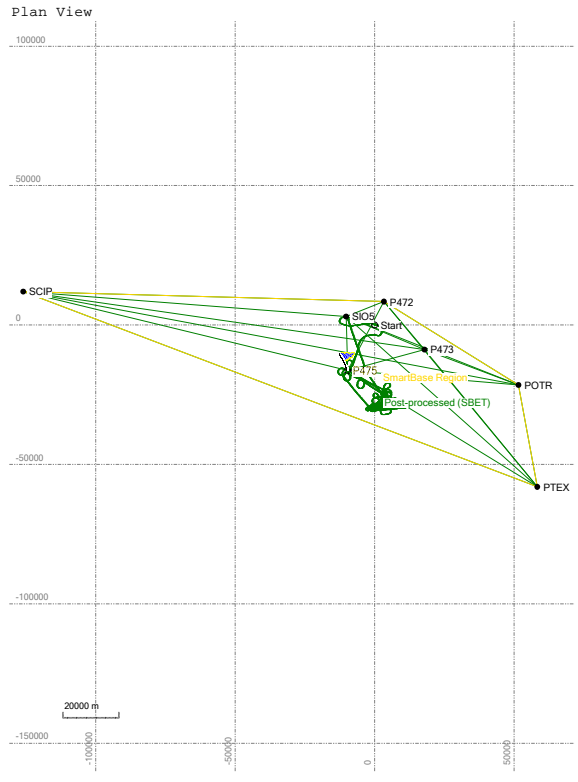
Coordinate Accuracy: UNKNOWN_ACC

Secondary Service ID: Edit Add Delete Update

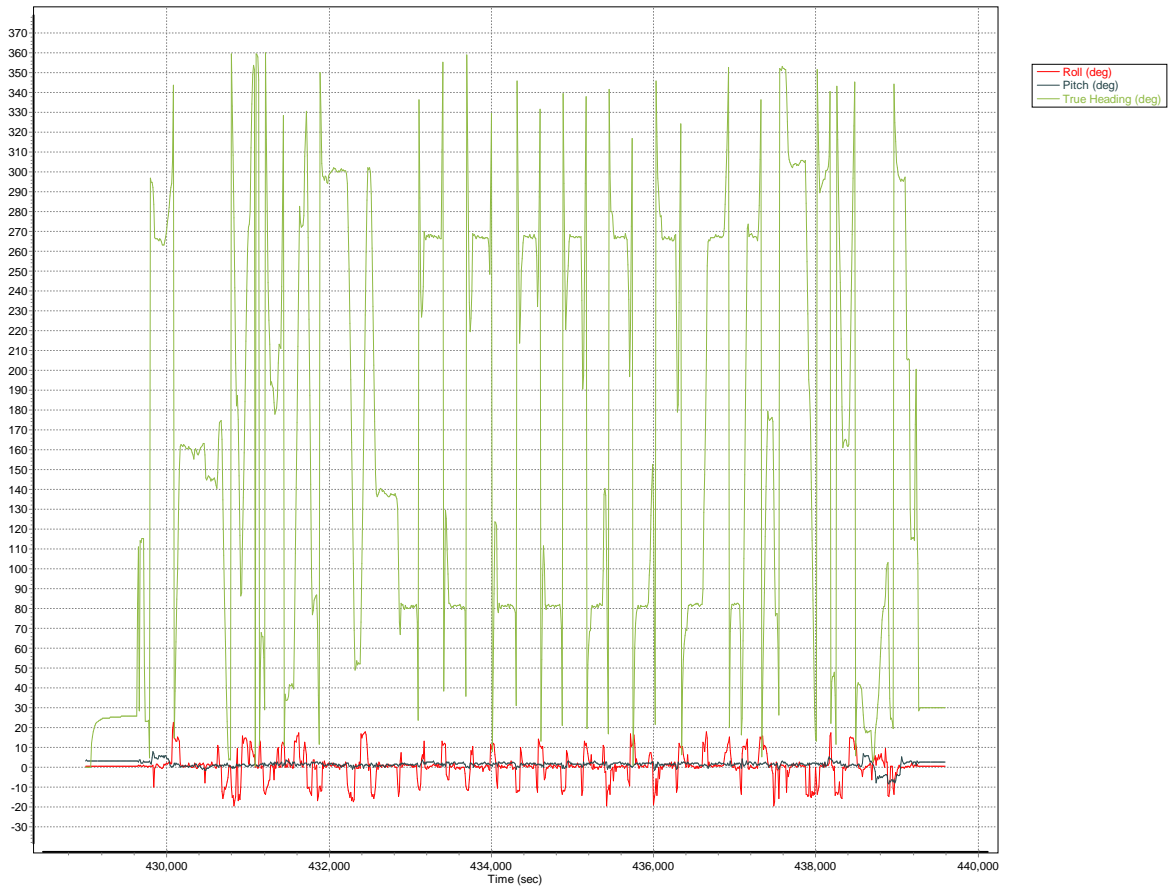
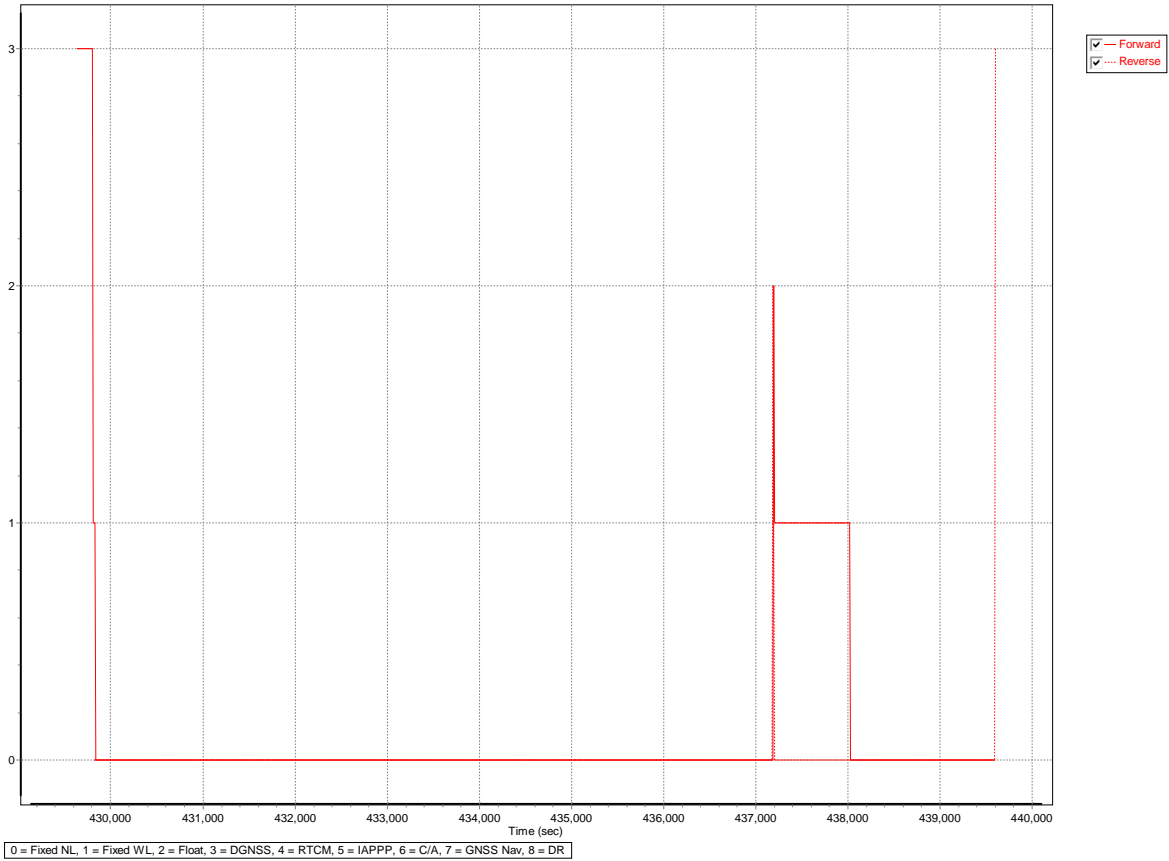
Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205480556	-117.154601686111	188.002

Import Coordinates Export Coordinates

Close



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

12-4-14

Project Name: **SAN DIEGO LIDAR**
 Project Number: **14195**
 FCMS .fpd File/Nav File

Quantum Spatial 523 Wellington Way - Lexington KY 40503 859.277.8700

Pilot: **MORAD**
 Technician: **WHITE**
 Aircraft: **27 DV**

Date Flown: **12-4-2014**
 Takeoff Time: **07:00** Local: **0400** Airport: **KMYF**
 Landing Time: **07:53** Local: **0553** Airport: **KMYF**

Data Information
 LIDAR Unit: **13 SEN 371**
 HD #: **Z**
 POSIPAS File #: **20141204**
 from → to: **197 → 212**
 FCMS File #

Weather
 Begin Temp
 Begin Dewpoint
 Begin Pressure
 End Temp
 End Dewpoint
 End Pressure

Ground
21
2998
21
2998

Airport
KMYF
KMYF

Project Scanning Requirements
 Field of View: **24** Ground Speed (kt): **100**
 Scan Rate: **72.8** Hz Altitude AGL (ft): **2000**
 Pulse Rate Frequency: **150** kHz MPIA or SPIA?:
 Laser Output Current: %

GPS Base Location(s)
 PDOP Avoidance
 Static or Flyover? **Static** → If flyovers, times:



Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
26	1	4:14	4:17	2150	E	0	105	100	
25	2	4:19	4:21	2100	W				
24	3	4:23	4:26	2100	E				
23	4	4:28	4:31	2175	W				
22	5	4:33	4:37	2100	E				
21	6	4:38	4:42	2190	W				
20	7	4:43	4:46	2100	E				
19	8	4:48	4:51	2125	W				
18	9	4:53	4:56	2100	E				
17	10	4:57	5:00	2100	W				
16	11	5:02	5:05	2100	E				
15	12	5:07	5:10	2100	W				
14	13	5:12	5:15	2100	E				
27	14	5:18	5:21	2100	W				
12	15	5:22	5:24	2100	E				
13	16	5:25	5:27	2100	W				

Additional Notes: 17 5:29 5:30 2100 S
 31 18 5:32 2100 N

Mission Page ___ Of ___

20141205A_331



Coordinate Manager

Station Information

Station ID: P475

Coordinates

Latitude: N 32 39 59.01141000

Longitude: W 117 14 38.11759000

Altitude: -24.2850 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: TRM59800-80 w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: P475 Station Fullname: P475

Primary Service ID: Edit

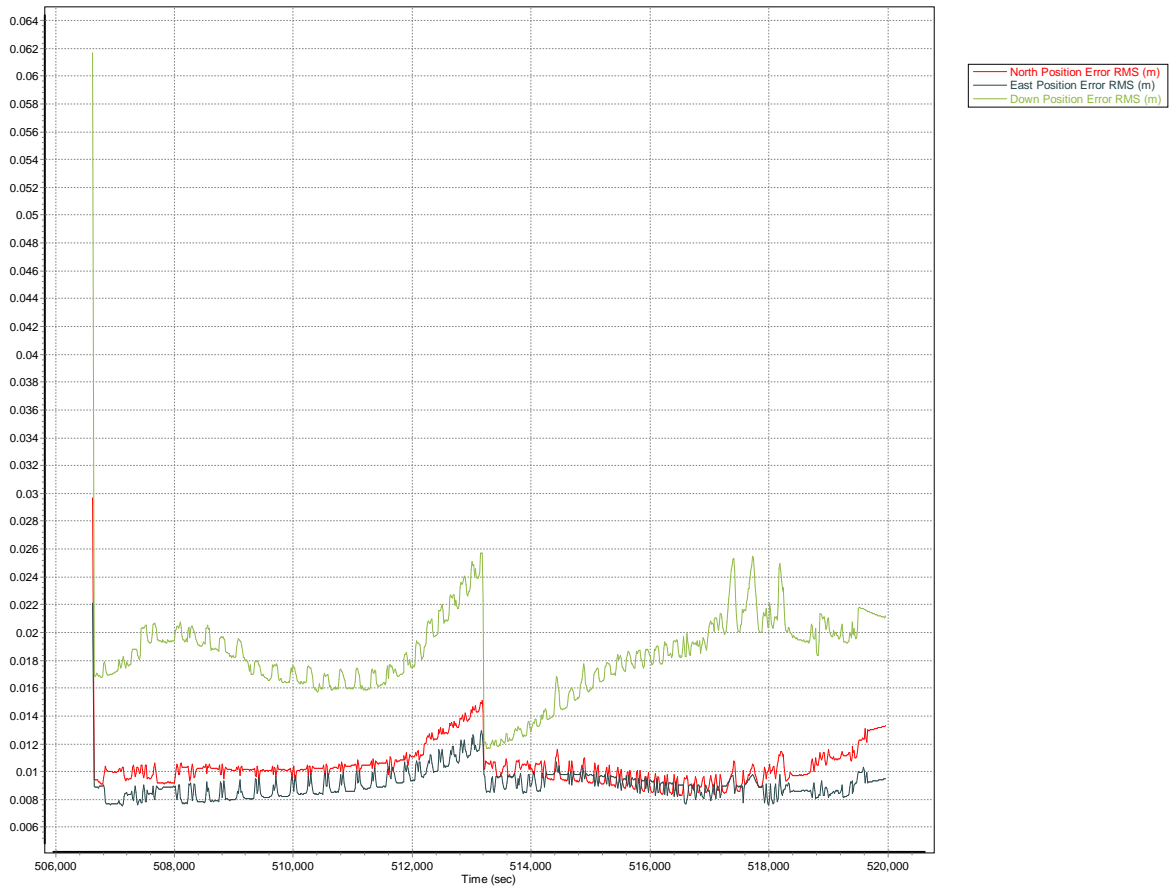
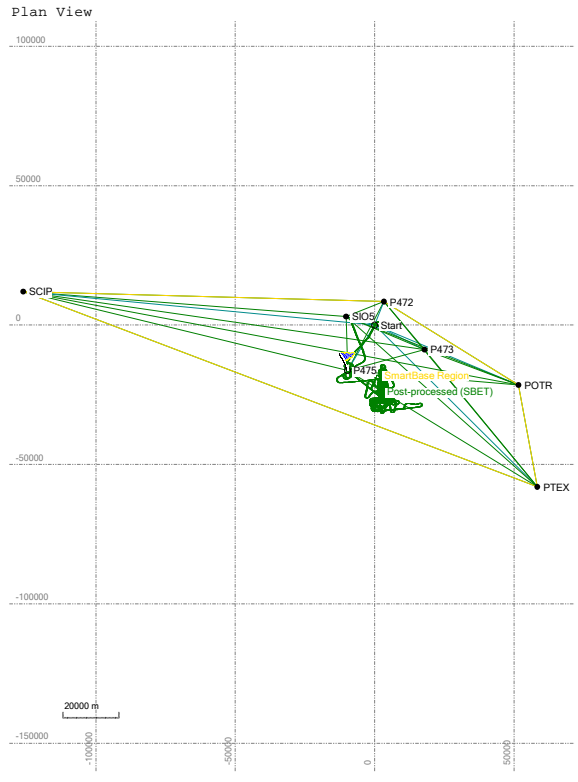
Coordinate Accuracy: UNKNOWN_ACC

Secondary Service ID: Edit Add Delete Update

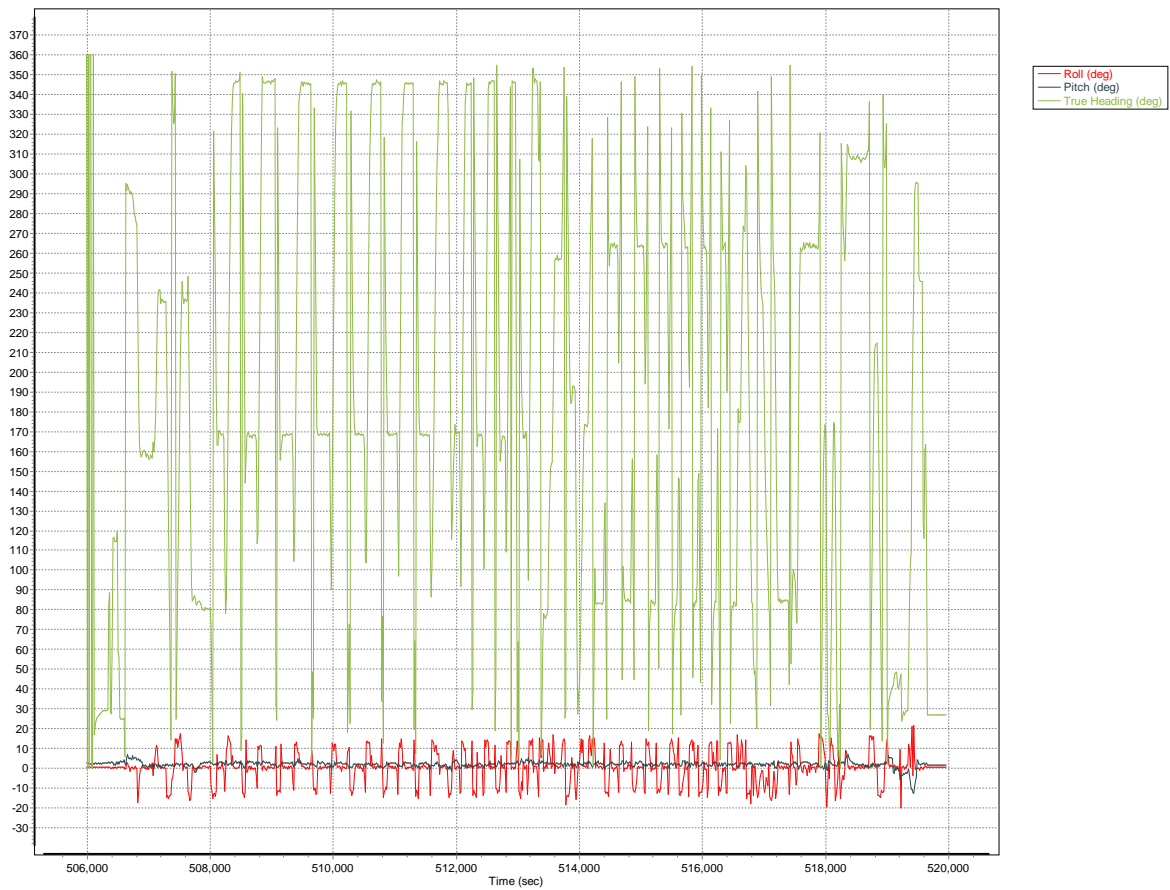
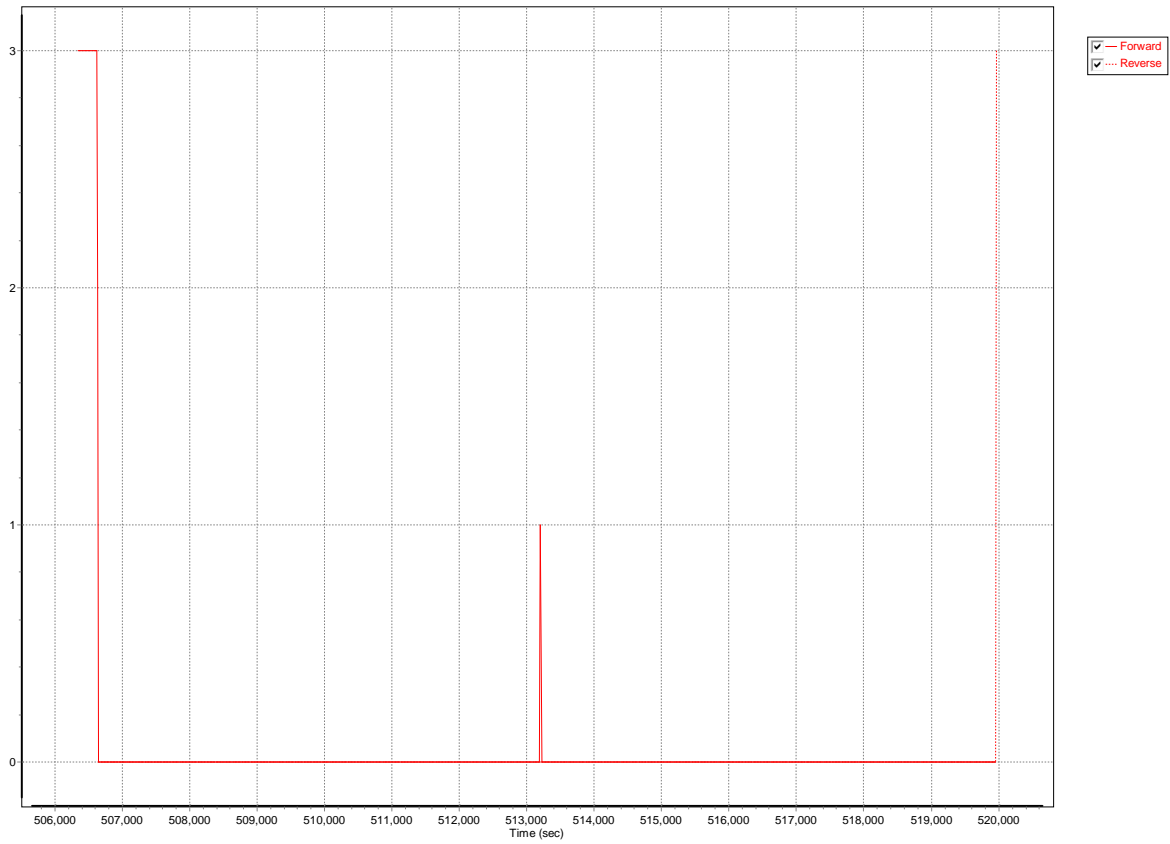
Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8996	WGS84	32.882265486111	-117.184681686111	188.002

Import Coordinates Export Coordinates

Close



Processing mode



Flight Log

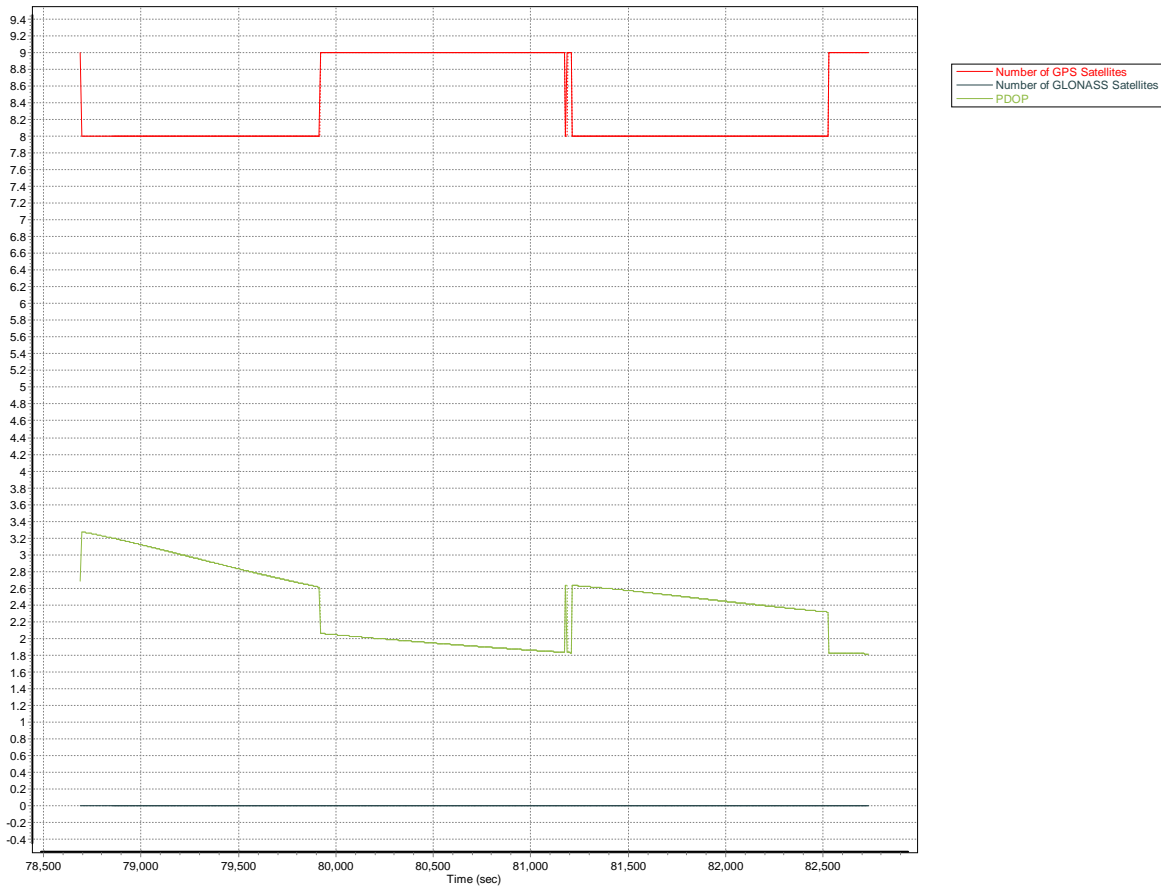
12-5-14

	START	STOP	AUT	HEADING
6	3:14	3:15	2150	W
5	3:17	3:18	2150	E
4	3:19	3:20	2150	W
3	3:22	3:23	2150	E
2	3:24	3:26	2150	W
1	3:27	3:28	2150	E
X	3:29	3:29	2150	S
X	3:34		2150	E
X	3:51	3:51	2150	W
X	3:52	3:53	2150	S
X	3:54	3:55	2150	S

	START	STOP	AUT	HEADING
52	1:08	1:10	2050	S
52	1:12	1:14	2050	N
51	1:16	1:18	2000	S
50	1:20	1:22	2000	N
49	1:25	1:28	2000	S
48	1:30	1:33	2050	N
47	1:35	1:38	2050	S
46	1:40	1:43	2050	N
45	1:45	1:48	2050	S
44	1:49	1:52	2050	N
43	1:54	1:57	2000	S
42	1:58	2:01	2050	N
41	2:05	2:05	2000	S
40	2:08	2:10	2050	N
39	2:11	2:13	2000	S
38	2:15	2:17	2150	N
37	2:18	2:20	2150	S
36	2:21	2:23	2150	N
35	2:24	2:26	2150	S
34	2:28	2:29	2150	N
33	2:30	2:32	2100	S
32	2:33	2:34	2150	N
X	2:36	2:37	2150	E
X	2:39	2:41	2150	W
X	2:47	2:49	2150	S
X	2:50	2:53	2150	E
X	2:54	2:56	2150	W
11	2:57	3:00	2150	E
10	3:01	3:03	2100	W
9	3:05	3:06	2150	E
8	3:08	3:10	2150	W
7	3:11	3:12	2150	E

Cross Point
Cross Point
Cross Point

20141228A_315



Coordinate Manager

Station Information

Station ID: PLO5

Coordinates

Latitude: N 32 39 55.50397000

Longitude: W 117 14 34.85949000

Altitude: -21.7740 m

Decimal Degrees

Antenna Reference Point (ARP) coordinates

Antenna: Frame

Height: 0.000 m

Method: Bottom of antenna mount

Manufacturer: Trimble

Type: Zephyr Geodetic w/USCG SCIT

Offset from Measured Point to APC: 0.053 m

Apply Changes

Station Database

Station ID: PLO5 Station FullName: PLO5

Primary Service ID: [] Edit

Coordinate Accuracy: UNKNOWN_ACC

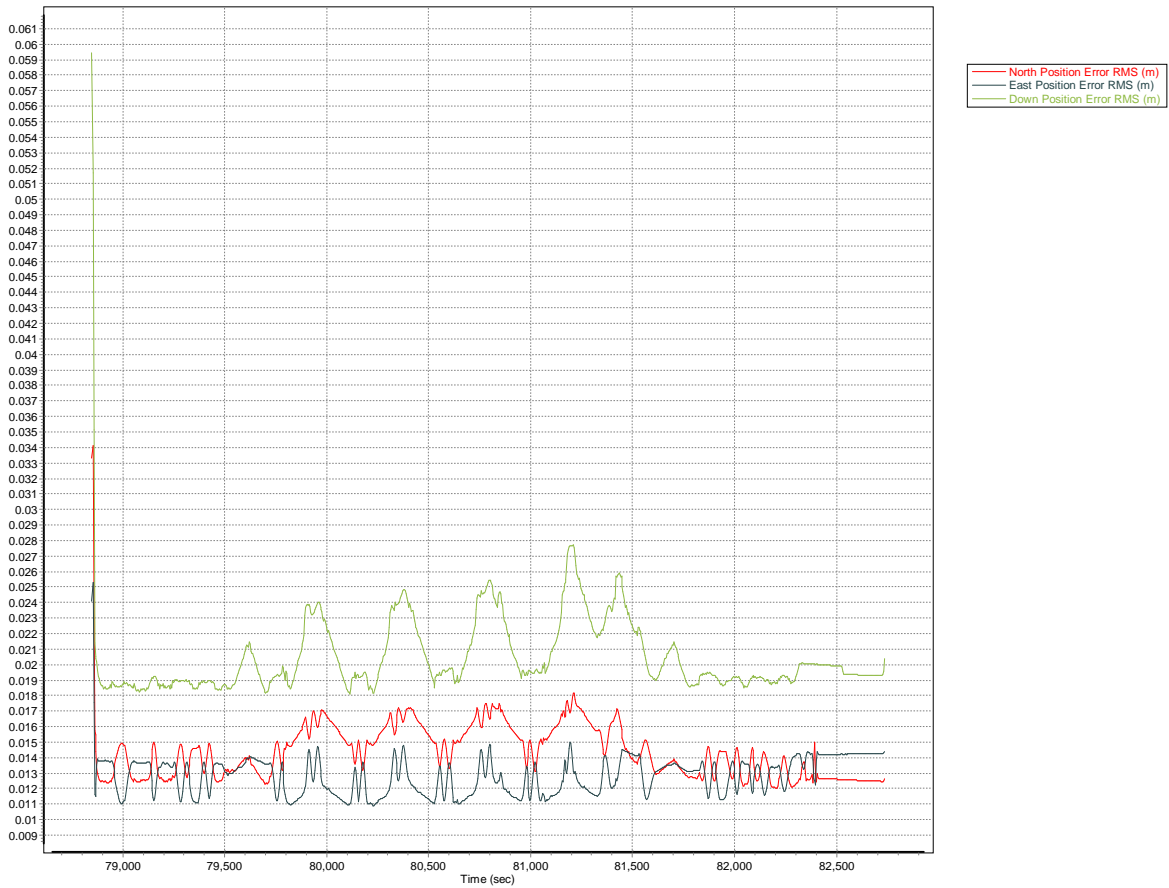
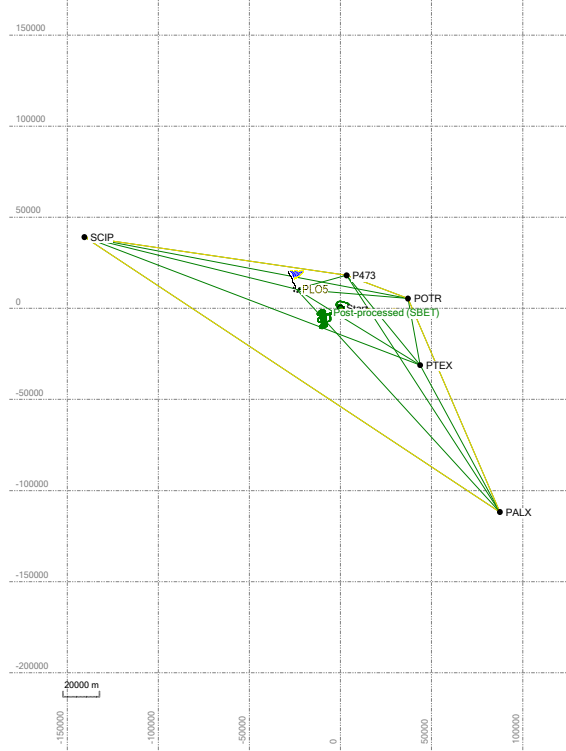
Secondary Service ID: [] Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8996	WGS84	32.880205486111	-117.184681686111	188.002

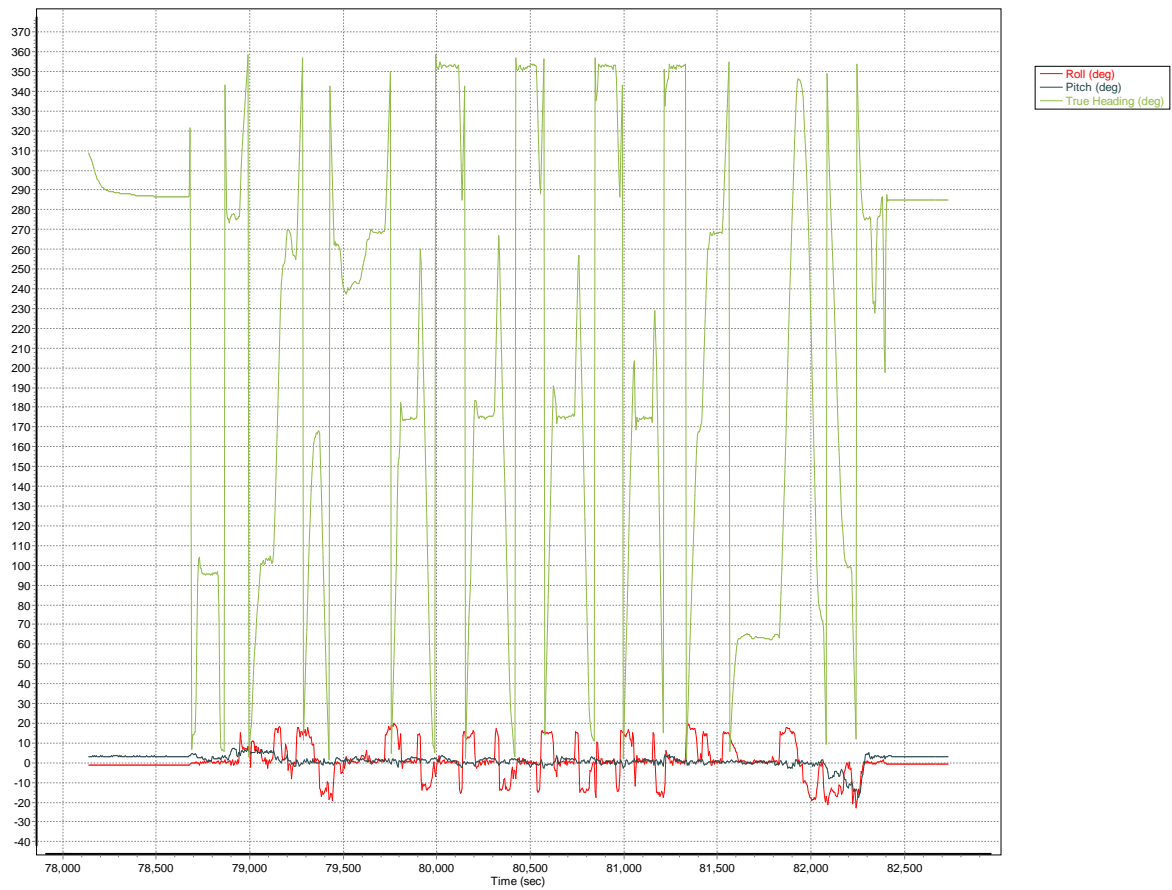
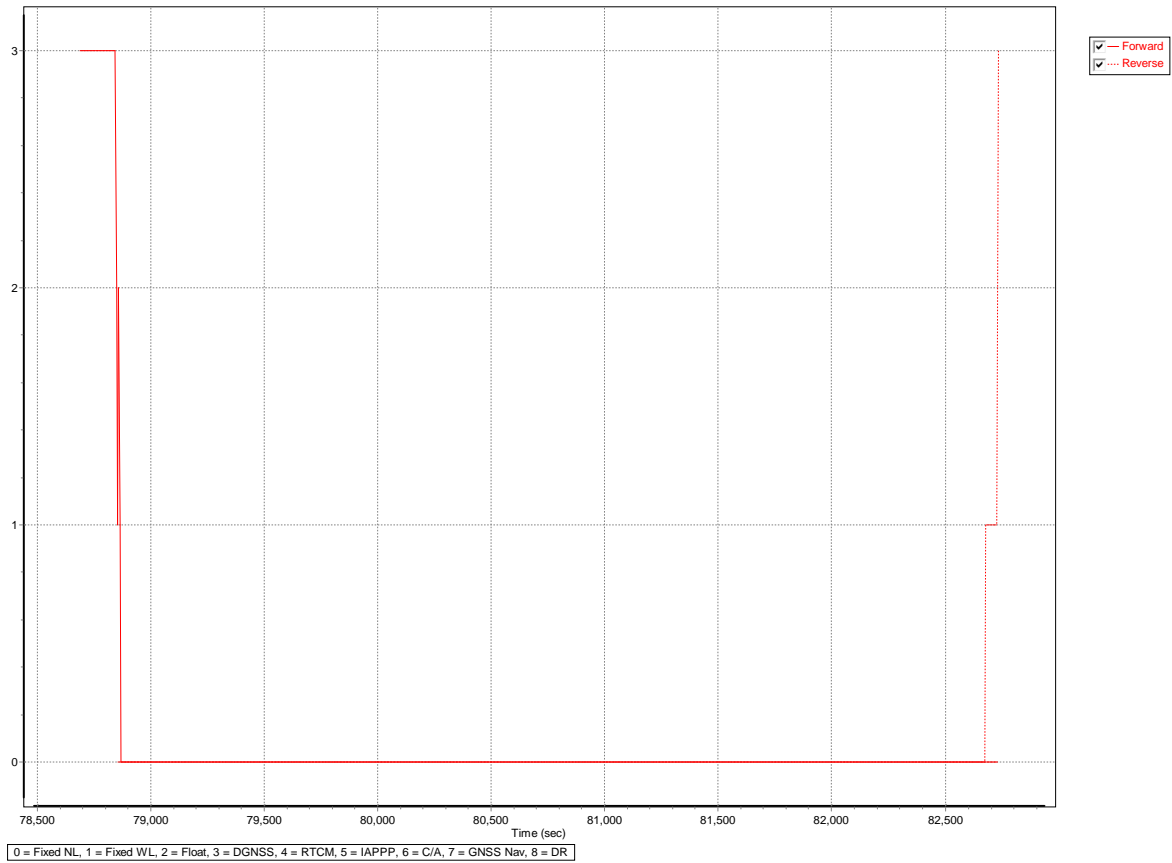
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



Flight Log

LIDAR MISSION RECORD SHEET

Date Flown	12-28-14
Takeoff Time (Z) 0145	Local: 1:45
Landing Time (Z) 0300	Local: 3:00
Airport: KSDM	Airport: KSDM

Pilot	MORANO
Technician	WHITE
Aircraft	N27DV

Data Information	
LIDAR Unit	125EN315
HD #	
POS/IPAS File #	
from → to	→
FCMS File #	



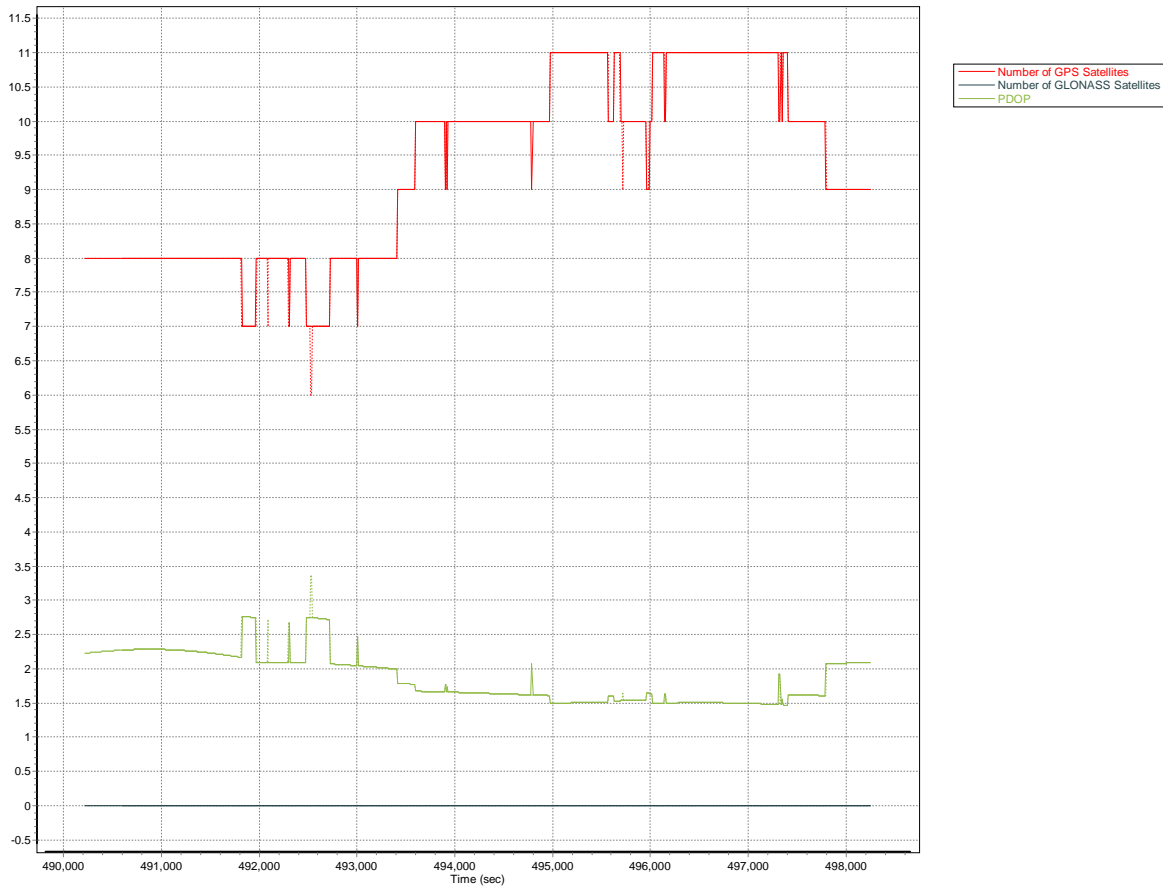
Project Scanning Requirements	
Field of View	Ground Speed (kts): 115
Scan Rate	Hz Altitude AGL (ft): 3200
Pulse Rate Frequency	42.5
Laser Output Current	75
	KHz MPIA or SPIA? %

GPS Base Location(s)	KSDM
PDOP Avoidance	NA
Static or Flyover?	→ if flyovers, times:

Flight Line #	Line #	Start Record	Stop Record	Alt. (AMSL)	Heading	Crab	Speed	Returns %	NOTES: (Weather, Visibility, Winds, Ride, Etc.)
1	9	2:07	2:08	3500	W		115	<100 %	CROSS FLIGHT
2	1	2:09	2:11	3500	S		115	<100 %	
3	7	2:14	2:17	3650	N		115	<100 %	
4	3	2:18	2:20	3700	S		115	<100 %	
5	4	2:31	2:24	3800	N		115	<100 %	
6	5	2:25	2:27	3800	S		115	<100 %	
7	6	2:28	2:31	3850	N		115	<100 %	
8	7	2:32	2:34	3850	S		115	<100 %	
9	8	2:35	2:37	3750	N		115	<100 %	
10	10	2:38	2:40	3800	W		115	<100 %	
								%	
								%	
								%	
								%	
								%	
								%	
								%	

Additional Notes:

20150213A_315



Coordinate Manager

Station Information

Station ID: ZLC1

Coordinates

Latitude: N 40 47 9.73905000

Longitude: W 111 57 7.78593000

Altitude: 1.287.6930 m

Decimal Degrees

Antenna Reference Point (ARP) coordinates

Antenna: Frame

Height: 0.000 m

Method: Bottom of antenna mount

Manufacturer: Micro Pulse

Type: MPLWAAS+L5

Offset from Measured Point to APC: 0.463 m

Apply Changes

Station Database

Station ID: ZLC1 Station Fullname: ZLC1

Primary Service ID: Edit Coordinate Accuracy: UNKNOWN_ACC

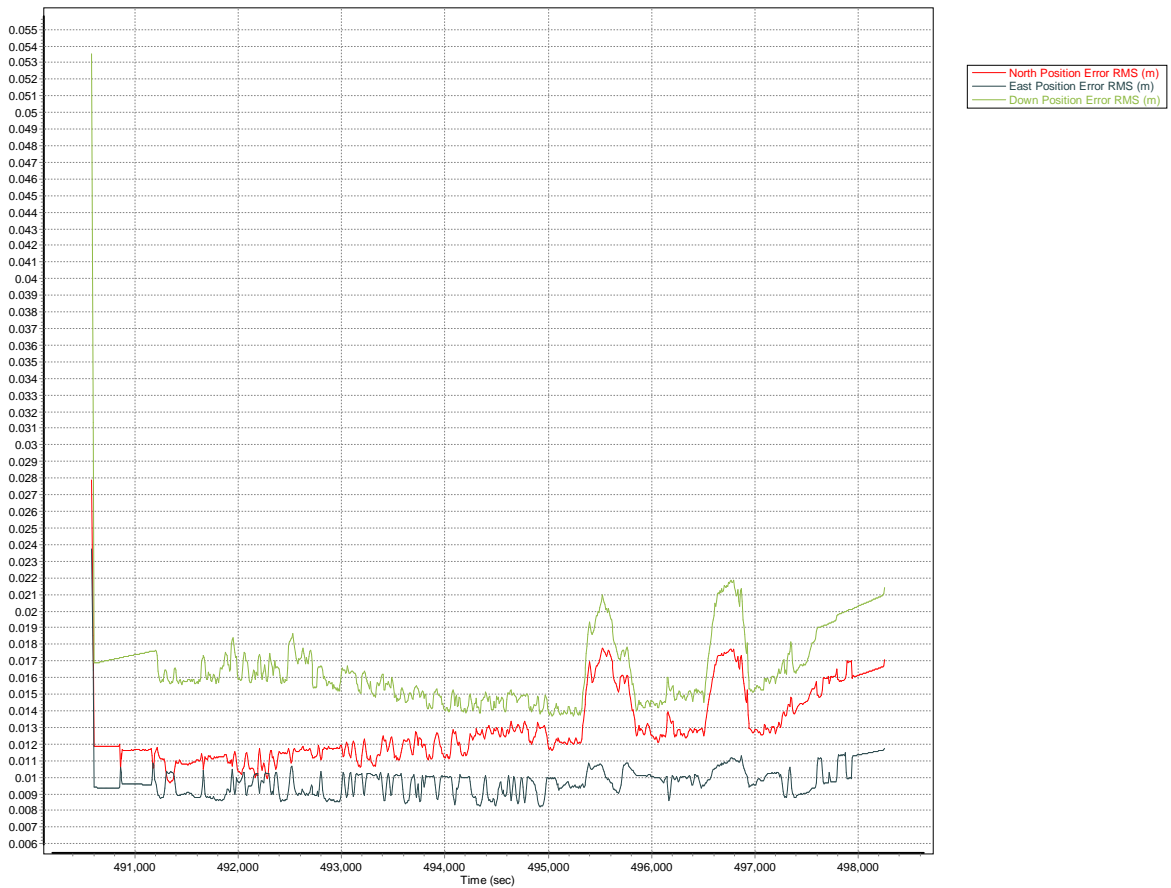
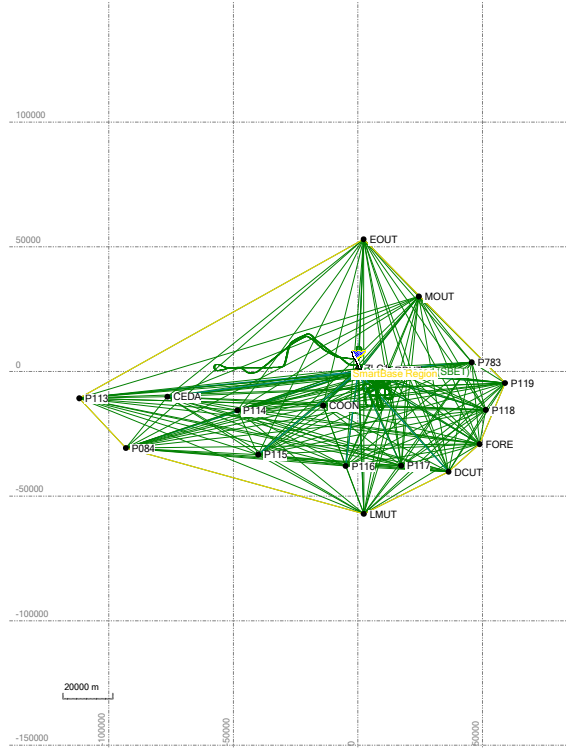
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8966	WGS84	32.880205486111	-117.184681686111	188.002

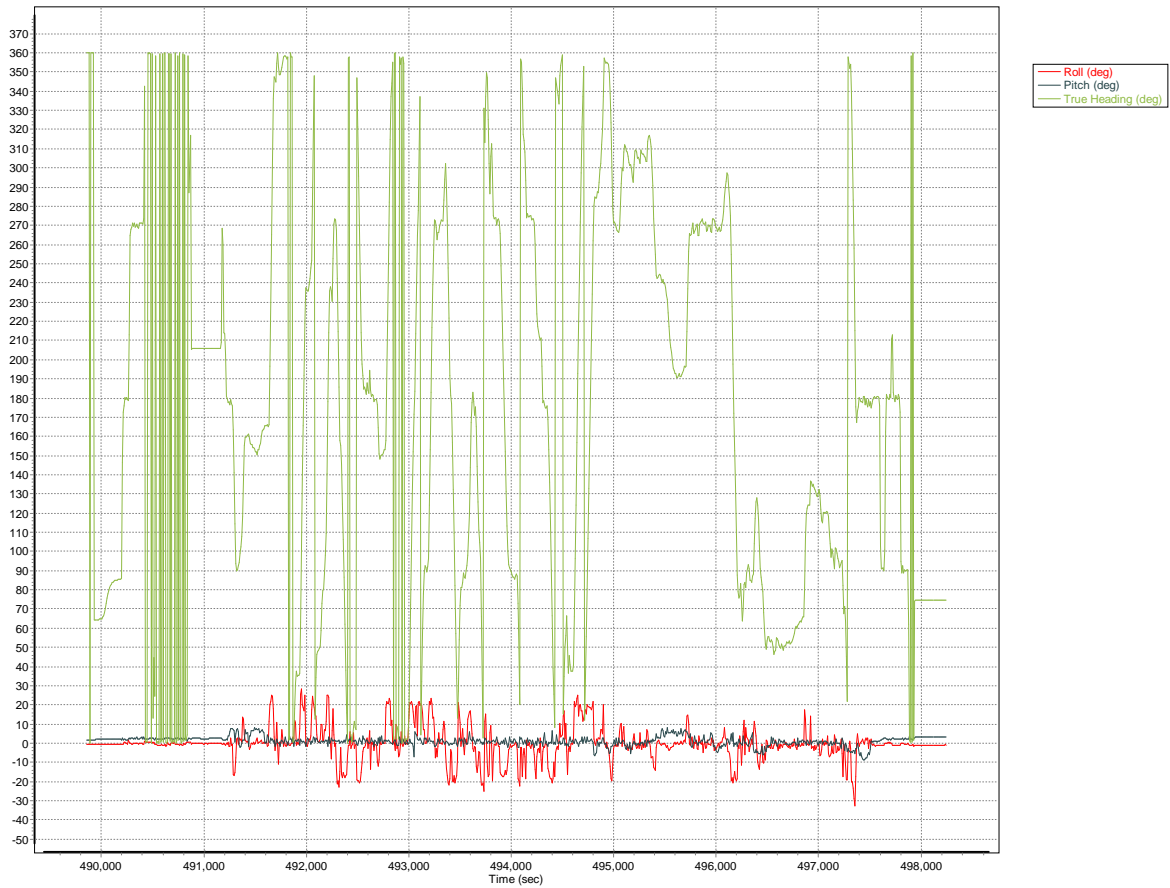
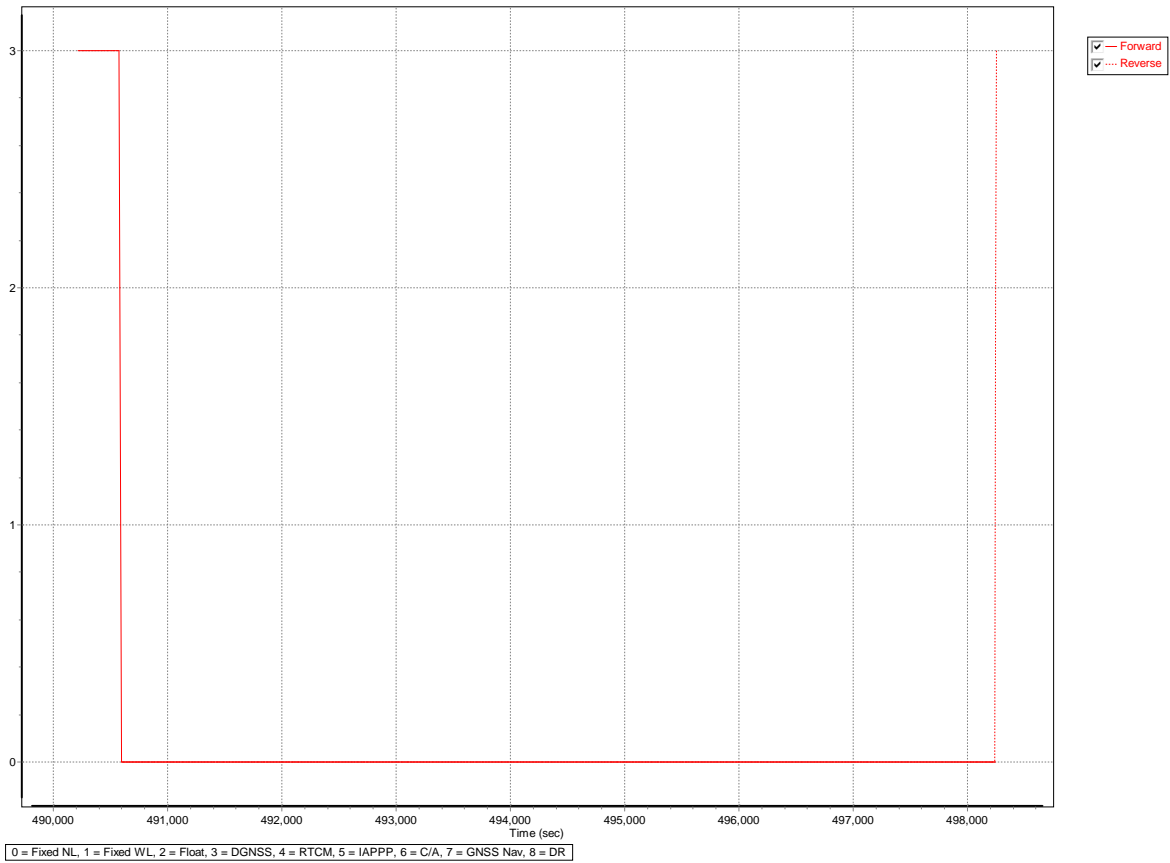
Import Coordinates Export Coordinates

Close

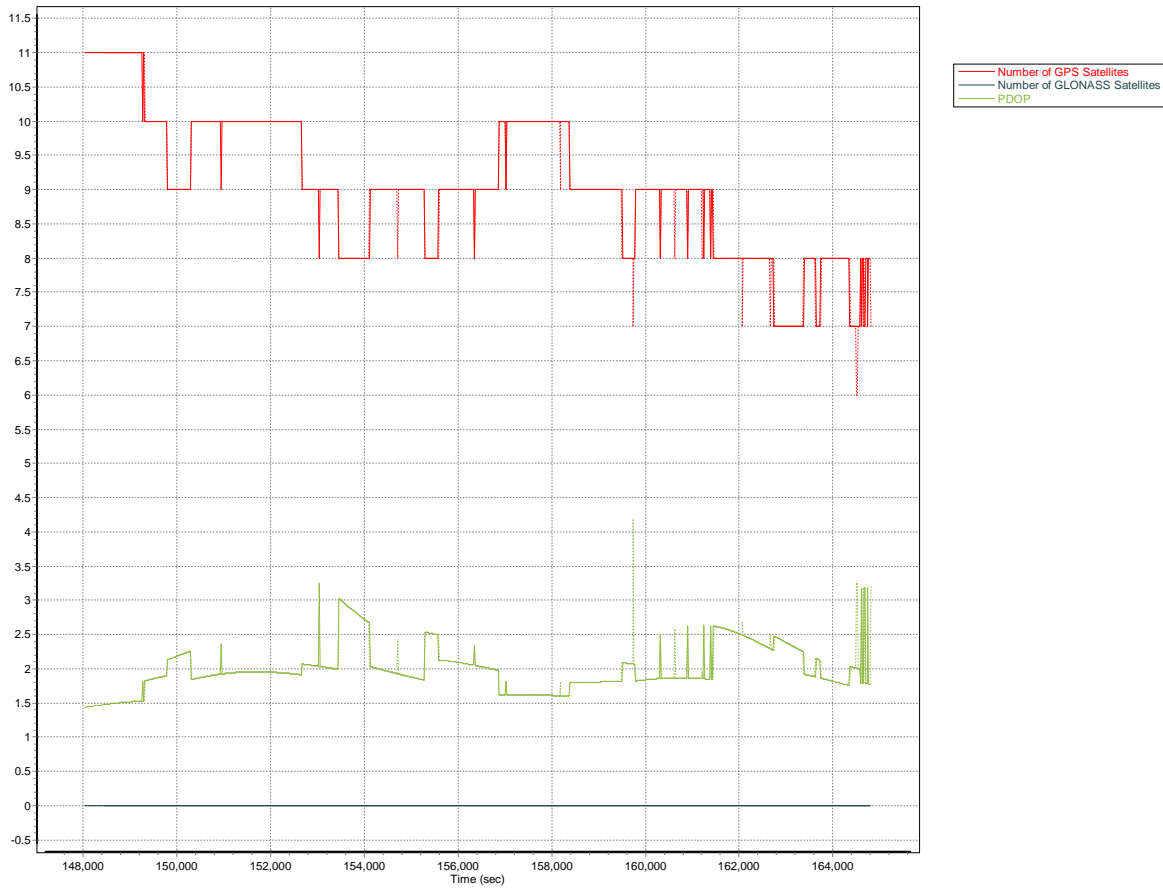
Plan View



Processing mode



20150216A_315



Coordinate Manager

Station Information

Station ID: SBCC

Coordinates

Latitude: N 33 33 10.78852000

Longitude: W 117 39 41.30293000

Altitude: 89.4060 m

Decimal Degrees

Ground Reference Point (GRP) coordinates

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Ashtech

Type: 701945B_M w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Apply Changes

Station Database

Station ID: SBCC Station FullName: SBCC

Primary Service ID: [] Edit

Coordinate Accuracy: UNKNOWN_ACC

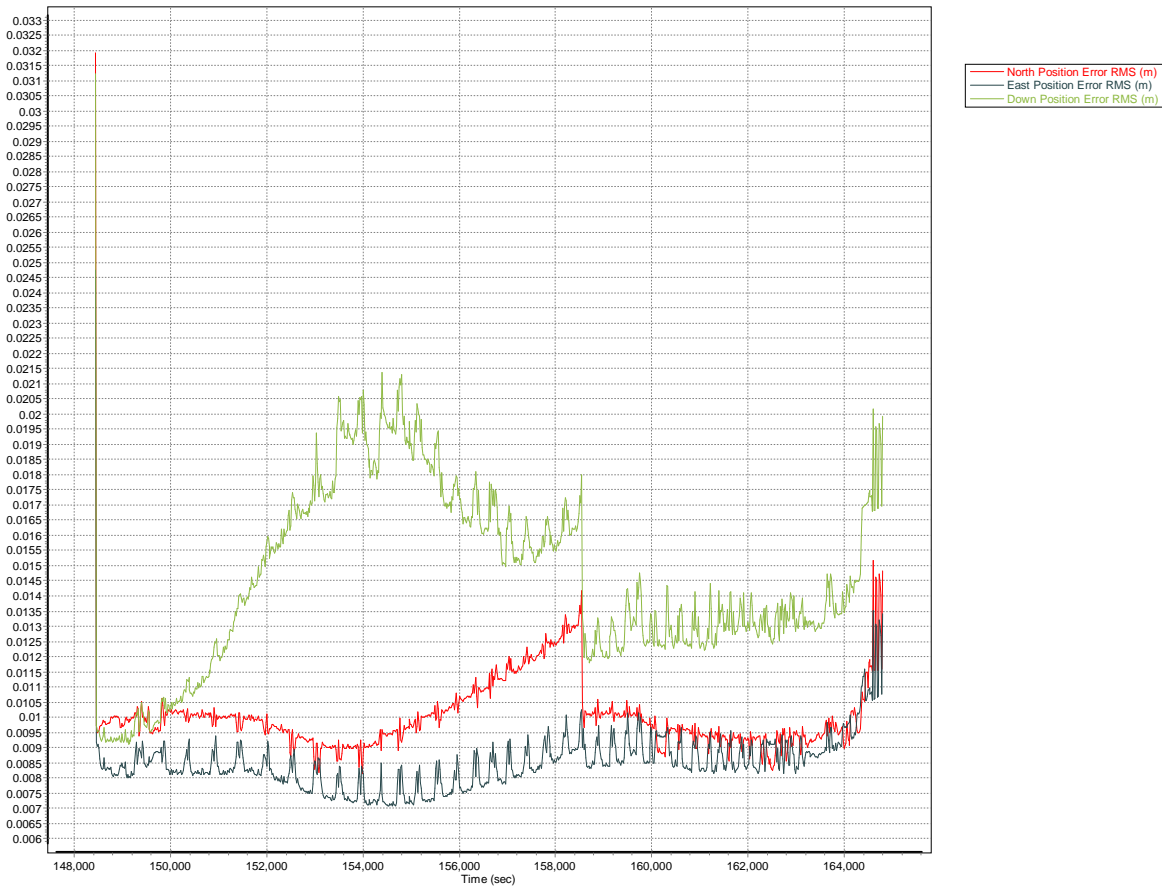
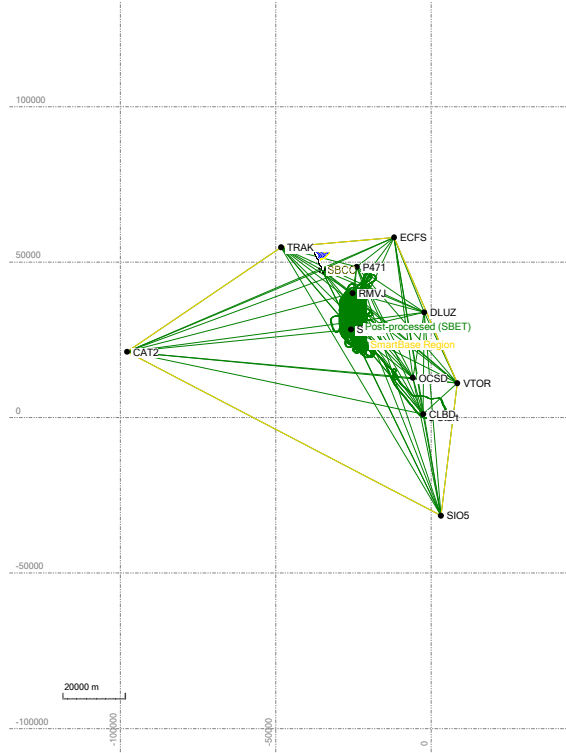
Secondary Service ID: [] Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8966	WGS84	32.882254861111	-117.154681686111	188.092

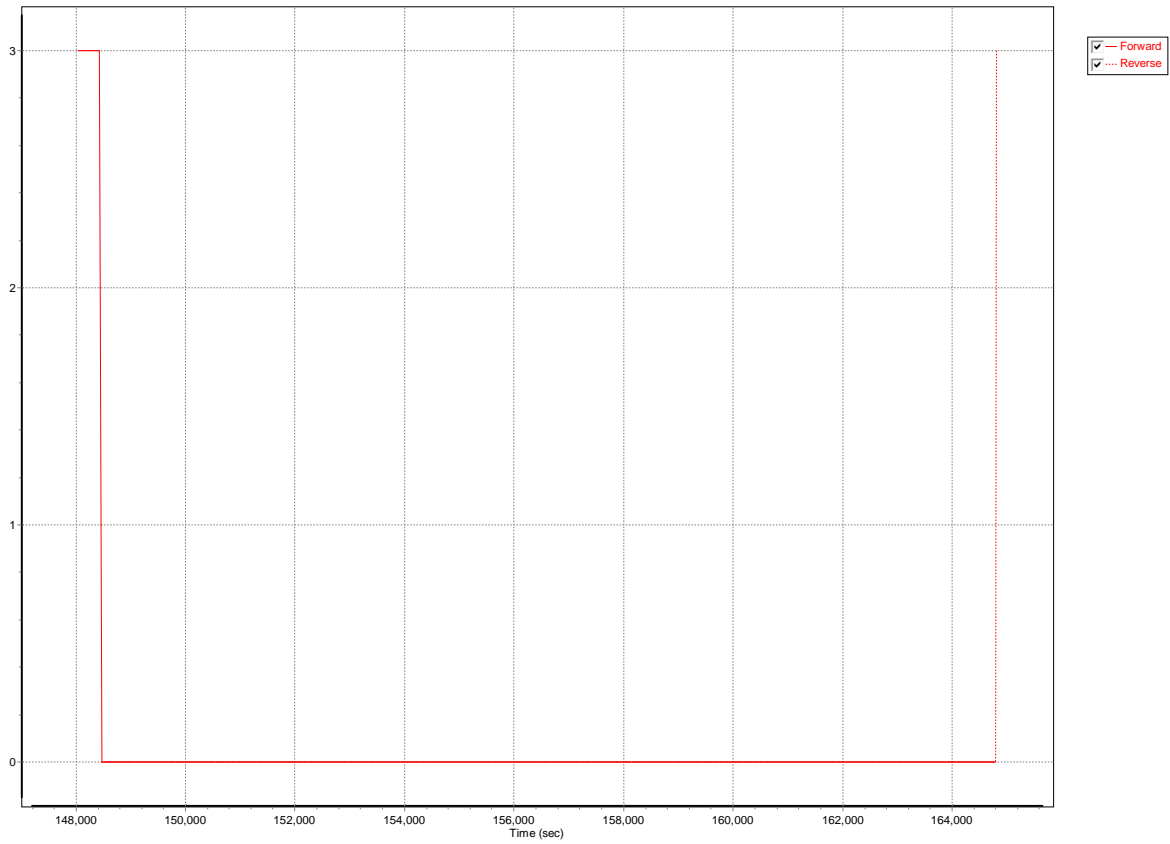
Import Coordinates Export Coordinates

Close

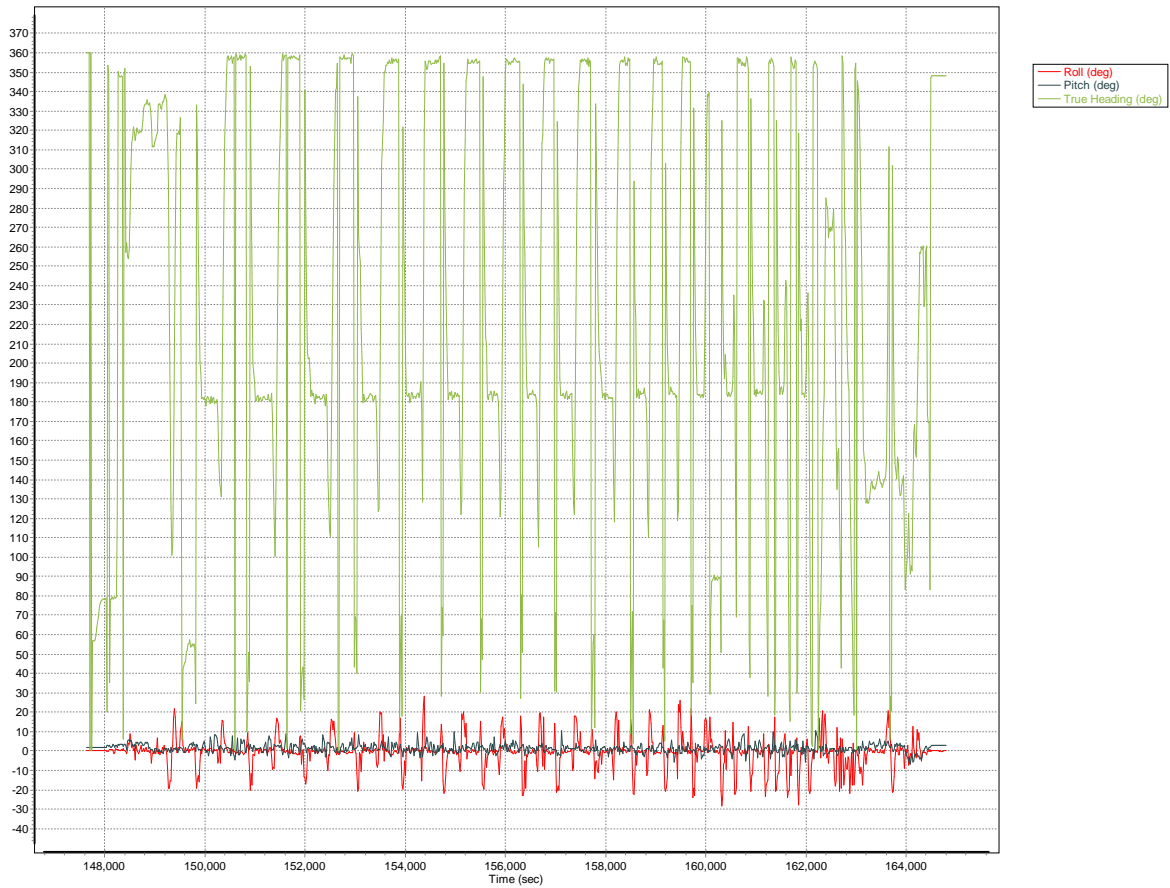
Plan View



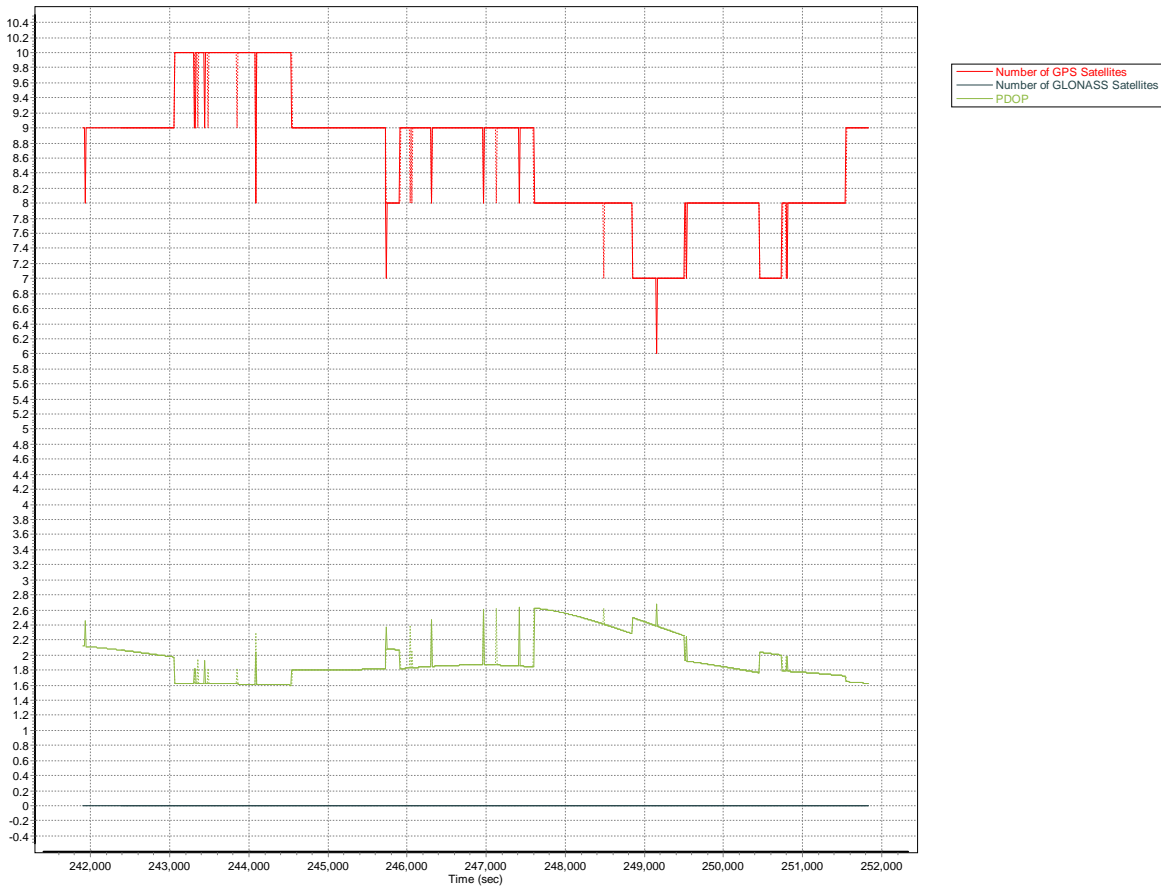
Processing mode



0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR



20150217A_315



Coordinate Manager

Station Information

Station ID: SBCC

Coordinates

Latitude: N 33 33 10.78852000

Longitude: W 117 39 41.30293000

Altitude: 89.4060 m

Decimal Degrees

Antenna: Frame

Height: 0.008 m

Method: Bottom of antenna mount

Manufacturer: Ashtech

Type: 701945B_M w/SCIT Dome

Offset from Measured Point to APC: 0.110 m

Ground Reference Point (GRP) coordinates Apply Changes

Station Database

Station ID: SBCC Station FullName: SBCC

Primary Service ID: Edit

Coordinate Accuracy: UNKNOWN_ACC

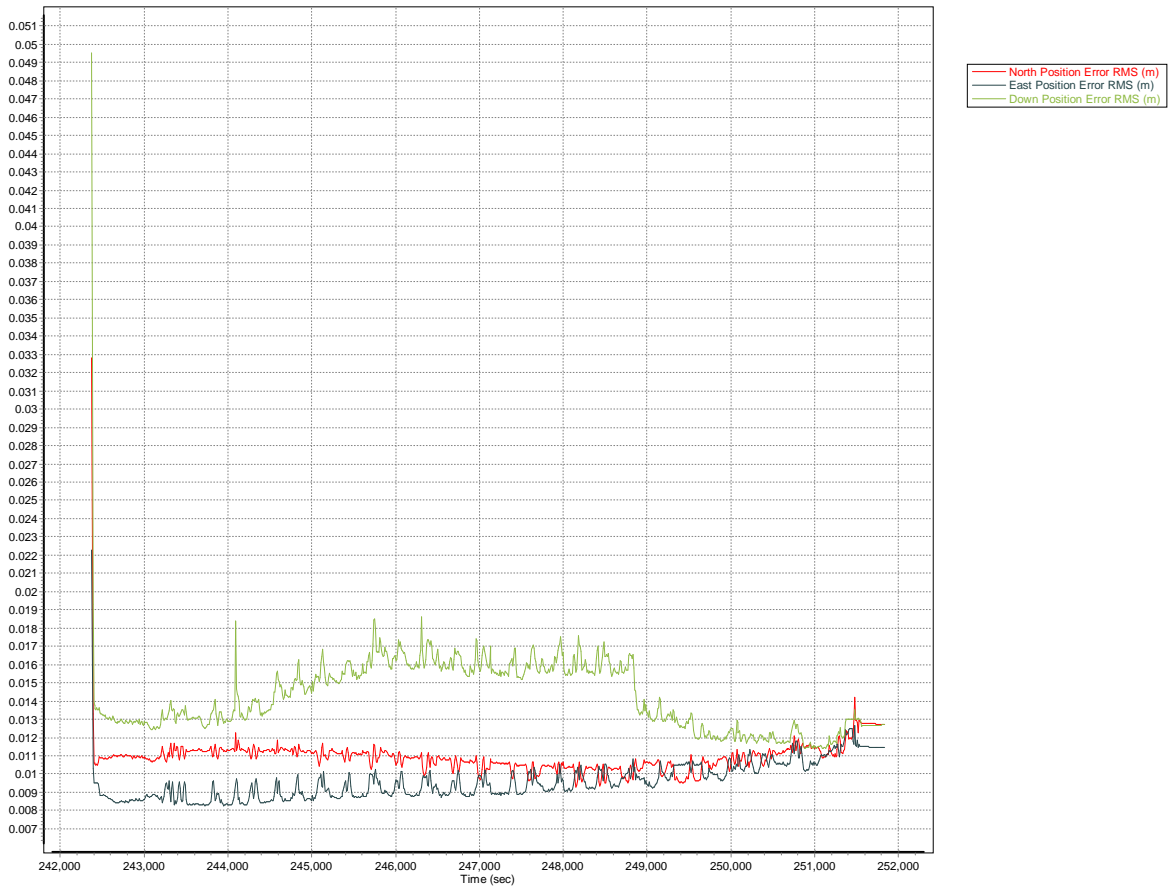
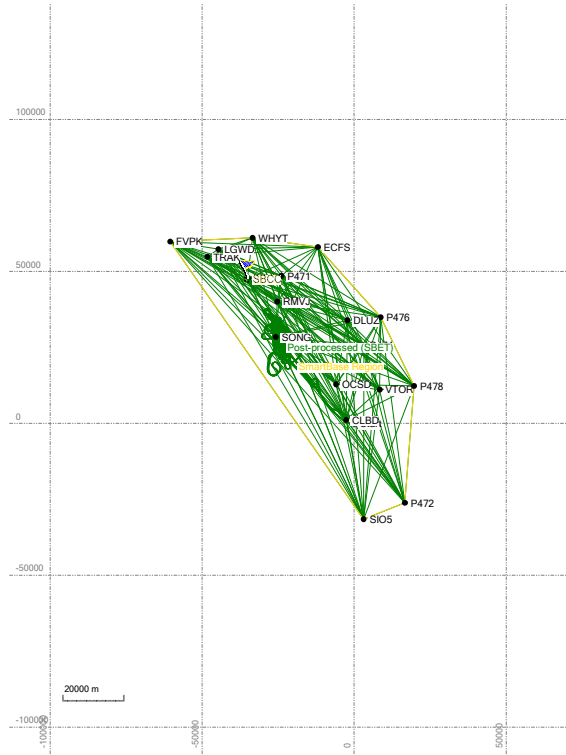
Secondary Service ID: Edit Add Delete Update

Station ID	Station Full...	Frame	Epoch	Ellipsoid	Latitude	Longitude	Altitude
Onaka	Onaka	ITRF00	1997	WGS84	45.187799847222	-99.378688419444	512.346
Aberdeen	Aberdeen	ITRF00	1997	WGS84	45.455141580556	-98.417959233333	371.149
Eureka	Eureka	ITRF00	1997	WGS84	45.688052975	-99.386375205556	559.628
AC8007	AC8007	ITRF00	1997	WGS84	43.772379341667	-98.040779977778	369.924
ZLC1	ZLC1	ITRF00	2014.8959	WGS84	40.786038625	-111.952162758333	1287.693
SIO5	SIO5	ITRF00	2014.9014	WGS84	32.840731302778	-117.249676141667	186.284
P474	P474	ITRF00	2014.9041	WGS84	33.355189163889	-117.248678338889	183.653
P473	P473	ITRF00	2014.9014	WGS84	32.733772380556	-116.949501919444	189.328
P472	P472	ITRF00	2014.8959	WGS84	32.880205480556	-117.154601686111	188.002

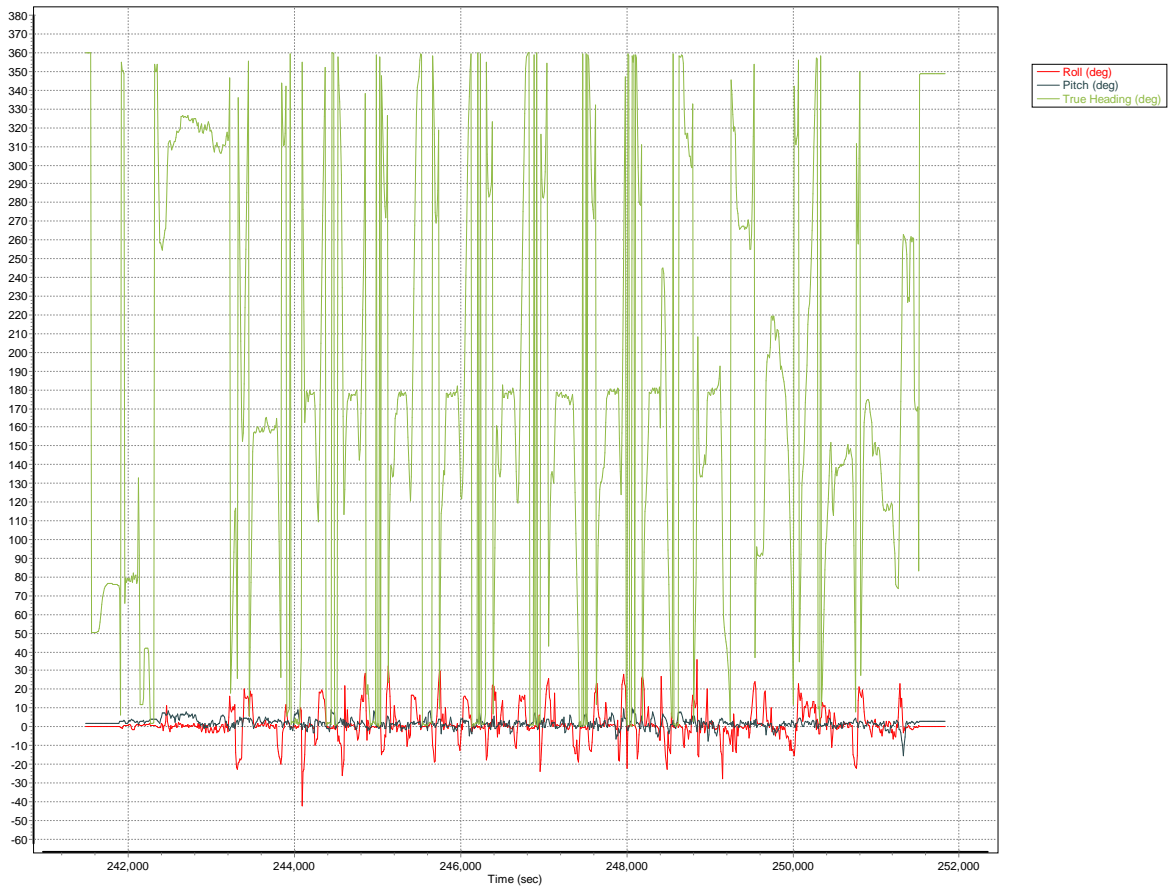
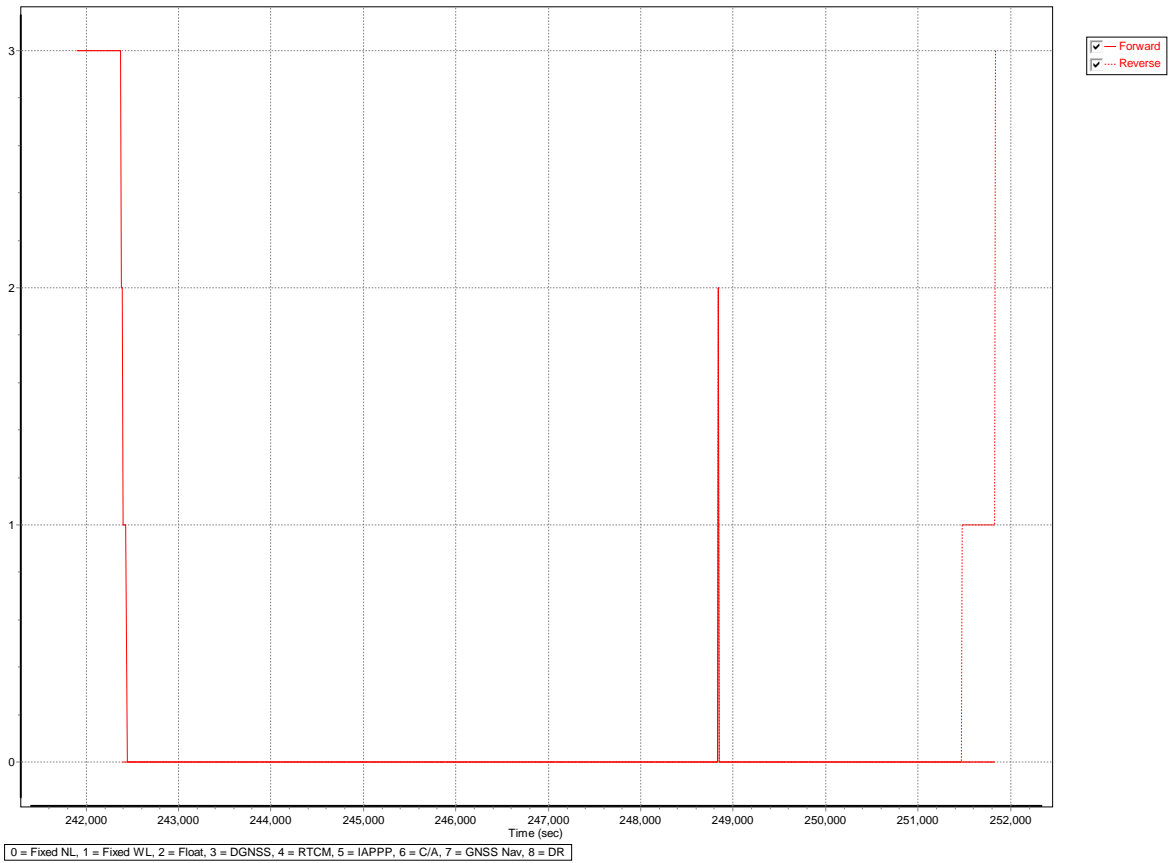
Import Coordinates Export Coordinates

Close

Plan View



Processing mode



APPENDIX B SURVEY REPORT

January 6, 2015

Control Survey Report

San Diego CA. Ortho and Lidar Task Order
USGS Contract: G10PC0026
USGS Task Order: G14PD01045

USGS/NGTOC
Rolla Federal Center
MS 664
1400 Independence Road
Rolla, Missouri
65401

QSI NO. 24982

Presented by



523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700

Control Survey Report

San Diego CA. Ortho and Lidar Task Order
USGS Contract: G10PC0026
USGS Task Order: G14PD01045

USGS/NGTOC
1400 Independence Road
Rolla, Missouri 65401
For
Ground Control & Ground
Control Quality Check Points

- I. Survey Report Summary
- II. Final Coordinate Listing
- III. OPUS Solutions
- IV. Data Log Sheets
- V. NGS Datasheets

I. Survey Report Summary

San Diego CA. Ortho and Lidar Task Order
USGS Contract: G10PC0026
USGS Task Order: G14PD01045

USGS/NGTOC
1400 Independence Road
Rolla, Missouri 65401
For
Ground Control & Ground
Control Quality Check Points

Control Survey Report

G M R Aerial Surveys, Inc. DBA Photo Science Inc. a Quantum Spatial Inc. company was contracted by USGS/NGTOG to locate a total of eight-two (82) new photo identifiable and thirteen (13) paneled control points for San Diego CA Orthos and Lidar Mapping project. The photo-identifiable ground control points are labeled (101-103, 105-135, 137-164, 167-172, 175, 200, 201, 203, 204, 206, 208, 209, 212-215, and 225). The paneled ground points are labeled (100P, 104P, 136P, 165P, 173P, 174P, 196P'202P, 205P, 207P, 210P, 216P, and 217P). Photo Science Inc. also collected twenty-nine (29) ortho quality control points they are labeled (176QC-195QC, 197QC, 198QC, and 218QC-224QC). Photo Science Inc. also collected Eighty (80) Lidar different ground cover type check points. They are labeled Bare Earth (BE_1- Be_20); panel 196P was used for BE_2, Brush Trees (BT_1-BT_20), Tall Weeds (TW_1-TW_20), and Urban Area (UA_1-UA_20). Please see Sections II and III of this report for a listing of final coordinates, elevations, and descriptions, as well as a site map of the control and check points.

Two (2) GPS technicians were mobilized to the site in mid October 2014 with dual frequency Trimble R8 GNSS receivers to establish horizontal and vertical control for the project. The crew utilized California's Real Time Network (CRTN) for control correction and in locations where CRTN was not available the technician collected static sessions for thirty (30) minutes for OPUS-RS solutions. Each point utilizing CRTN was collected

twice with a minimum of 3 minute observations of GPS-RTN data and twenty (20) minutes between first and second observations. The results between observations were compared and if they didn't meet tolerances, the point was recollected until they were met. The average values were use as the control value for each point.

The following table provides results of NGS Horizontal and Vertical Control Monument checks. These results serve as the basis for validating GNSS derived positions.

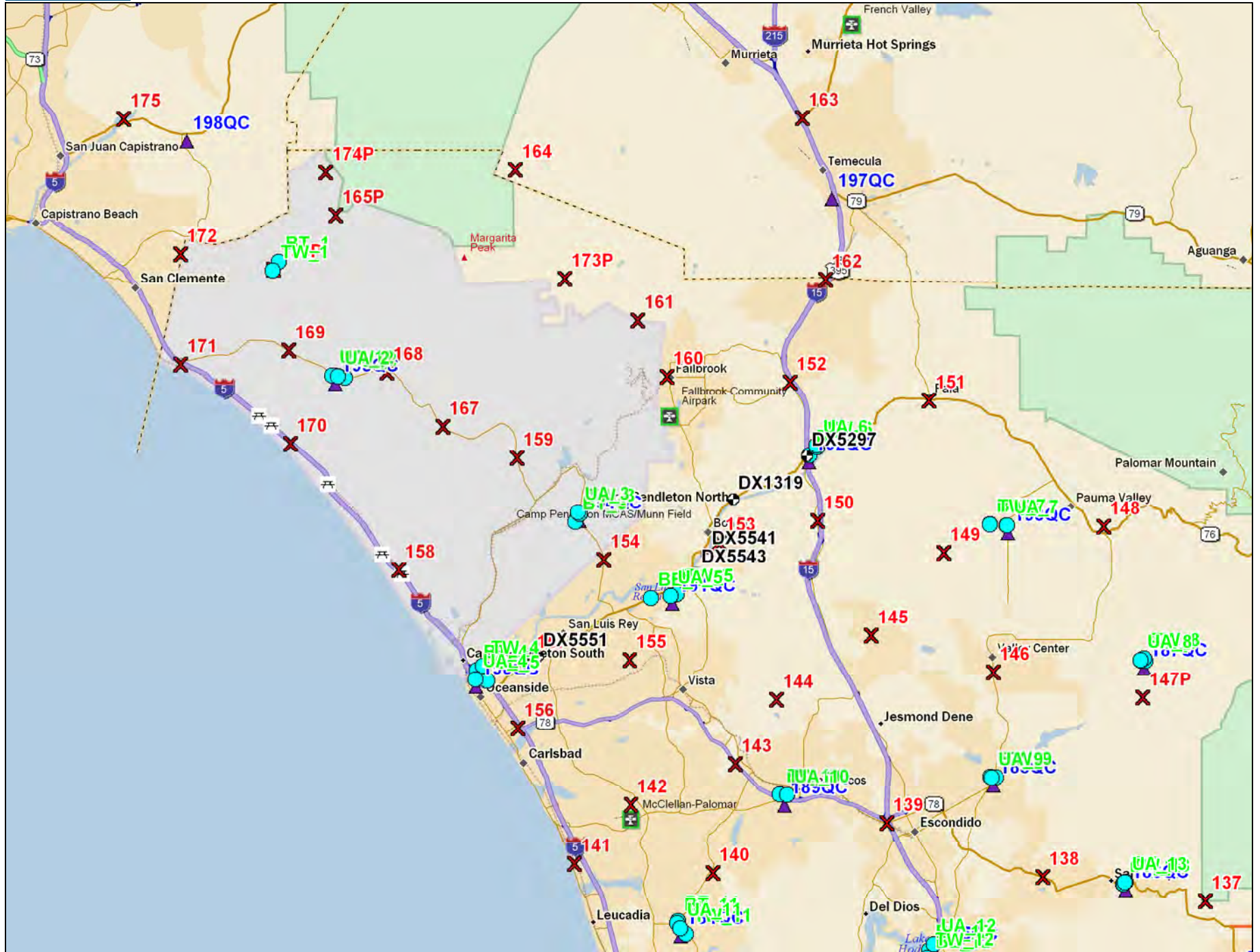
PID	Averaged Position (sft)			Published Postion (sft)			Difference (NGS Minus PSI)		
	Northing	Easting	Elev.	Northing	Easting	Elev.	Northing	Easting	Elev.
DC0075	1804832.30	6351005.59	512.94	N/A	N/A	513.07	N/A	N/A	0.13
DC0384	1811552.89	6357768.41	512.17	N/A	N/A	512.25	N/A	N/A	0.08
DC0384	1811552.90	6357768.45	512.05	N/A	N/A	512.25	N/A	N/A	0.20
DC0492	1868983.08	6383222.22	726.37	N/A	N/A	726.50	N/A	N/A	0.13
DC0492	1868983.09	6383222.30	726.48	N/A	N/A	726.50	N/A	N/A	0.02
DC0495	1864876.65	6375907.53	505.16	N/A	N/A	505.20	N/A	N/A	0.04
DC0495	1864876.67	6375907.54	505.02	N/A	N/A	505.20	N/A	N/A	0.18
DC0542	1938916.43	6459377.26	4659.72	N/A	N/A	4659.80	N/A	N/A	0.08
DC0542	1938916.51	6459377.26	4659.73	N/A	N/A	4659.80	N/A	N/A	0.07
DC0757	1826414.74	6295510.35	10.67	N/A	N/A	10.79	N/A	N/A	0.12
DC0757	1826414.75	6295510.36	10.82	N/A	N/A	10.79	N/A	N/A	-0.03
DC1330	1793013.03	6304886.93	46.69	N/A	N/A	46.83	N/A	N/A	0.14
DC1437	1914877.90	6255470.62	336.29	N/A	N/A	336.34	N/A	N/A	0.05
DC1437	1914877.87	6255470.66	336.36	N/A	N/A	336.34	N/A	N/A	-0.02
DC1437	1914877.98	6255470.63	336.27	N/A	N/A	336.34	N/A	N/A	0.07
DX0475	2042164.11	6437857.58	3063.49	N/A	N/A	3063.60	N/A	N/A	0.11
DX1319	2056818.68	6268904.19	197.67	N/A	N/A	197.75	N/A	N/A	0.08
DX5297	2065548.34	6284087.26	308.17	2065548.24	6284087.44	308.26	-0.10	0.18	0.10
DX5541	2045492.38	6263270.90	157.71	N/A	N/A	157.81	N/A	N/A	0.10
DX5541	2045492.40	6263270.91	157.74	N/A	N/A	157.81	N/A	N/A	0.07
DX5543	2041775.20	6261185.81	147.67	N/A	N/A	147.45	N/A	N/A	-0.22
DX5551	2024894.54	6228122.54	36.07	N/A	N/A	36.13	N/A	N/A	0.06
DC0757	1826414.74	6295510.39	10.85	N/A	N/A	10.79	N/A	N/A	-0.06
DC0757	1826414.71	6295510.40	10.80	N/A	N/A	10.79	N/A	N/A	-0.01
DC0757	1826414.71	6295510.41	10.84	N/A	N/A	10.79	N/A	N/A	-0.05
DC2134	1791075.51	6309729.88	152.48	1791075.48	6309729.96	N/A	-0.03	0.08	N/A
DC2134	1791075.51	6309729.85	152.31	1791075.48	6309729.96	N/A	-0.03	0.11	N/A
DC2134	1791075.53	6309729.85	152.33	1791075.48	6309729.96	N/A	-0.05	0.11	N/A
						Min	-0.10	0.08	-0.22
						Max	-0.03	0.18	0.20
						Mean	-0.05	0.18	0.06

In Late January, 2015 a GPS technician with dual frequency Trimble R8 GNSS receivers was mobilized to the site to establish additional horizontal and vertical control for the LiDAR buy up area. The GPS technician used the same criteria as before to establish the control for twenty-five (25) new points they were (A1-A5, B1-B5, C1-C5, D1-D5, and Calibration1-Calibration5).

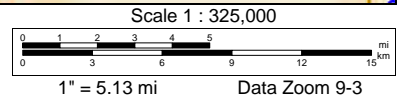
A data log sheet was filled out on each occupation. In addition, Photo Science Inc also captured an up-close and four (4) other photograph of each control point. A copy of the log data sheets with photographs is located in Section IV of this report.

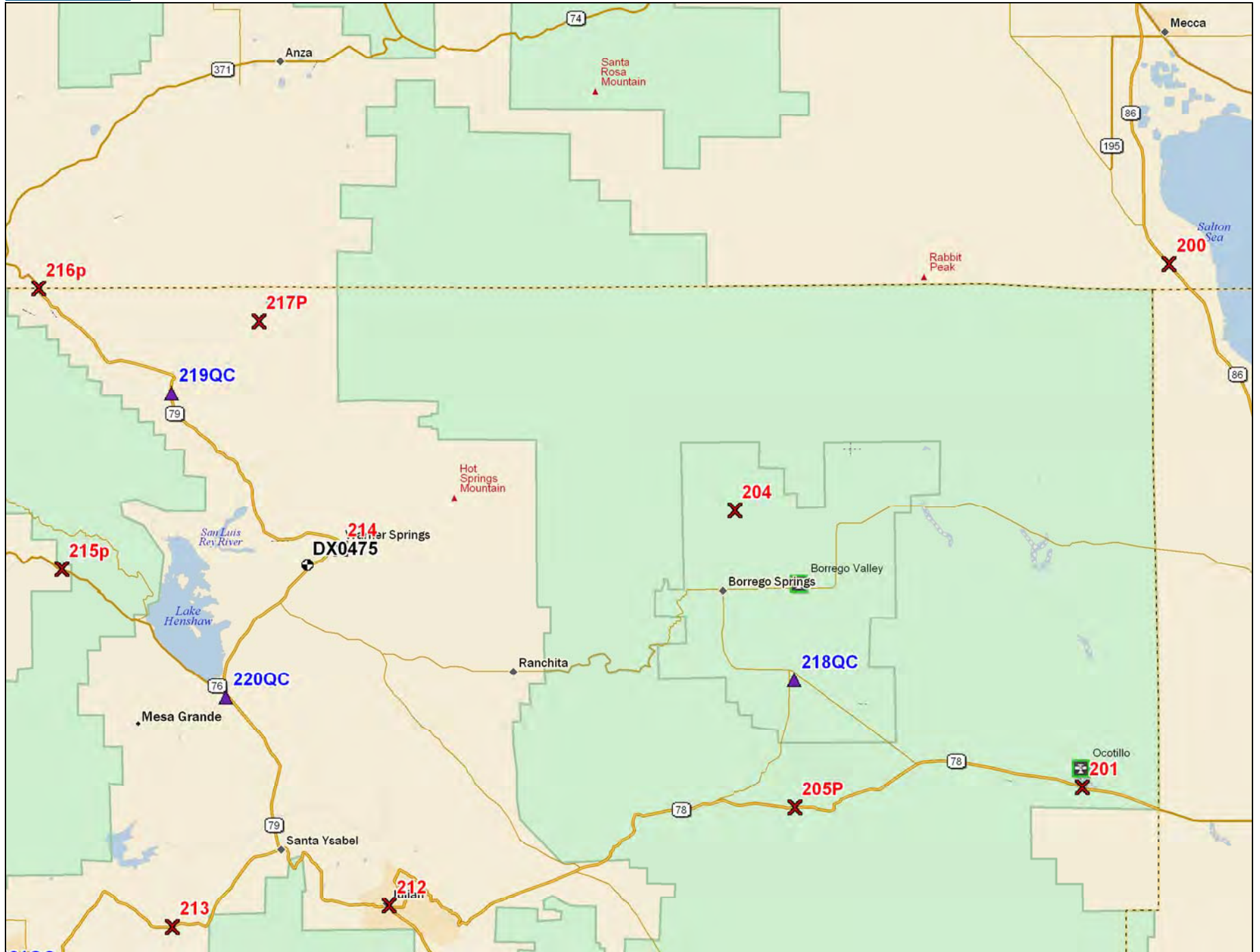
The following table provides results of NGS Horizontal and Vertical Control Monument checks. These results serve as the basis for validating GNSS derived positions.

No major problems were encountered in the field the final Horizontal coordinates are referenced to the North American Datum of 1983 (NAD83) 2011 SP CA6 and elevations are referenced to the North American Vertical Datum of 1988 (NAVD88) Geoid12A.



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 www.delorme.com





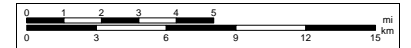
Data use subject to license.

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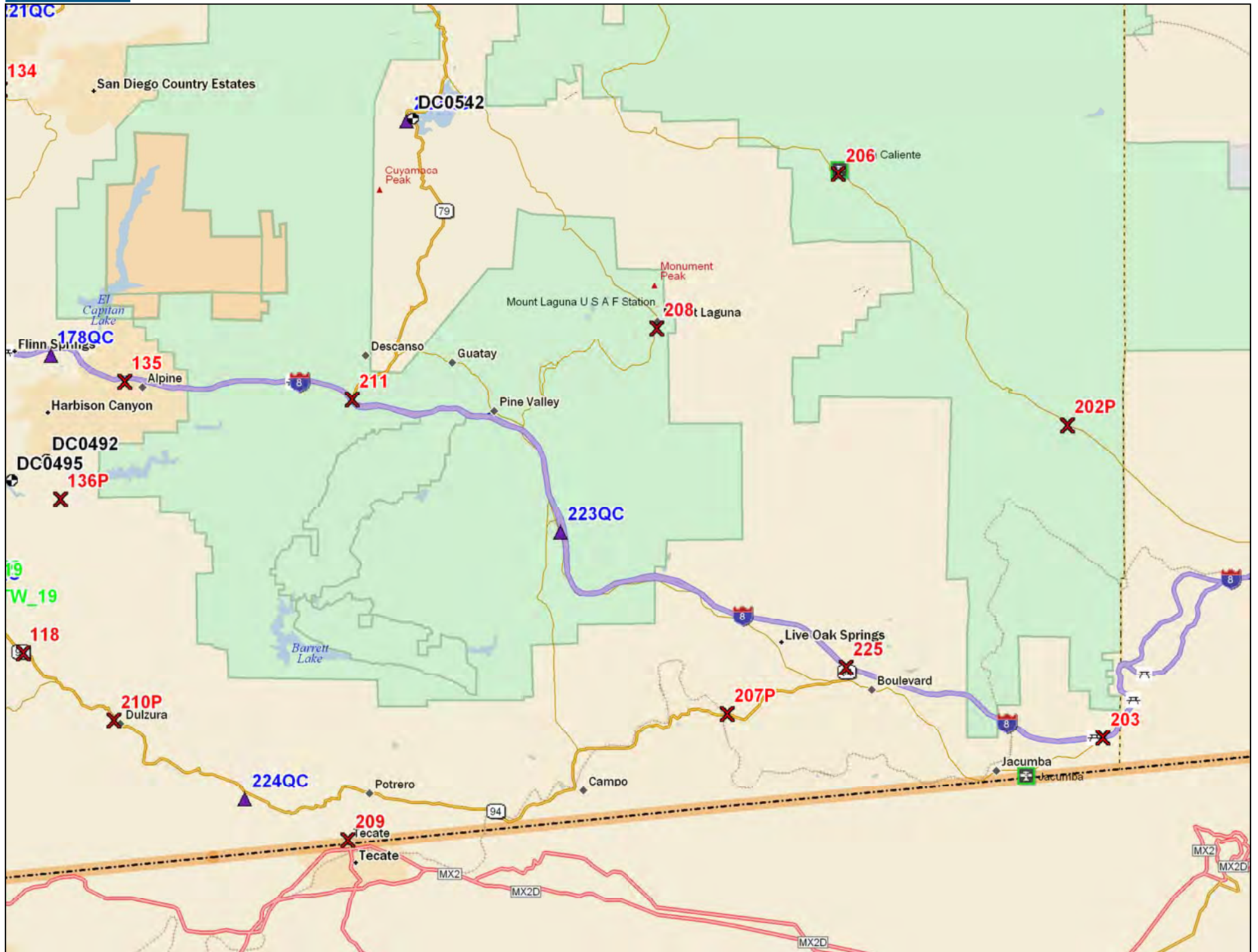


Scale 1 : 325,000



1" = 5.13 mi

Data Zoom 9-3



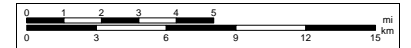
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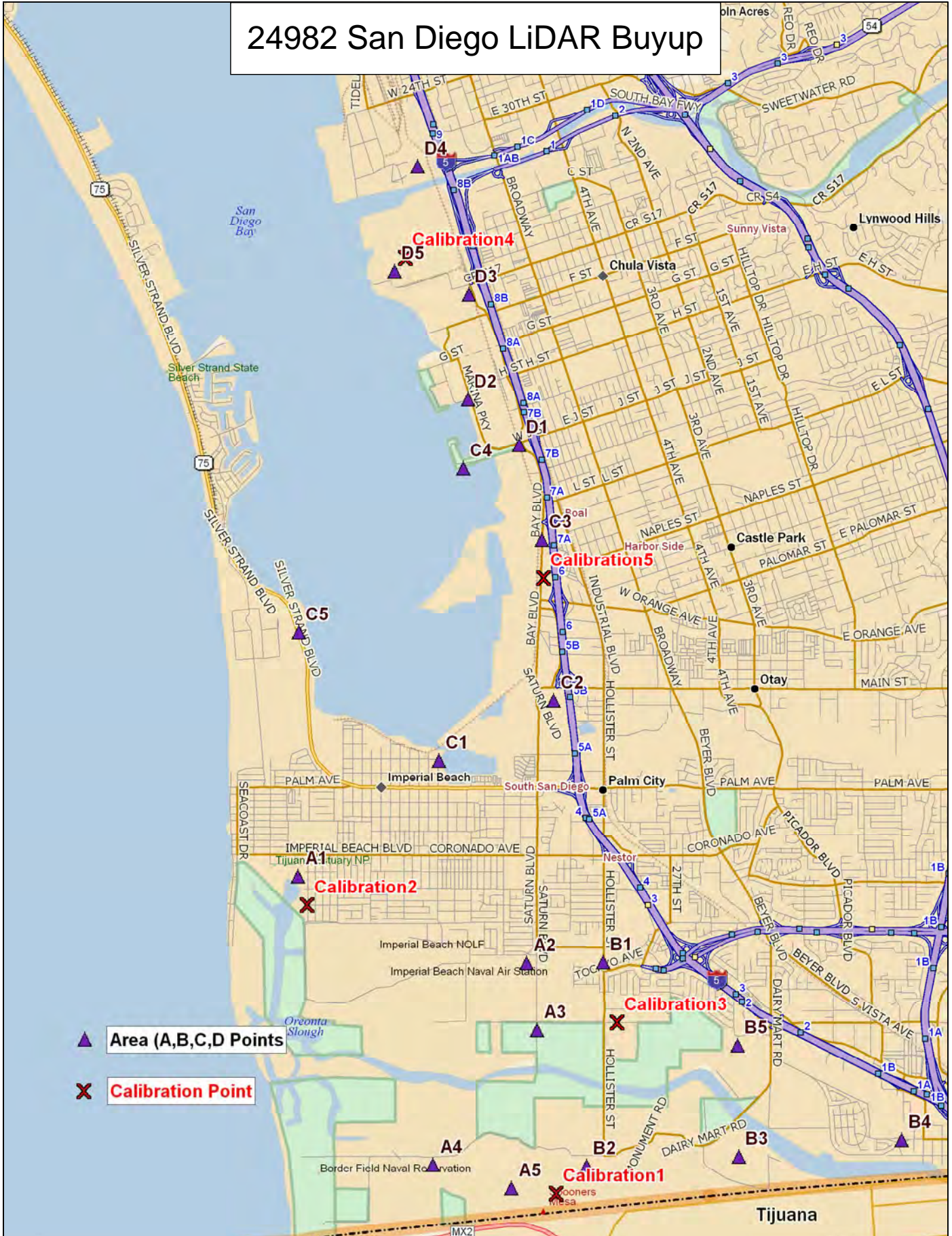
Scale 1 : 325,000



1" = 5.13 mi

Data Zoom 9-3

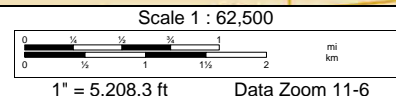
24982 San Diego LiDAR Buyup



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II. Final Coordinate Listing

Quantum Spatial Inc.
 523 Wellington Way, Suite 375
 Lexington, KY 40503
 USA

Phone: 859-277-8700
 Fax: 859-277-8901
 quantumspatial.com
 tstith@quantumspatial.com

Project information

Name: USGS San Diego CA.
 Size: 110 KB
 Modified: 11/6/2014 11:59:31 AM (UTC:-5)
 Time zone: Eastern Standard Time
 Reference number: 24982
 Description: Control San Diego CA.

Coordinate System

Name: US State Plane 1983 (2011)
 Datum: NAD 1983 (2011)
 Zone: California Zone 6 0406
 Geoid: GEOID12A (Conus)
 Vertical datum: NAVD88

Point List

ID	Northing (US survey foot)	Easting (US survey foot)	Elevation (US survey foot)	Feature Code
Ortho and LiDAR Control Points				
100P	1776166.58	6295119.57	11.90	Panel
101	1793941.18	6294702.05	22.19	Stop Bar
102	1779411.50	6318296.65	55.04	Paint Stripe
103	1781880.57	6348225.12	528.17	Paint Stripe
104P	1794683.19	6354802.57	729.71	Panel
105	1813196.36	6349989.27	596.16	Stop Bar
106	1806759.72	6335452.23	475.83	Paint Stripe
107	1820997.45	6308082.44	50.34	Crn Arrow
108	1833877.50	6325804.77	444.27	Crn Cnct/Pvmt
109	1842388.65	6303186.64	213.33	Paint Stripe
110	1843714.83	6282877.72	157.90	Corner Stop Bar
111	1831136.99	6275880.66	24.39	Stop Bar
112	1826897.33	6256275.20	351.79	Paint Stripe
113	1855115.41	6258227.30	20.67	Corner Conc
114	1857459.00	6281397.50	60.07	Paint Stripe
115	1863442.99	6310347.47	359.77	Paint Stripe
116	1851251.43	6339268.57	531.28	Paint Stripe
117	1858349.67	6365063.68	422.95	Paint Stripe
118	1829351.62	6377991.92	808.88	Paint Str/Brdg
119	1884486.87	6364883.88	659.00	Crn Concrete/Pvmt
120	1891973.74	6352449.83	394.41	Paint Stripe
121	1885261.60	6323156.32	336.20	Paint Stripe
122	1891231.63	6295020.95	449.04	Stop Bar
123	1889918.71	6274653.05	315.25	Corner Conc
124	1887358.60	6248586.32	163.80	Corner Conc
125	1914678.82	6258703.39	17.87	Stop Bar
126	1923601.86	6281395.27	398.70	Corner Conc
127	1919816.31	6311847.71	650.33	Crn Concrete
128	1927092.01	6341555.59	1360.72	Crn of Arrow
129	1949232.58	6346106.26	1654.05	Tip of Arrow
130	1940948.91	6305588.46	716.34	Stop Bar

ID	Northing (US survey foot)	Easting (US survey foot)	Elevation (US survey foot)	Feature Code
131	1929314.90	6259111.12	263.84	Stop Bar
132	1957151.83	6246794.02	210.13	Stop Bar
133	1957539.65	6277894.38	254.52	Stop Bar
134	1945336.64	6373861.23	1475.34	Crn Dr
135	1885049.79	6399346.78	1689.71	Paint Strip
136P	1860941.40	6385908.17	697.66	Panel
137	1973308.09	6365400.04	1531.01	Crn Dr
138	1978456.03	6331934.86	414.83	Arrow
139	1989803.79	6299777.58	639.61	Paint Stripe
140	1979871.39	6263819.86	512.16	Stop Bar
141	1982042.86	6235144.86	57.24	Corner S/W
142	1994078.06	6246943.16	296.69	Corner S/W
143	2002253.97	6268661.13	446.20	Stop Bar
144	2015477.31	6277283.67	798.70	Crn Concrete Pad
145	2028591.79	6296902.90	1507.42	Crn Dr
146	2020766.52	6322039.15	1307.34	Corner Conc
147P	2015394.06	6352765.07	2313.21	Panel
148	2050597.03	6344925.92	1045.73	Crn Dr
149	2045471.98	6311964.87	1321.60	Edge of Dr Way
150	2052240.60	6286057.79	828.05	Paint Stripe
151	2076806.71	6309150.58	390.73	Corner Grate
152	2080718.22	6280668.08	563.51	Paint Stripe
153	2047946.60	6265768.81	166.44	Stop Bar
154	2044610.44	6241827.14	164.70	Cor S/W
155	2023948.27	6247049.46	387.05	Stop Bar
156	2010093.17	6223788.60	72.11	Corner Conc
157	2024126.48	6226470.65	32.61	Crn SW
158	2043039.43	6199573.21	45.99	Paint Stripe
159	2065817.19	6224198.86	193.68	Cor Conc
160	2082122.90	6255304.30	686.72	Paint Stripe
161	2093827.29	6249430.16	871.27	Paint Stripe
162	2101776.91	6288084.57	1197.53	Paint Stripe
163	2135094.18	6283663.38	1076.23	Crn SW
164	2125006.25	6224401.81	2056.00	Mag Nail/Paint Stripe
165P	2116085.67	6187400.52	427.68	Panel
167	2072306.24	6208975.20	246.35	Paint Stripe
168	2083614.07	6197587.80	546.72	B/Top
169	2088368.15	6177491.48	201.88	Aerial Target
170	2069229.02	6177578.35	157.56	Paint Stripe
171	2085788.58	6155159.52	78.21	Tip of Arrow
172	2108478.10	6155436.94	452.07	Paint Stripe
173P	2102486.53	6234374.76	364.84	Panel
174P	2124903.89	6185500.75	959.96	Panel
175	2136422.57	6144091.17	208.32	Crn Concrete Pad
196P	2105050.87	6174490.24	238.03	Panel BE_2 Bare Earth
200	2103952.47	6615217.13	-123.31	Arrow
201	1996114.96	6597545.65	160.93	Corner Stop Bar
202P	1875738.27	6594961.97	1180.51	Panel
203	1811283.06	6602341.74	3226.77	Crn Concrete
204	2053256.11	6525921.12	665.05	Paint Stripe
205P	1991969.86	6538242.08	1176.09	Panel

ID	Northing (US survey foot)	Easting (US survey foot)	Elevation (US survey foot)	Feature Code
206	1927478.43	6547436.80	1222.38	Bottom Corner of Y
207P	1816164.42	6524314.07	3227.40	Panel
208	1895698.23	6509778.48	5888.65	Paint Stripe
209	1790357.76	6445228.76	1784.03	Crn Concrete
210P	1815275.67	6396764.67	1022.34	Panel
211	1881201.99	6446483.85	3410.87	Stop Bar
212	1971958.51	6454268.86	4226.46	Stop Bar
213	1967778.46	6409529.70	2491.75	Paint Stripe
214	2045565.72	6444562.59	3144.94	Stop Bar
215p	2041578.18	6387129.53	2447.59	Panel
216p	2099341.35	6382735.59	2453.02	Panel
217P	2092358.35	6427980.57	4504.61	Panel
225	1825841.84	6549008.32	3585.16	Stop Bar
Quality Control Points				
176QC	1789394.59	6313915.28	178.75	Stop Bar
177QC	1843542.36	6364390.83	767.51	Stop Bar
178QC	1892090.86	6384043.52	1184.89	Target
179QC	1863713.38	6297334.29	100.81	Crn SW
180QC	1881637.69	6258122.40	485.27	Stop Bar
181QC	1902183.37	6332473.61	466.20	Tip of Arrow
182QC	1936595.16	6339877.33	1613.72	Stop Bar
183QC	1927855.04	6271967.73	213.66	Corner Conc
184QC	1968587.08	6257072.45	127.16	Stop Bar
185QC	1964877.45	6309471.18	341.55	Stop Bar
186QC	1977273.25	6348988.38	451.72	Stop Bar
187QC	2023022.39	6353070.53	1999.38	Mag Nail/Pavement
188QC	1999043.08	6321865.92	721.61	Paint Stripe
189QC	1995192.70	6278664.80	558.70	Tip of Paint Stripe
190QC	2020414.36	6215231.68	32.36	Stop Bar
191QC	2037118.15	6255978.73	190.52	Center MH
192QC	2065882.68	6284380.60	302.68	Paint Stripe
193QC	2051050.70	6325163.70	1683.03	Stop Bar
194QC	2054299.87	6236870.02	356.84	Paint Stripe
195QC	2083009.89	6186932.90	377.56	Cor S/W
197QC	2120009.02	6289508.18	999.60	Crn SW
198QC	2133313.84	6157039.09	305.95	Stop Bar
218QC	2019854.24	6538086.97	523.17	Paint Stripe
219QC	2079192.55	6409924.48	3167.15	Stop Bar
220QC	2016610.41	6420826.09	2777.83	Stop Bar
221QC	1959530.35	6372096.12	1429.45	Stop Bar
222QC	1940073.66	6457905.54	4626.41	Stop Bar
223QC	1855365.18	6489616.95	3263.73	Corner of Arrow
224QC	1800467.30	6423859.66	940.55	Stop Bar/Stripe
LIDAR Ground Check Points				
BE_1	2083107.59	6186831.01	375.08	Bare Earth
BE_2	2105050.87	6174490.24	238.03	Panel BE_2
BE_3	2054205.80	6237022.27	360.84	Bare Earth
BE_4	2036697.37	6251650.15	145.31	Bare Earth
BE_5	2020041.41	6217594.50	123.88	Bare Earth
BE_6	2065721.04	6284579.19	301.23	Bare Earth
BE_7	2051274.52	6321625.48	1624.46	Bare Earth

ID	Northing (US survey foot)	Easting (US survey foot)	Elevation (US survey foot)	Feature Code
BE_8	2022901.73	6353399.42	2004.47	Bare Earth
BE_9	1999193.21	6321334.36	715.82	Bare Earth
BE_10	1995948.12	6277885.40	564.24	Bare Earth
BE_11	1970116.68	6256598.09	122.88	Bare Earth
BE_12	1961619.83	6308215.53	358.33	Bare Earth
BE_13	1977362.55	6349058.56	448.90	Bare Earth
BE_14	1936649.06	6339911.92	1619.10	Bare Earth
BE_15	1927842.18	6271970.82	212.58	Bare Earth
BE_16	1886944.45	6256101.36	791.02	Bare Earth
BE_17	1863832.73	6297356.65	99.16	Bare Earth
BE_18	1902011.23	6332485.60	463.00	Bare Earth
BE_19	1843333.26	6364770.67	772.26	Bare Earth
BE_20	1790517.04	6314311.70	205.26	Bare Earth
BT_1	2106639.44	6175659.94	274.18	Brush Tree
BT_2	2082618.69	6189012.18	394.55	Brush Tree
BT_3	2052505.52	6236084.11	333.89	Brush Tree
BT_4	2022193.48	6215465.55	58.65	Brush Tree
BT_5	2037414.56	6256507.05	139.56	Brush Tree
BT_6	2067476.91	6286185.73	265.56	Brush Tree
BT_7	2050975.17	6325065.07	1677.20	Brush Tree
BT_8	2023024.22	6352550.80	2052.08	Brush Tree
BT_9	1999071.79	6321832.58	722.82	Brush Tree
BT_10	1995977.58	6277851.20	564.99	Brush Tree
BT_11	1969700.00	6256447.40	120.31	Brush Tree
BT_12	1963602.39	6308362.88	404.24	Brush Tree
BT_13	1976912.70	6348566.28	461.24	Brush Tree
BT_14	1936670.66	6340219.11	1625.27	Brush Tree
BT_15	1927737.91	6271876.94	210.55	Brush Tree
BT_16	1902491.80	6332352.96	469.44	Brush Tree
BT_17	1886863.39	6255470.65	754.80	Brush Tree
BT_18	1867008.85	6305176.40	222.63	Brush Tree
BT_19	1842688.85	6364830.32	838.20	Brush Tree
BT_20	1810299.39	6348429.14	527.55	Brush Tree
TW_1	2104906.93	6174392.61	235.39	Tall Weeds
TW_2	2083035.14	6187609.60	378.46	Tall Weeds
TW_3	2054127.01	6236990.84	359.60	Tall Weeds
TW_4	2023114.62	6216794.55	23.32	Tall Weeds
TW_5	2037418.90	6256952.83	143.88	Tall Weeds
TW_6	2067484.84	6286084.71	264.61	Tall Weeds
TW_7	2051233.10	6321622.35	1621.68	Tall Weeds
TW_8	2023447.67	6353139.72	1984.09	Tall Weeds
TW_9	1999074.59	6322485.32	738.69	Tall Weeds
TW_10	1995955.48	6277849.43	564.11	Tall Weeds
TW_11	1967400.86	6258228.95	178.36	Tall Weeds
TW_12	1962140.03	6307993.47	358.90	Tall Weeds
TW_13	1976973.59	6348601.49	455.58	Tall Weeds
TW_14	1936119.81	6339868.47	1609.02	Tall Weeds
TW_15	1926784.95	6271354.17	135.70	Tall Weeds
TW_16	1891062.35	6294849.46	445.49	Tall Weeds
TW_17	1867899.57	6317423.71	548.00	Tall Weeds
TW_18	1902456.93	6332346.99	469.37	Tall Weeds

ID	Northing (US survey foot)	Easting (US survey foot)	Elevation (US survey foot)	Feature Code
TW_19	1837311.51	6371398.35	966.22	Tall Weeds
TW_20	1805489.92	6334640.73	469.27	Tall Weeds
UA_1	2083130.52	6186388.78	367.74	Paint Stripe
UA_2	2082974.64	6187590.82	379.37	Paint Stripe
UA_3	2054483.39	6236675.27	362.35	Paint Stripe
UA_4	2020341.61	6215222.78	34.72	Stop Bar
UA_5	2037120.17	6255676.64	191.80	Center MH
UA_6	2067771.60	6286016.04	275.00	Pvmt
UA_7	2051054.07	6325146.80	1683.19	Corner of Painted P
UA_8	2023107.77	6352399.34	2050.86	Corner of Conc Pad
UA_9	1999037.99	6321609.10	715.63	Paint Stripe
UA_10	1995822.46	6279362.44	563.52	Paint Stripe
UA_11	1968582.74	6257049.73	128.10	Arrow End
UA_12	1964874.86	6309341.12	334.49	Stop Bar
UA_13	1977290.62	6348920.53	451.24	Paint Stripe
UA_14	1936545.66	6339921.50	1614.66	Paint Stripe
UA_15	1927847.50	6271850.35	213.23	Stop Bar
UA_16	1881553.12	6258085.36	486.01	Corner Conc
UA_17	1902214.65	6332415.74	467.07	Tip of Arrow
UA_18	1863766.74	6299855.60	88.10	Paint Stripe
UA_19	1842677.62	6365207.20	868.69	Croner Dr
UA_20	1789412.50	6313871.44	180.07	Paint Stripe
LiDAR Buyup Points				
A1	1790131.04	6292445.22	20.39	Dirt
A2	1786593.17	6301585.23	48.26	Dirt
A3	1783927.80	6301969.86	21.40	Dirt
A4	1778595.26	6297736.35	22.14	Dirt
A5	1777628.85	6300894.11	352.22	Dirt
B1	1786605.42	6304651.70	27.01	Dirt
B2	1778481.60	6303920.33	42.55	Dirt
B3	1778822.62	6310007.26	51.94	Dirt
B4	1779430.13	6316522.29	48.43	Dirt
B5	1783245.25	6309989.47	39.31	Dirt
C1	1794681.36	6298113.59	15.36	Dirt
C2	1797056.44	6302749.58	11.76	Dirt
C3	1803483.80	6302325.19	25.13	Dirt
C4	1806340.34	6299190.12	10.03	Dirt
C5	1799865.91	6292548.66	12.11	Dirt
D1	1807270.71	6301460.52	11.71	Dirt
D2	1809091.41	6299405.77	10.37	Dirt
D3	1813263.31	6299458.88	18.30	Dirt
D4	1818398.72	6297455.41	19.14	Dirt
D5	1814222.15	6296499.41	12.19	Dirt
Calibration1	1777094.12	6302695.15	399.27	Dirt
Calibration2	1788675.90	6292794.20	8.93	Crn Stop Bar
Calibration3	1783889.39	6305179.08	27.58	Dirt
Calibration4	1814447.20	6296944.52	15.64	Dirt
Calibration5	1801644.20	6302382.21	25.21	Paint Stripe
11/6/2014 12:23:28 PM	F:\Backup	Trimble Business Center		

III. OPUS Solutions

100Pa_OPUS-RS solution 04352881.14o OP1413835404939
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 4:09 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352881.14o OP1413835404939

FILE: 04352881.14o OP1413835404939

6011 Warning - OPUS-RS was able to find a set of reference stations
 6011 with data suitable for use with your dataset. However, your
 6011 position does not fall within the polygon enclosing these reference
 6011 stations. This means that the geographic interpolation algorithms
 6011 performed within OPUS-RS must instead perform extrapolation.
 6011 Extrapolation, especially if your position is far from the
 6011 reference stations, is prone to error. Use this solution with
 6011 caution.

potr
 p475
 trak
 scip
 pin1
 p494
 p483
 p478
 p480

Your station is 13.3 KM outside the polygon enclosing the
 reference stations

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435288r.14o TIME: 20:08:39 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.99.2 START: 2014/10/15 17:56:10
 EPHEMERIS:igr18143.eph [rapid] STOP: 2014/10/15 18:26:35
 NAV FILE: brdc2880.14n OBS USED: 3510 / 3510 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 15.38/ 55.58
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.248

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.78838)

X:	-2453099.250(m)	0.010(m)	-2453100.165(m)	0.010(m)
Y:	-4790718.857(m)	0.018(m)	-4790717.375(m)	0.018(m)
Z:	3410739.098(m)	0.007(m)	3410739.090(m)	0.007(m)

LAT:	32 32 12.16698	0.007(m)	32 32 12.18251	0.007(m)
E LON:	242 53 6.62411	0.006(m)	242 53 6.56701	0.006(m)
W LON:	117 6 53.37589	0.006(m)	117 6 53.43299	0.006(m)
EL HGT:	-31.780(m)	0.020(m)	-32.544(m)	0.020(m)

ORTHO HGT: 3.608(m) 0.030(m) [NAVD88 (Computed using GEOID12A)]

UTM COORDINATES	STATE PLANE COORDINATES
UTM (Zone 11)	SPC (0406 CA 6)
3599934.623	541376.654

Northing (Y) [meters]

100Pa_OPUS-RS solution 04352881.14o OP1413835404939
 Easting (X) [meters] 489217.662 1918756.283
 Convergence [degrees] -0.06175841 -0.47523744
 Point Scale 0.99960143 1.00005019
 Combined Factor 0.99960642 1.00005518

US NATIONAL GRID DESIGNATOR: 11SMR8921799934(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DN7476	POTR POTRERO PARK CORS ARP	N323706.269	W1163527.059	50034.9
DN5656	P475 POINT_LOMACS2007 CORS ARP	N323959.011	W1171438.117	18806.0
DK4141	TRAK BOMMER CANYON CORS ARP	N333704.554	W1174812.318	136060.3
DK4121	SCIP SAN CLEMENTE IS CORS ARP	N325451.926	W1182916.529	135362.0
AF9708	PIN1 PINON 1 PPGA CORS ARP	N333643.749	W1162729.330	134126.5
DN7401	P494 WESTSIDEESCS2005 CORS ARP	N324534.739	W1154355.389	132065.7
DG8356	P483 JULIANBIN_CS2004 CORS ARP	N330332.976	W1163409.522	77271.9
DG8350	P478 VALLEYCNTRCS2004 CORS ARP	N331408.560	W1170417.677	77628.8
DG8353	P480 VALLECITO_CS2004 CORS ARP	N325833.571	W1162054.679	86777.9

		NEAREST NGS PUBLISHED CONTROL POINT		
DC1614	USN TORPEDO RANGE 12000 YD MK	N323210.049	W1170719.689	689.1

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

100Pb_OPUS-RS solution 04352882.14o OP1414075248954
 From: opus [opus@ngs.noaa.gov]
 Sent: Thursday, October 23, 2014 10:43 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352882.14o OP1414075248954

FILE: 04352882.14o OP1414075248954

6011 Warning - OPUS-RS was able to find a set of reference stations
 6011 with data suitable for use with your dataset. However, your
 6011 position does not fall within the polygon enclosing these reference
 6011 stations. This means that the geographic interpolation algorithms
 6011 performed within OPUS-RS must instead perform extrapolation.
 6011 Extrapolation, especially if your position is far from the
 6011 reference stations, is prone to error. Use this solution with
 6011 caution.

p475
 trak
 scip
 pin1
 p494
 p483
 potr
 p478
 p480

Your station is 13.5 KM outside the polygon enclosing the
 reference stations

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 23, 2014
 RINEX FILE: 0435288s.14o TIME: 14:43:03 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.99.2 START: 2014/10/15 18:32:40
 EPHEMERIS: igr18143.eph [rapid] STOP: 2014/10/15 19:03:15
 NAV FILE: brdc2880.14n OBS USED: 2745 / 2745 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 16.56/ 58.22
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.218

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.78845)

X:	-2453099.265(m)	0.009(m)	-2453100.180(m)	0.009(m)
Y:	-4790718.881(m)	0.015(m)	-4790717.399(m)	0.015(m)
Z:	3410739.122(m)	0.011(m)	3410739.114(m)	0.011(m)

LAT:	32 32 12.16714	0.006(m)	32 32 12.18267	0.006(m)
E LON:	242 53 6.62401	0.007(m)	242 53 6.56692	0.007(m)
W LON:	117 6 53.37599	0.007(m)	117 6 53.43308	0.007(m)
EL HGT:	-31.743(m)	0.019(m)	-32.508(m)	0.019(m)
ORTHO HGT:	3.645(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

UTM COORDINATES	STATE PLANE COORDINATES
UTM (Zone 11)	SPC (0406 CA 6)
3599934.628	541376.659

Northing (Y) [meters]

100Pb_OPUS-RS solution 04352882.14o OP1414075248954
 Easting (X) [meters] 489217.660 1918756.281
 Convergence [degrees] -0.06175842 -0.47523745
 Point Scale 0.99960143 1.00005019
 Combined Factor 0.99960641 1.00005517

US NATIONAL GRID DESIGNATOR: 11SMR8921799934(NAD 83)

		BASE STATIONS USED			
PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DN5656	P475 POINT_LOMACS2007	CORS ARP	N323959.011	W1171438.117	18805.9
DK4141	TRAK BOMMER CANYON	CORS ARP	N333704.554	W1174812.318	136060.2
DK4121	SCIP SAN CLEMENTE IS	CORS ARP	N325451.926	W1182916.529	135362.0
AF9708	PIN1 PINON 1 PPGA	CORS ARP	N333643.749	W1162729.330	134126.5
DN7401	P494 WESTSIDEESCS2005	CORS ARP	N324534.739	W1154355.389	132065.7
DG8356	P483 JULIANBIN_CS2004	CORS ARP	N330332.976	W1163409.522	77271.9
DN7476	POTR POTRERO PARK	CORS ARP	N323706.269	W1163527.059	50034.9
DG8350	P478 VALLEYCNTRCS2004	CORS ARP	N331408.560	W1170417.677	77628.8
DG8353	P480 VALLECITO_CS2004	CORS ARP	N325833.571	W1162054.679	86777.9

		NEAREST NGS PUBLISHED CONTROL POINT			
DC1614	USN TORPEDO RANGE 12000 YD MK		N323210.049	W1170719.689	689.1

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

110a_OPUS-RS solution 40872963.14o OP1414423082775
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 27, 2014 11:20 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 40872963.14o OP1414423082775

FILE: 40872963.14o OP1414423082775

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 27, 2014
 RINEX FILE: 4087296p.14o TIME: 15:19:33 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.99.2 START: 2014/10/23 15:46:40
 EPHEMERIS: igr18154.eph [rapid] STOP: 2014/10/23 16:18:30
 NAV FILE: brdc2960.14n OBS USED: 1611 / 1656 :
 97%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 9.62/ 18.83
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.262

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.81005)

X:	-2451537.272(m)	0.019(m)	-2451538.184(m)	0.019(m)
Y:	-4779107.342(m)	0.026(m)	-4779105.866(m)	0.026(m)
Z:	3428074.802(m)	0.026(m)	3428074.794(m)	0.026(m)

LAT:	32 43 19.45228	0.008(m)	32 43 19.46780	0.008(m)
E LON:	242 50 36.78238	0.008(m)	242 50 36.72535	0.008(m)
W LON:	117 9 23.21762	0.008(m)	117 9 23.27465	0.008(m)
EL HGT:	13.139(m)	0.039(m)	12.380(m)	0.039(m)
ORTHO HGT:	48.139(m)	0.045(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3620487.112	561965.401
Easting (X) [meters]	485339.498	1915024.959
Convergence [degrees]	-0.08457110	-0.49810984
Point Scale	0.99960265	1.00001076
Combined Factor	0.99960059	1.00000870

US NATIONAL GRID DESIGNATOR: 11SMS8533920487(NAD 83)

BASE STATIONS USED

PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DH4105	P473 JAMACHA_LFCS2004	CORS ARP	N324401.580	W1165658.206	19443.5
DH4102	P472 CAMPELLI OTCS2004	CORS ARP	N325321.139	W1170616.854	19159.7
DN5656	P475 POINT_LOMACS2007	CORS ARP	N323959.011	W1171438.117	10267.0
DK4121	SCIP SAN CLEMENTE IS	CORS ARP	N325451.926	W1182916.529	126499.3
DN7476	POTR POTRERO PARK	CORS ARP	N323706.269	W1163527.059	54291.8
DG8350	P478 VALLEYCNTRCS2004	CORS ARP	N331408.560	W1170417.677	57517.4
DG8356	P483 JULIANBIN_CS2004	CORS ARP	N330332.976	W1163409.522	66471.5
DG9734	P474 FALLBROOK_CS2004	CORS ARP	N332118.680	W1171455.242	70743.6
DG9795	P482 LAKHENSCHAWCS2004	CORS ARP	N331424.631	W1164017.036	73203.2

	NEAREST NGS PUBLISHED CONTROL POINT	
DC1659	EL CORTEZ	N324313.303 W1170928.335 232.1

110a_OPUS-RS solution 40872963.14o OP1414423082775

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

110b_OPUS-RS solution 40872964.14o OP1414423115150
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 27, 2014 11:20 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 40872964.14o OP1414423115150

FILE: 40872964.14o OP1414423115150

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 27, 2014
 RINEX FILE: 4087296q.14o TIME: 15:20:15 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.99.2 START: 2014/10/23 16:23:00
 EPHEMERIS: iqr18154.eph [rapid] STOP: 2014/10/23 16:53:45
 NAV FILE: brdc2960.14n OBS USED: 2025 / 2259 :
 90%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 24.08/ 26.38
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.273

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
 (EPOCH:2014.81012)

X:	-2451537.265(m)	0.012(m)	-2451538.177(m)	0.012(m)
Y:	-4779107.324(m)	0.017(m)	-4779105.848(m)	0.017(m)
Z:	3428074.797(m)	0.012(m)	3428074.789(m)	0.012(m)

LAT:	32 43 19.45248	0.007(m)	32 43 19.46800	0.007(m)
E LON:	242 50 36.78231	0.007(m)	242 50 36.72527	0.007(m)
W LON:	117 9 23.21769	0.007(m)	117 9 23.27473	0.007(m)
EL HGT:	13.120(m)	0.022(m)	12.361(m)	0.022(m)
ORTHO HGT:	48.120(m)	0.031(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3620487.118	561965.407
Easting (X) [meters]	485339.496	1915024.957
Convergence [degrees]	-0.08457111	-0.49810985
Point Scale	0.99960265	1.00001076
Combined Factor	0.99960059	1.00000870

US NATIONAL GRID DESIGNATOR: 11SMS8533920487(NAD 83)

BASE STATIONS USED

PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DH4105	P473 JAMACHA_LFCS2004	CORS ARP	N324401.580	W1165658.206	19443.5
DH4102	P472 CAMPELLI OTCS2004	CORS ARP	N325321.139	W1170616.854	19159.7
DN5656	P475 POINT_LOMACS2007	CORS ARP	N323959.011	W1171438.117	10267.0
DK4121	SCIP SAN CLEMENTE IS	CORS ARP	N325451.926	W1182916.529	126499.3
DN7476	POTR POTRERO PARK	CORS ARP	N323706.269	W1163527.059	54291.8
DG8350	P478 VALLEYCNTRCS2004	CORS ARP	N331408.560	W1170417.677	57517.4
DG8356	P483 JULIANBIN_CS2004	CORS ARP	N330332.976	W1163409.522	66471.5
DG9734	P474 FALLBROOK_CS2004	CORS ARP	N332118.680	W1171455.242	70743.6
DG9795	P482 LAKHENSRAWCS2004	CORS ARP	N331424.631	W1164017.036	73203.2

	NEAREST NGS PUBLISHED CONTROL POINT	
DC1659	EL CORTEZ	N324313.303 W1170928.335 232.1

110b_OPUS-RS solution 40872964.14o OP1414423115150

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

136Pa_OPUS-RS solution 04352890.14o OP1413833493110
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:35 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352890.14o OP1413833493110

FILE: 04352890.14o OP1413833493110

6011 Warning - OPUS-RS was able to find a set of reference stations
 6011 with data suitable for use with your dataset. However, your
 6011 position does not fall within the polygon enclosing these reference
 6011 stations. This means that the geographic interpolation algorithms
 6011 performed within OPUS-RS must instead perform extrapolation.
 6011 Extrapolation, especially if your position is far from the
 6011 reference stations, is prone to error. Use this solution with
 6011 caution.

p482
 p478
 p066
 p486
 p474
 slms
 pin1
 dssc
 p494

Your station is 25.0 KM outside the polygon enclosing the
 reference stations

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435289r.14o TIME: 19:34:31 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.99.2 START: 2014/10/16 17:13:10
 EPHEMERIS: igr18144.eph [rapid] STOP: 2014/10/16 17:44:00
 NAV FILE: brdc2890.14n OBS USED: 3006 / 3510 :
 86%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 22.32/ 41.61
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.243

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79104)

X:	-2422307.241(m)	0.011(m)	-2422308.153(m)	0.011(m)
Y:	-4790828.499(m)	0.007(m)	-4790827.024(m)	0.007(m)
Z:	3432768.207(m)	0.009(m)	3432768.194(m)	0.009(m)

LAT:	32 46 17.11917	0.007(m)	32 46 17.13471	0.007(m)
E LON:	243 10 41.61432	0.009(m)	243 10 41.55747	0.009(m)
W LON:	116 49 18.38568	0.009(m)	116 49 18.44253	0.009(m)
EL HGT:	179.622(m)	0.011(m)	178.854(m)	0.011(m)
ORTHO HGT:	212.642(m)	0.025(m)	[NAVD88 (Computed using GEOID12A)]	

UTM COORDINATES	STATE PLANE COORDINATES
UTM (Zone 11)	SPC (0406 CA 6)
3625961.281	567216.074

Northing (Y) [meters]

136Pa_OPUS-RS solution 04352890.14o OP1413833493110
 Easting (X) [meters] 516691.958 1946428.705
 Convergence [degrees] 0.09647208 -0.31419975
 Point Scale 0.99960344 1.0000200
 Combined Factor 0.99957525 0.99997380

US NATIONAL GRID DESIGNATOR: 11SNS1669125961(NAD 83)

		BASE STATIONS USED					
PID	DESIGNATION			LATITUDE	LONGITUDE	DI STANCE(m)	
DG9795	P482 LAKHENS	WCS2004	CORS ARP	N331424.631	W1164017.036	53861.4	
DG8350	P478 VALLEYCN	TRCS2004	CORS ARP	N331408.560	W1170417.677	56538.7	
DH4519	P066 JACUMBAAP	_CS2004	CORS ARP	N323659.475	W1161011.188	63516.2	
DH4108	P486 BORREGOAI	RCS2004	CORS ARP	N331536.674	W1161920.180	71531.4	
DG9734	P474 FALLBROOK	_CS2004	CORS ARP	N332118.680	W1171455.242	76034.7	
DN5679	SLMS SLMS_SCGN	_CS1999	CORS ARP	N331732.005	W1155840.182	97734.4	
AF9708	PIN1 PINON 1	PGGA	CORS ARP	N333643.749	W1162729.330	99233.5	
DN5633	DSSC DSSC_SCGN	_CS1998	CORS ARP	N334359.979	W1164243.475	107197.0	
DN7401	P494 WESTSI	DEESCS2005	CORS ARP	N324534.739	W1154355.389	102114.6	

		NEAREST NGS PUBLISHED CONTROL POINT			
DC2085	SAN DIEGO	TUCSON	AWY BCN 2	N324516.166	W1164822.387 2381.7

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

136Pb_OPUS-RS solution 04352891.14o OP1413833507376
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:36 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352891.14o OP1413833507376

FILE: 04352891.14o OP1413833507376

6011 Warning - OPUS-RS was able to find a set of reference stations
 6011 with data suitable for use with your dataset. However, your
 6011 position does not fall within the polygon enclosing these reference
 6011 stations. This means that the geographic interpolation algorithms
 6011 performed within OPUS-RS must instead perform extrapolation.
 6011 Extrapolation, especially if your position is far from the
 6011 reference stations, is prone to error. Use this solution with
 6011 caution.

p482
 p478
 p066
 p486
 p474
 slms
 pin1
 dssc
 p494

Your station is 25.1 KM outside the polygon enclosing the
 reference stations

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435289r.14o TIME: 19:35:28 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.99.2 START: 2014/10/16 17:50:10
 EPHEMERIS: igr18144.eph [rapid] STOP: 2014/10/16 18:20:35
 NAV FILE: brdc2890.14n OBS USED: 3159 / 3159 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 35.20/ 42.02
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.249

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79111)

X:	-2422307.245(m)	0.011(m)	-2422308.157(m)	0.011(m)
Y:	-4790828.505(m)	0.013(m)	-4790827.030(m)	0.013(m)
Z:	3432768.210(m)	0.007(m)	3432768.197(m)	0.007(m)

LAT:	32 46 17.11913	0.006(m)	32 46 17.13467	0.006(m)
E LON:	243 10 41.61428	0.010(m)	243 10 41.55744	0.010(m)
W LON:	116 49 18.38572	0.010(m)	116 49 18.44256	0.010(m)
EL HGT:	179.630(m)	0.014(m)	178.862(m)	0.014(m)
ORTHO HGT:	212.650(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

UTM COORDINATES	STATE PLANE COORDINATES
UTM (Zone 11)	SPC (0406 CA 6)
3625961.279	567216.073

Northing (Y) [meters]

	136Pb_OPUS-RS solution	04352891.140	OP1413833507376
Easting (X)	[meters]	516691.957	1946428.704
Convergence	[degrees]	0.09647208	-0.31419976
Point Scale		0.99960344	1.00000200
Combined Factor		0.99957525	0.99997380

US NATIONAL GRID DESIGNATOR: 11SNS1669125961(NAD 83)

		BASE STATIONS USED					
PID	DESIGNATION			LATITUDE	LONGITUDE	DI STANCE(m)	
DG9795	P482 LAKHENS	WCS2004	CORS ARP	N331424.631	W1164017.036	53861.4	
DG8350	P478 VALLEYC	NTRCS2004	CORS ARP	N331408.560	W1170417.677	56538.7	
DH4519	P066 JACUMBA	AP_CS2004	CORS ARP	N323659.475	W1161011.188	63516.2	
DH4108	P486 BORREGO	AI RCS2004	CORS ARP	N331536.674	W1161920.180	71531.4	
DG9734	P474 FALLBRO	OK_CS2004	CORS ARP	N332118.680	W1171455.242	76034.7	
DN5679	SLMS SLMS_	SCGN_CS1999	CORS ARP	N331732.005	W1155840.182	97734.4	
AF9708	PIN1 PINON	1 PPGA	CORS ARP	N333643.749	W1162729.330	99233.5	
DN5633	DSSC DSSC_	SCGN_CS1998	CORS ARP	N334359.979	W1164243.475	107197.0	
DN7401	P494 WESTSI	DEESCS2005	CORS ARP	N324534.739	W1154355.389	102114.6	

		NEAREST NGS PUBLISHED CONTROL POINT				
DC2085	SAN DIEGO	TUCSON	AWY BCN 2	N324516.166	W1164822.387	2381.7

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

164a_OPUS-RS solution 04352903.14o OP1413833634657
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:41 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352903.14o OP1413833634657

FILE: 04352903.14o OP1413833634657

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435290v.14o TIME: 19:40:31 UTC

SOFTWARE: rsgps 1.37 RS90.prl 1.99.2 START: 2014/10/17 21:07:10
 EPHEMERIS:igr18145.eph [rapid] STOP: 2014/10/17 21:37:55
 NAV FILE: brdc2900.14n OBS USED: 1869 / 2037 :
 92%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 3.02/ 17.34
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.260

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
 (EPOCH:2014.79422)

X:	-2446935.385(m)	0.010(m)	-2446936.286(m)	0.010(m)
Y:	-4729448.784(m)	0.015(m)	-4729447.333(m)	0.015(m)
Z:	3500067.269(m)	0.011(m)	3500067.257(m)	0.011(m)

LAT:	33 29 36.85774	0.005(m)	33 29 36.87308	0.005(m)
E LON:	242 38 37.43771	0.005(m)	242 38 37.38089	0.005(m)
W LON:	117 21 22.56229	0.005(m)	117 21 22.61911	0.005(m)
EL HGT:	593.575(m)	0.020(m)	592.839(m)	0.020(m)
ORTHO HGT:	626.657(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3706063.290	647703.206
Easting (X) [meters]	466905.448	1897201.476
Convergence [degrees]	-0.19660555	-0.60791333
Point Scale	0.99961350	0.99995801
Combined Factor	0.99952036	0.99986484

US NATIONAL GRID DESIGNATOR: 11SMT6690506063(NAD 83)

		BASE STATIONS USED		LATITUDE	LONGITUDE	DI STANCE(m)
PID	DESIGNATION					
DG9795	P482 LAKHENSCHAWCS2004	CORS	ARP	N331424.631	W1164017.036	69666.2
DH7046	EWPP EWPP_SCGN_CS1999	CORS	ARP	N340615.101	W1173132.058	69525.6
DH4102	P472 CAMPELLI OTCS2004	CORS	ARP	N325321.139	W1170616.854	71021.1
DM7524	LORS LORS_SCGN_CS1998	CORS	ARP	N340759.964	W1174514.604	79955.0
AF9708	PIN1 PINON 1 PPGA	CORS	ARP	N333643.749	W1162729.330	84449.5
DN9092	AZU1 AZUSA	CORS	ARP	N340733.654	W1175347.306	86160.8
DG8356	P483 JULIANBIN_CS2004	CORS	ARP	N330332.976	W1163409.522	87743.8

		NEAREST NGS PUBLISHED CONTROL POINT			
ID	NAME	Easting	Northing	Distance	
DX1439	Q 315 RESET	N332956.	W1172134.	661.3	

This position and the above vector components were computed without any
 Page 1

164a_OPUS-RS solution 04352903.14o OP1413833634657
knowledge by the National Geodetic Survey regarding the equipment or field
operating procedures used.

164b_OPUS-RS solution 04352904.14o OP1414076240876
 From: opus [opus@ngs.noaa.gov]
 Sent: Thursday, October 23, 2014 11:00 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352904.14o OP1414076240876

FILE: 04352904.14o OP1414076240876

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 23, 2014
 RINEX FILE: 0435290v.14o TIME: 15:00:09 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.99.2 START: 2014/10/17 21:43:40
 EPHEMERIS: igr18145.eph [rapid] STOP: 2014/10/17 22:13:55
 NAV FILE: brdc2900.14n OBS USED: 3240 / 3240 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 3.45/ 36.32
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.292

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79429)

X:	-2446935.414(m)	0.027(m)	-2446936.315(m)	0.027(m)
Y:	-4729448.800(m)	0.036(m)	-4729447.349(m)	0.036(m)
Z:	3500067.271(m)	0.031(m)	3500067.259(m)	0.031(m)

LAT:	33 29 36.85730	0.013(m)	33 29 36.87264	0.013(m)
E LON:	242 38 37.43700	0.021(m)	242 38 37.38017	0.021(m)
W LON:	117 21 22.56300	0.021(m)	117 21 22.61983	0.021(m)
EL HGT:	593.599(m)	0.048(m)	592.863(m)	0.048(m)
ORTHO HGT:	626.681(m)	0.053(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3706063.277	647703.193
Easting (X) [meters]	466905.430	1897201.458
Convergence [degrees]	-0.19660566	-0.60791343
Point Scale	0.99961350	0.99995801
Combined Factor	0.99952035	0.99986483

US NATIONAL GRID DESIGNATOR: 11SMT6690506063(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DK4141	TRAK BOMMER CANYON CORS ARP	N333704.554	W1174812.318	43760.0
DN7401	P494 WESTSIDEESCS2005 CORS ARP	N324534.739	W1154355.389	172044.1
DK4121	SCIP SAN CLEMENTE IS CORS ARP	N325451.926	W1182916.529	123533.3
DN7476	POTR POTRERO PARK CORS ARP	N323706.269	W1163527.059	120554.0
DN5656	P475 POINT_LOMACS2007 CORS ARP	N323959.011	W1171438.117	92342.2
DG8356	P483 JULIANBIN_CS2004 CORS ARP	N330332.976	W1163409.522	87743.8
AF9708	PIN1 PINON 1 POGA CORS ARP	N333643.749	W1162729.330	84449.5
DG9740	P584 POTREROCRKCS2004 CORS ARP	N335333.357	W1165705.859	58026.1
DG9795	P482 LAKHENSCHAWCS2004 CORS ARP	N331424.631	W1164017.036	69666.2

	NEAREST NGS PUBLISHED CONTROL POINT		
DX1439	Q 315 RESET	N332956.	W1172134. 661.3

164b_OPUS-RS solution 04352904.14o OP1414076240876

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

165Pa_OPUS-RS solution 40872894.14o OP1414090604765
 From: opus [opus@ngs.noaa.gov]
 Sent: Thursday, October 23, 2014 3:01 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 40872894.14o OP1414090604765

FILE: 40872894.14o OP1414090604765

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 23, 2014
 RINEX FILE: 4087289v.14o TIME: 19:00:20 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.99.2 START: 2014/10/16 21:29:40
 EPHEMERIS: igr18144.eph [rapid] STOP: 2014/10/16 22:01:00
 NAV FILE: brdc2890.14n OBS USED: 2640 / 2656 :
 99%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 11.06/ 38.45
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.255

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79152)

X:	-2457451.868(m)	0.006(m)	-2457452.770(m)	0.006(m)
Y:	-4725294.889(m)	0.015(m)	-4725293.436(m)	0.015(m)
Z:	3497419.891(m)	0.010(m)	3497419.881(m)	0.010(m)

LAT:	33 28 4.51001	0.003(m)	33 28 4.52536	0.003(m)
E LON:	242 31 21.78901	0.005(m)	242 31 21.73205	0.005(m)
W LON:	117 28 38.21099	0.005(m)	117 28 38.26795	0.005(m)
EL HGT:	96.554(m)	0.018(m)	95.820(m)	0.018(m)
ORTHO HGT:	130.374(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3703264.357	644984.203
Easting (X) [meters]	455651.043	1885923.450
Convergence [degrees]	-0.26321036	-0.67441239
Point Scale	0.99962425	0.99995687
Combined Factor	0.99960910	0.99994171

US NATIONAL GRID DESIGNATOR: 11SMT5565103264(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DH7093	MLFP MLFP_SCGN_CS1998 CORS ARP	N335506.240	W1171904.601	52107.6
DH7046	EWPP EWPP_SCGN_CS1999 CORS ARP	N340615.101	W1173132.058	70718.7
DN5820	GISA ESRI GISA CORS ARP	N340409.474	W1171305.731	70890.6
DM7581	SI05 SCRIPPS 5-MT SOLE CORS ARP	N325026.632	W1171458.834	72729.5
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	76907.3
DM7524	LORS LORS_SCGN_CS1998 CORS ARP	N340759.964	W1174514.604	78132.7
DG9795	P482 LAKHENSCHAWCS2004 CORS ARP	N331424.631	W1164017.036	79157.9
DL7680	CAT2 CAT2_SCGN_CS2000 CORS ARP	N331841.808	W1182001.690	81558.5

		NEAREST NGS PUBLISHED CONTROL POINT		
PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DX1444	B 315	N332655.	W1172723.	2895.6

165Pa_OPUS-RS solution 40872894.14o OP1414090604765

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

165Pb_OPUS-RS solution 40872895.14o OP1414090624218
 From: opus [opus@ngs.noaa.gov]
 Sent: Thursday, October 23, 2014 3:04 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 40872895.14o OP1414090624218

FILE: 40872895.14o OP1414090624218

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 23, 2014
 RINEX FILE: 4087289w.14o TIME: 19:03:15 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.99.2 START: 2014/10/16 22:05:10
 EPHEMERIS: iqr18144.eph [rapid] STOP: 2014/10/16 22:35:35
 NAV FILE: brdc2890.14n OBS USED: 2920 / 2952 :
 99%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 18.50/ 35.50
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.256

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79159)

X:	-2457451.855(m)	0.010(m)	-2457452.757(m)	0.010(m)
Y:	-4725294.865(m)	0.018(m)	-4725293.412(m)	0.018(m)
Z:	3497419.870(m)	0.011(m)	3497419.860(m)	0.011(m)

LAT:	33 28 4.50993	0.004(m)	33 28 4.52528	0.004(m)
E LON:	242 31 21.78902	0.005(m)	242 31 21.73207	0.005(m)
W LON:	117 28 38.21098	0.005(m)	117 28 38.26793	0.005(m)
EL HGT:	96.520(m)	0.022(m)	95.786(m)	0.022(m)
ORTHO HGT:	130.340(m)	0.032(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3703264.354	644984.200
Easting (X) [meters]	455651.043	1885923.450
Convergence [degrees]	-0.26321035	-0.67441238
Point Scale	0.99962425	0.99995687
Combined Factor	0.99960910	0.99994172

US NATIONAL GRID DESIGNATOR: 11SMT5565103264(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DH7093	MLFP MLFP_SCGN_CS1998 CORS ARP	N335506.240	W1171904.601	52107.6
DH7046	EWPP EWPP_SCGN_CS1999 CORS ARP	N340615.101	W1173132.058	70718.7
DN5820	GISA ESRI GISA CORS ARP	N340409.474	W1171305.731	70890.7
DM7581	SI05 SCRIPPS 5-MT SOLE CORS ARP	N325026.632	W1171458.834	72729.5
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	76907.3
DM7524	LORS LORS_SCGN_CS1998 CORS ARP	N340759.964	W1174514.604	78132.7
DG9795	P482 LAKHENSRAWCS2004 CORS ARP	N331424.631	W1164017.036	79157.9
DL7680	CAT2 CAT2_SCGN_CS2000 CORS ARP	N331841.808	W1182001.690	81558.5

		NEAREST NGS PUBLISHED CONTROL POINT		
PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DX1444	B 315	N332655.	W1172723.	2895.6

165Pb_OPUS-RS solution 40872895.14o OP1414090624218

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

173Pa_OPUS-RS solution 40872891.14o OP1414090572265
 From: opus [opus@ngs.noaa.gov]
 Sent: Thursday, October 23, 2014 3:02 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 40872891.14o OP1414090572265

FILE: 40872891.14o OP1414090572265

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 23, 2014
 RINEX FILE: 4087289r.14o TIME: 19:01:15 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.99.2 START: 2014/10/16 17:25:30
 EPHEMERIS: igr18144.eph [rapid] STOP: 2014/10/16 17:56:30
 NAV FILE: brdc2890.14n OBS USED: 3339 / 3447 :
 97%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 24.96/ 21.97
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.268

REF FRAME: NAD_83(2011) (EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79106)

X:	-2445703.992(m)	0.008(m)	-2445704.894(m)	0.008(m)
Y:	-4733842.257(m)	0.014(m)	-4733840.804(m)	0.014(m)
Z:	3494082.884(m)	0.013(m)	3494082.873(m)	0.013(m)

LAT:	33 25 55.09885	0.007(m)	33 25 55.11423	0.007(m)
E LON:	242 40 37.92946	0.005(m)	242 40 37.87262	0.005(m)
W LON:	117 19 22.07054	0.005(m)	117 19 22.12738	0.005(m)
EL HGT:	77.848(m)	0.019(m)	77.110(m)	0.019(m)
ORTHO HGT:	111.182(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3699223.623	640839.174
Easting (X) [meters]	469993.351	1900241.224
Convergence [degrees]	-0.17784542	-0.58952101
Point Scale	0.99961110	0.99995560
Combined Factor	0.99959888	0.99994338

US NATIONAL GRID DESIGNATOR: 11SMS6999399223(NAD 83)

BASE STATIONS USED

PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DH7093	MLFP MLFP_SCGN_CS1998	CORS ARP	N335506.240	W1171904.601	53958.4
DH7054	CNPP CNPP_SCGN_CS1999	CORS ARP	N335127.464	W1173632.062	54163.1
DG9740	P584 POTRERO CRKCS2004	CORS ARP	N335333.357	W1165705.859	61614.1
DH4102	P472 CAMPPELLI OTCS2004	CORS ARP	N325321.139	W1170616.854	63543.2
DG9795	P482 LAKHENS HAWCS2004	CORS ARP	N331424.631	W1164017.036	64275.5
DN5633	DSSC DSSC_SCGN_CS1998	CORS ARP	N334359.979	W1164243.475	65842.7
DM7581	SI05 SCRIPPS 5-MT SOLE	CORS ARP	N325026.632	W1171458.834	65927.8
DN5820	GISA ESRI GISA	CORS ARP	N340409.474	W1171305.731	71353.9
DH7046	EWPP EWPP_SCGN_CS1999	CORS ARP	N340615.101	W1173132.058	76893.8

PID	NEAREST NGS PUBLISHED CONTROL POINT	DI STANCE(m)
DX1433	379 T N332628. W1171927.	1025.3

173Pa_OPUS-RS solution 40872891.14o OP1414090572265

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

173Pb_OPUS-RS solution 40872892.14o OP1414090589109
 From: opus [opus@ngs.noaa.gov]
 Sent: Thursday, October 23, 2014 3:00 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 40872892.14o OP1414090589109

FILE: 40872892.14o OP1414090589109

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 23, 2014
 RINEX FILE: 4087289s.14o TIME: 18:59:45 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.99.2 START: 2014/10/16 18:01:00
 EPHEMERIS: igr18144.eph [rapid] STOP: 2014/10/16 18:31:20
 NAV FILE: brdc2890.14n OBS USED: 3132 / 3204 :
 98%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 29.15/ 9.66
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.259

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79113)

X:	-2445704.003(m)	0.007(m)	-2445704.905(m)	0.007(m)
Y:	-4733842.288(m)	0.012(m)	-4733840.835(m)	0.012(m)
Z:	3494082.910(m)	0.011(m)	3494082.899(m)	0.011(m)

LAT:	33 25 55.09897	0.006(m)	33 25 55.11435	0.006(m)
E LON:	242 40 37.92963	0.004(m)	242 40 37.87279	0.004(m)
W LON:	117 19 22.07037	0.004(m)	117 19 22.12721	0.004(m)
EL HGT:	77.889(m)	0.016(m)	77.151(m)	0.016(m)
ORTHO HGT:	111.223(m)	0.027(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3699223.627	640839.178
Easting (X) [meters]	469993.355	1900241.229
Convergence [degrees]	-0.17784539	-0.58952098
Point Scale	0.99961110	0.99995560
Combined Factor	0.99959888	0.99994337

US NATIONAL GRID DESIGNATOR: 11SMS6999399223(NAD 83)

BASE STATIONS USED

PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DH7093	MLFP MLFP_SCGN_CS1998	CORS ARP	N335506.240	W1171904.601	53958.4
DH7054	CNPP CNPP_SCGN_CS1999	CORS ARP	N335127.464	W1173632.062	54163.1
DG9740	P584 POTREROCKRCS2004	CORS ARP	N335333.357	W1165705.859	61614.1
DH4102	P472 CAMPPELLI OTCS2004	CORS ARP	N325321.139	W1170616.854	63543.2
DG9795	P482 LAKHENSRAWCS2004	CORS ARP	N331424.631	W1164017.036	64275.5
DN5633	DSSC DSSC_SCGN_CS1998	CORS ARP	N334359.979	W1164243.475	65842.7
DM7581	SI05 SCRIPPS 5-MT SOLE	CORS ARP	N325026.632	W1171458.834	65927.8
DN5820	GISA ESRI GISA	CORS ARP	N340409.474	W1171305.731	71353.9
DH7046	EWPP EWPP_SCGN_CS1999	CORS ARP	N340615.101	W1173132.058	76893.8

	NEAREST NGS PUBLISHED CONTROL POINT		
DX1433	379 T	N332628.	W1171927. 1025.3

173Pb_OPUS-RS solution 40872892.14o OP1414090589109

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

174Pa_OPUS-RS solution 81302880.14o OP1414091321052
 From: opus [opus@ngs.noaa.gov]
 Sent: Thursday, October 23, 2014 3:18 PM
 To: gbevi ns@quantumspati al .com
 Subject: OPUS-RS sol uti on : 81302880.14o OP1414091321052

FILE: 81302880.14o OP1414091321052

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: gbevi ns@quantumspati al .com DATE: October 23, 2014
 RINEX FILE: 8130288w.14o TIME: 19:18:06 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.99.2 START: 2014/10/15 22:51:35
 EPHEMERIS: i gr18143.eph [rapi d] STOP: 2014/10/15 23:22:25
 NAV FILE: brdc2880.14n OBS USED: 2970 / 3123 :
 95%
 ANT NAME: TRMR8-4 NONE QUALITY IND. 23.18/ 26.71
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.268

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
 (EPOCH:2014.78894)

X:	-2457373.736(m)	0.013(m)	-2457374.638(m)	0.013(m)
Y:	-4723821.070(m)	0.025(m)	-4723819.618(m)	0.025(m)
Z:	3499745.554(m)	0.016(m)	3499745.544(m)	0.016(m)

LAT:	33 29 31.52596	0.004(m)	33 29 31.54130	0.004(m)
E LON:	242 30 58.13252	0.005(m)	242 30 58.07556	0.005(m)
W LON:	117 29 1.86748	0.005(m)	117 29 1.92444	0.005(m)
EL HGT:	258.847(m)	0.032(m)	258.115(m)	0.032(m)
ORTHO HGT:	292.589(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
North ing (Y) [meters]	3705947.036	647671.999
East ing (X) [meters]	455052.921	1885344.400
Convergence [degrees]	-0.26700463	-0.67802340
Point Scale	0.99962491	0.99995794
Combi ned Factor	0.99958429	0.99991731

US NATIONAL GRID DESIGNATOR: 11SMT5505205947(NAD 83)

BASE STATIONS USED

PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DG9740	P584 POTREROCRKCS2004	CORS ARP	N335333.357	W1165705.859	66402.6
DH7046	EWPP EWPP_SCGN_CS1999	CORS ARP	N340615.101	W1173132.058	68006.5
DN5820	GISA ESRI_GISA	CORS ARP	N340409.474	W1171305.731	68589.2
DM7524	LORS LORS_SCGN_CS1998	CORS ARP	N340759.964	W1174514.604	75400.4
DM7581	SI05 SCRIPPS 5-MT SOLE	CORS ARP	N325026.632	W1171458.834	75472.9
DN5633	DSSC DSSC_SCGN_CS1998	CORS ARP	N334359.979	W1164243.475	76480.7
DN9092	AZU1 AZUSA	CORS ARP	N340733.654	W1175347.306	80025.1
DG9795	P482 LAKHENS HAWCS2004	CORS ARP	N331424.631	W1164017.036	80617.1
DL7680	CAT2 CAT2_SCGN_CS2000	CORS ARP	N331841.808	W1182001.690	81567.2

	NEAREST NGS PUBLISHED CONTROL POINT		
DX1564	H 314	N333029.	W1173040. 3092.1

174Pa_OPUS-RS solution 81302880.14o OP1414091321052

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

174Pb_OPUS-RS solution 81302881.14o OP1414091558807
 From: opus [opus@ngs.noaa.gov]
 Sent: Thursday, October 23, 2014 3:23 PM
 To: gbevi ns@quantumspati al .com
 Subject: OPUS-RS soluti on : 81302881.14o OP1414091558807

FILE: 81302881.14o OP1414091558807

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: gbevi ns@quantumspati al .com DATE: October 23, 2014
 RINEX FILE: 8130288x.14o TIME: 19:22:50 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/10/15 23:27:30
 EPHEMERIS: i gr18143.eph [rapi d] STOP: 2014/10/15 23:57:50
 NAV FILE: brdc2880.14n OBS USED: 2745 / 2880 :
 95%
 ANT NAME: TRMR8-4 NONE QUALITY IND. 13.00/ 42.38
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.248

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
 (EPOCH:2014.78901)

X:	-2457373.743(m)	0.018(m)	-2457374.645(m)	0.018(m)
Y:	-4723821.080(m)	0.032(m)	-4723819.628(m)	0.032(m)
Z:	3499745.565(m)	0.023(m)	3499745.555(m)	0.023(m)

LAT:	33 29 31.52604	0.005(m)	33 29 31.54138	0.005(m)
E LON:	242 30 58.13246	0.004(m)	242 30 58.07550	0.004(m)
W LON:	117 29 1.86754	0.004(m)	117 29 1.92450	0.004(m)
EL HGT:	258.863(m)	0.043(m)	258.131(m)	0.043(m)
ORTHO HGT:	292.605(m)	0.048(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
North ing (Y) [meters]	3705947.039	647672.002
East ing (X) [meters]	455052.919	1885344.398
Convergence [degrees]	-0.26700464	-0.67802341
Point Scale	0.99962491	0.99995794
Combi ned Factor	0.99958429	0.99991730

US NATIONAL GRID DESIGNATOR: 11SMT5505205947(NAD 83)

BASE STATIONS USED

PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DG9740	P584 POTREROCRKCS2004	CORS ARP	N335333.357	W1165705.859	66402.6
DH7046	EWPP EWPP_SCGN_CS1999	CORS ARP	N340615.101	W1173132.058	68006.5
DN5820	GISA ESRI GISA	CORS ARP	N340409.474	W1171305.731	68589.2
DM7581	SI05 SCRIPPS 5-MT SOLE	CORS ARP	N325026.632	W1171458.834	75472.9
DM7524	LORS LORS_SCGN_CS1998	CORS ARP	N340759.964	W1174514.604	75400.4
DH4102	P472 CAMPELLI OTCS2004	CORS ARP	N325321.139	W1170616.854	75639.8
DN5633	DSSC DSSC_SCGN_CS1998	CORS ARP	N334359.979	W1164243.475	76480.7
DN9092	AZU1 AZUSA	CORS ARP	N340733.654	W1175347.306	80025.1
DG9795	P482 LAKHENS HAWCS2004	CORS ARP	N331424.631	W1164017.036	80617.1

	NEAREST NGS PUBLISHED CONTROL POINT		
DX1564	H 314	N333029.	W1173040. 3092.1

174Pb_OPUS-RS solution 81302881.14o OP1414091558807

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

201a_OPUS-RS solution 40873002.14o OP1415015825203
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, November 03, 2014 6:59 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 40873002.14o OP1415015825203

FILE: 40873002.14o OP1415015825203

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: November 03, 2014
 RINEX FILE: 4087300s.14o TIME: 11:58:38 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/10/27 18:42:00
 EPHEMERIS: igr18161.eph [rapid] STOP: 2014/10/27 19:12:35
 NAV FILE: brdc3000.14n OBS USED: 2214 / 2214 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 6.41/ 22.16
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.254

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.82134)

X:	-2354555.960(m)	0.014(m)	-2354556.846(m)	0.014(m)
Y:	-4799293.997(m)	0.018(m)	-4799292.572(m)	0.018(m)
Z:	3467368.858(m)	0.015(m)	3467368.814(m)	0.015(m)

LAT:	33 8 39.12643	0.007(m)	33 8 39.14101	0.007(m)
E LON:	243 52 1.97837	0.008(m)	243 52 1.92346	0.008(m)
W LON:	116 7 58.02163	0.008(m)	116 7 58.07654	0.008(m)
EL HGT:	15.540(m)	0.025(m)	14.772(m)	0.025(m)
ORTHO HGT:	49.066(m)	0.034(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3667608.031	608417.057
Easting (X) [meters]	580880.938	2010935.934
Convergence [degrees]	0.47417454	0.06441237
Point Scale	0.99968065	0.99995959
Combined Factor	0.99967821	0.99995715

US NATIONAL GRID DESIGNATOR: 11SNS8088067608(NAD 83)

		BASE STATIONS USED			
PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DG9795	P482 LAKHENS	WCS2004	CORS	ARP	N331424.631 W1164017.036 51352.1
DN7401	P494 WESTSI	DEESCS2005	CORS	ARP	N324534.739 W1154355.389 56769.8
DH8055	GLRS	GLRS_SCGN_CS1999	CORS	ARP	N331629.310 W1153116.889 58815.5
AF9708	PIN1	PINON 1	PCCA	CORS	ARP N333643.749 W1162729.330 60104.7
DN7476	POTR	POTRERO PARK	CORS	ARP	N323706.269 W1163527.059 72378.9
DM7515	HNPS	HNPS_SCGN_CS1999	CORS	ARP	N334218.007 W1153807.159 77522.1
DN7434	P600	PUSHWALLA_CS2005	CORS	ARP	N335157.032 W1161242.705 80384.5
DH8713	MEXI	MEXICALI	CORS	ARP	83633.2
DN5633	DSSC	DSSC_SCGN_CS1998	CORS	ARP	N334359.979 W1164243.475 84708.8

		NEAREST NGS PUBLISHED CONTROL POINT
DX0339	N 579	N330837.73 W1160757.00 50.6

201a_OPUS-RS solution 40873002.14o OP1415015825203

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

201b_OPUS-RS solution 40873003.14o OP1415015836812
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, November 03, 2014 7:01 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 40873003.14o OP1415015836812

FILE: 40873003.14o OP1415015836812

NGS OPUS-RS SOLUTION REPORT
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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: November 03, 2014
 RINEX FILE: 4087300t.14o TIME: 12:00:48 UTC

SOFTWARE: rsgps 1.37 RS50.prl 1.99.2 START: 2014/10/27 19:17:00
 EPHEMERIS: igr18161.eph [rapid] STOP: 2014/10/27 19:47:35
 NAV FILE: brdc3000.14n OBS USED: 2646 / 2907 :
 91%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 3.64/ 16.89
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.269

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.82141)

X:	-2354555.947(m)	0.015(m)	-2354556.833(m)	0.015(m)
Y:	-4799293.979(m)	0.026(m)	-4799292.554(m)	0.026(m)
Z:	3467368.843(m)	0.020(m)	3467368.799(m)	0.020(m)

LAT:	33 8 39.12641	0.007(m)	33 8 39.14099	0.007(m)
E LON:	243 52 1.97852	0.009(m)	243 52 1.92361	0.009(m)
W LON:	116 7 58.02148	0.009(m)	116 7 58.07639	0.009(m)
EL HGT:	15.514(m)	0.034(m)	14.745(m)	0.034(m)
ORTHO HGT:	49.040(m)	0.041(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3667608.031	608417.056
Easting (X) [meters]	580880.942	2010935.938
Convergence [degrees]	0.47417456	0.06441239
Point Scale	0.99968066	0.99995959
Combined Factor	0.99967823	0.99995715

US NATIONAL GRID DESIGNATOR: 11SNS8088067608(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION		LATITUDE	LONGITUDE DISTANCE(m)
DG9795	P482 LAKHENSCHAWCS2004	CORS ARP	N331424.631	W1164017.036 51352.1
DN7401	P494 WESTSIDEESCS2005	CORS ARP	N324534.739	W1154355.389 56769.8
DH8055	GLRS GLRS_SCGN_CS1999	CORS ARP	N331629.310	W1153116.889 58815.5
AF9708	PIN1 PINON 1 PGGA	CORS ARP	N333643.749	W1162729.330 60104.7
DN7476	POTR POTRERO PARK	CORS ARP	N323706.269	W1163527.059 72378.9
DM7515	HNPS HNPS_SCGN_CS1999	CORS ARP	N334218.007	W1153807.159 77522.1
DN7434	P600 PUSHWALLA_CS2005	CORS ARP	N335157.032	W1161242.705 80384.5
DH8713	MEXI MEXICALI	CORS ARP		83633.3
DN5633	DSSC DSSC_SCGN_CS1998	CORS ARP	N334359.979	W1164243.475 84708.8

		NEAREST NGS PUBLISHED CONTROL POINT
DX0339	N 579	N330837.73 W1160757.00 50.6

201b_OPUS-RS solution 40873003.14o OP1415015836812

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

205a_OPUS-RS solution 04353005.14o OP1415015785500
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, November 03, 2014 6:59 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04353005.14o OP1415015785500

FILE: 04353005.14o OP1415015785500

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: November 03, 2014
 RINEX FILE: 0435300t.14o TIME: 11:58:40 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.99.2 START: 2014/10/27 19:19:10
 EPHEMERIS: igr18161.eph [rapid] STOP: 2014/10/27 19:49:40
 NAV FILE: brdc3000.14n OBS USED: 2320 / 2368 :
 98%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 11.35/ 28.47
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.232

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
 (EPOCH:2014.82141)

X:	-2371190.980(m)	0.010(m)	-2371191.875(m)	0.010(m)
Y:	-4792155.277(m)	0.014(m)	-4792153.835(m)	0.014(m)
Z:	3466483.380(m)	0.013(m)	3466483.349(m)	0.013(m)

LAT:	33 7 58.22871	0.008(m)	33 7 58.24376	0.008(m)
E LON:	243 40 24.53543	0.011(m)	243 40 24.47981	0.011(m)
W LON:	116 19 35.46457	0.011(m)	116 19 35.52019	0.011(m)
EL HGT:	325.741(m)	0.017(m)	324.974(m)	0.017(m)
ORTHO HGT:	358.457(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3666215.709	607153.624
Easting (X) [meters]	562820.026	1992860.172
Convergence [degrees]	0.36812526	-0.04204795
Point Scale	0.99964866	0.99996027
Combined Factor	0.99959754	0.99990913

US NATIONAL GRID DESIGNATOR: 11SNS6282066215(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
AF9708	PIN1 PINON 1 PGGG CORS ARP	N333643.749	W1162729.330	54568.5
DH4519	P066 JACUMBAAP_CS2004 CORS ARP	N323659.475	W1161011.188	59117.3
DG8350	P478 VALLEYCNTRCS2004 CORS ARP	N331408.560	W1170417.677	70416.9
DH4105	P473 JAMACHA_LFCS2004 CORS ARP	N324401.580	W1165658.206	73169.5
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	75662.1
DM7557	P506 RAMER_LAKECS2005 CORS ARP	N330453.136	W1153036.664	76411.7
DH4102	P472 CAMPELLI OTCS2004 CORS ARP	N325321.139	W1170616.854	77573.3
DN7434	P600 PUSHWALLA_CS2005 CORS ARP	N335157.032	W1161242.705	82002.7

		NEAREST NGS PUBLISHED CONTROL POINT		
PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DX0355	A 580	N330758.	W1161954.	480.0

205a_OPUS-RS solution 04353005.14o OP1415015785500

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

205b_OPUS-RS solution 04353006.14o OP1415015796062
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, November 03, 2014 7:00 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04353006.14o OP1415015796062

FILE: 04353006.14o OP1415015796062

NGS OPUS-RS SOLUTION REPORT
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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: November 03, 2014
 RINEX FILE: 0435300t.14o TIME: 12:00:02 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.99.2 START: 2014/10/27 19:55:40
 EPHEMERIS: igr18161.eph [rapid] STOP: 2014/10/27 20:26:05
 NAV FILE: brdc3000.14n OBS USED: 2485 / 2562 :
 97%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 12.86/ 30.41
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.254

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.82148)

X:	-2371190.989(m)	0.011(m)	-2371191.884(m)	0.011(m)
Y:	-4792155.297(m)	0.013(m)	-4792153.855(m)	0.013(m)
Z:	3466483.402(m)	0.009(m)	3466483.371(m)	0.009(m)

LAT:	33 7 58.22892	0.008(m)	33 7 58.24397	0.008(m)
E LON:	243 40 24.53546	0.012(m)	243 40 24.47984	0.012(m)
W LON:	116 19 35.46454	0.012(m)	116 19 35.52016	0.012(m)
EL HGT:	325.771(m)	0.013(m)	325.004(m)	0.013(m)
ORTHO HGT:	358.487(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3666215.716	607153.631
Easting (X) [meters]	562820.027	1992860.173
Convergence [degrees]	0.36812527	-0.04204795
Point Scale	0.99964866	0.99996027
Combined Factor	0.99959753	0.99990913

US NATIONAL GRID DESIGNATOR: 11SNS6282066215(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
AF9708	PIN1 PINON 1 PGGG CORS ARP	N333643.749	W1162729.330	54568.5
DH4519	P066 JACUMBAAP_CS2004 CORS ARP	N323659.475	W1161011.188	59117.3
DG8350	P478 VALLEYCNTRCS2004 CORS ARP	N331408.560	W1170417.677	70416.9
DH4105	P473 JAMACHA_LFCS2004 CORS ARP	N324401.580	W1165658.206	73169.5
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	75662.1
DM7557	P506 RAMER_LAKECS2005 CORS ARP	N330453.136	W1153036.664	76411.7
DN7434	P600 PUSHWALLA_CS2005 CORS ARP	N335157.032	W1161242.705	82002.7

NEAREST NGS PUBLISHED CONTROL POINT			
DX0355	A 580	N330758.	W1161954. 480.0

This position and the above vector components were computed without any
 Page 1

205b_OPUS-RS solution 04353006.14o OP1415015796062
knowledge by the National Geodetic Survey regarding the equipment or field
operating procedures used.

206a_OPUS-RS solution 04353002.14o OP1415015760875
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, November 03, 2014 6:58 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04353002.14o OP1415015760875

FILE: 04353002.14o OP1415015760875

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: November 03, 2014
 RINEX FILE: 0435300r.14o TIME: 11:57:55 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.99.2 START: 2014/10/27 17:13:10
 EPHEMERIS: igr18161.eph [rapid] STOP: 2014/10/27 17:43:30
 NAV FILE: brdc3000.14n OBS USED: 2408 / 2464 :
 98%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 17.90/ 12.35
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.258

REF FRAME: NAD_83(2011) (EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.82117)

X:	-2373424.446(m)	0.010(m)	-2373425.352(m)	0.010(m)
Y:	-4803021.490(m)	0.015(m)	-4803020.033(m)	0.015(m)
Z:	3450013.497(m)	0.014(m)	3450013.471(m)	0.014(m)

LAT:	32 57 20.19167	0.011(m)	32 57 20.20694	0.011(m)
E LON:	243 42 12.99942	0.008(m)	243 42 12.94330	0.008(m)
W LON:	116 17 47.00058	0.008(m)	116 17 47.05670	0.008(m)
EL HGT:	339.727(m)	0.018(m)	338.953(m)	0.018(m)
ORTHO HGT:	372.577(m)	0.029(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3646585.412	587496.598
Easting (X) [meters]	565761.978	1995662.730
Convergence [degrees]	0.38277042	-0.02549160
Point Scale	0.99965332	0.99997581
Combined Factor	0.99960000	0.99992248

US NATIONAL GRID DESIGNATOR: 11SNS6576146585(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION		LATITUDE	LONGITUDE DISTANCE(m)
DN7401	P494 WESTSIDEESCS2005 CORS ARP		N324534.739	W1154355.389 57121.7
DH4105	P473 JAMACHA_LFCS2004 CORS ARP		N324401.580	W1165658.206 65908.6
AF9708	PI N1 PINON 1 PGGA CORS ARP		N333643.749	W1162729.330 74374.2
DM7557	P506 RAMER_LAKECS2005 CORS ARP		N330453.136	W1153036.664 74773.7
DH4102	P472 CAMPELLI OTCS2004 CORS ARP		N325321.139	W1170616.854 75963.9
DG8350	P478 VALLEYCNTRCS2004 CORS ARP		N331408.560	W1170417.677 78755.2
DH8055	GLRS GLRS_SCGN_CS1999 CORS ARP		N331629.310	W1153116.889 80535.1
DH8713	MEXI MEXICALI CORS ARP			84794.9

		NEAREST NGS PUBLISHED CONTROL POINT
AF9878	SDPR 4	N325713.318 W1161727.944 538.2

206a_OPUS-RS solution 04353002.14o OP1415015760875

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

206b_OPUS-RS solution 04353003.14o OP1415015773296
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, November 03, 2014 6:58 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04353003.14o OP1415015773296

FILE: 04353003.14o OP1415015773296

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: November 03, 2014
 RINEX FILE: 0435300r.14o TIME: 11:57:38 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.99.2 START: 2014/10/27 17:49:40
 EPHEMERIS: igr18161.eph [rapid] STOP: 2014/10/27 18:20:20
 NAV FILE: brdc3000.14n OBS USED: 1952 / 1952 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 25.75/ 31.12
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.272

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.82124)

X:	-2373424.450(m)	0.013(m)	-2373425.356(m)	0.013(m)
Y:	-4803021.496(m)	0.018(m)	-4803020.039(m)	0.018(m)
Z:	3450013.509(m)	0.023(m)	3450013.483(m)	0.023(m)

LAT:	32 57 20.19187	0.013(m)	32 57 20.20714	0.013(m)
E LON:	243 42 12.99938	0.008(m)	243 42 12.94326	0.008(m)
W LON:	116 17 47.00062	0.008(m)	116 17 47.05674	0.008(m)
EL HGT:	339.739(m)	0.028(m)	338.966(m)	0.028(m)
ORTHO HGT:	372.589(m)	0.036(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3646585.418	587496.604
Easting (X) [meters]	565761.978	1995662.729
Convergence [degrees]	0.38277042	-0.02549160
Point Scale	0.99965332	0.99997581
Combined Factor	0.99960000	0.99992247

US NATIONAL GRID DESIGNATOR: 11SNS6576146585(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION		LATITUDE	LONGITUDE DISTANCE(m)
DN7401	P494 WESTSIDEESCS2005 CORS ARP		N324534.739	W1154355.389 57121.7
DH4105	P473 JAMACHA_LFCS2004 CORS ARP		N324401.580	W1165658.206 65908.6
AF9708	PI N1 PINON 1 PGGA CORS ARP		N333643.749	W1162729.330 74374.2
DM7557	P506 RAMER_LAKECS2005 CORS ARP		N330453.136	W1153036.664 74773.7
DH4102	P472 CAMPELLI OTCS2004 CORS ARP		N325321.139	W1170616.854 75963.9
DG8350	P478 VALLEYCNTRCS2004 CORS ARP		N331408.560	W1170417.677 78755.2
DH8055	GLRS GLRS_SCGN_CS1999 CORS ARP		N331629.310	W1153116.889 80535.1
DH8713	MEXI MEXICALI CORS ARP			84794.8

		NEAREST NGS PUBLISHED CONTROL POINT
AF9878	SDPR 4	N325713.318 W1161727.944 538.2

206b_OPUS-RS solution 04353003.14o OP1415015773296

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

208a_OPUS-RS solution 04352992.14o OP1414420611822
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 27, 2014 10:39 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352992.14o OP1414420611822

FILE: 04352992.14o OP1414420611822

2005 NOTE: The IGS precise and IGS rapid orbits were not available
 2005 at processing time. The IGS ultra-rapid orbit was/will be used to
 2005 process the data.
 2005

NGS OPUS-RS SOLUTION REPORT
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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 27, 2014
 RINEX FILE: 0435299r.14o TIME: 14:39:00 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.99.2 START: 2014/10/26 17:36:10
 EPHEMERIS: igu18160.eph [ultra-rapid] STOP: 2014/10/26 18:06:40
 NAV FILE: brdc2990.14n OBS USED: 2392 / 2440 :
 98%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 32.71/ 38.65
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.268

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.81848)

X:	-2386572.900(m)	0.012(m)	-2386573.813(m)	0.012(m)
Y:	-4803722.357(m)	0.024(m)	-4803720.888(m)	0.024(m)
Z:	3442643.465(m)	0.022(m)	3442643.445(m)	0.022(m)

LAT:	32 52 5.36537	0.010(m)	32 52 5.38084	0.010(m)
E LON:	243 34 51.64907	0.005(m)	243 34 51.59249	0.005(m)
W LON:	116 25 8.35093	0.005(m)	116 25 8.40751	0.005(m)
EL HGT:	1763.127(m)	0.033(m)	1762.353(m)	0.033(m)
ORTHO HGT:	1794.854(m)	0.040(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3636820.552	577809.980
Easting (X) [meters]	554356.839	1984184.448
Convergence [degrees]	0.31532833	-0.09286098
Point Scale	0.99963643	0.99998697
Combined Factor	0.99935979	0.99971023

US NATIONAL GRID DESIGNATOR: 11SNS5435636820(NAD 83)

BASE STATIONS USED

PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DH4105	P473 JAMACHA_LFCS2004	CORS ARP	N324401.580	W1165658.206	51907.8
DN5679	SLMS SLMS_SCGN_CS1999	CORS ARP	N331732.005	W1155840.182	62553.0
DN7401	P494 WESTSIDEESCS2005	CORS ARP	N324534.739	W1154355.389	65479.8
DG8350	P478 VALLEYCNTRCS2004	CORS ARP	N331408.560	W1170417.677	73350.8
DM7581	SI05 SCRIPPS 5-MT SOLE	CORS ARP	N325026.632	W1171458.834	77844.5
AF9708	PIN1 PINON 1 PGGA	CORS ARP	N333643.749	W1162729.330	82616.9
DM7557	P506 RAMER_LAKECS2005	CORS ARP	N330453.136	W1153036.664	88215.7
DG9734	P474 FALLBROOK_CS2004	CORS ARP	N332118.680	W1171455.242	94442.8

208a_OPUS-RS solution 04352992.14o OP1414420611822

DC1438 NEAREST NGS PUBLISHED CONTROL POINT
 MONUMENT PEAK NCMN 7274 N325330.355 W1162522.111 2652.3

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

208b_OPUS-RS solution 04352993.14o OP1414420628119
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 27, 2014 10:43 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352993.14o OP1414420628119

FILE: 04352993.14o OP1414420628119

2005 NOTE: The IGS precise and IGS rapid orbits were not available
 2005 at processing time. The IGS ultra-rapid orbit was/will be used to
 2005 process the data.
 2005

NGS OPUS-RS SOLUTION REPORT
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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 27, 2014
 RINEX FILE: 0435299s.14o TIME: 14:43:10 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.99.2 START: 2014/10/26 18:13:40
 EPHEMERIS: igu18160.eph [ultra-rapid] STOP: 2014/10/26 18:44:20
 NAV FILE: brdc2990.14n OBS USED: 1925 / 2100 :
 92%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 7.79/ 7.60
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.303

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.81855)

X:	-2386572.906(m)	0.008(m)	-2386573.819(m)	0.008(m)
Y:	-4803722.380(m)	0.017(m)	-4803720.911(m)	0.017(m)
Z:	3442643.470(m)	0.013(m)	3442643.450(m)	0.013(m)

LAT:	32 52 5.36510	0.008(m)	32 52 5.38057	0.008(m)
E LON:	243 34 51.64926	0.005(m)	243 34 51.59268	0.005(m)
W LON:	116 25 8.35074	0.005(m)	116 25 8.40732	0.005(m)
EL HGT:	1763.149(m)	0.021(m)	1762.375(m)	0.021(m)
ORTHO HGT:	1794.876(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3636820.544	577809.972
Easting (X) [meters]	554356.844	1984184.452
Convergence [degrees]	0.31532835	-0.09286095
Point Scale	0.99963643	0.99998697
Combined Factor	0.99935979	0.99971023

US NATIONAL GRID DESIGNATOR: 11SNS5435636820(NAD 83)

BASE STATIONS USED

PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DH4105	P473 JAMACHA_LFCS2004	CORS ARP	N324401.580	W1165658.206	51907.8
DN5679	SLMS SLMS_SCGN_CS1999	CORS ARP	N331732.005	W1155840.182	62553.0
DN7401	P494 WESTSIDEESCS2005	CORS ARP	N324534.739	W1154355.389	65479.8
DG8350	P478 VALLEYCNTRCS2004	CORS ARP	N331408.560	W1170417.677	73350.8
DM7581	SI05 SCRIPPS 5-MT SOLE	CORS ARP	N325026.632	W1171458.834	77844.5
DM7557	P506 RAMER_LAKECS2005	CORS ARP	N330453.136	W1153036.664	88215.7
DG9734	P474 FALLBROOK_CS2004	CORS ARP	N332118.680	W1171455.242	94442.8

208b_OPUS-RS solution 04352993.14o OP1414420628119
NEAREST NGS PUBLISHED CONTROL POINT
DC1438 MONUMENT PEAK NCMN 7274 N325330.355 W1162522.111 2652.3

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

217Pa_OPUS-RS solution 04352972.14o OP1414419943837
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 27, 2014 10:29 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352972.14o OP1414419943837

FILE: 04352972.14o OP1414419943837

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 27, 2014
 RINEX FILE: 0435297u.14o TIME: 14:28:28 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.99.2 START: 2014/10/24 20:40:10
 EPHEMERIS: igr18155.eph [rapid] STOP: 2014/10/24 21:11:00
 NAV FILE: brdc2970.14n OBS USED: 2152 / 2512 :
 86%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 3.55/ 23.97
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.215

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
 (EPOCH:2014.81335)

X:	-2394244.817(m)	0.013(m)	-2394245.709(m)	0.013(m)
Y:	-4762896.347(m)	0.022(m)	-4762894.907(m)	0.022(m)
Z:	3492558.893(m)	0.019(m)	3492558.868(m)	0.019(m)

LAT:	33 24 28.77400	0.005(m)	33 24 28.78915	0.005(m)
E LON:	243 18 42.94918	0.005(m)	243 18 42.89332	0.005(m)
W LON:	116 41 17.05082	0.005(m)	116 41 17.10668	0.005(m)
EL HGT:	1341.681(m)	0.032(m)	1340.928(m)	0.032(m)
ORTHO HGT:	1373.002(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3696562.017	637752.104
Easting (X) [meters]	529004.437	1959252.395
Convergence [degrees]	0.17174916	-0.24072698
Point Scale	0.99961037	0.99995497
Combined Factor	0.99939986	0.99974439

US NATIONAL GRID DESIGNATOR: 11SNS2900496562(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION		LATITUDE	LONGITUDE DISTANCE(m)
DG8353	P480 VALLECITO_CS2004	CORS ARP	N325833.571	W1162054.679 57444.2
DG9740	P584 POTREROCRKCS2004	CORS ARP	N335333.357	W1165705.859 59061.9
DN5679	SLMS SLMS_SCGN_CS1999	CORS ARP	N331732.005	W1155840.182 67367.0
DN7434	P600 PUSHWALLA_CS2005	CORS ARP	N335157.032	W1161242.705 67324.3
DH4102	P472 CAMPPELLI_OTCS2004	CORS ARP	N325321.139	W1170616.854 69453.4
DN7481	USGC USGC_SCGN_CS1998	CORS ARP	N330148.215	W1160507.157 70119.0
DH4105	P473 JAMACHA_LFCS2004	CORS ARP	N324401.580	W1165658.206 78676.3
DH7093	MLFP MLFP_SCGN_CS1998	CORS ARP	N335506.240	W1171904.601 81365.3

		NEAREST NGS PUBLISHED CONTROL POINT
DX4986	MI CA	N332254.727 W1164209.300 3205.7

217Pa_OPUS-RS solution 04352972.14o OP1414419943837

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

217Pb_OPUS-RS solution 04352973.14o OP1414419957400
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 27, 2014 10:29 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352973.14o OP1414419957400

FILE: 04352973.14o OP1414419957400

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 27, 2014
 RINEX FILE: 0435297v.14o TIME: 14:28:48 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.99.2 START: 2014/10/24 21:17:10
 EPHEMERIS: igr18155.eph [rapid] STOP: 2014/10/24 21:48:05
 NAV FILE: brdc2970.14n OBS USED: 3348 / 3348 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 9.38/ 47.17
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.233

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
 (EPOCH:2014.81342)

X:	-2394244.821(m)	0.016(m)	-2394245.713(m)	0.016(m)
Y:	-4762896.361(m)	0.035(m)	-4762894.921(m)	0.035(m)
Z:	3492558.897(m)	0.023(m)	3492558.872(m)	0.023(m)

LAT:	33 24 28.77385	0.004(m)	33 24 28.78900	0.004(m)
E LON:	243 18 42.94929	0.007(m)	243 18 42.89342	0.007(m)
W LON:	116 41 17.05071	0.007(m)	116 41 17.10658	0.007(m)
EL HGT:	1341.695(m)	0.044(m)	1340.942(m)	0.044(m)
ORTHO HGT:	1373.016(m)	0.049(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3696562.012	637752.099
Easting (X) [meters]	529004.439	1959252.398
Convergence [degrees]	0.17174918	-0.24072697
Point Scale	0.99961037	0.99995497
Combined Factor	0.99939986	0.99974439

US NATIONAL GRID DESIGNATOR: 11SNS2900496562(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION		LATITUDE	LONGITUDE DISTANCE(m)
DG9734	P474 FALLBROOK_CS2004	CORS ARP	N332118.680	W1171455.242 52510.6
DG8353	P480 VALLECITO_CS2004	CORS ARP	N325833.571	W1162054.679 57444.2
DG9740	P584 POTRERO CRKCS2004	CORS ARP	N335333.357	W1165705.859 59061.9
DN5679	SLMS SLMS_SCGN_CS1999	CORS ARP	N331732.005	W1155840.182 67367.0
DN7434	P600 PUSHWALLA_CS2005	CORS ARP	N335157.032	W1161242.705 67324.3
DH4102	P472 CAMPELLI OTCS2004	CORS ARP	N325321.139	W1170616.854 69453.4
DN7481	USGC USGC_SCGN_CS1998	CORS ARP	N330148.215	W1160507.157 70119.0
DH4105	P473 JAMACHA_LFCS2004	CORS ARP	N324401.580	W1165658.206 78676.3
DH7093	MLFP MLFP_SCGN_CS1998	CORS ARP	N335506.240	W1171904.601 81365.3

DX4986	MI CA	NEAREST NGS PUBLISHED CONTROL POINT	N332254.727	W1164209.300	3205.7
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217Pb_OPUS-RS solution 04352973.14o OP1414419957400

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

1870Ca_OPUS-RS solution 04352922.14o OP1413833727204
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:39 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352922.14o OP1413833727204

FILE: 04352922.14o OP1413833727204

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435292r.14o TIME: 19:38:40 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.99.2 START: 2014/10/19 17:08:40
 EPHEMERIS: iqr18150.eph [rapid] STOP: 2014/10/19 17:39:15
 NAV FILE: brdc2920.14n OBS USED: 3627 / 3627 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 16.56/ 28.89
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.240

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79925)

X:	-2419503.572(m)	0.005(m)	-2419504.475(m)	0.005(m)
Y:	-4762498.197(m)	0.008(m)	-4762496.740(m)	0.008(m)
Z:	3474372.132(m)	0.007(m)	3474372.117(m)	0.007(m)

LAT:	33 12 58.79973	0.004(m)	33 12 58.81514	0.004(m)
E LON:	243 4 4.63134	0.004(m)	243 4 4.57477	0.004(m)
W LON:	116 55 55.36866	0.004(m)	116 55 55.42523	0.004(m)
EL HGT:	577.223(m)	0.010(m)	576.471(m)	0.010(m)
ORTHO HGT:	609.408(m)	0.025(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3675272.143	616618.459
Easting (X) [meters]	506332.364	1936419.771
Convergence [degrees]	0.03722487	-0.37479673
Point Scale	0.99960049	0.99995624
Combined Factor	0.99950991	0.99986563

US NATIONAL GRID DESIGNATOR: 11SNS0633275272(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DM7581	SI05 SCRIPPS 5-MT SOLE CORS ARP	N325026.632	W1171458.834	51149.0
DH4108	P486 BORREGOAI RCS2004 CORS ARP	N331536.674	W1161920.180	57044.1
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	60897.6
DN5656	P475 POINT_LOMACS2007 CORS ARP	N323959.011	W1171438.117	67610.0
DN7476	POTR POTRERO PARK CORS ARP	N323706.269	W1163527.059	73599.6
DG9740	P584 POTREROCRKCS2004 CORS ARP	N335333.357	W1165705.859	75037.1
DM7578	SBCC SBCC_SCGN_CS1999 CORS ARP	N333310.788	W1173941.302	77468.2
DN7481	USGC USGC_SCGN_CS1998 CORS ARP	N330148.215	W1160507.157	81679.9
DH7093	MLFP MLFP_SCGN_CS1998 CORS ARP	N335506.240	W1171904.601	85723.8

	NEAREST NGS PUBLISHED CONTROL POINT	
DX5054	HOLE	N331243.016 W1165529.965 818.6

187QCa_OPUS-RS solution 04352922.14o OP1413833727204

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

1870Cb_OPUS-RS solution 04352923.14o OP1413833742689
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:39 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352923.14o OP1413833742689

FILE: 04352923.14o OP1413833742689

NGS OPUS-RS SOLUTION REPORT
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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435292r.14o TIME: 19:39:07 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/10/19 17:45:40
 EPHEMERIS: igr18150.eph [rapid] STOP: 2014/10/19 18:16:05
 NAV FILE: brdc2920.14n OBS USED: 3321 / 3321 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 15.37/ 36.10
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.248

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
 (EPOCH:2014.79932)

X:	-2419503.576(m)	0.006(m)	-2419504.479(m)	0.006(m)
Y:	-4762498.204(m)	0.008(m)	-4762496.747(m)	0.008(m)
Z:	3474372.132(m)	0.011(m)	3474372.117(m)	0.011(m)

LAT:	33 12 58.79958	0.006(m)	33 12 58.81500	0.006(m)
E LON:	243 4 4.63132	0.003(m)	243 4 4.57476	0.003(m)
W LON:	116 55 55.36868	0.003(m)	116 55 55.42524	0.003(m)
EL HGT:	577.230(m)	0.014(m)	576.477(m)	0.014(m)
ORTHO HGT:	609.415(m)	0.026(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3675272.139	616618.454
Easting (X) [meters]	506332.364	1936419.770
Convergence [degrees]	0.03722486	-0.37479673
Point Scale	0.99960049	0.99995624
Combined Factor	0.99950991	0.99986563

US NATIONAL GRID DESIGNATOR: 11SNS0633275272(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DM7581	SI05 SCRIPPS 5-MT SOLE CORS ARP	N325026.632	W1171458.834	51149.0
DH4108	P486 BORREGOAI RCS2004 CORS ARP	N331536.674	W1161920.180	57044.1
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	60897.6
DN5656	P475 POINT_LOMACS2007 CORS ARP	N323959.011	W1171438.117	67610.0
DN7476	POTR POTRERO PARK CORS ARP	N323706.269	W1163527.059	73599.6
DG9740	P584 POTREROCRKCS2004 CORS ARP	N335333.357	W1165705.859	75037.1
DM7578	SBCC SBCC_SCGN_CS1999 CORS ARP	N333310.788	W1173941.302	77468.2
DN7481	USGC USGC_SCGN_CS1998 CORS ARP	N330148.215	W1160507.157	81679.9
DH7093	MLFP MLFP_SCGN_CS1998 CORS ARP	N335506.240	W1171904.601	85723.8

PID	DESIGNATION	NEAREST NGS PUBLISHED CONTROL POINT	DI STANCE(m)
DX5054	HOLE	N331243.016 W1165529.965	818.6

187QCb_OPUS-RS solution 04352923.14o OP1413833742689

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

223QCa_OPUS-RS solution 04352995.14o OP1414420644447
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 27, 2014 10:40 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352995.14o OP1414420644447

FILE: 04352995.14o OP1414420644447

2005 NOTE: The IGS precise and IGS rapid orbits were not available
 2005 at processing time. The IGS ultra-rapid orbit was/will be used to
 2005 process the data.
 2005

NGS OPUS-RS SOLUTION REPORT
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All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 27, 2014
 RINEX FILE: 0435299t.14o TIME: 14:40:05 UTC

SOFTWARE: rsgps 1.37 RS93.prl 1.99.2 START: 2014/10/26 19:52:40
 EPHEMERIS: igu18160.eph [ultra-rapid] STOP: 2014/10/26 20:23:30
 NAV FILE: brdc2990.14n OBS USED: 3294 / 3348 :
 98%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 10.41/ 30.46
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.273

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.81874)

X:	-2394726.088(m)	0.010(m)	-2394727.006(m)	0.010(m)
Y:	-4806364.320(m)	0.018(m)	-4806362.842(m)	0.018(m)
Z:	3431865.536(m)	0.011(m)	3431865.518(m)	0.011(m)

LAT:	32 45 25.91352	0.010(m)	32 45 25.92907	0.010(m)
E LON:	243 30 56.33344	0.007(m)	243 30 56.27656	0.007(m)
W LON:	116 29 3.66656	0.007(m)	116 29 3.72344	0.007(m)
EL HGT:	962.920(m)	0.020(m)	962.142(m)	0.020(m)
ORTHO HGT:	994.801(m)	0.030(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3624488.043	565516.439
Easting (X) [meters]	548301.480	1978039.200
Convergence [degrees]	0.27901239	-0.12878045
Point Scale	0.99962877	1.00000445
Combined Factor	0.99947767	0.99985329

US NATIONAL GRID DESIGNATOR: 11SNS4830124488(NAD 83)

BASE STATIONS USED

PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DG9795	P482 LAKHENSRAWCS2004	CORS ARP	N331424.631	W1164017.036	56352.5
DH4108	P486 BORREGOAI RCS2004	CORS ARP	N331536.674	W1161920.180	57814.0
DN7401	P494 WESTSIDEESCS2005	CORS ARP	N324534.739	W1154355.389	70508.1
DI0894	PLO5 POINT LOMA 5	CORS ARP	N323955.503	W1171434.859	71865.7
DM7581	SI05 SCRIPPS 5-MT	SOLE CORS ARP	N325026.632	W1171458.834	72290.0
DN5679	SLMS SLMS_SCGN_CS1999	CORS ARP	N331732.005	W1155840.182	75908.4
DG8350	P478 VALLEYCNTRCS2004	CORS ARP	N331408.560	W1170417.677	76352.0
AF9708	PIN1 PINON 1	PGGA CORS ARP	N333643.749	W1162729.330	94868.7

223QCa_OPUS-RS solution 04352995.14o OP1414420644447
DH8713 MEXI MEXICALI CORS ARP 95594.4

NEAREST NGS PUBLISHED CONTROL POINT
DC0406 U 1252 N324514.9 W1162908.0 358.7

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

223QCb_OPUS-RS solution 04352996.14o OP1414420655509
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 27, 2014 10:40 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352996.14o OP1414420655509

FILE: 04352996.14o OP1414420655509

2005 NOTE: The IGS precise and IGS rapid orbits were not available
 2005 at processing time. The IGS ultra-rapid orbit was/will be used to
 2005 process the data.
 2005

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 27, 2014
 RINEX FILE: 0435299u.14o TIME: 14:40:06 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/10/26 20:29:40
 EPHEMERIS: igu18160.eph [ultra-rapid] STOP: 2014/10/26 21:00:20
 NAV FILE: brdc2990.14n OBS USED: 2448 / 2727 :
 90%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 6.57/ 15.64
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.270

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.81881)

X:	-2394726.076(m)	0.015(m)	-2394726.994(m)	0.015(m)
Y:	-4806364.302(m)	0.026(m)	-4806362.824(m)	0.026(m)
Z:	3431865.519(m)	0.018(m)	3431865.501(m)	0.018(m)

LAT:	32 45 25.91343	0.008(m)	32 45 25.92898	0.008(m)
E LON:	243 30 56.33354	0.007(m)	243 30 56.27666	0.007(m)
W LON:	116 29 3.66646	0.007(m)	116 29 3.72334	0.007(m)
EL HGT:	962.893(m)	0.033(m)	962.115(m)	0.033(m)
ORTHO HGT:	994.774(m)	0.040(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3624488.040	565516.436
Easting (X) [meters]	548301.483	1978039.202
Convergence [degrees]	0.27901240	-0.12878043
Point Scale	0.99962877	1.00000445
Combined Factor	0.99947767	0.99985329

US NATIONAL GRID DESIGNATOR: 11SNS4830124488(NAD 83)

BASE STATIONS USED

PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DG9795	P482 LAKHENS HAWCS2004	CORS ARP	N331424.631	W1164017.036	56352.5
DH4108	P486 BORREGOAI RCS2004	CORS ARP	N331536.674	W1161920.180	57814.0
DN7401	P494 WESTSIDE ESCS2005	CORS ARP	N324534.739	W1154355.389	70508.1
DI0894	PLO5 POINT LOMA 5	CORS ARP	N323955.503	W1171434.859	71865.7
DM7581	SI05 SCRIPPS 5-MT	SOLE CORS ARP	N325026.632	W1171458.834	72290.0
DN5679	SLMS SLMS_SCGN_CS1999	CORS ARP	N331732.005	W1155840.182	75908.4
DG8350	P478 VALLEYCNTRCS2004	CORS ARP	N331408.560	W1170417.677	76352.1
AF9708	PIN1 PINON 1	PGGA CORS ARP	N333643.749	W1162729.330	94868.7

223QCb_OPUS-RS solution 04352996.14o OP1414420655509
DH8713 MEXI MEXICALI CORS ARP 95594.4

NEAREST NGS PUBLISHED CONTROL POINT
DC0406 U 1252 N324514.9 W1162908.0 358.7

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

BE_8b_OPUS-RS solution 0435292A.14o OP1413833684407
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:38 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 0435292A.14o OP1413833684407

FILE: 0435292A.14o OP1413833684407

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435292v.14o TIME: 19:37:22 UTC

SOFTWARE: rsgps 1.37 RS54.prl 1.99.2 START: 2014/10/19 21:35:10
 EPHEMERIS: igr18150.eph [rapid] STOP: 2014/10/19 22:06:05
 NAV FILE: brdc2920.14n OBS USED: 3249 / 3348 :
 97%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 23.42/ 51.20
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.253

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
 (EPOCH:2014.79975)

X:	-2419423.530(m)	0.013(m)	-2419424.433(m)	0.013(m)
Y:	-4762562.530(m)	0.026(m)	-4762561.073(m)	0.026(m)
Z:	3474342.769(m)	0.020(m)	3474342.754(m)	0.020(m)

LAT:	33 12 57.62723	0.004(m)	33 12 57.64264	0.004(m)
E LON:	243 4 8.51191	0.007(m)	243 4 8.45534	0.007(m)
W LON:	116 55 51.48809	0.007(m)	116 55 51.54466	0.007(m)
EL HGT:	578.793(m)	0.034(m)	578.041(m)	0.034(m)
ORTHO HGT:	610.974(m)	0.041(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3675236.101	616581.682
Easting (X) [meters]	506432.838	1936520.018
Convergence [degrees]	0.03781503	-0.37420439
Point Scale	0.99960051	0.99995625
Combined Factor	0.99950969	0.99986539

US NATIONAL GRID DESIGNATOR: 11SNS0643275236(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DM7581	SI05 SCRIPPS 5-MT SOLE CORS ARP	N325026.632	W1171458.834	51178.1
DH4108	P486 BORREGOAI RCS2004 CORS ARP	N331536.674	W1161920.180	56947.3
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	60898.1
DN5656	P475 POINT_LOMACS2007 CORS ARP	N323959.011	W1171438.117	67621.1
DN7476	POTR POTRERO PARK CORS ARP	N323706.269	W1163527.059	73523.4
DG9740	P584 POTREROCKCS2004 CORS ARP	N335333.357	W1165705.859	75075.8
DM7578	SBCC SBCC_SCGN_CS1999 CORS ARP	N333310.788	W1173941.302	77573.6
DN7481	USGC USGC_SCGN_CS1998 CORS ARP	N330148.215	W1160507.157	81573.6
DH7093	MLFP MLFP_SCGN_CS1998 CORS ARP	N335506.240	W1171904.601	85798.6

PID	DESIGNATION	NEAREST NGS PUBLISHED CONTROL POINT	DI STANCE(m)
DX5054	HOLE	N331243.016 W1165529.965	717.0

BE_8b_OPUS-RS solution 0435292A.14o OP1413833684407

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

BE_8a_OPUS-RS solution 04352929.14o OP1414076187141
 From: opus [opus@ngs.noaa.gov]
 Sent: Thursday, October 23, 2014 11:00 AM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352929.14o OP1414076187141

FILE: 04352929.14o OP1414076187141

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 23, 2014
 RINEX FILE: 0435292u.14o TIME: 14:59:41 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.99.2 START: 2014/10/19 20:58:10
 EPHEMERIS: igr18150.eph [rapid] STOP: 2014/10/19 21:28:50
 NAV FILE: brdc2920.14n OBS USED: 2430 / 2556 :
 95%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 3.11/ 24.18
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.230

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79968)

X:	-2419423.524(m)	0.014(m)	-2419424.427(m)	0.014(m)
Y:	-4762562.513(m)	0.019(m)	-4762561.056(m)	0.019(m)
Z:	3474342.755(m)	0.014(m)	3474342.740(m)	0.014(m)

LAT:	33 12 57.62716	0.004(m)	33 12 57.64258	0.004(m)
E LON:	243 4 8.51182	0.006(m)	243 4 8.45525	0.006(m)
W LON:	116 55 51.48818	0.006(m)	116 55 51.54475	0.006(m)
EL HGT:	578.771(m)	0.027(m)	578.018(m)	0.027(m)
ORTHO HGT:	610.952(m)	0.035(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3675236.099	616581.680
Easting (X) [meters]	506432.835	1936520.016
Convergence [degrees]	0.03781502	-0.37420440
Point Scale	0.99960051	0.99995625
Combined Factor	0.99950969	0.99986540

US NATIONAL GRID DESIGNATOR: 11SNS0643275236(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DG8356	P483 JULIANBIN_CS2004 CORS ARP	N330332.976	W1163409.522	37979.3
DK4121	SCIP SAN CLEMENTE IS CORS ARP	N325451.926	W1182916.529	149200.0
DN7401	P494 WESTSIDEESCS2005 CORS ARP	N324534.739	W1154355.389	122961.3
DK4141	TRAK BOMMER CANYON CORS ARP	N333704.554	W1174812.318	92591.0
DN7476	POTR POTRERO PARK CORS ARP	N323706.269	W1163527.059	73523.4
DN5656	P475 POINT_LOMACS2007 CORS ARP	N323959.011	W1171438.117	67621.1
AF9708	PIN1 PINON_1 PGGG CORS ARP	N333643.749	W1162729.330	62178.5
DH4108	P486 BORREGOAI RCS2004 CORS ARP	N331536.674	W1161920.180	56947.3
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	60898.1

	NEAREST NGS PUBLISHED CONTROL POINT	
DX5054	HOLE	N331243.016 W1165529.965 717.0

BE_8a_OPUS-RS solution 04352929.14o OP1414076187141

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

BT_8a_OPUS-RS solution 0435292B.14o OP1413833695064
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:39 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 0435292B.14o OP1413833695064

FILE: 0435292B.14o OP1413833695064

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435292w.14o TIME: 19:38:31 UTC

SOFTWARE: rsgps 1.37 RS52.prl 1.99.2 START: 2014/10/19 22:09:40
 EPHEMERIS: igr18150.eph [rapid] STOP: 2014/10/19 22:40:25
 NAV FILE: brdc2920.14n OBS USED: 3312 / 3312 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 15.70/ 39.35
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.249

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79982)

X:	-2419651.023(m)	0.011(m)	-2419651.926(m)	0.011(m)
Y:	-4762438.640(m)	0.027(m)	-4762437.183(m)	0.027(m)
Z:	3474380.514(m)	0.014(m)	3474380.499(m)	0.014(m)

LAT:	33 12 58.78392	0.006(m)	33 12 58.79933	0.006(m)
E LON:	243 3 58.51373	0.010(m)	243 3 58.45716	0.010(m)
W LON:	116 56 1.48627	0.010(m)	116 56 1.54284	0.010(m)
EL HGT:	593.268(m)	0.030(m)	592.516(m)	0.030(m)
ORTHO HGT:	625.461(m)	0.038(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3675271.555	616619.009
Easting (X) [meters]	506174.008	1936261.358
Convergence [degrees]	0.03629396	-0.37573055
Point Scale	0.99960047	0.99995624
Combined Factor	0.99950737	0.99986311

US NATIONAL GRID DESIGNATOR: 11SNS0617475271(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DM7581	SI05 SCRIPPS 5-MT SOLE CORS ARP	N325026.632	W1171458.834	51056.8
DH4108	P486 BORREGOAI RCS2004 CORS ARP	N331536.674	W1161920.180	57202.2
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	60951.1
DN5656	P475 POINT_LOMACS2007 CORS ARP	N323959.011	W1171438.117	67541.4
DN7476	POTR POTRERO PARK CORS ARP	N323706.269	W1163527.059	73668.3
DG9740	P584 POTRERO CRKCS2004 CORS ARP	N335333.357	W1165705.859	75034.0
DM7578	SBCC SBCC_SCGN_CS1999 CORS ARP	N333310.788	W1173941.302	77330.2
DN7481	USGC USGC_SCGN_CS1998 CORS ARP	N330148.215	W1160507.157	81833.4
DH7093	MLFP MLFP_SCGN_CS1998 CORS ARP	N335506.240	W1171904.601	85658.6

	NEAREST NGS PUBLISHED CONTROL POINT	DI STANCE(m)
DX5055	BILL N331327.123 W1165556.319	886.4

BT_8a_OPUS-RS solution 0435292B.14o OP1413833695064

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

BT_8b_OPUS-RS solution 0435292C.14o OP1413833705782
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:38 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 0435292C.14o OP1413833705782

FILE: 0435292C.14o OP1413833705782

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435292w.14o TIME: 19:37:54 UTC

SOFTWARE: rsgps 1.37 RS53.prl 1.99.2 START: 2014/10/19 22:46:10
 EPHEMERIS: igr18150.eph [rapid] STOP: 2014/10/19 23:16:45
 NAV FILE: brdc2920.14n OBS USED: 3267 / 3591 :
 91%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 17.27/ 38.46
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.252

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
 (EPOCH:2014.79989)

X:	-2419651.032(m)	0.014(m)	-2419651.935(m)	0.014(m)
Y:	-4762438.655(m)	0.027(m)	-4762437.198(m)	0.027(m)
Z:	3474380.540(m)	0.017(m)	3474380.525(m)	0.017(m)

LAT:	33 12 58.78432	0.007(m)	33 12 58.79973	0.007(m)
E LON:	243 3 58.51368	0.007(m)	243 3 58.45711	0.007(m)
W LON:	116 56 1.48632	0.007(m)	116 56 1.54289	0.007(m)
EL HGT:	593.297(m)	0.033(m)	592.544(m)	0.033(m)
ORTHO HGT:	625.490(m)	0.040(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3675271.567	616619.022
Easting (X) [meters]	506174.007	1936261.357
Convergence [degrees]	0.03629395	-0.37573055
Point Scale	0.99960047	0.99995624
Combined Factor	0.99950737	0.99986311

US NATIONAL GRID DESIGNATOR: 11SNS0617475271(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DM7581	SI05 SCRIPPS 5-MT SOLE CORS ARP	N325026.632	W1171458.834	51056.8
DH4108	P486 BORREGOAI RCS2004 CORS ARP	N331536.674	W1161920.180	57202.2
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	60951.1
DN5656	P475 POINT_LOMACS2007 CORS ARP	N323959.011	W1171438.117	67541.4
DN7476	POTR POTRERO PARK CORS ARP	N323706.269	W1163527.059	73668.3
DG9740	P584 POTREROCRKCS2004 CORS ARP	N335333.357	W1165705.859	75034.0
DN5679	SLMS SLMS_SCGN_CS1999 CORS ARP	N331732.005	W1155840.182	89478.4
DN7481	USGC USGC_SCGN_CS1998 CORS ARP	N330148.215	W1160507.157	81833.5
DH7093	MLFP MLFP_SCGN_CS1998 CORS ARP	N335506.240	W1171904.601	85658.5

	NEAREST NGS PUBLISHED CONTROL POINT	
DX5055	BILL	N331327.123 W1165556.319 886.4

BT_8b_OPUS-RS solution 0435292C.14o OP1413833705782

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

TW_8a_OPUS-RS solution 04352927.14o OP1413833787970
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:42 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352927.14o OP1413833787970

FILE: 04352927.14o OP1413833787970

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435292t.14o TIME: 19:41:38 UTC

SOFTWARE: rsgps 1.37 RS51.prl 1.99.2 START: 2014/10/19 19:44:40
 EPHEMERIS: igr18150.eph [rapid] STOP: 2014/10/19 20:15:55
 NAV FILE: brdc2920.14n OBS USED: 2727 / 3177 :
 86%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 7.79/ 21.75
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.252

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79954)

X:	-2419451.556(m)	0.015(m)	-2419452.459(m)	0.015(m)
Y:	-4762440.505(m)	0.025(m)	-4762439.048(m)	0.025(m)
Z:	3474478.147(m)	0.018(m)	3474478.132(m)	0.018(m)

LAT:	33 13 3.01175	0.005(m)	33 13 3.02717	0.005(m)
E LON:	243 4 5.41303	0.004(m)	243 4 5.35646	0.004(m)
W LON:	116 55 54.58697	0.004(m)	116 55 54.64354	0.004(m)
EL HGT:	572.559(m)	0.034(m)	571.806(m)	0.034(m)
ORTHO HGT:	604.739(m)	0.040(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3675401.868	616748.082
Easting (X) [meters]	506352.514	1936440.860
Convergence [degrees]	0.03734498	-0.37467741
Point Scale	0.99960050	0.99995620
Combined Factor	0.99951065	0.99986632

US NATIONAL GRID DESIGNATOR: 11SNS0635275401(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DM7581	SI05 SCRIPPS 5-MT SOLE CORS ARP	N325026.632	W1171458.834	51266.3
DH4108	P486 BORREGOAI RCS2004 CORS ARP	N331536.674	W1161920.180	57012.6
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	60768.6
DN5656	P475 POINT_LOMACS2007 CORS ARP	N323959.011	W1171438.117	67735.7
DN7476	POTR POTRERO PARK CORS ARP	N323706.269	W1163527.059	73707.7
DG9740	P584 POTREROCRKCS2004 CORS ARP	N335333.357	W1165705.859	74907.9
DM7578	SBCC SBCC_SCGN_CS1999 CORS ARP	N333310.788	W1173941.302	77423.0
DN7481	USGC USGC_SCGN_CS1998 CORS ARP	N330148.215	W1160507.157	81692.7
DH7093	MLFP MLFP_SCGN_CS1998 CORS ARP	N335506.240	W1171904.601	85614.3

		NEAREST NGS PUBLISHED CONTROL POINT	
DX5055	BILL	N331327.123 W1165556.319	746.9

TW_8a_OPUS-RS solution 04352927.14o OP1413833787970

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

TW_8b_OPUS-RS solution 04352928.14o OP1413833797720
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:44 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352928.14o OP1413833797720

FILE: 04352928.14o OP1413833797720

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435292u.14o TIME: 19:43:14 UTC

SOFTWARE: rsgps 1.37 RS91.prl 1.99.2 START: 2014/10/19 20:22:10
 EPHEMERIS: iqr18150.eph [rapid] STOP: 2014/10/19 20:52:35
 NAV FILE: brdc2920.14n OBS USED: 2928 / 2928 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 9.36/ 39.59
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.251

REF FRAME: NAD_83(2011)(EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79961)

X:	-2419451.567(m)	0.016(m)	-2419452.470(m)	0.016(m)
Y:	-4762440.521(m)	0.023(m)	-4762439.064(m)	0.023(m)
Z:	3474478.164(m)	0.017(m)	3474478.149(m)	0.017(m)

LAT:	33 13 3.01187	0.004(m)	33 13 3.02729	0.004(m)
E LON:	243 4 5.41293	0.006(m)	243 4 5.35636	0.006(m)
W LON:	116 55 54.58707	0.006(m)	116 55 54.64364	0.006(m)
EL HGT:	572.584(m)	0.032(m)	571.831(m)	0.032(m)
ORTHO HGT:	604.764(m)	0.039(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3675401.872	616748.085
Easting (X) [meters]	506352.511	1936440.858
Convergence [degrees]	0.03734496	-0.37467743
Point Scale	0.99960050	0.99995620
Combined Factor	0.99951065	0.99986632

US NATIONAL GRID DESIGNATOR: 11SNS0635275401(NAD 83)

		BASE STATIONS USED		
PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DM7581	SI05 SCRIPPS 5-MT SOLE CORS ARP	N325026.632	W1171458.834	51266.3
DH4108	P486 BORREGOAI RCS2004 CORS ARP	N331536.674	W1161920.180	57012.6
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	60768.6
DN5656	P475 POINT_LOMACS2007 CORS ARP	N323959.011	W1171438.117	67735.7
DG9740	P584 POTREROCRKCS2004 CORS ARP	N335333.357	W1165705.859	74907.9
DM7578	SBCC SBCC_SCGN_CS1999 CORS ARP	N333310.788	W1173941.302	77423.0
DN7481	USGC USGC_SCGN_CS1998 CORS ARP	N330148.215	W1160507.157	81692.7
DH7093	MLFP MLFP_SCGN_CS1998 CORS ARP	N335506.240	W1171904.601	85614.3

		NEAREST NGS PUBLISHED CONTROL POINT		
PID	NAME	LATITUDE	LONGITUDE	DI STANCE(m)
DX5055	BILL	N331327.123	W1165556.319	746.9

TW_8b_OPUS-RS solution 04352928.14o OP1413833797720

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

UA_8a_OPUS-RS solution 04352925.14o OP1413833753845
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:38 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352925.14o OP1413833753845

FILE: 04352925.14o OP1413833753845

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435292s.14o TIME: 19:37:53 UTC

SOFTWARE: rsgps 1.37 RS92.prl 1.99.2 START: 2014/10/19 18:33:10
 EPHEMERIS: igr18150.eph [rapid] STOP: 2014/10/19 19:03:35
 NAV FILE: brdc2920.14n OBS USED: 2637 / 2736 :
 96%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 23.72/ 35.11
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.219

REF FRAME: NAD_83(2011) (EPOCH: 2010.0000) IGS08
 (EPOCH: 2014.79941)

X:	-2419685.956(m)	0.009(m)	-2419686.859(m)	0.009(m)
Y:	-4762405.095(m)	0.013(m)	-4762403.638(m)	0.013(m)
Z:	3474401.382(m)	0.010(m)	3474401.367(m)	0.010(m)

LAT:	33 12 59.60094	0.005(m)	33 12 59.61636	0.005(m)
E LON:	243 3 56.72447	0.005(m)	243 3 56.66790	0.005(m)
W LON:	116 56 3.27553	0.005(m)	116 56 3.33210	0.005(m)
EL HGT:	592.918(m)	0.017(m)	592.165(m)	0.017(m)
ORTHO HGT:	625.113(m)	0.028(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3675296.686	616644.482
Easting (X) [meters]	506127.676	1936215.192
Convergence [degrees]	0.03602191	-0.37600367
Point Scale	0.99960046	0.99995623
Combined Factor	0.99950742	0.99986316

US NATIONAL GRID DESIGNATOR: 11SNS0612775296(NAD 83)

BASE STATIONS USED

PID	DESIGNATION		LATITUDE	LONGITUDE	DI STANCE(m)
DM7581	SI05 SCRIPPS 5-MT SOLE CORS ARP		N325026.632	W1171458.834	51050.5
DH4108	P486 BORREGOAI RCS2004 CORS ARP		N331536.674	W1161920.180	57246.1
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP		N334359.979	W1164243.475	60943.1
DN5656	P475 POINT_LOMACS2007 CORS ARP		N323959.011	W1171438.117	67544.2
DN7476	POTR POTRERO PARK CORS ARP		N323706.269	W1163527.059	73711.2
DG9740	P584 POTREROCRKCS2004 CORS ARP		N335333.357	W1165705.859	75007.9
DM7578	SBCC SBCC_SCGN_CS1999 CORS ARP		N333310.788	W1173941.302	77277.4
DN7481	USGC USGC_SCGN_CS1998 CORS ARP		N330148.215	W1160507.157	81884.6
DH7093	MLFP MLFP_SCGN_CS1998 CORS ARP		N335506.240	W1171904.601	85616.4

	NEAREST NGS PUBLISHED CONTROL POINT	
DX5055	BILL	N331327.123 W1165556.319 869.9

UA_8a_OPUS-RS solution 04352925.14o OP1413833753845

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

UA_8b_OPUS-RS solution 04352926.14o OP1413833765360
 From: opus [opus@ngs.noaa.gov]
 Sent: Monday, October 20, 2014 3:39 PM
 To: Tony Stith
 Subject: OPUS-RS solution : 04352926.14o OP1413833765360

FILE: 04352926.14o OP1413833765360

NGS OPUS-RS SOLUTION REPORT
 =====

All computed coordinate accuracies are listed as 1-sigma RMS values.
 For additional information: <http://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: tstith@photoscience.com DATE: October 20, 2014
 RINEX FILE: 0435292t.14o TIME: 19:38:50 UTC

SOFTWARE: rsgps 1.37 RS94.pr1 1.99.2 START: 2014/10/19 19:09:40
 EPHEMERIS: i gr18150.eph [rapid] STOP: 2014/10/19 19:40:00
 NAV FILE: brdc2920.14n OBS USED: 2745 / 2745 :
 100%
 ANT NAME: TRMR8_GNSS3 NONE QUALITY IND. 30.36/ 42.20
 ARP HEIGHT: 2.000 NORMALIZED RMS: 0.235

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08
 (EPOCH:2014.79948)

X:	-2419685.948(m)	0.011(m)	-2419686.851(m)	0.011(m)
Y:	-4762405.082(m)	0.020(m)	-4762403.625(m)	0.020(m)
Z:	3474401.370(m)	0.014(m)	3474401.355(m)	0.014(m)

LAT:	33 12 59.60089	0.004(m)	33 12 59.61630	0.004(m)
E LON:	243 3 56.72451	0.006(m)	243 3 56.66794	0.006(m)
W LON:	116 56 3.27549	0.006(m)	116 56 3.33206	0.006(m)
EL HGT:	592.899(m)	0.026(m)	592.146(m)	0.026(m)
ORTHO HGT:	625.094(m)	0.034(m)	[NAVD88 (Computed using GEOID12A)]	

	UTM COORDINATES	STATE PLANE COORDINATES
	UTM (Zone 11)	SPC (0406 CA 6)
Northing (Y) [meters]	3675296.684	616644.481
Easting (X) [meters]	506127.678	1936215.193
Convergence [degrees]	0.03602192	-0.37600366
Point Scale	0.99960046	0.99995623
Combined Factor	0.99950742	0.99986316

US NATIONAL GRID DESIGNATOR: 11SNS0612775296(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DI STANCE(m)
DM7581	SI05 SCRIPPS 5-MT SOLE CORS ARP	N325026.632	W1171458.834	51050.5
DH4108	P486 BORREGOAI RCS2004 CORS ARP	N331536.674	W1161920.180	57246.1
DN5633	DSSC DSSC_SCGN_CS1998 CORS ARP	N334359.979	W1164243.475	60943.1
DG8353	P480 VALLECITO_CS2004 CORS ARP	N325833.571	W1162054.679	60844.7
AF9708	PIN1 PINON 1 PPGA CORS ARP	N333643.749	W1162729.330	62351.4
DN5656	P475 POINT_LOMACS2007 CORS ARP	N323959.011	W1171438.117	67544.2
DN7476	POTR POTRERO PARK CORS ARP	N323706.269	W1163527.059	73711.2
DG9740	P584 POTREROCRKCS2004 CORS ARP	N335333.357	W1165705.859	75007.9
DM7578	SBCC SBCC_SCGN_CS1999 CORS ARP	N333310.788	W1173941.302	77277.4

	NEAREST NGS PUBLISHED CONTROL POINT	
DX5055	BILL	N331327.123 W1165556.319 869.9

UA_8b_OPUS-RS solution 04352926.14o OP1413833765360

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

IV. Data Log Sheets



**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
1

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **100P**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **1776166.58** Elevation (usf) **11.90**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6295119.57**

SESSIONS	DATE:	ObsA	Obs B
		2	10/15/14
	DAY OF YEAR	288	288

START TIME	Obs A	ObsB	U.T.C.
	10:56	11:33	
END TIME	11:26	12:03	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

2' Pin/Cap/Panel

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





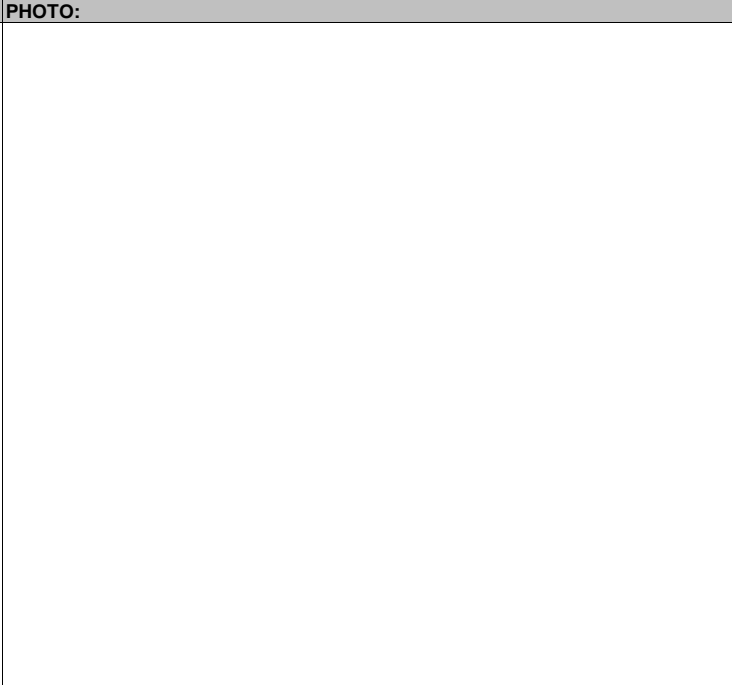
**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
2

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: 100P
Proj. No.: 24982





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
1

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **101**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1793941.18**
Easting (usf): **6294702.05**
Elevation (usf): **22.19**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/23/14	10/23/14
CRTN	DAY OF YEAR: 296	296

	Obs A	ObsB		U.T.C.
START TIME	14:36	14:59		
END TIME	14:39	15:02	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 101
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **102**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1779411.50**
Easting (usf): **6318296.65**
Elevation (usf): **55.04**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/23/14	10/23/14
CRTN	DAY OF YEAR: 296	296

	Obs A	ObsB		U.T.C.
START TIME	16:15	16:38		
END TIME	16:18	16:41	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Paint Stripe

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:



PHOTO:





523 Wellington Way, Suite 375
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

**PAGE:
2**

**JOB REFERENCE
USGS San Diego**

**POINT ID: 102
Proj. No.: 24982**

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
1

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **103**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Otay Mesa**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1781880.57**
Easting (usf): **6348225.12**
Elevation (usf): **528.17**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/23/14	10/23/14
CRTN	DAY OF YEAR: 296	296

	Obs A	ObsB		U.T.C.
START TIME	17:13	17:36		
END TIME	17:16	17:39	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





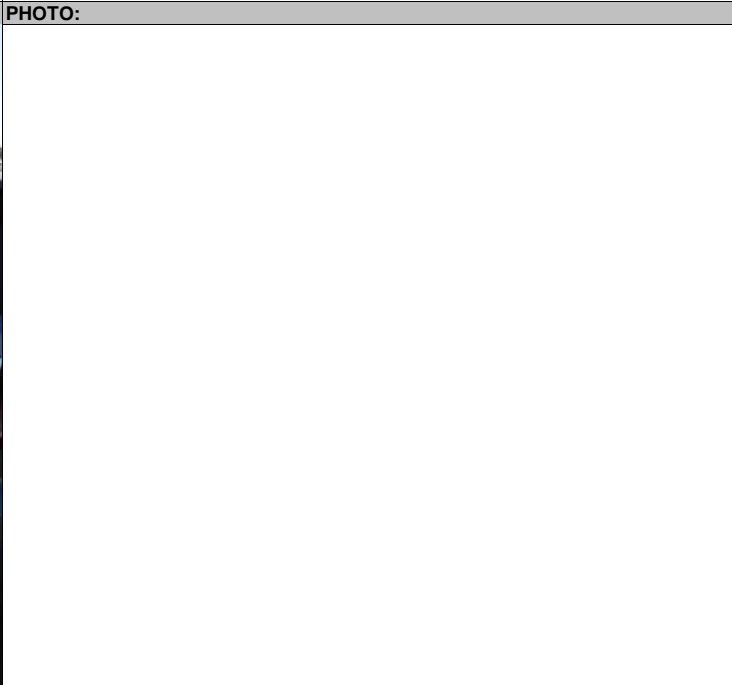
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 103
Proj. No.: 24982

523 Wellington Way, Suite 375
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
1

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **104P**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Otay Mesa**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1794683.19	Elevation (usf)	729.71
Easting (usf)	6354802.57		

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/15/14	10/15/14
2	DAY OF YEAR	288	288

START TIME	Obs A	ObsB	U.T.C.
	17:01	17:25	
END TIME	17:04	17:28	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters	MEASURED	FIXED HGT
		X	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

2' Pin/Cap/Panel

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





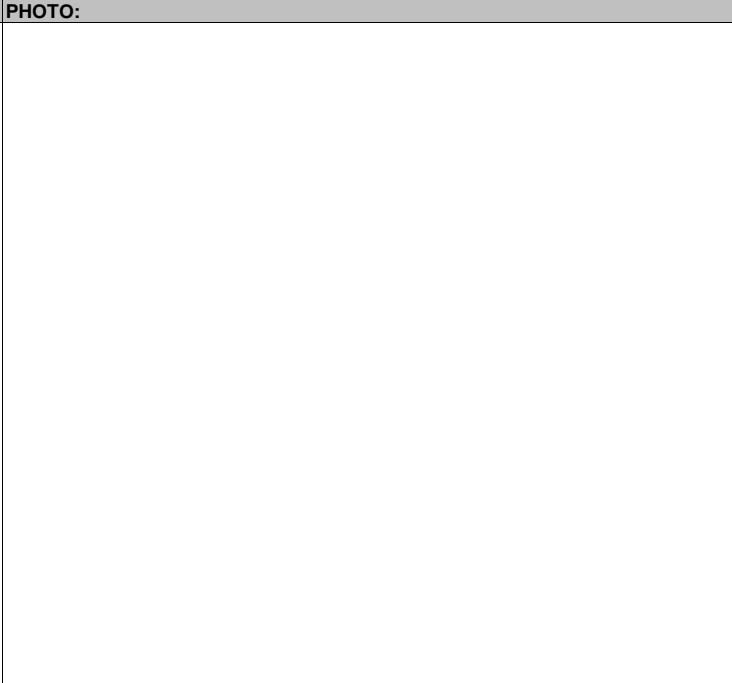
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 104P
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **105**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Jamul Mountains**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1813196.36**

Easting (usf) **6349989.27**

Elevation (usf)
596.16

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/23/14	10/23/14
2	DAY OF YEAR	296	296

START TIME	ObsA	ObsB	U.T.C.
	17:28	17:52	
END TIME	17:31	17:55	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





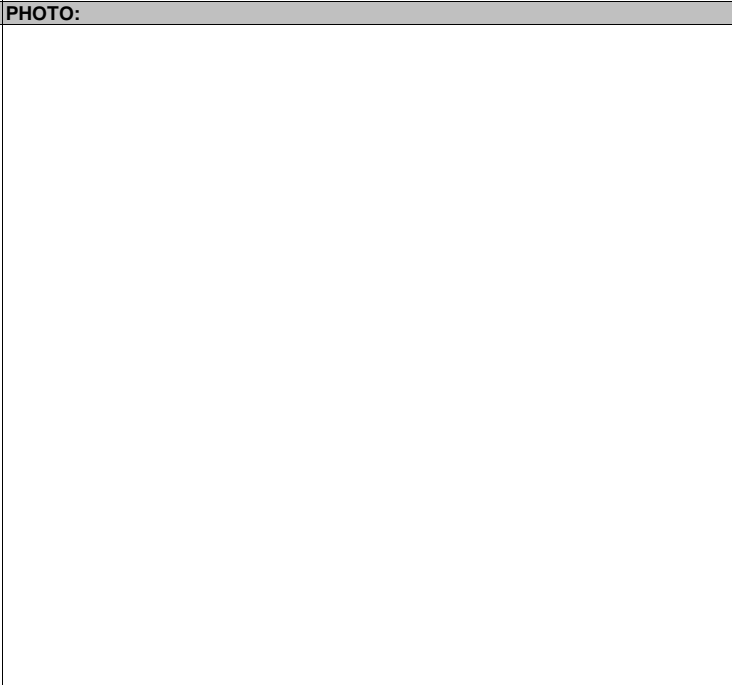
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 105
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





523 Wellington Way, Suite 375
 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
1

JOB REFERENCE
USGS San Diego

POINT ID: **106**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Otay Mesa**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1806759.72**
 Easting (usf): **6335452.23**
 Elevation (usf): **475.83**

RECEIVER S/N: **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	DATE: 10/25/14	10/25/14
2	DAY OF YEAR: 298	298

	ObsA	ObsB		U.T.C.
START TIME	12:35	13:25		
END TIME	12:38	13:28	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Strip

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
2

JOB REFERENCE
USGS San Diego

POINT ID: 106
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



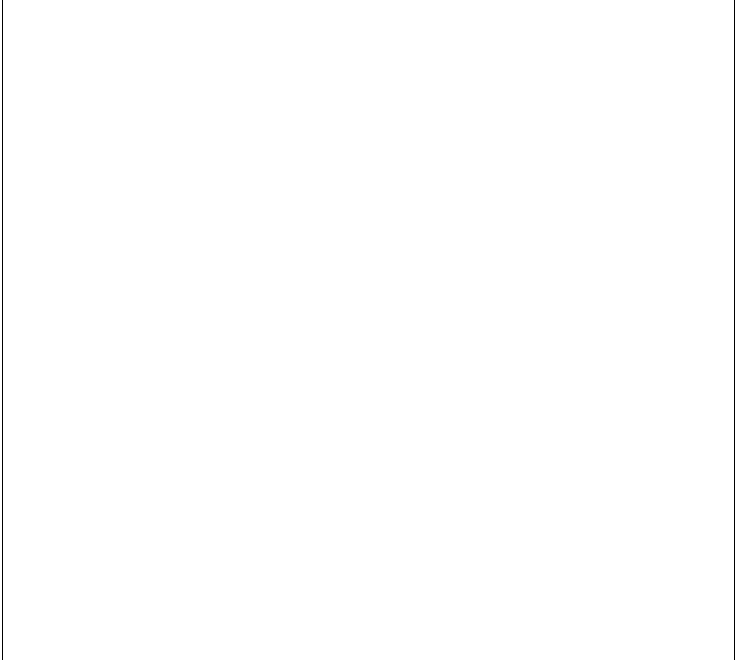
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **107**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **National City**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1820997.45**
Easting (usf): **6308082.44**
Elevation (usf): **50.340**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/25/14	10/25/14
2	DAY OF YEAR	298	298

START TIME	ObsA	ObsB	U.T.C.
	11:20	11:44	
END TIME	11:24	11:47	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of Arrow

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:



PHOTO:





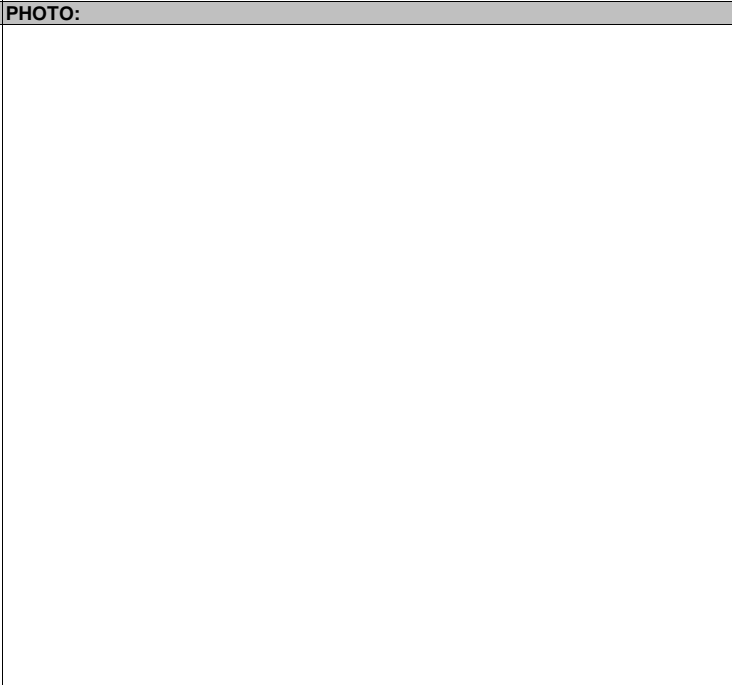
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 107
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **108**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **National City**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1833877.50**
Easting (usf): **6325804.77**
Elevation (usf): **444.27**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/23/14	10/23/14
2	DAY OF YEAR	296	296

START TIME	ObsA	ObsB	U.T.C.
	16:22	16:46	
END TIME	16:26	16:49	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Concrete/Pavement

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 108
Proj. No.: 24982

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PHOTO: PHOTO:



PHOTO: PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **109**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **National City**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1842388.65**

Easting (usf) **6303186.64**

Elevation (usf)
213.33

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/25/14	10/25/14
2	DAY OF YEAR	298	298

START TIME	ObsA	ObsB	U.T.C.
	10:13	10:38	
END TIME	10:17	10:41	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tip of Paint Stripes

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





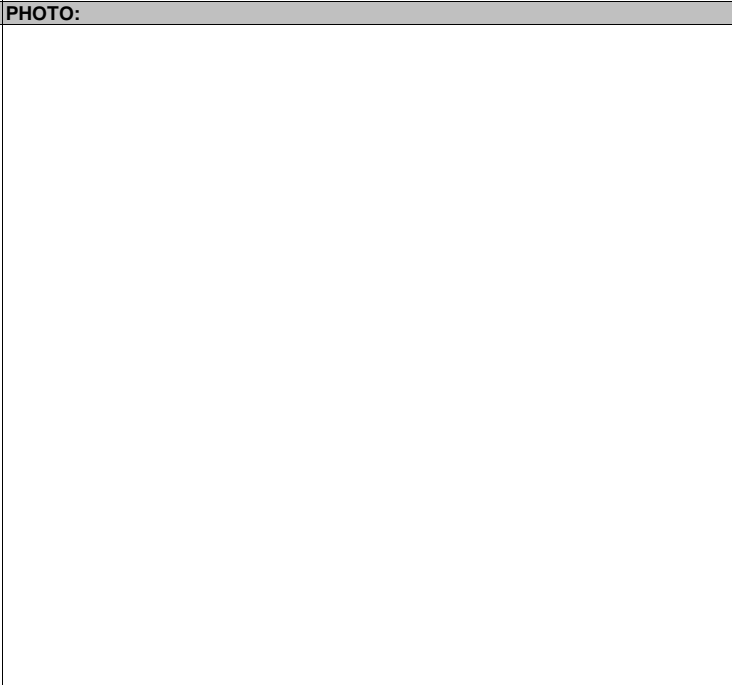
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 109
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **110**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Point Loma**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

Northing (usf)	1843714.83	Elevation (usf)	157.90
Easting (usf)	6282877.72		

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	10/23/14	10/23/14
40872963&4	296	296

	Obs A	ObsB		U.T.C.
START TIME	08:47	09:23		
END TIME	09:17	09:53	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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**JOB REFERENCE
USGS San Diego**

**POINT ID: 110
Proj. No.: 24982**

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **111**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Point Loma**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf)	1831136.99	Elevation (usf)	24.39
Easting (usf)	6275880.66		

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/23/14	10/23/14
CRTN	DAY OF YEAR 296	296

	Obs A	ObsB		U.T.C.
START TIME	13:32	13:56		
END TIME	13:35	13:59	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 112
Proj. No.: 24982

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PHOTO:



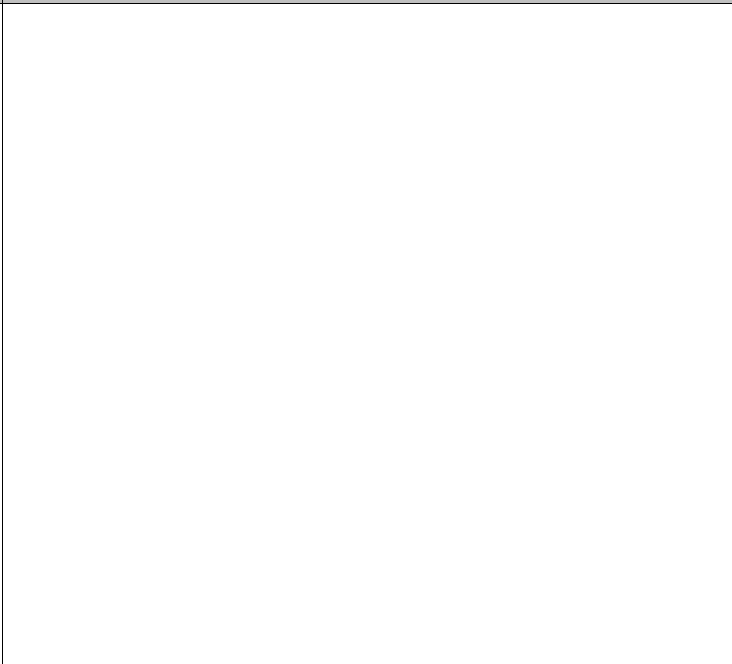
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PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **112**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Point Loma**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

Northing (usf)	1826897.33	Elevation (usf)	351.79
Easting (usf)	6256275.20		

RECEIVER MODEL **Trimble R8**
 RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/23/14	10/23/14
CRTN	DAY OF YEAR 296	296

	Obs A	ObsB		U.T.C.
START TIME	12:22	12:46		
END TIME	12:26	12:49	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Paint Stripe

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





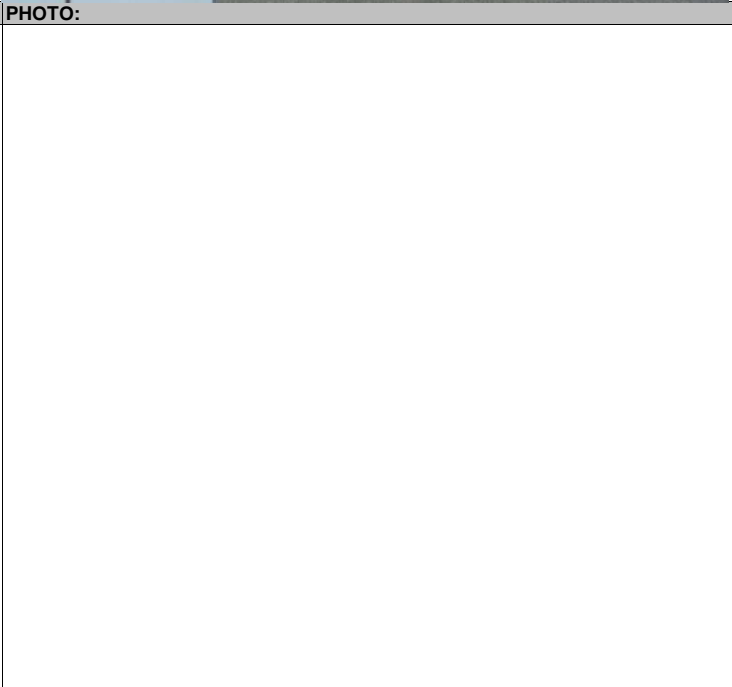
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 112
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **113**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Jolla**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1855115.41**
Easting (usf): **6258227.30**
Elevation (usf): **20.67**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/23/14	10/23/14
CRTN	DAY OF YEAR: 296	296

	Obs A	ObsB		U.T.C.
START TIME	11:28	11:51		
END TIME	11:31	11:54	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Concrete

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:



PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 113
Proj. No.: 24982

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Lexington, KY 40503
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PHOTO:



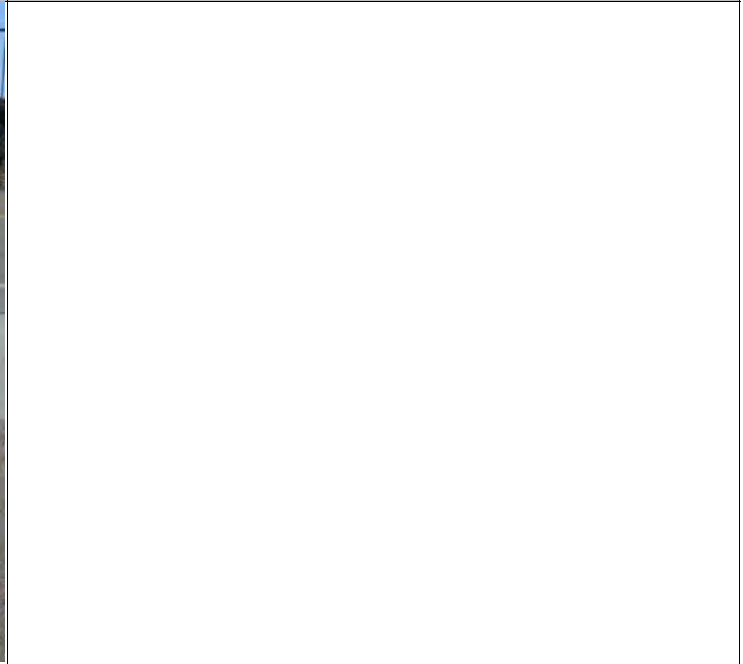
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PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **114**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Jolla**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS2DC48730**

Northing (usf): **1857459.00**
Easting (usf): **6281397.50**
Elevation (usf): **60.07**

	ObsA	Obs B
SESSIONS	DATE: 10/23/14	10/23/14
CRTN	DAY OF YEAR: 296	296

	Obs A	ObsB		U.T.C.
START TIME	10:16	10:39		
END TIME	10:19	10:42	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Paint Stripes

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





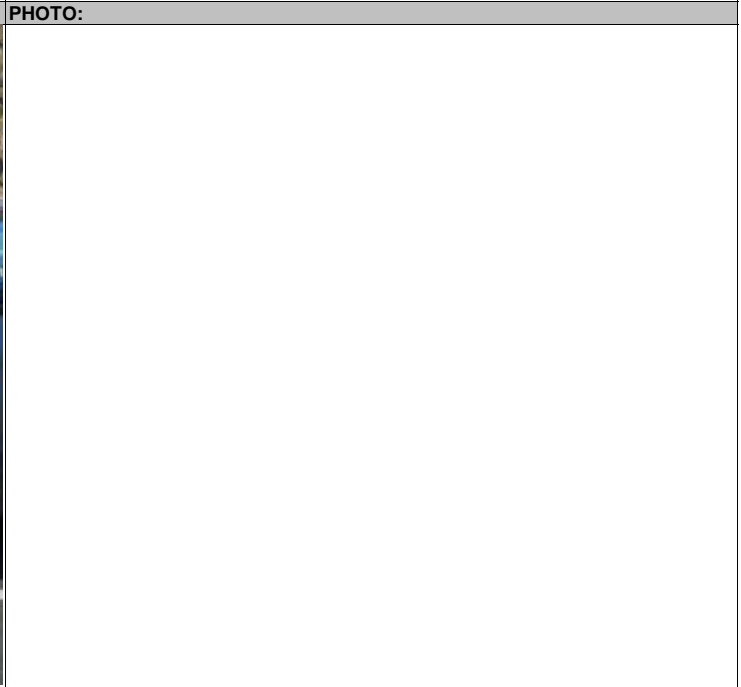
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 114
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **115**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **La Mesa**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1863442.99	Elevation (usf)	359.77
Easting (usf)	6310347.47		

RECEIVER S/N **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	10/25/14	10/25/14
2	298	298

	ObsA	ObsB		U.T.C.
START TIME	09:15	09:39		
END TIME	09:18	09:42	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT		MEASURED		FIXED HGT.
---------	--	----------	--	------------

ANTENNA

RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters			
	MEASURED	X		FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Paint Stripe

AERIAL TARGET		X	PHOTO I.D.
PUB. BENCH MARK			NEW CONTROL
PUB. CONTROL			BASE STATION





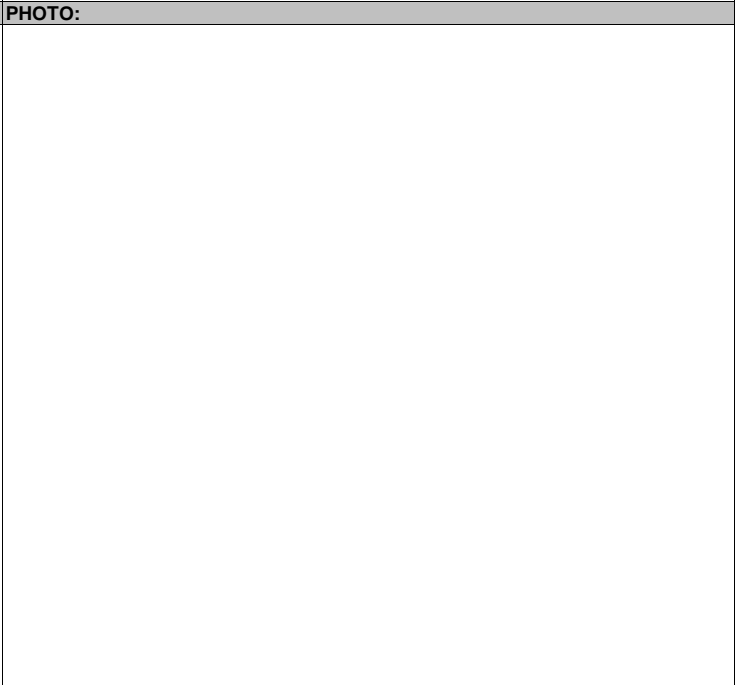
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 115
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **116**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Jamul Mountains**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1851251.43**

Elevation (usf) **531.28**

RECEIVER S/N **DC# RS0TC15523**

Easting (usf) **6339268.57**

SESSIONS	DATE:	ObsA	Obs B
		10/23/14	10/23/14
2	DAY OF YEAR	296	296

START TIME	Obs A	ObsB	U.T.C.
	15:38	16:01	
END TIME	15:41	16:04	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 116
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **117**
 Proj. No.: **24982**

STATE **CA** COUNTY **San Diego** QUAD: **El Cajon**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1858349.67**
 Easting (usf) **6365063.68**
 Elevation (usf) **422.95**

RECEIVER S/N **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	DATE: 10/23/14	10/23/14
2	DAY OF YEAR 296	296

	Obs A	ObsB		U.T.C.
START TIME	10:13	10:36		
END TIME	10:16	10:39	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 117
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **118**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Dulzura**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1829351.62**
Easting (usf): **6377991.92**
Elevation (usf): **808.88**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/23/14	10/23/14
2	DAY OF YEAR	296	296

START TIME	ObsA	ObsB	U.T.C.
	14:33	14:57	
END TIME	14:36	15:00	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe at Bridge Break

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





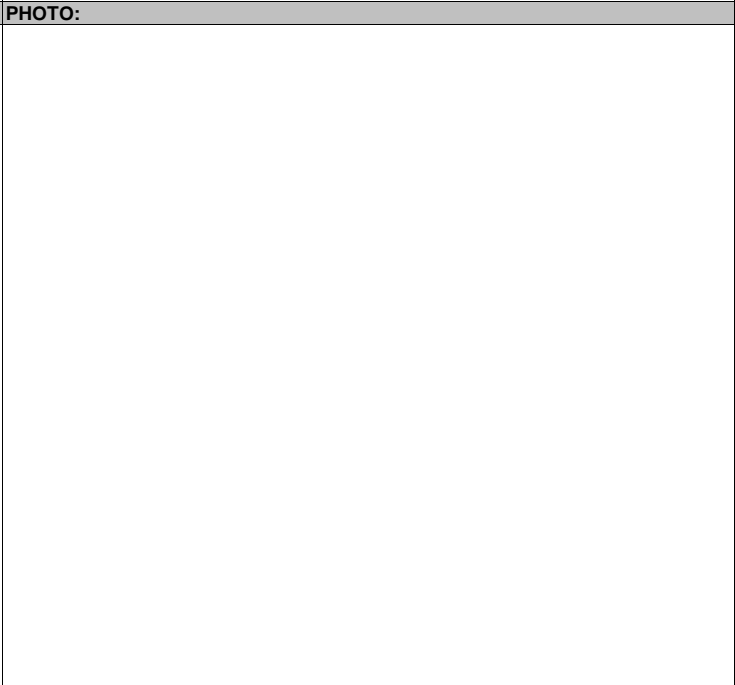
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 118
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **119**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **El Cajon**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **1884486.87**
Easting (usf) **6364883.88**
Elevation (usf) **659.00**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/23/14	10/23/14
2	DAY OF YEAR	296	296

START TIME	Obs A	ObsB	U.T.C.
	08:24	08:53	
END TIME	08:27	08:56	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner Concrete/Pavement

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 119
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





523 Wellington Way, Suite 375
 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
1

JOB REFERENCE
USGS San Diego

POINT ID: **120**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **El Cajon**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1891973.74**
 Easting (usf): **6352449.83**
 Elevation (usf): **394.41**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/22/14	10/22/14
2	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	17:08	17:31	
END TIME	17:11	17:34	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





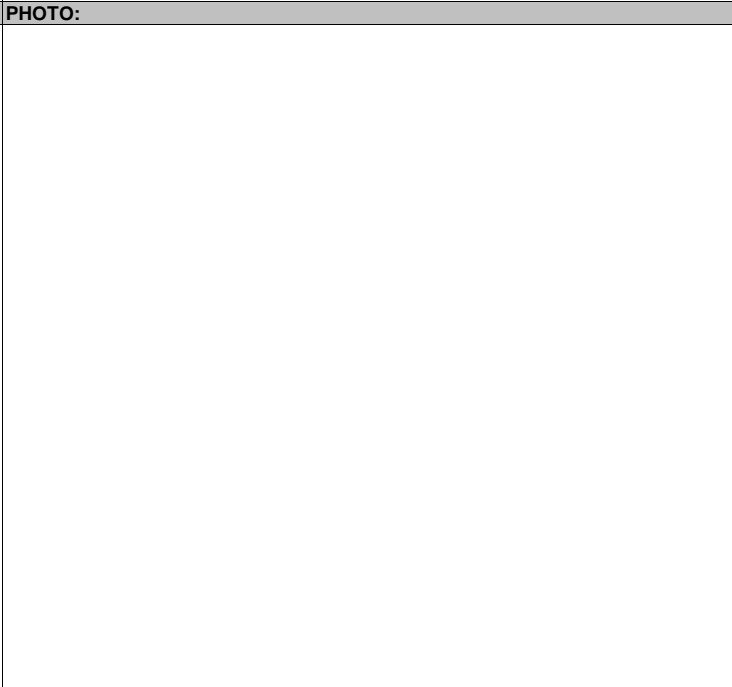
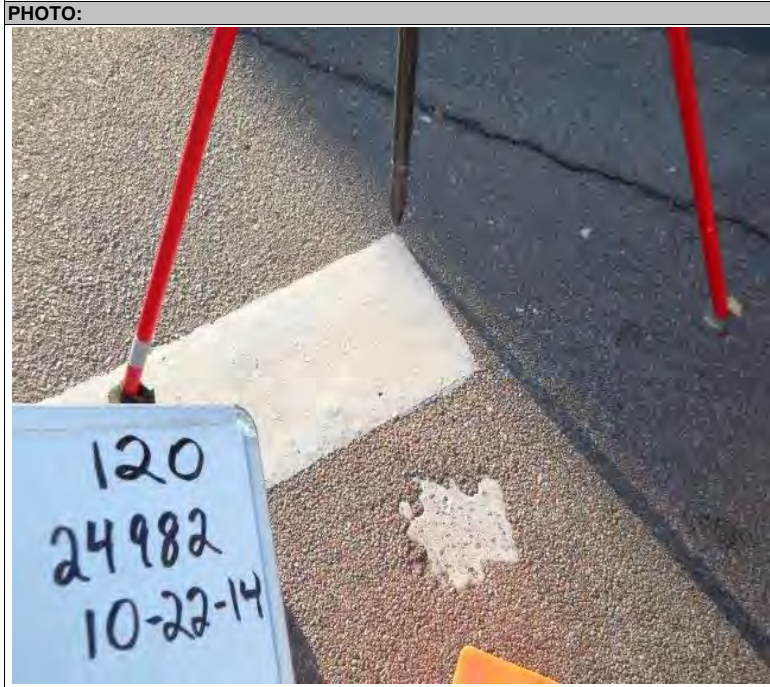
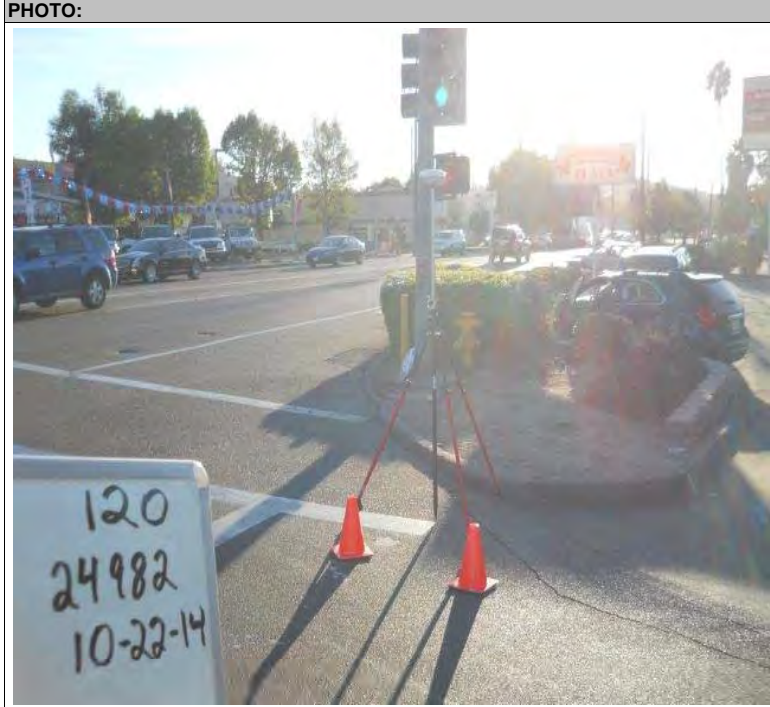
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 120
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





523 Wellington Way, Suite 375
 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
1

JOB REFERENCE
USGS San Diego

POINT ID: **121**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **La Mesa**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1885261.60	Elevation (usf)	336.20
Easting (usf)	6323156.32		

RECEIVER S/N **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	2	2
DATE:	10/23/14	10/23/14
DAY OF YEAR	296	296

	Obs A	ObsB		U.T.C.
START TIME	07:32	07:55		
END TIME	07:35	07:58	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	FIXED HGT
		X	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 121
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:

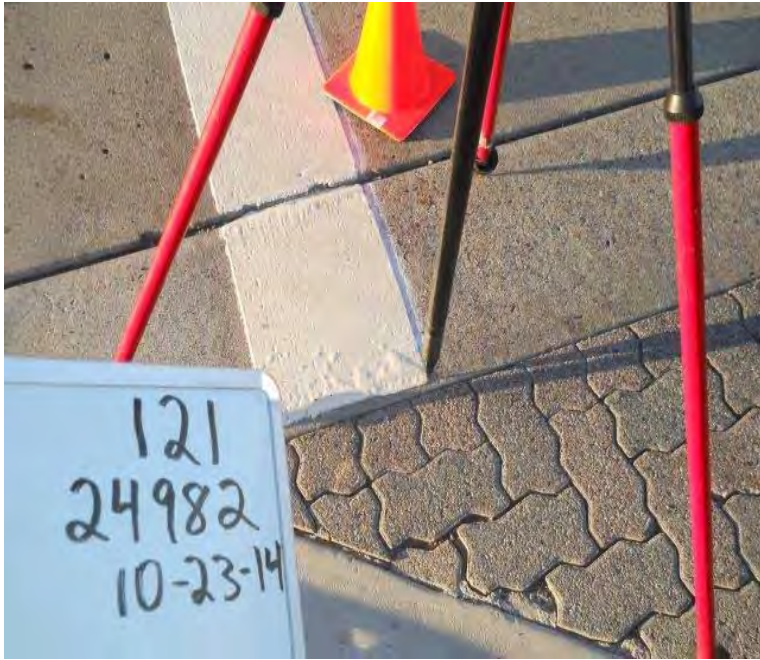


PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **122**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Mesa**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1891231.63**
Easting (usf): **6295020.95**
Elevation (usf): **449.04**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/22/14	10/22/14
CRTN	DAY OF YEAR: 295	295

	Obs A	ObsB		U.T.C.
START TIME	16:50	17:13		
END TIME	16:53	17:16	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 122
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **123**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Jolla**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1889918.71**
Easting (usf): **6274653.05**
Elevation (usf): **315.25**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/22/14	10/22/14
CRTN	DAY OF YEAR: 295	295

	Obs A	ObsB		U.T.C.
START TIME	15:44	16:07		
END TIME	15:47	16:10	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Concrete

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





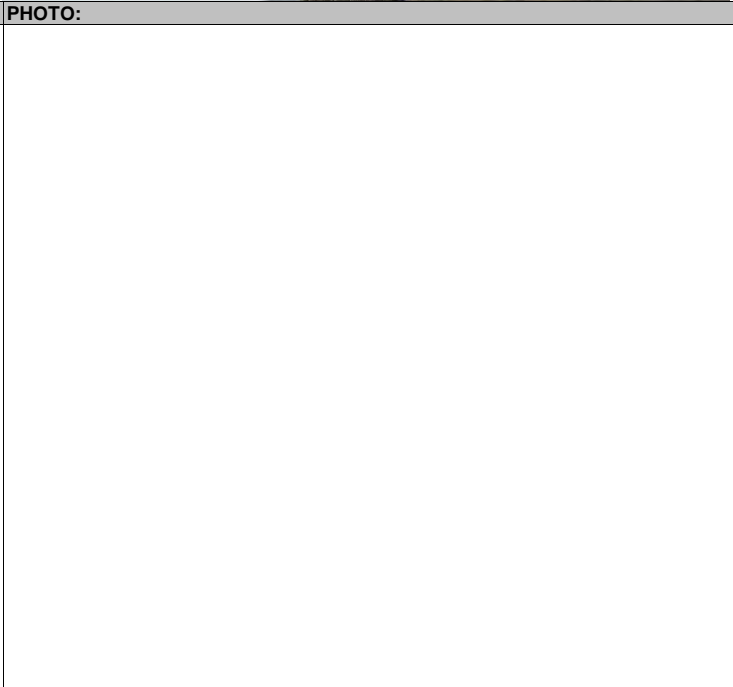
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 123
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **124**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Jolla OE W**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1887358.60**
Easting (usf): **6248586.32**
Elevation (usf): **163.80**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/22/14	10/22/14
CRTN	DAY OF YEAR: 295	295

	Obs A	ObsB		U.T.C.
START TIME	11:50	12:17		
END TIME	11:53	12:20	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Concrete

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 124
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **125**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Del Mar**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS2DC48730**

Northing (usf): **1914678.82**
Easting (usf): **6258703.39**
Elevation (usf): **17.87**

	ObsA	Obs B
SESSIONS	DATE: 10/22/14	10/22/14
CRTN	DAY OF YEAR: 295	295

	Obs A	ObsB		U.T.C.
START TIME	10:07	10:34		
END TIME	10:10	10:37	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT		MEASURED	FIXED HGT.
---------	--	----------	------------

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





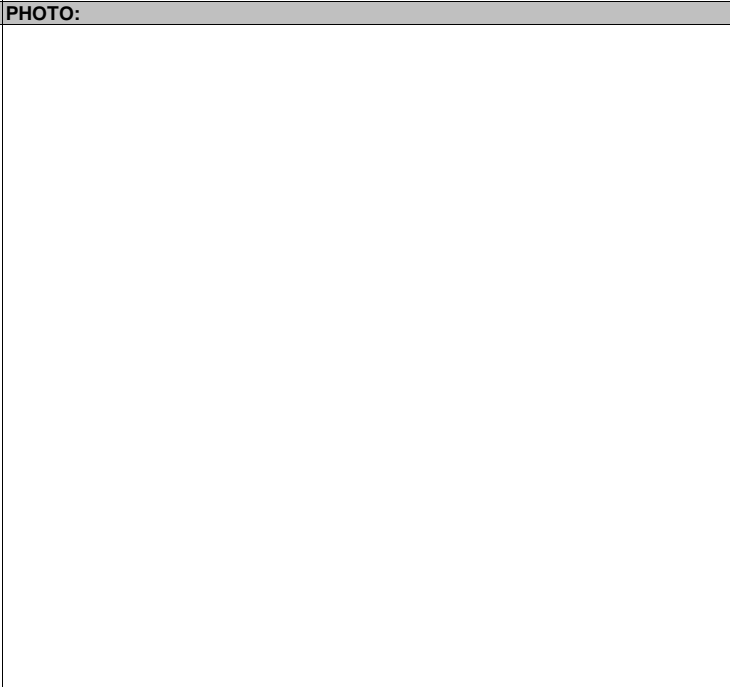
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 125
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **126**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Del Mar**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1923601.86**
Easting (usf): **6281395.27**
Elevation (usf): **398.70**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/22/14	10/22/14
CRTN	DAY OF YEAR: 295	295

	Obs A	ObsB		U.T.C.
START TIME	08:48	09:15		
END TIME	08:52	09:18	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Concrete

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 126
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



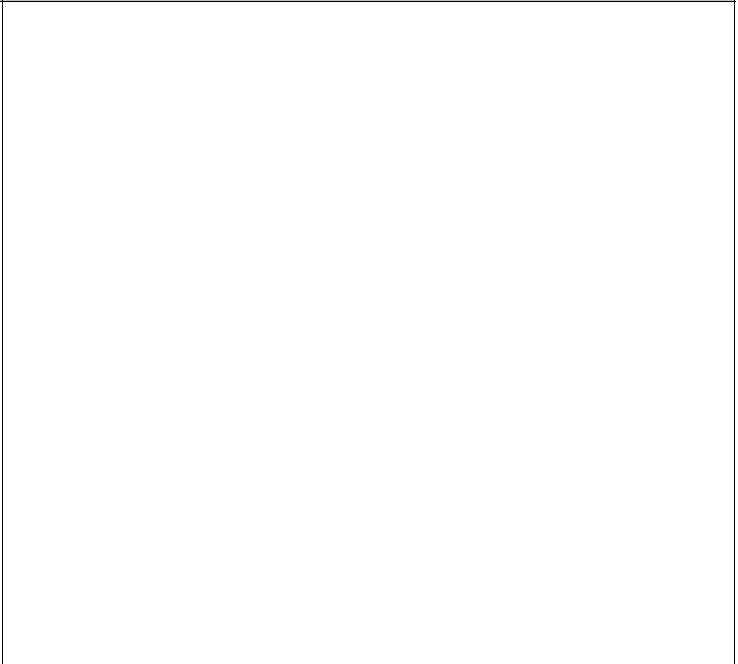
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **127**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Poway**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **1919816.31** Elevation (usf) **650.33**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6311847.71**

SESSIONS	DATE:	ObsA	Obs B
		10/22/14	10/22/14
2	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	12:06	12:29	
END TIME	12:09	12:32	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of concrete at pavement

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





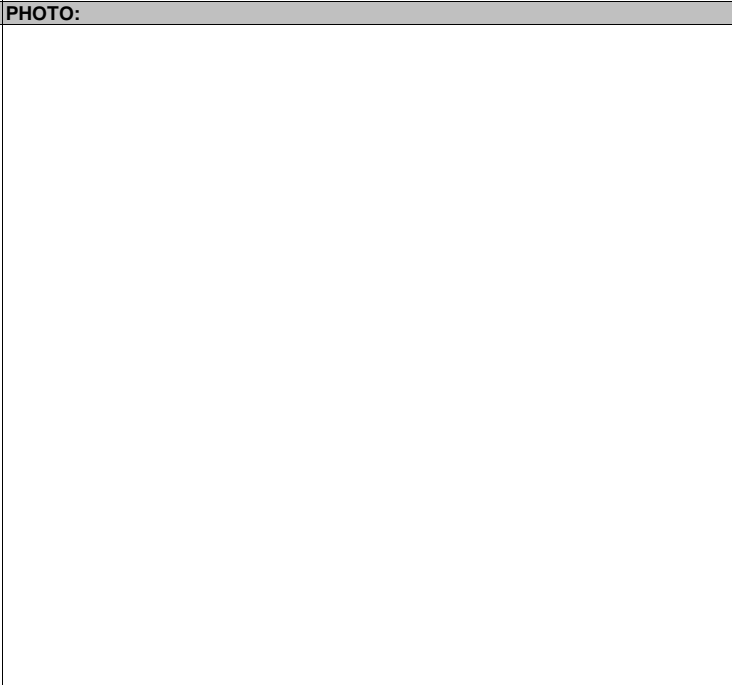
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 127
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **128**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Vicente Reservoir**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1927092.01	Elevation (usf)	1360.72
Easting (usf)	6341555.59		

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/22/14	10/22/14
2	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	12:53	13:17	
END TIME	12:57	13:20	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of Arrow

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 128
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **129**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Pasqual**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1949232.58**

Easting (usf) **6346106.26**

Elevation (usf)
1654.05

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/21/14	10/21/14
2	DAY OF YEAR	294	294

START TIME	Obs A	ObsB	U.T.C.
	15:18	15:42	
END TIME	15:22	15:46	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tip of Arrow

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 129
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **130**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Poway**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **1940948.91**
Easting (usf) **6305588.46**
Elevation (usf) **716.34**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/21/14	10/21/14
CRTN	DAY OF YEAR: 294	294

	Obs A	ObsB		U.T.C.
START TIME	16:31	16:54		
END TIME	16:34	16:57	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





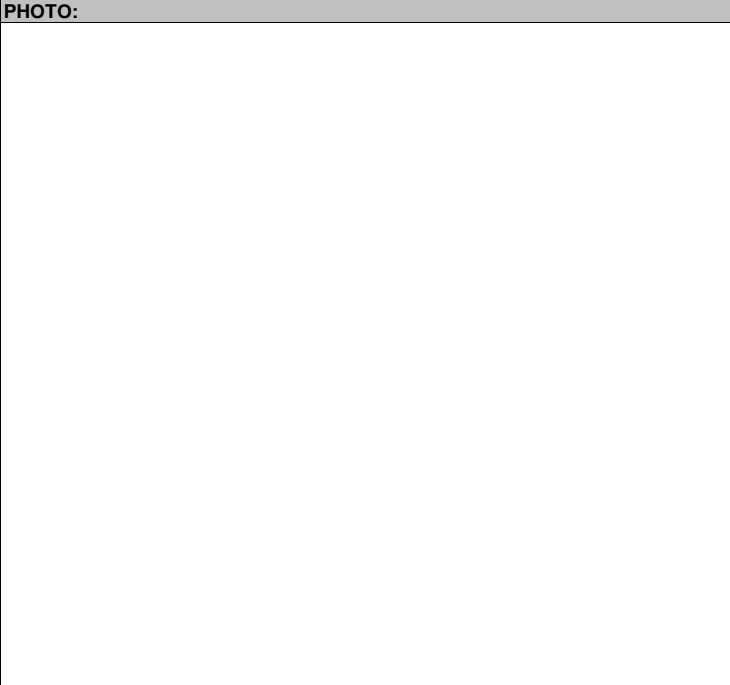
GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: 130
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





523 Wellington Way, Suite 375
 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
1

JOB REFERENCE
USGS San Diego

POINT ID: **131**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Del Mar**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1929314.90**
 Easting (usf): **6259111.12**
 Elevation (usf): **263.84**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/21/14	10/21/14
CRTN	DAY OF YEAR: 294	294

	Obs A	ObsB		U.T.C.
START TIME	08:07	08:30		
END TIME	08:10	08:33	X	LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 131
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **132**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Encinitas**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing	1957151.83	Elevation	210.13
Easting	6246794.02		

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	10/20/14	10/20/14
CRTN	293	293

	Obs A	ObsB		U.T.C.
START TIME	11:09	11:41		
END TIME	11:12	11:44	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT		MEASURED		FIXED HGT.
---------	--	----------	--	------------

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters	MEASURED	X	FIXED HGT
---------	---------------------	----------	----------	-----------

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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**JOB REFERENCE
USGS San Diego**

**POINT ID: 132
Proj. No.: 24982**

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **133**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Rancho Santa Fe**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing	1957539.65	Elevation	254.52
Easting	6277894.38		

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	10/20/14	10/20/14
CRTN	293	293

	Obs A	ObsB		U.T.C.
START TIME	17:38	18:01		
END TIME	17:41	18:04	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT		MEASURED		FIXED HGT.
---------	--	----------	--	------------

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters	MEASURED	X	FIXED HGT
---------	---------------------	----------	----------	-----------

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 133
Proj. No.: 24982

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Lexington, KY 40503
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PHOTO: PHOTO:



PHOTO: PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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JOB REFERENCE
USGS San Diego

POINT ID: **134**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Ramona**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **1945336.64** Elevation (usf) **1475.34**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6373861.23**

SESSIONS	DATE:	ObsA	Obs B
		10/21/14	10/21/14
2	DAY OF YEAR	294	294

START TIME	Obs A	ObsB	U.T.C.
	14:19	14:47	
END TIME	14:22	14:50	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of Driveway

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 134
Proj. No.: 24982

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Lexington, KY 40503
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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **135**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Alpine**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1885049.79**
Easting (usf): **6399346.78**
Elevation (usf): **1689.71**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/21/14	10/21/14
2	DAY OF YEAR	294	294

START TIME	Obs A	ObsB	U.T.C.
	16:39	17:03	
END TIME	16:42	17:06	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





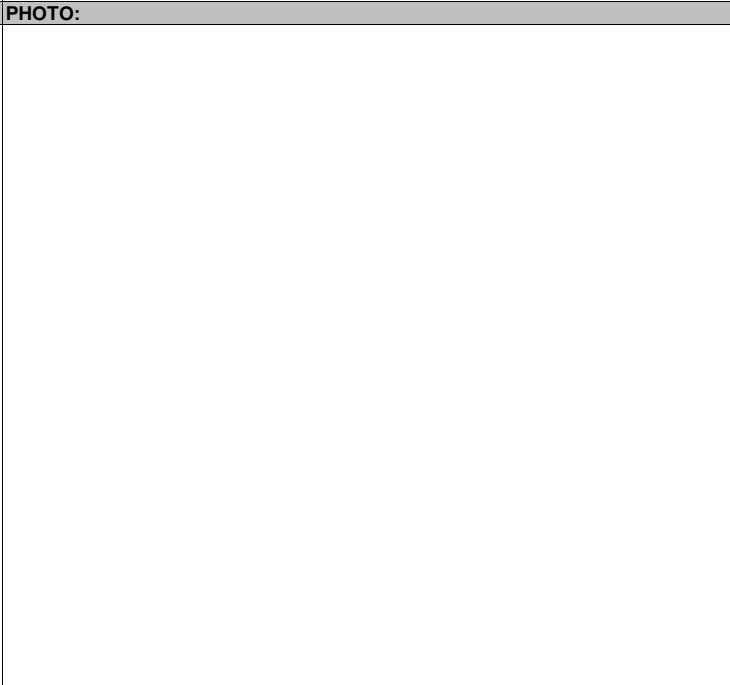
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 135
Proj. No.: 24982

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Lexington, KY 40503
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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **136P**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **Riverside** QUAD: **Alpine**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1860941.40**
 Easting (usf): **6385908.17**
 Elevation (usf): **697.66**

RECEIVER S/N: **5153480435**

SESSIONS	DATE:	ObsA	Obs B
		10/16/14	10/16/14
2	DAY OF YEAR	289	289

START TIME	Obs A	ObsB	U.T.C.
	10:13	10:50	
END TIME	10:43	11:20	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

2' Pin/Cap/Panel

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 136P
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **137**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Pasqual**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1973308.09**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6365400.04**

Elevation (usf): **1531.01**

SESSIONS	DATE:	ObsA	Obs B
		10/21/14	10/21/14
2	DAY OF YEAR	294	294

START TIME	Obs A	ObsB	U.T.C.
	12:57	13:21	
END TIME	13:00	13:24	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of Driveway

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 137
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **138**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Escondido**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1978456.03**

Easting (usf) **6331934.86**

Elevation (usf)
414.83

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/20/14	10/20/14
2	DAY OF YEAR	293	293

START TIME	Obs A	ObsB	U.T.C.
	16:38	17:01	
END TIME	16:41	17:05	X LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Arrow

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





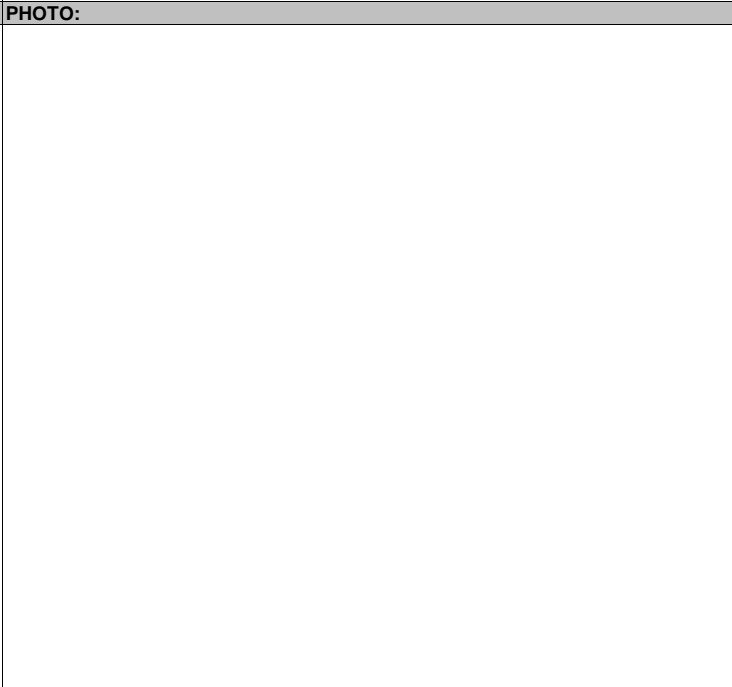
GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: 138
Proj. No.: 24982

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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **139**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Escondido**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS2DC48730**

Northing	1989803.79	Elevation	639.61
Easting	6299777.58		

	ObsA	Obs B
SESSIONS	10/19/14	10/19/14
CRTN	292	292

	Obs A	ObsB		U.T.C.
START TIME	08:43	09:06		
END TIME	08:46	09:09	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT		MEASURED		FIXED HGT.
---------	--	----------	--	------------

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters	MEASURED	X	FIXED HGT
---------	---------------------	----------	----------	-----------

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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**JOB REFERENCE
USGS San Diego**

**POINT ID: 139
Proj. No.: 24982**

PHOTO:



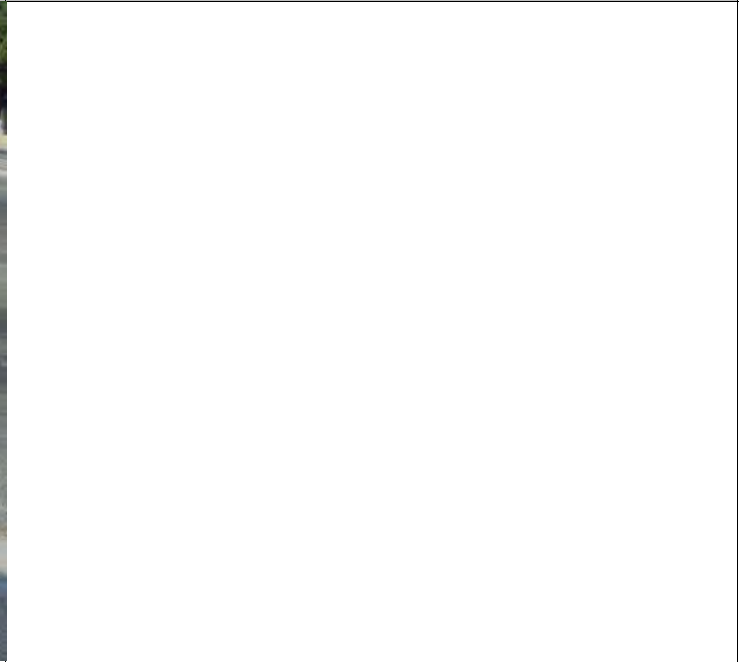
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PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **140**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Rancho Santa Fe**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1979871.39**
Easting (usf): **6263819.86**
Elevation (usf): **512.16**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/20/14	10/20/14
CRTN	DAY OF YEAR: 293	293

	Obs A	ObsB		U.T.C.
START TIME	16:38	17:09		
END TIME	16:41	17:12	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
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**JOB REFERENCE
USGS San Diego**

**POINT ID: 140
Proj. No.: 24982**

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **141**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Encinitas**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1982042.86**
Easting (usf): **6235144.86**
Elevation (usf): **57.24**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/20/14	10/20/14
CRTN	DAY OF YEAR: 293	293

	Obs A	ObsB		U.T.C.
START TIME	10:16	10:43		
END TIME	10:20	10:46	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Sidewalk

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 141
Proj. No.: 24982

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Lexington, KY 40503
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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **142**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Luis Rey**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1994078.06	Elevation (usf)	296.69
Easting (usf)	6246943.16		

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/20/14	10/20/14
CRTN	DAY OF YEAR 293	293

	Obs A	ObsB		U.T.C.
START TIME	09:31	09:54		
END TIME	09:34	09:57	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Sidewalk

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 142
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **143**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Marcos**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **2002253.97**

Easting (usf) **6268661.13**

Elevation (usf)
446.20

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/20/14	10/20/14
2	DAY OF YEAR	293	293

START TIME	Obs A	ObsB	U.T.C.
	11:41	12:10	
END TIME	11:45	12:13	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





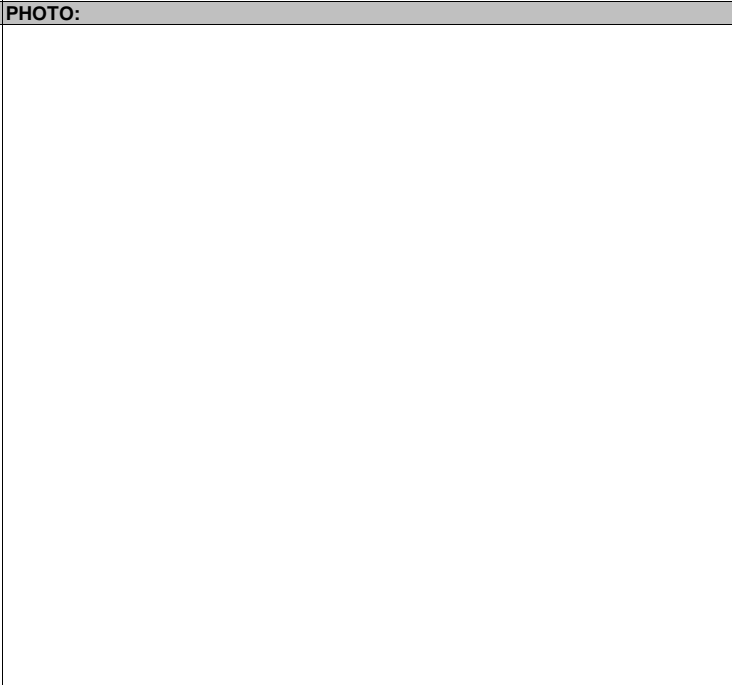
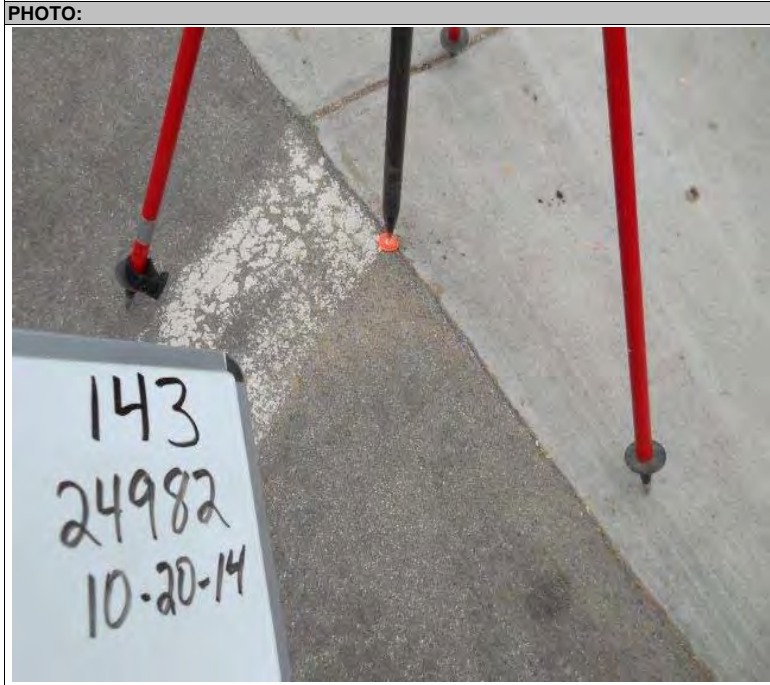
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 143
Proj. No.: 24982

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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **144**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Marcos**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2015477.31**
Easting (usf): **6277283.67**
Elevation (usf): **798.70**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/20/14	10/20/14
2	DAY OF YEAR	293	293

START TIME	Obs A	ObsB	U.T.C.
	09:19	09:47	
END TIME	09:23	09:50	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of Concrete Pad

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





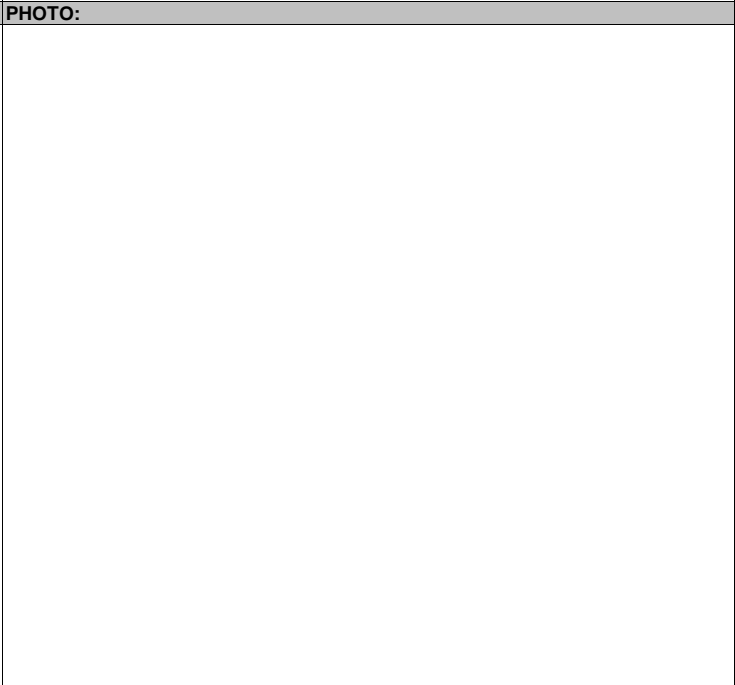
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 144
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **145**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Valley Center**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **2028591.79**

Easting (usf) **6296902.90**

Elevation (usf)
1507.42

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/20/14	10/20/14
2	DAY OF YEAR	293	293

START TIME	Obs A	ObsB	U.T.C.
	08:07	08:31	
END TIME	08:11	08:34	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of Driveway

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 145
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





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 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **146**
 Proj. No.: **24982**

STATE **CA** COUNTY **San Diego** QUAD: **Valley Center**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **2020766.52** Elevation (usf) **1307.34**
 Easting (usf) **6322039.15**

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
CRTN	DAY OF YEAR 292	292

	Obs A	ObsB		U.T.C.
START TIME	13:35	13:58		
END TIME	13:38	14:01	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Concrete

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





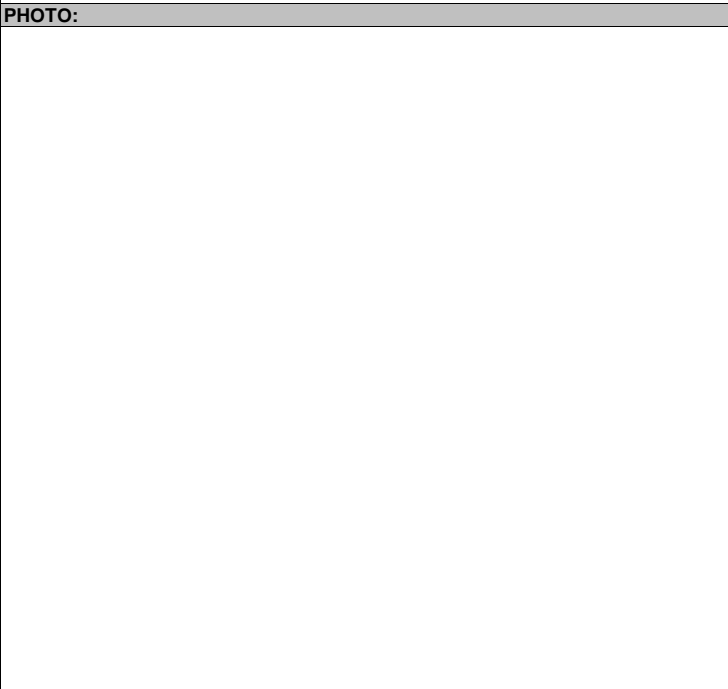
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 146
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **147P**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Rodriguez Mountain**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **2015394.06** Elevation (usf) **2313.21**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6352765.07**

SESSIONS	DATE:	ObsA	Obs B
		10/19/14	10/19/14
2	DAY OF YEAR	292	292

START TIME	Obs A	ObsB	U.T.C.
	09:05	09:31	
END TIME	09:11	09:31	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8' Nail/Panel

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





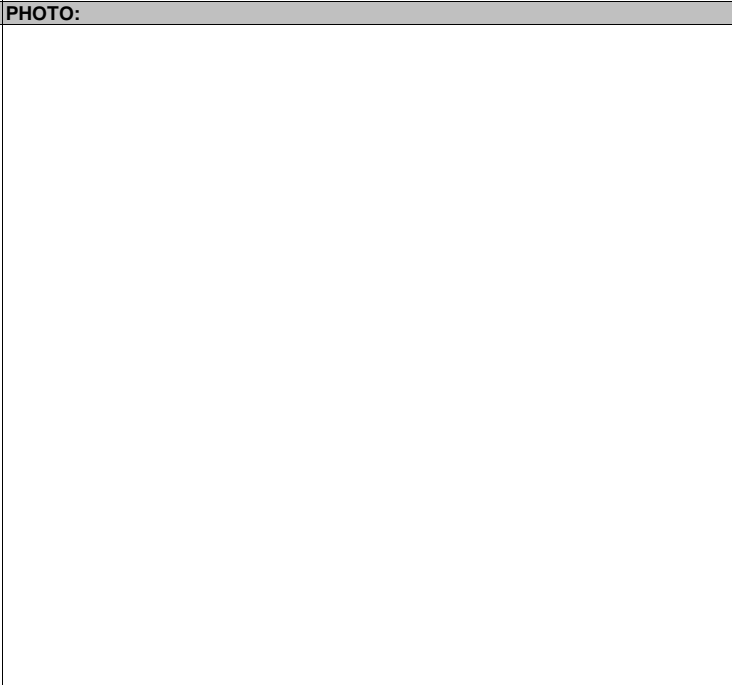
GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: 147P
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **148**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Boucher Hill**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	2050597.03	Elevation (usf)	1045.73
Easting (usf)	6344925.92		

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/19/14	10/19/14
2	DAY OF YEAR	292	292

START TIME	Obs A	ObsB	U.T.C.
	16:55	17:19	
END TIME	16:58	17:22	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of Driveway

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





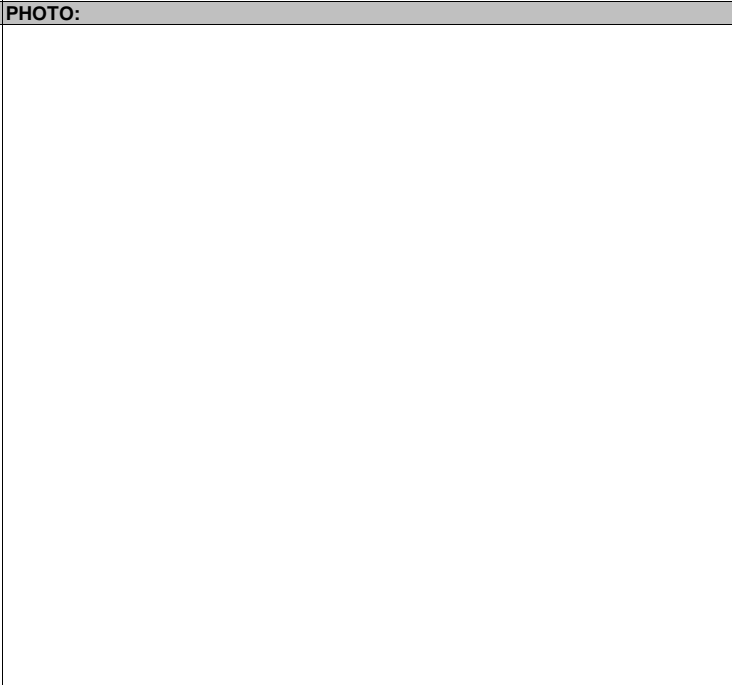
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JOB REFERENCE
USGS San Diego

POINT ID: 148
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **149**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Pala**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2045471.98**

RECEIVER S/N: **DC# RS2DC48730**

Easting (usf): **6311964.87**

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
CRTN	DAY OF YEAR: 292	292

	Obs A	ObsB		U.T.C.
START TIME	18:12	18:35		
END TIME	18:15	18:38	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Edge of Dr. Way

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





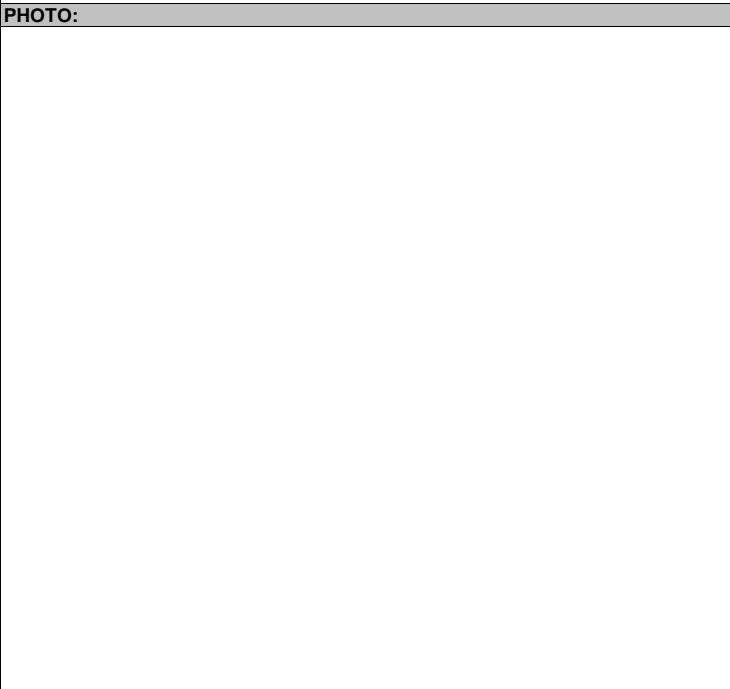
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JOB REFERENCE
USGS San Diego

POINT ID: 149
Proj. No.: 24982

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





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FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **150**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Bonsall**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2052240.60**

RECEIVER S/N: **DC# RS2DC48730**

Easting (usf): **6286057.79**

Elevation (usf): **828.05**

	ObsA	Obs B
SESSIONS	DATE: 10/18/14	10/18/14
CRTN	DAY OF YEAR: 291	291

	Obs A	ObsB		U.T.C.
START TIME	17:27	17:50		
END TIME	17:30	17:53	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 150
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **151**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Pala**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2076806.71**
Easting (usf): **6309150.58**
Elevation (usf): **390.73**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/18/14	10/18/14
CRTN	DAY OF YEAR: 291	291

	Obs A	ObsB		U.T.C.
START TIME	16:25	16:46		
END TIME	16:29	16:49	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Grate

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 151
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **152**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Bonsall**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **2080718.22** Elevation (usf) **563.51**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6280668.08**

SESSIONS	DATE:	ObsA	Obs B
		10/16/14	10/16/14
2	DAY OF YEAR	289	289

START TIME	Obs A	ObsB	U.T.C.
	17:24	17:48	
END TIME	17:27	17:51	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 152
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





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 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **153**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Bonsall**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **DC# RS2DC48730**

Northing (usf)	2047946.60	Elevation (usf)	166.44
Easting (usf)	6265768.81		

	ObsA	Obs B
SESSIONS	10/18/14	10/18/14
CRTN	291	291

	Obs A	ObsB		U.T.C.
START TIME	15:31	15:56		
END TIME	15:36	15:59	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 153
Proj. No.: 24982

523 Wellington Way, Suite 375
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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **154**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Morro Hill**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2044610.44**
Easting (usf): **6241827.14**
Elevation (usf): **164.70**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/18/14	10/18/14
CRTN	DAY OF YEAR: 291	291

	Obs A	ObsB		U.T.C.
START TIME	09:08	09:31		
END TIME	09:11	09:34	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

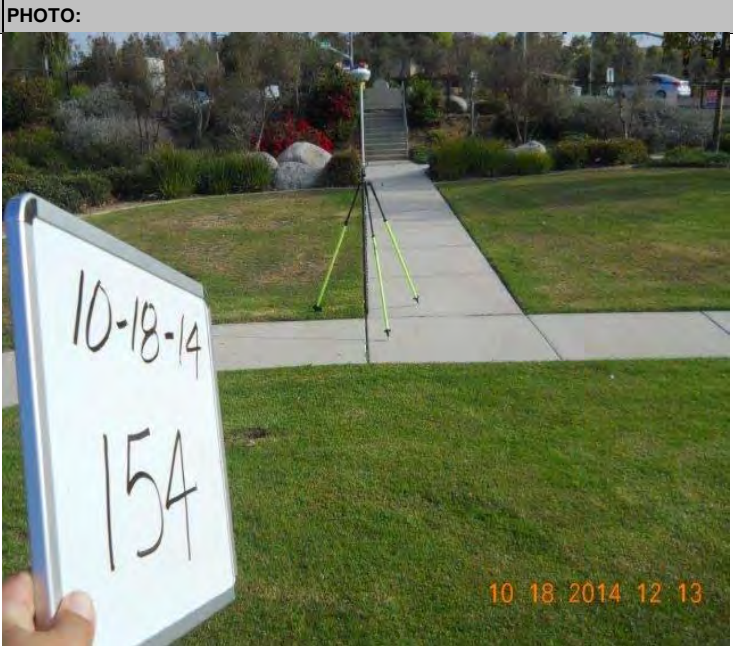
ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Side Walk

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
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JOB REFERENCE
USGS San Diego

POINT ID: 154
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





523 Wellington Way, Suite 375
 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: **155**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Luis Rey**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2023948.27**
 Easting (usf): **6247049.46**
 Elevation (usf): **387.05**

RECEIVER S/N: **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	DATE: 10/20/14	10/20/14
2	DAY OF YEAR: 293	293

	Obs A	ObsB		U.T.C.
START TIME	10:17	10:40		
END TIME	10:20	10:43	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 155
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **156**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Luis Rey**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2010093.17** Elevation (usf): **72.11**
Easting (usf): **6223788.60**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/20/14	10/20/14
CRTN	DAY OF YEAR: 293	293

	Obs A	ObsB		U.T.C.
START TIME	08:12	08:36		
END TIME	08:15	08:40	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Concrete

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

**PAGE:
2**

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

**JOB REFERENCE
USGS San Diego**

**POINT ID: 156
Proj. No.: 24982**

PHOTO:



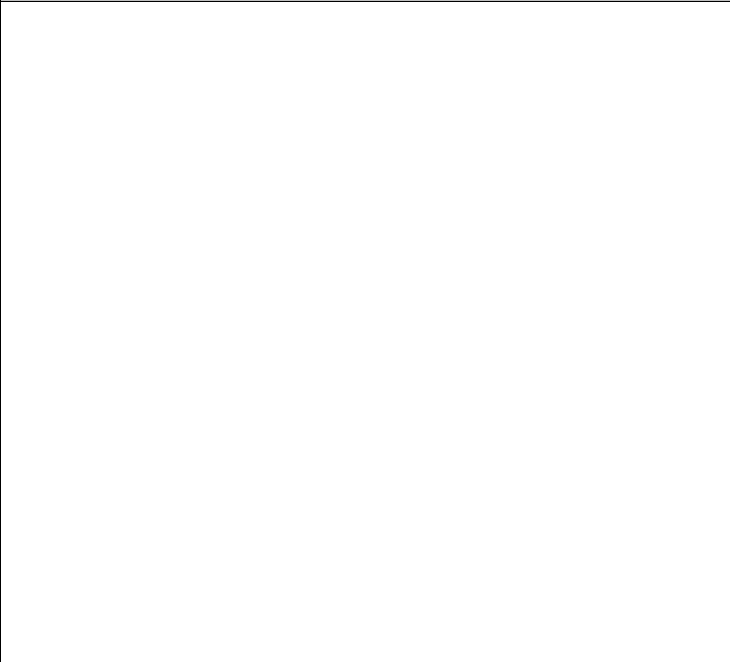
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **157**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Luis Rey**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf)	2024126.48	Elevation (usf)	32.61
Easting (usf)	6226470.65		

RECEIVER S/N: **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	10/18/14	10/18/14
DATE:		
DAY OF YEAR	291	291

	Obs A	ObsB		U.T.C.
START TIME	15:56	16:20		
END TIME	16:00	16:23	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT		MEASURED		FIXED HGT.
---------	--	----------	--	------------

ANTENNA

RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters	MEASURED	X	FIXED HGT
---------	---------------------	----------	----------	-----------

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of Sidewalk

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





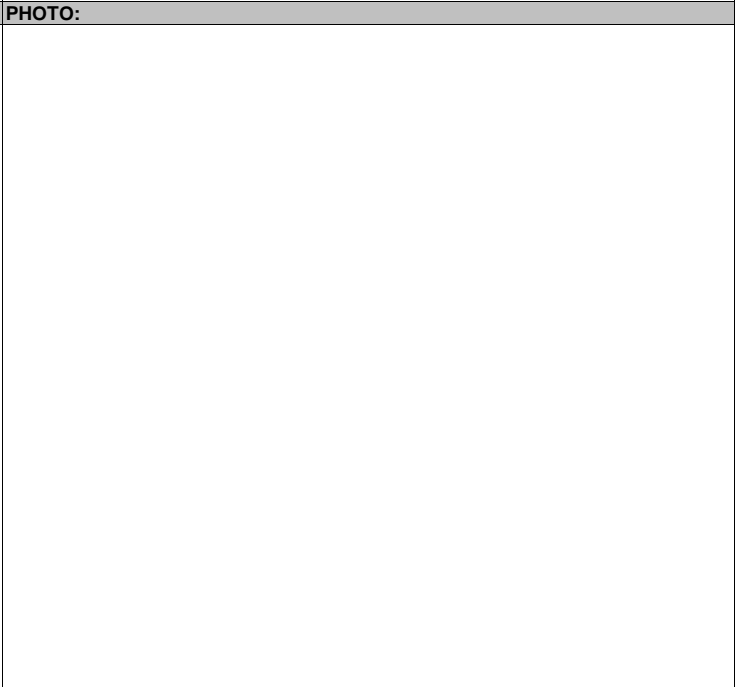
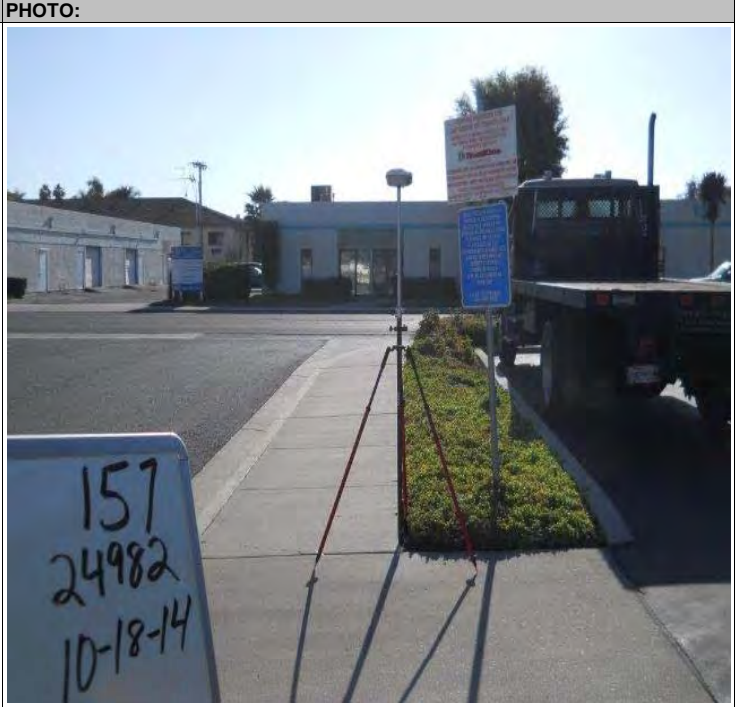
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 157
Proj. No.: 24982

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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **158**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Las Pulgas Canyon**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2043039.43**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6199573.21**

SESSIONS	DATE:	ObsA	Obs B
		10/18/14	10/18/14
2	DAY OF YEAR	291	291

START TIME	Obs A	ObsB	U.T.C.
	10:21	10:45	
END TIME	10:24	10:49	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 158
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **159**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Morro Hill**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2065817.19**
Easting (usf): **6224198.86**
Elevation (usf): **193.68**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR: 290	290

	Obs A	ObsB		U.T.C.
START TIME	16:15	16:40		
END TIME	16:20	16:43	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Concrete

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 159
Proj. No.: 24982

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PHOTO:



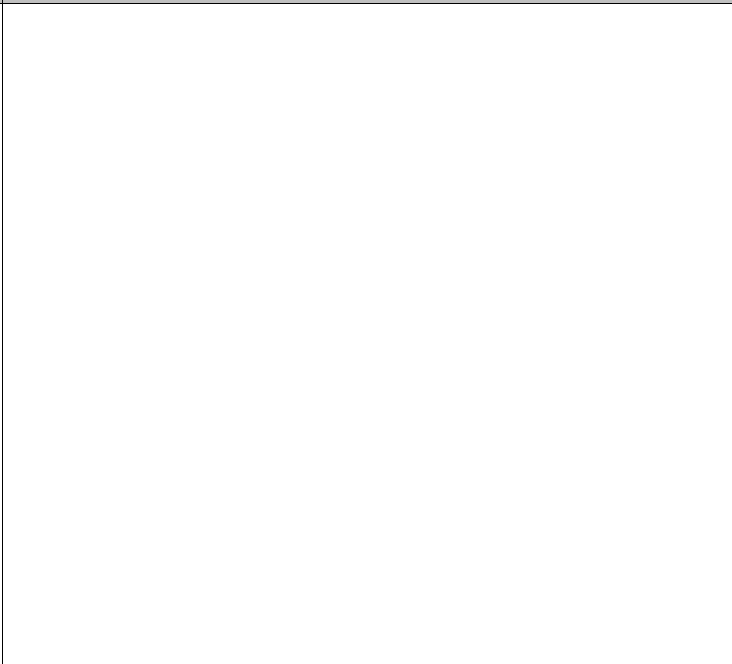
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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1

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JOB REFERENCE
USGS San Diego

POINT ID: **160**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Fallbrook**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2082122.90**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6255304.30**

Elevation (usf): **686.72**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
2	DAY OF YEAR: 290	290

	Obs A	ObsB		U.T.C.
START TIME	12:02	12:26		
END TIME	12:06	12:29	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 160
Proj. No.: 24982

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Lexington, KY 40503
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PHOTO:



PHOTO:



PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: **161**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Fallbrook**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **DC# RS2DC48730**

Northing (usf)	2093827.29	Elevation (usf)	871.27
Easting (usf)	6249430.16		

	ObsA	Obs B
SESSIONS	DATE: 10/16/14	10/16/14
CRTN	DAY OF YEAR 289	289

	Obs A	ObsB		U.T.C.
START TIME	11:54	12:34		
END TIME	11:57	12:37	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail in Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 161
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **162**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Temecula**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **2101776.91** Elevation (usf) **1197.53**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6288084.57**

SESSIONS	DATE:	ObsA	Obs B
		10/16/14	10/16/14
2	DAY OF YEAR	289	289

START TIME	Obs A	ObsB	U.T.C.
	16:23	16:53	
END TIME	16:26	16:56	X LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





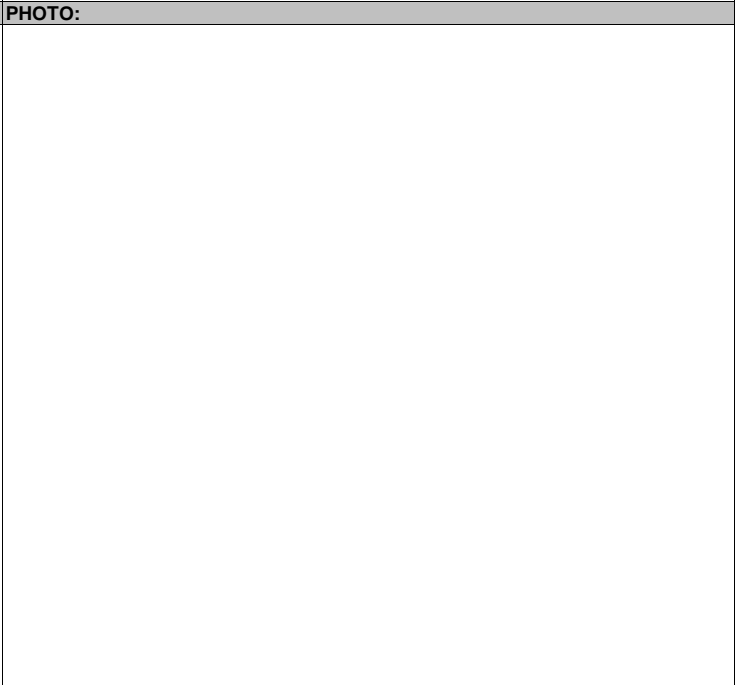
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 162
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **163**
Proj. No.: **24982**

STATE: **CA** COUNTY: **Riverside** QUAD: **Murrieta**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2135094.18**
Easting (usf): **6283663.38**
Elevation (usf): **1076.23**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/16/14	10/16/14
2	DAY OF YEAR	289	289

START TIME	Obs A	ObsB	U.T.C.
	14:37	15:13	
END TIME	14:42	15:16	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	1.800 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of Sidewalk

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





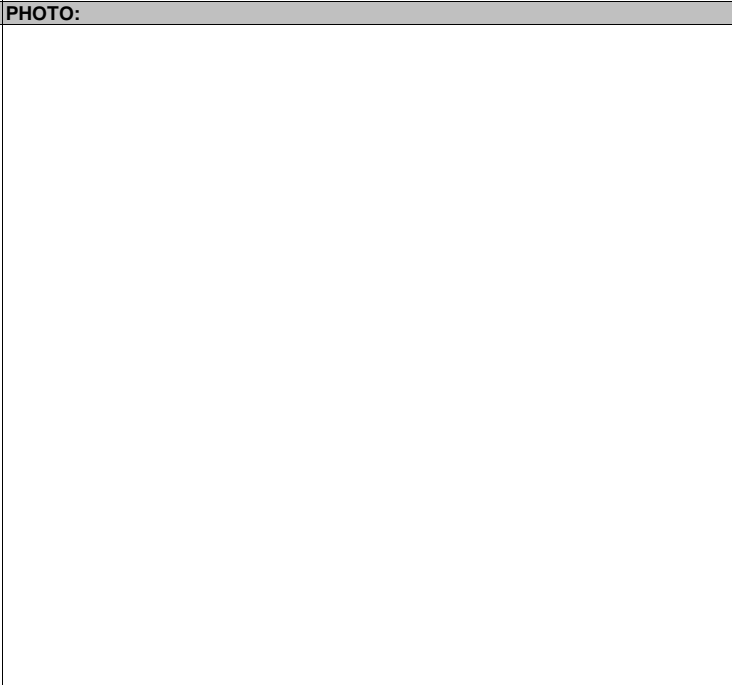
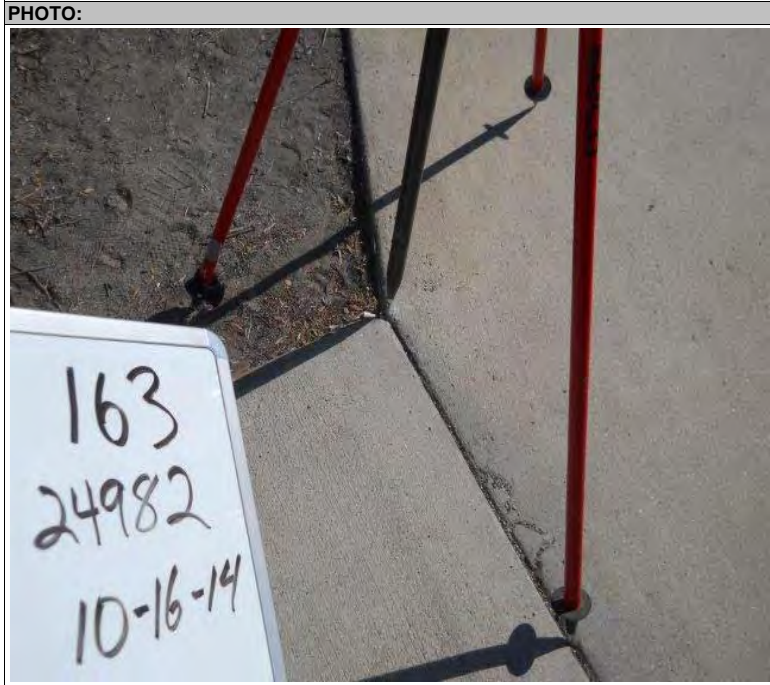
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 163
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **164**
Proj. No.: **24982**

STATE: **CA** COUNTY: **Riverside** QUAD: **Fallbrook**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2125006.25** Elevation (usf): **2056.00**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6224401.81**

SESSIONS	DATE:	ObsA	Obs B
		10/17/14	10/17/14
2	DAY OF YEAR	290	290

START TIME	Obs A	ObsB	U.T.C.
	11:06	11:43	
END TIME	11:36	12:13	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 164
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **165p**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Margarita Peak**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2116085.67**
Easting (usf): **6187400.52**
Elevation (usf): **427.68**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/16/14	10/16/14
87302891	DAY OF YEAR: 289	289

	Obs A	ObsB		U.T.C.
START TIME	10:26	11:01		
END TIME	10:56	11:31	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Mag Hub W/Washer (BE)

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 165p
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **167**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Las Pulgas Canyon**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2072306.24**
Easting (usf): **6208975.20**
Elevation (usf): **246.35**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR: 290	290

	Obs A	ObsB		U.T.C.
START TIME	15:35	15:58		
END TIME	15:38	16:01	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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**JOB REFERENCE
USGS San Diego**

**POINT ID: 167
Proj. No.: 24982**

PHOTO:



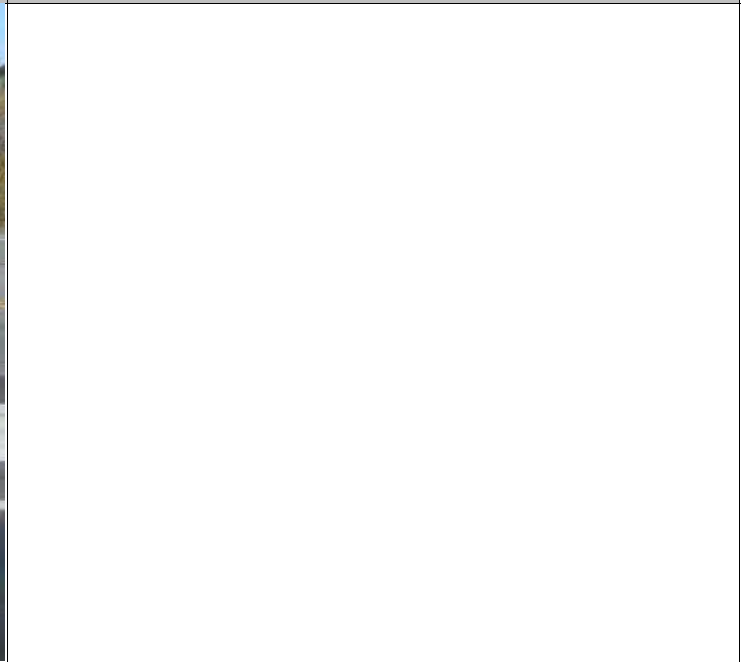
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **168**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Margarita Peak**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **2083614.07**

Easting (usf) **6197587.80**

Elevation (usf)
546.72

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR 290	290

	Obs A	ObsB		U.T.C.
START TIME	14:59	15:22		
END TIME	15:02	15:25	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail in Change of B/Top

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: 168
Proj. No.: 24982

PHOTO:



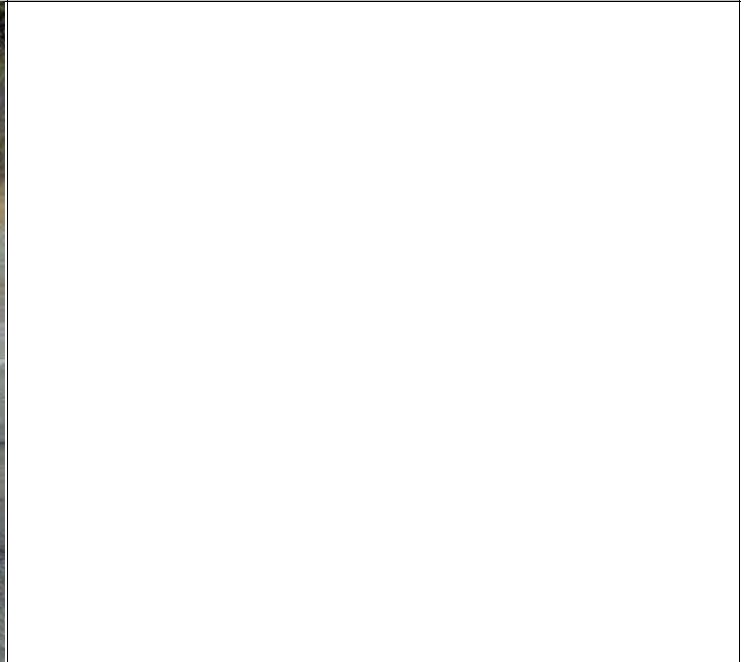
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PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **169**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Clemente**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS2DC48730**

Northing (usf): **2088368.15** Elevation (usf): **201.88**
Easting (usf): **6177491.48**

	ObsA	Obs B
SESSIONS DATE:	10/17/14	10/17/14
CRTN DAY OF YEAR	290	290

	Obs A	ObsB		U.T.C.
START TIME	08:42	09:16		
END TIME	08:45	09:29	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Mag Nail in Painted Target "X"

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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859-277-8700 voice 859-277-8901 fax

**JOB REFERENCE
USGS San Diego**

**POINT ID: 169
Proj. No.: 24982**

PHOTO:



PHOTO:

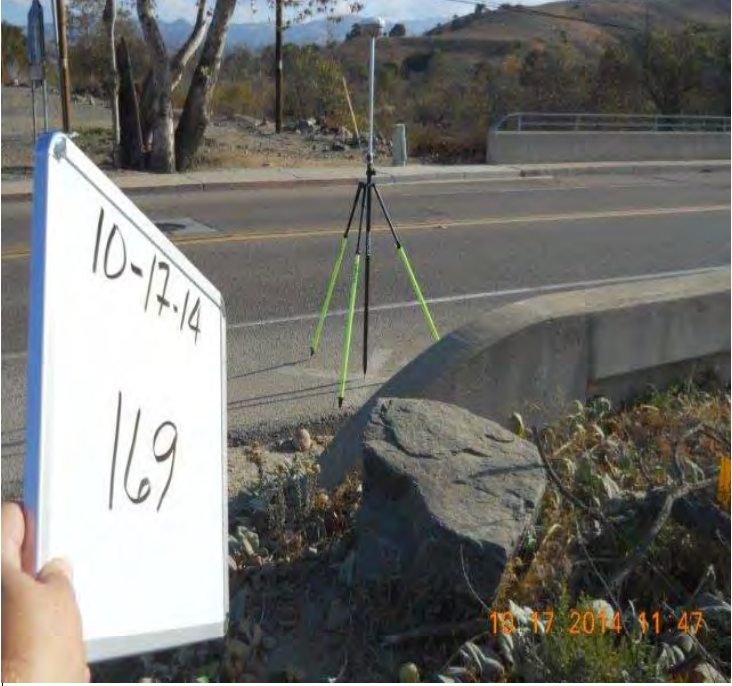
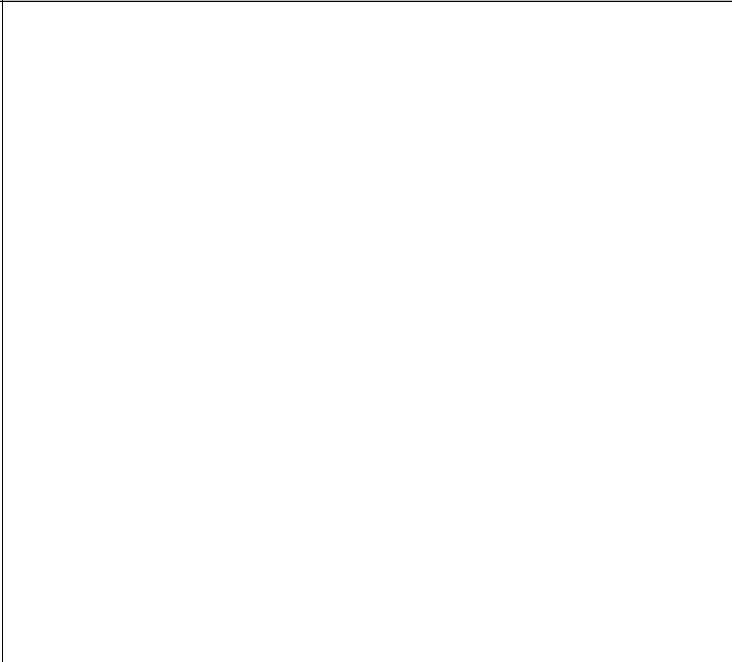


PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **170**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Onofre Bluff**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2069229.02** Elevation (usf): **157.56**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6177578.35**

SESSIONS	DATE:	ObsA	Obs B
		10/18/14	10/18/14
2	DAY OF YEAR	291	291

START TIME	Obs A	ObsB	U.T.C.
	09:12	09:36	
END TIME	09:15	09:39	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





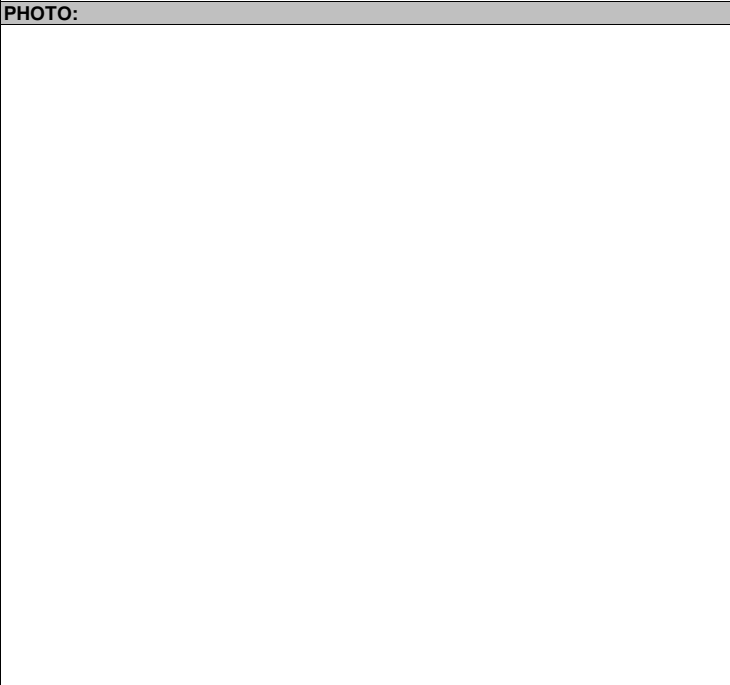
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 170
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **171**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Clemente**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2085788.58**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6155159.52**

SESSIONS	DATE:	ObsA	Obs B
		10/18/14	10/18/14
2	DAY OF YEAR	291	291

START TIME	Obs A	ObsB	U.T.C.
	07:27	07:50	
END TIME	07:30	07:53	X LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Tip of Arrow

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 171
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **172**
Proj. No.: **24982**

STATE: **CA** COUNTY: **Orange** QUAD: **San Clemente**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf)	2108478.10	Elevation (usf)	452.07
Easting (usf)	6155436.94		

RECEIVER S/N: **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	DATE: 10/16/14	10/16/14
2	DAY OF YEAR 290	290

	Obs A	ObsB		U.T.C.
START TIME	17:56	18:20		
END TIME	17:59	18:23	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	1.800 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Mag Nail/Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





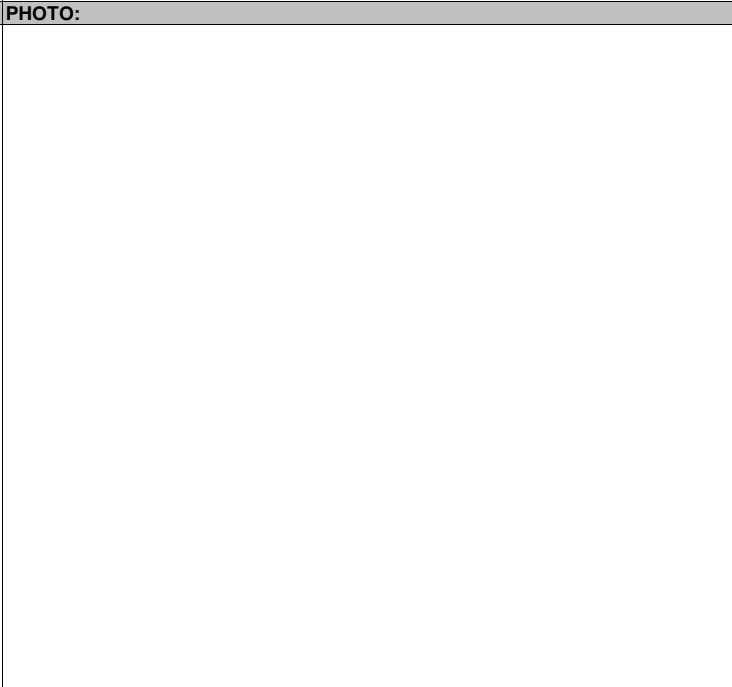
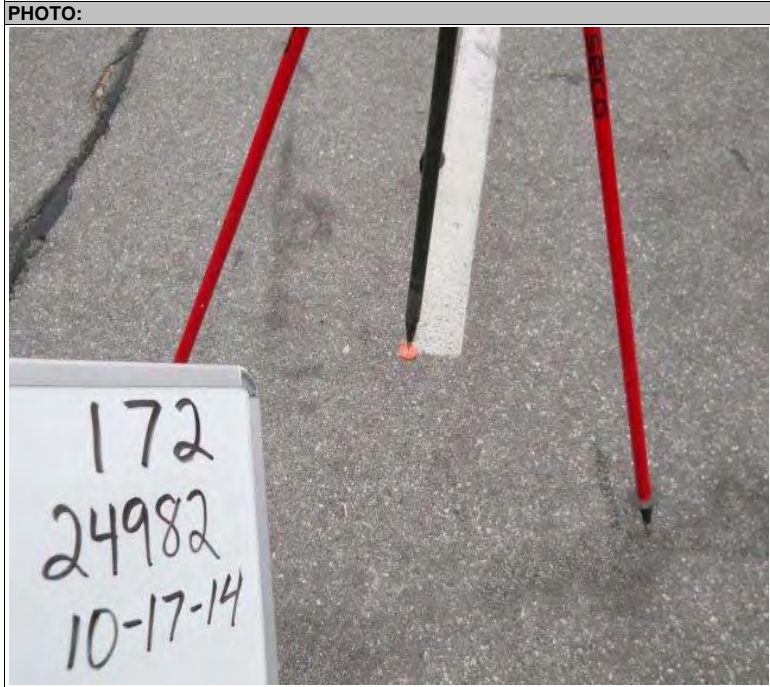
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 172
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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JOB REFERENCE
USGS San Diego

POINT ID: **173p**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Fallbrook**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2102486.53**
Easting (usf): **6234374.76**
Elevation (usf): **364.84**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/16/14	10/16/14
87302894	DAY OF YEAR: 289	289

	Obs A	ObsB		U.T.C.
START TIME	14:30	15:05		
END TIME	15:00	15:35	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Mag Hub W/Washer (BE)

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 173p
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **174p**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Margarita Peak**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS2DC48730**

Northing (usf): **2124903.89**
Easting (usf): **6185500.75**
Elevation (usf): **959.96**

	ObsA	Obs B
SESSIONS	DATE: 10/15/14	10/15/14
87302880	DAY OF YEAR: 288	288

	Obs A	ObsB		U.T.C.
START TIME	15:52	16:27		
END TIME	16:22	16:57	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8" Mag Hub W/Washer (BE)

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 174p
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **175**
Proj. No.: **24982**

STATE **CA**

COUNTY **Orange**

QUAD: **Canada Gobernadora**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **2136422.57**

Elevation (usf) **208.32**

RECEIVER S/N **DC# RS0TC15523**

Easting (usf) **6144091.17**

SESSIONS	DATE:	ObsA	Obs B
		10/16/14	10/16/14
2	DAY OF YEAR	290	290

START TIME	Obs A	ObsB	U.T.C.
	17:08	17:32	
END TIME	17:11	17:35	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

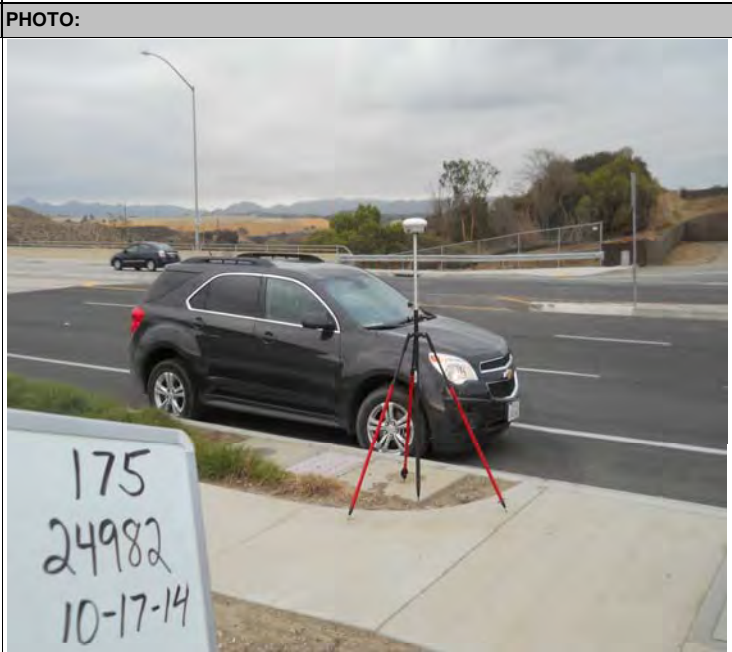
ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Concrete Pad

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 175
Proj. No.: 24982

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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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JOB REFERENCE
USGS San Diego

POINT ID: **196p**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Clemente**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	2105050.87	Elevation (usf)	238.03
Easting (usf)	6174490.24		

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	10/16/14	10/16/14
VRS	289	289

	Obs A	ObsB		U.T.C.
START TIME	16:06	16:29		
END TIME	16:09	16:32	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Mag Hub W/Washer Panel (BE)

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: 196p
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **200**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Oasis**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **DC# RS2DC48730**

Northing (usf)	2103952.47	Elevation (usf)	-123.31
Easting (usf)	6615217.13		

	ObsA	Obs B
SESSIONS	10/27/14	10/27/14
CRTN	300	300

	Obs A	ObsB		U.T.C.
START TIME	09:41	10:09		
END TIME	09:44	10:12	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Arrow

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





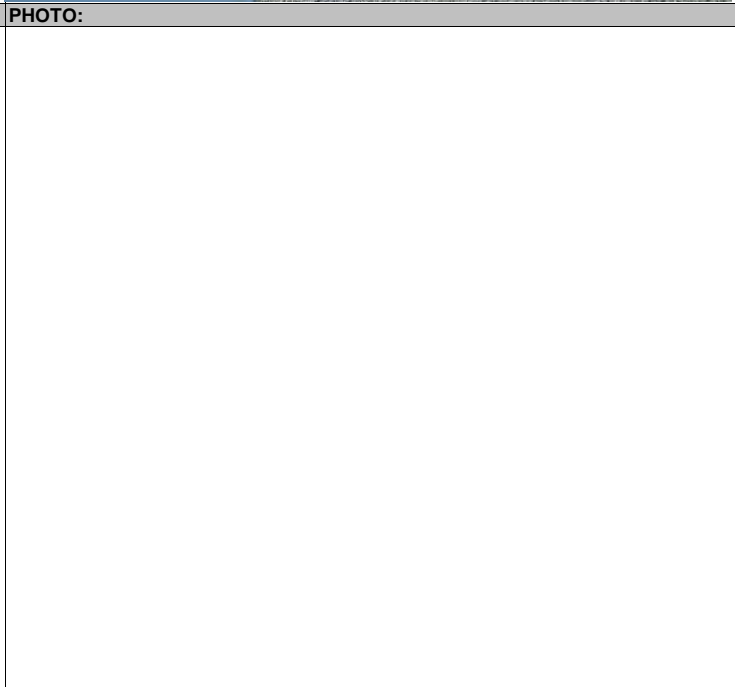
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 200
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **201**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Borrego Mountain**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1996114.96**

Easting (usf) **6597545.65**

Elevation (usf)
160.93

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/27/14	10/27/14
4087300	DAY OF YEAR 300	300

	Obs A	ObsB		U.T.C.
START TIME	11:42	12:17		
END TIME	12:12	12:47	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 201
Proj. No.: 24982

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Lexington, KY 40503
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PHOTO:



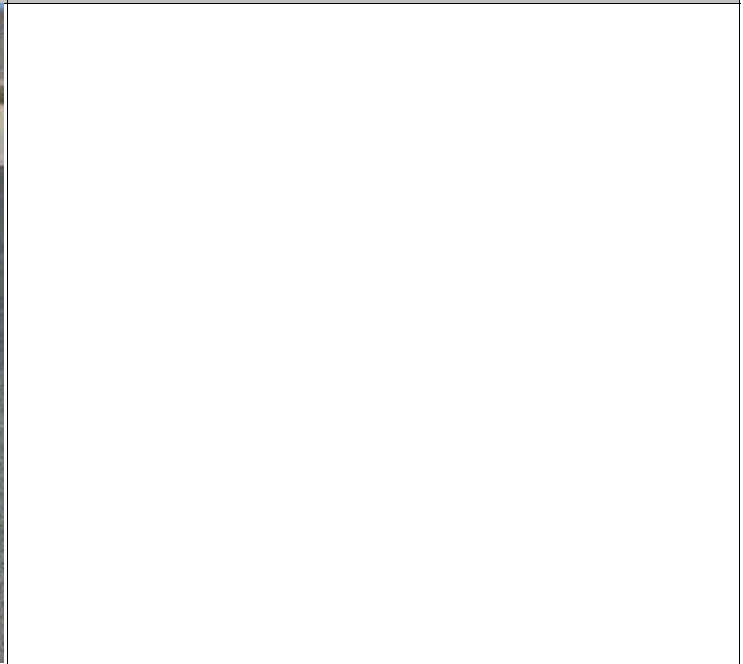
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **202P**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Sweeney Pass**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1875738.27	Elevation (usf)	1180.51
Easting (usf)	6594961.97		

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/27/14	10/27/14
2	DAY OF YEAR	300	300

START TIME	ObsA	ObsB	U.T.C.
	09:19	09:42	
END TIME	09:22	09:45	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

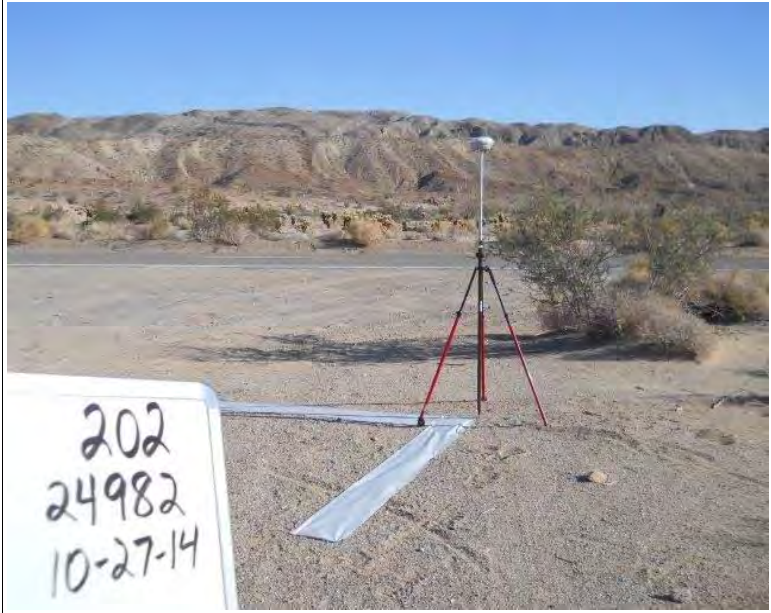
TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail/Panel

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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**JOB REFERENCE
USGS San Diego**

**POINT ID: 202P
Proj. No.: 24982**

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **203**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **In-Ko-Pah Gorge**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1811283.06	Elevation (usf)	3226.77
Easting (usf)	6602341.74		

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/26/14	10/26/14
2	DAY OF YEAR	299	299

START TIME	ObsA	ObsB	U.T.C.
	16:51	17:19	
END TIME	16:59	17:22	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of Concrete

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 203
Proj. No.: 24982

523 Wellington Way, Suite 375
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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **204**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Clark Lake**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **2053256.11**

Easting (usf) **6525921.12**

Elevation (usf)
665.05

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/27/14	10/27/14
CRTN	DAY OF YEAR 300	300

	Obs A	ObsB		U.T.C.
START TIME	14:04	14:27		
END TIME	14:07	14:30	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 204
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



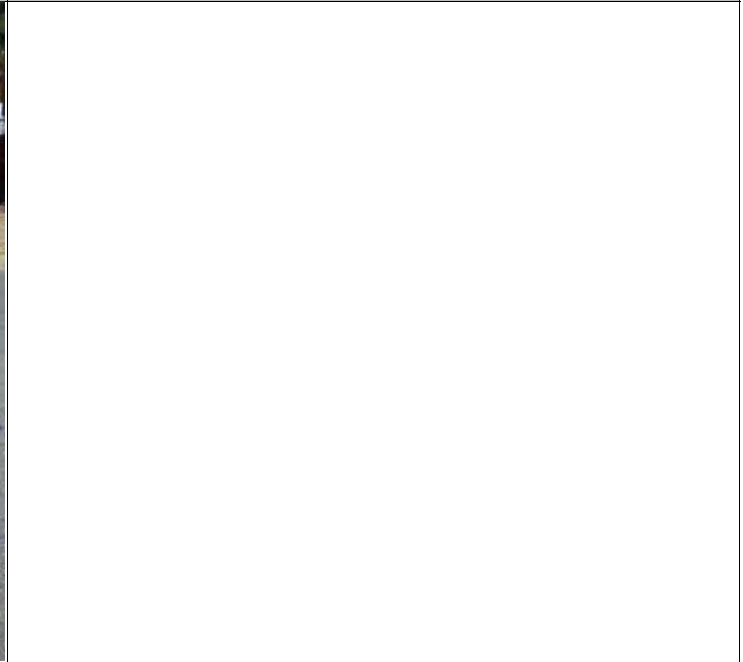
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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1

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **205P**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Borrego Sink**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1991969.86**

RECEIVER S/N **5153480435**

Easting (usf) **6538242.08**

SESSIONS	DATE:	ObsA	Obs B
		10/27/14	10/27/14
2	DAY OF YEAR	300	300

START TIME	ObsA	ObsB	U.T.C.
	12:18	12:55	
END TIME	12:49	13:25	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail/Panel

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 205P
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





523 Wellington Way, Suite 375
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 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **206**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Agua Caliente Springs**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1927478.43**

RECEIVER S/N: **5153480435**

Easting (usf): **6547436.80**

Elevation (usf): **1222.38**

SESSIONS	DATE:	ObsA	Obs B
		10/27/14	10/27/14
2	DAY OF YEAR	300	300

START TIME	ObsA	ObsB	U.T.C.
	10:13	10:50	
END TIME	10:43	11:20	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bottom Corner of "Y" in YIELD

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





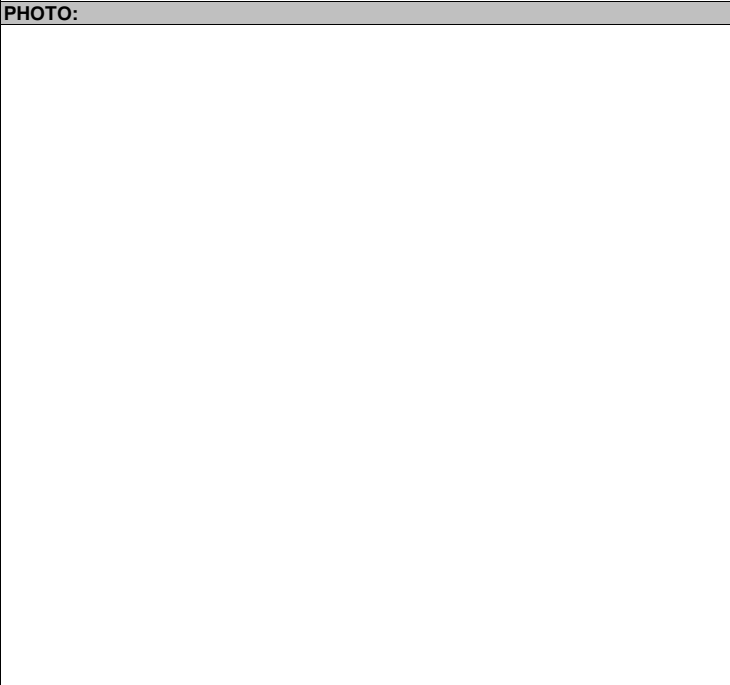
GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: 206
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **207P**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Live Oak Springs**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1816164.42**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6524314.07**

SESSIONS	DATE:	ObsA	Obs B
		2	10/26/14
	DAY OF YEAR	299	299

START TIME	ObsA	ObsB	U.T.C.
	15:07	15:58	
END TIME	15:10	16:01	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail/Panel

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
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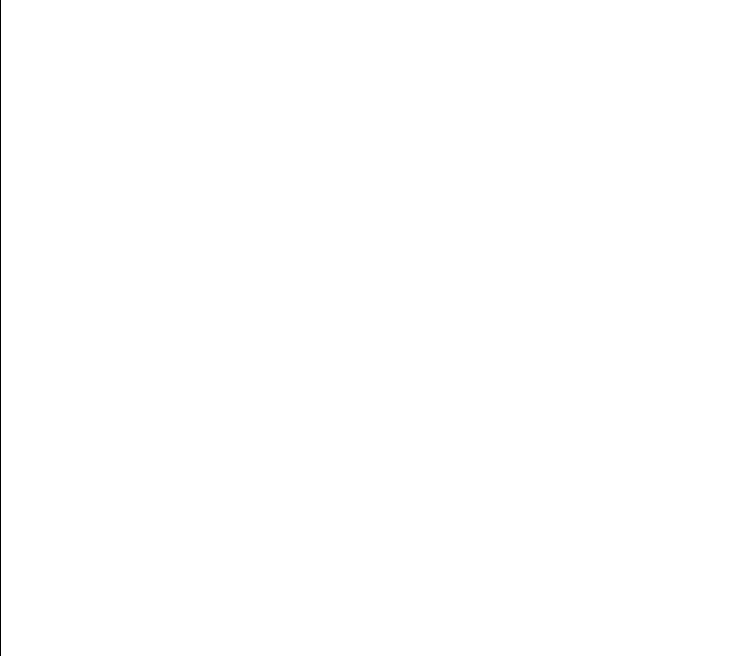
JOB REFERENCE
USGS San Diego

POINT ID: 207P
Proj. No.: 24982

PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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JOB REFERENCE
USGS San Diego

POINT ID: **208**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Mount Laguna**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

Northing (usf)	1895698.23	Elevation (usf)	5888.65
Easting (usf)	6509778.48		

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **5153480435**

	ObsA	Obs B
SESSIONS	10/26/14	10/26/14
2	299	299

	ObsA	ObsB		U.T.C.
START TIME	10:36	11:14		
END TIME	11:06	11:44	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 208
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **209**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Tecate**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1790357.76**
 Easting (usf): **6445228.76**
 Elevation (usf): **1784.03**

RECEIVER S/N: **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	DATE: 10/25/14	10/25/14
2	DAY OF YEAR: 298	298

	ObsA	ObsB		U.T.C.
START TIME	17:43	18:09		
END TIME	17:49	18:12	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of Concrete

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 209
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **210P**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Dulzura**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1815275.67	Elevation (usf)	1022.34
Easting (usf)	6396764.67		

RECEIVER S/N **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	10/25/14	10/25/14
2	298	298

	ObsA	ObsB		U.T.C.
START TIME	16:16	16:40		
END TIME	16:20	16:43	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8'Nail/Panel

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 210P
Proj. No.: 24982

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PHOTO: PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
 USGS San Diego

POINT ID: 211
 Proj. No.: 24982

STATE: CA COUNTY: San Diego QUAD: Descanso

OPERATOR: D.Griggs

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: Trimble R8

Northing (usf): 1881201.99
 Easting (usf): 6446483.85
 Elevation (usf): 3410.87

RECEIVER S/N: DC# RS0TC15523

SESSIONS	DATE:	ObsA	Obs B
		10/26/14	10/26/14
2	DAY OF YEAR	299	299

START TIME	ObsA	ObsB	U.T.C.
	07:58	08:21	
END TIME	08:01	08:24	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





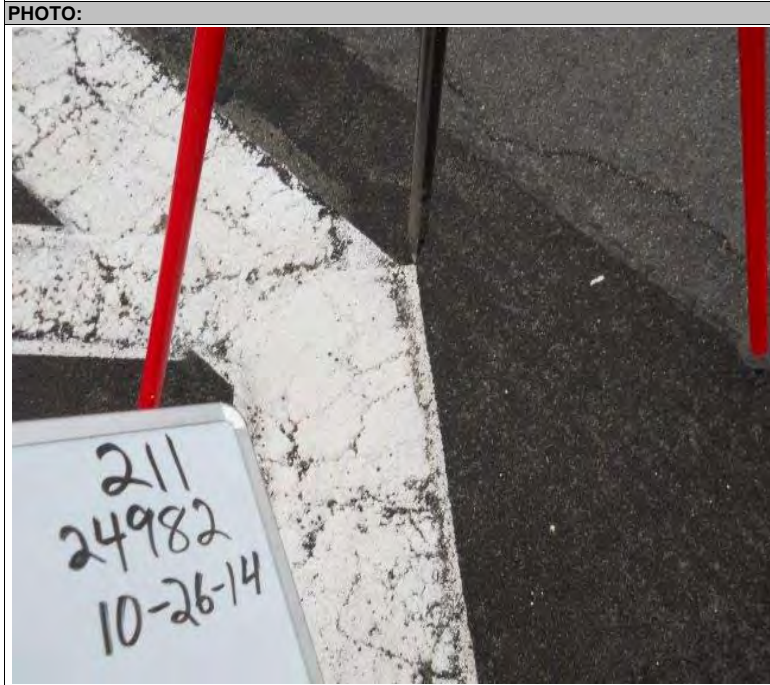
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 211
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **212**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Julian**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS2DC48730**

Northing (usf): **1971958.51** Elevation (usf): **4226.46**
Easting (usf): **6454268.86**

	ObsA	Obs B
SESSIONS	DATE: 10/26/14	10/26/14
CRTN	DAY OF YEAR: 299	299

	Obs A	ObsB		U.T.C.
START TIME	09:21	09:47		
END TIME	09:24	09:50	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: 212
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **213**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Santa Ysabel**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **DC# RS2DC48730**

Northing (usf)	1967778.46	Elevation (usf)	2491.75
Easting (usf)	6409529.70		

	ObsA	Obs B
SESSIONS	DATE: 10/26/14	10/26/14
CRTN	DAY OF YEAR 299	299

	Obs A	ObsB		U.T.C.
START TIME	08:30	08:53		
END TIME	08:33	08:56	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





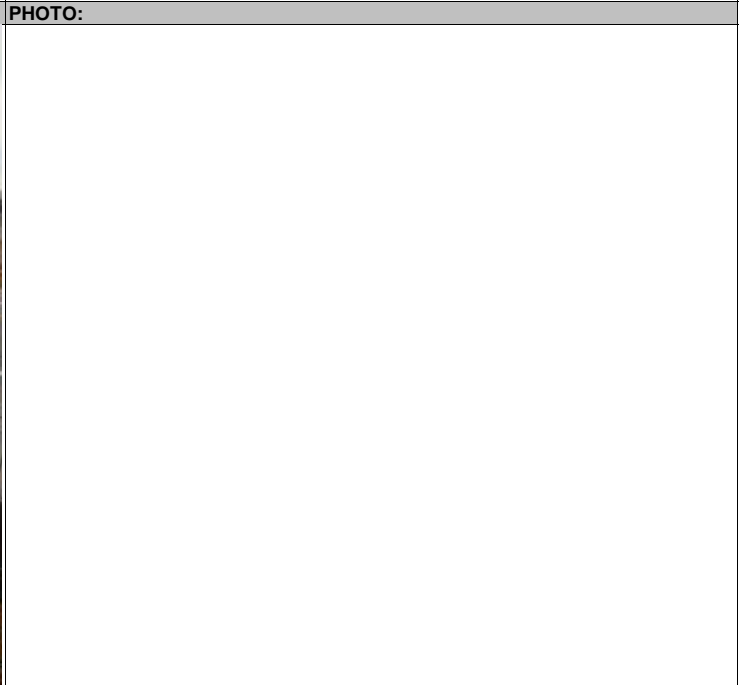
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 213
Proj. No.: 24982

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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **214**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Warner Springs**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2045565.72**
 Easting (usf): **6444562.59**
 Elevation (usf): **3144.94**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/26/14	10/26/14
CRTN	DAY OF YEAR: 299	299

	Obs A	ObsB		U.T.C.
START TIME	12:23	12:49		
END TIME	12:26	12:52	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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**JOB REFERENCE
USGS San Diego**

**POINT ID: 214
Proj. No.: 24982**

PHOTO:



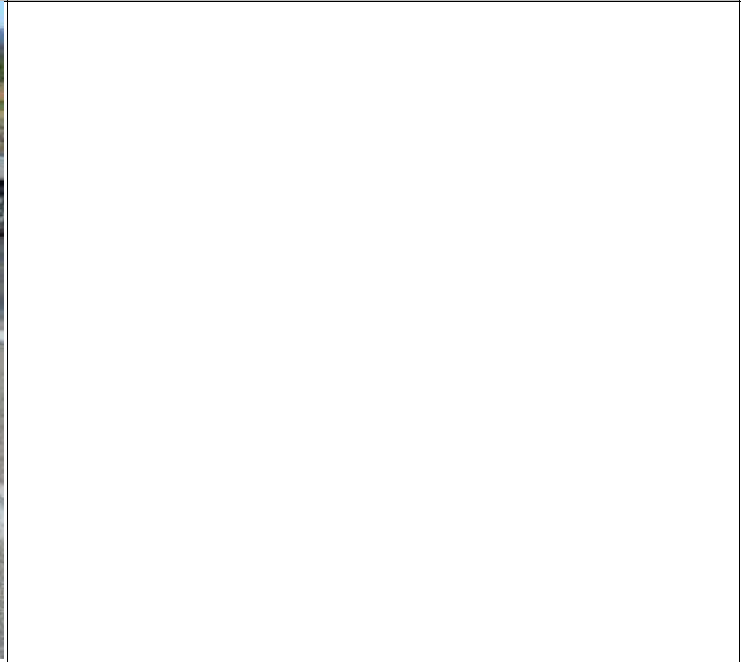
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **215p**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Palomar Observatory**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2041578.18**

RECEIVER S/N: **DC# RS2DC48730**

Easting (usf): **6387129.53**

	ObsA	Obs B
SESSIONS	DATE: 10/26/14	10/26/14
CRTN	DAY OF YEAR: 299	299

	Obs A	ObsB		U.T.C.
START TIME	16:06	16:43		
END TIME	16:09	16:46	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Panel

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





**GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: 215p
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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JOB REFERENCE
USGS San Diego

POINT ID: **216p**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Aguanga**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2099341.35**

RECEIVER S/N: **DC# RS2DC48730**

Easting (usf): **6382735.59**

Elevation (usf): **2453.02**

	ObsA	Obs B
SESSIONS	DATE: 10/26/14	10/26/14
CRTN	DAY OF YEAR: 299	299

	Obs A	ObsB		U.T.C.
START TIME	14:00	14:26		
END TIME	14:03	14:29	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Panel

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: 216p
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **217P**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Beauty Mountain**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **5153480435**

Northing (usf): **2092358.35**
Easting (usf): **6427980.57**
Elevation (usf): **4504.61**

SESSIONS	DATE:	ObsA	Obs B
		10/24/14	10/24/14
2	DAY OF YEAR	297	297

START TIME	ObsA	ObsB	U.T.C.
	13:40	14:17	
END TIME	14:10	14:47	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
---------	----------	------------

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters	MEASURED	X	FIXED HGT
---------	---------------------	----------	----------	-----------

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8"Nail/Panel

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 217P
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





523 Wellington Way, Suite 375
 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **225**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Live Oak Springs**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1825841.84**
 Easting (usf) **6549008.32**
 Elevation (usf) **3585.16**

RECEIVER S/N **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	DATE: 10/26/14	10/26/14
2	DAY OF YEAR 299	299

	ObsA	ObsB		U.T.C.
START TIME	14:28	14:51		
END TIME	14:31	14:55	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





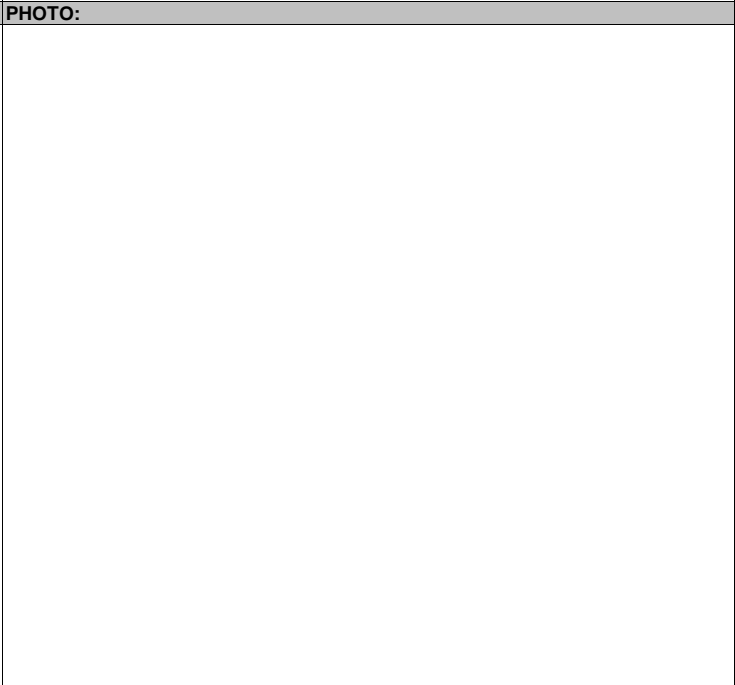
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 225
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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1

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **176QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1789394.59**
Easting (usf): **6313915.28**
Elevation (usf): **178.75**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/24/14	10/24/14
CRTN	DAY OF YEAR: 297	297

	Obs A	ObsB		U.T.C.
START TIME	07:11	07:43		
END TIME	07:14	07:46	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 176QC
Proj. No.: 24982

PHOTO:



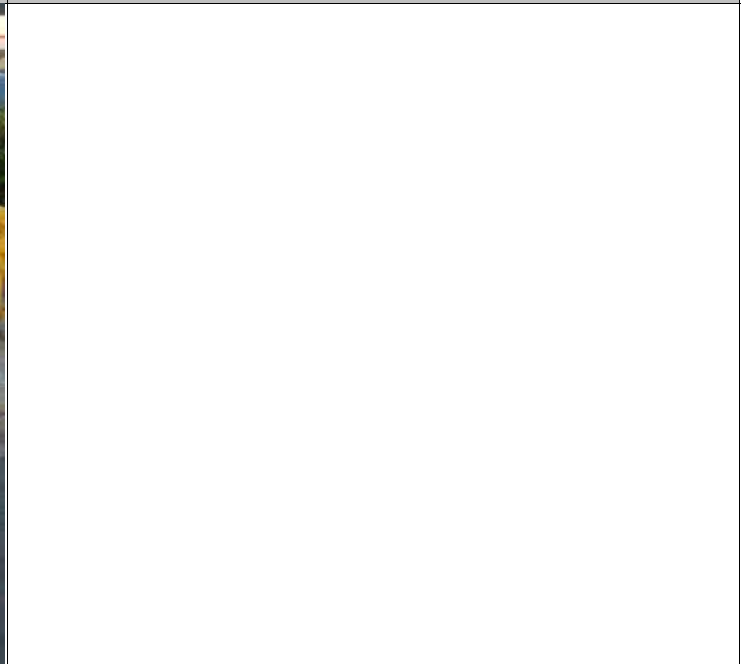
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **177QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Jamul Mountains**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS0TC15523**

Northing (usf): **1843542.360**
Easting (usf): **6364390.830**
Elevation (usf): **767.510**

SESSIONS	DATE:	ObsA	Obs B
		10/23/14	10/23/14
2	DAY OF YEAR	296	296

START TIME	Obs A	ObsB	U.T.C.
	11:18	11:43	
END TIME	11:23	11:47	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 177QC
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **178QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Alpine**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1892090.86**
Easting (usf): **6384043.52**
Elevation (usf): **1184.89**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/22/14	10/22/14
2	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	17:57	18:23	
END TIME	18:01	18:26	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Mag Nail/Target

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





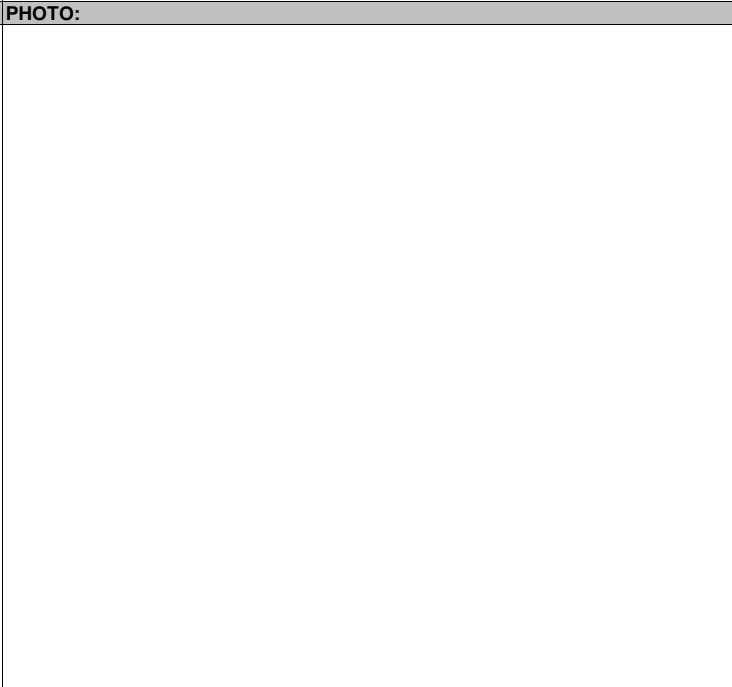
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 178QC
Proj. No.: 24982

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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **179QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Mesa**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS0TC15523**

Northing (usf): **1863713.38** Elevation (usf): **100.81**
Easting (usf): **6297334.29**

SESSIONS	DATE:	ObsA	Obs B
		10/24/14	10/24/14
2	DAY OF YEAR	297	297

START TIME	ObsA	ObsB	U.T.C.
	07:27	07:51	
END TIME	07:30	07:54	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
---------	----------	------------

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters	MEASURED	X	FIXED HGT
---------	---------------------	----------	----------	-----------

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Corner of Sidewalk

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





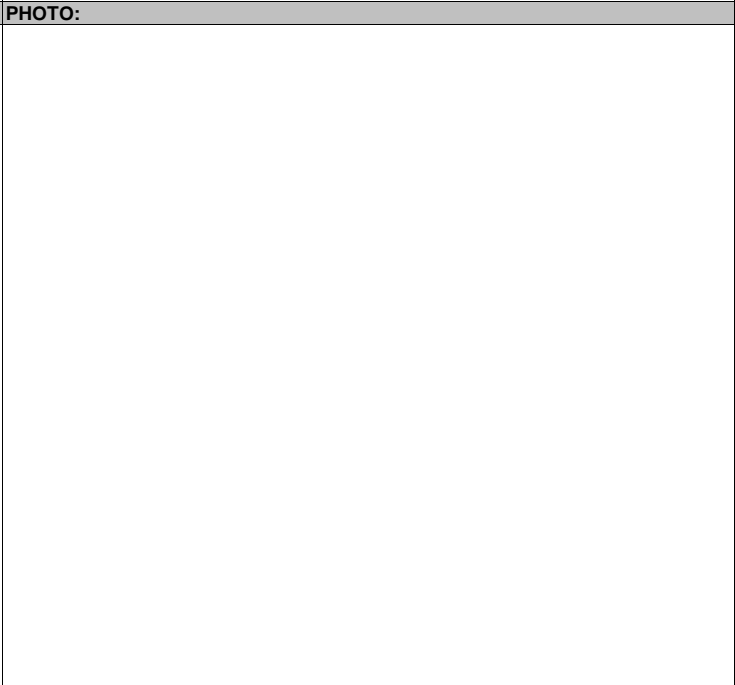
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 179QC
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **180QC**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Jolla**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1881637.69**
 Easting (usf): **6258122.40**
 Elevation (usf): **485.27**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/22/14	10/22/14
CRTN	DAY OF YEAR: 295	295

	Obs A	ObsB		U.T.C.
START TIME	12:36	13:03		
END TIME	12:39	13:06	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 180QC
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **181QC**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Vicente Reservoir**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1902183.37	Elevation (usf)	466.20
Easting (usf)	6332473.61		

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/22/14	10/22/14
2	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	13:55	14:18	
END TIME	13:58	14:21	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tip of Arrow

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 181QC
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO: PHOTO:



PHOTO: PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **182QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Vicente Reservoir**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **1936595.16** Elevation (usf) **1613.72**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6339877.33**

SESSIONS	DATE:	ObsA	Obs B
		10/22/14	10/22/14
2	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	08:35	08:58	
END TIME	08:38	09:01	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 182QC
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **183QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Del Mar**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1927855.04**
Easting (usf): **6271967.73**
Elevation (usf): **213.66**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/21/14	10/21/14
CRTN	DAY OF YEAR: 294	294

	Obs A	ObsB		U.T.C.
START TIME	09:11	09:35		
END TIME	09:14	09:38	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Concrete

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:



10.21.2014 12:16

10.21.2014 12:16



GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 183QC
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





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 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
1

JOB REFERENCE
USGS San Diego

POINT ID: **184QC**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Rancho Santa Fe**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1968587.08**

Easting (usf) **6257072.45**

Elevation (usf)
127.16

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/20/14	10/20/14
CRTN	DAY OF YEAR 293	293

	Obs A	ObsB		U.T.C.
START TIME	13:07	13:30		
END TIME	13:10	13:33	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: 184QC
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **185QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Escondido**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1964877.45** Elevation (usf): **341.55**

RECEIVER S/N: **DC# RS2DC48730**

Easting (usf): **6309471.18**

	ObsA	Obs B
SESSIONS	DATE: 10/21/14	10/21/14
CRTN	DAY OF YEAR: 294	294

	Obs A	ObsB		U.T.C.
START TIME	12:51	13:16		
END TIME	12:54	13:19	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 185QC
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **186QC**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Pasqual**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1977273.25**

Easting (usf) **6348988.38**

Elevation (usf)
451.72

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/21/14	10/21/14
2	DAY OF YEAR	294	294

START TIME	Obs A	ObsB	U.T.C.
	08:06	08:30	
END TIME	08:10	08:33	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 186QC
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **187QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Rodriguez Mountain**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2023022.39**

Elevation (usf): **1999.38**

RECEIVER S/N: **5153480435**

Easting (usf): **6353070.53**

SESSIONS	DATE:	ObsA	Obs B
		10/19/14	10/19/14
2	DAY OF YEAR	292	292

	Obs A	ObsB		U.T.C.
	START TIME	10:08		
END TIME	10:39	11:15	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Pavement color change

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 187QC
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **188QC**
 Proj. No.: **24982**

STATE **CA** COUNTY **San Diego** QUAD: **Valley Center**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1999043.08**
 Easting (usf) **6321865.92**
 Elevation (usf) **721.61**

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
CRTN	DAY OF YEAR 292	292

	Obs A	ObsB		U.T.C.
START TIME	09:42	10:05		
END TIME	09:45	10:08	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 188QC
Proj. No.: 24982

PHOTO:



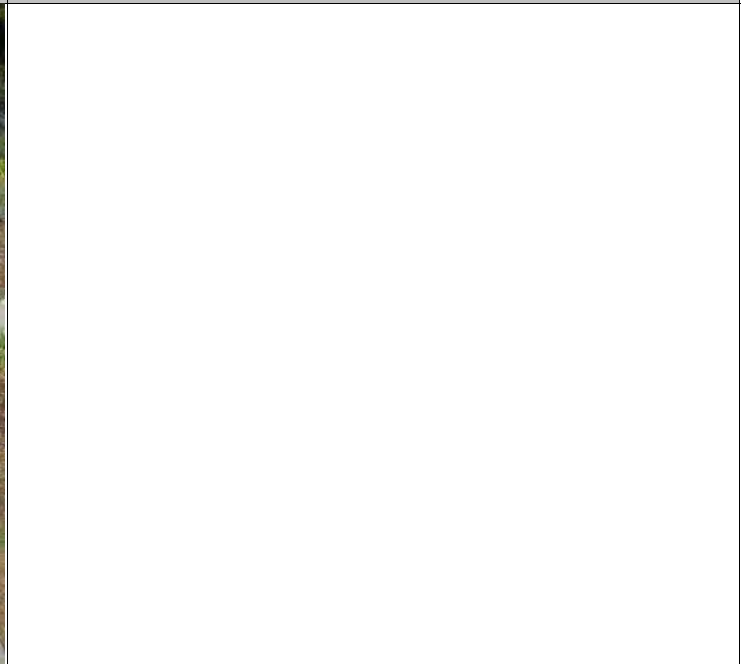
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PHOTO:



PHOTO:





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JOB REFERENCE
USGS San Diego

POINT ID: **189QC**
Proj. No.: **24982**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

STATE: **CA** COUNTY: **San Diego** QUAD: **San Marcos**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1995192.70**
Easting (usf): **6278664.80**
Elevation (usf): **558.70**

RECEIVER S/N: **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	DATE: 10/20/14	10/20/14
2	DAY OF YEAR: 293	293

	Obs A	ObsB		U.T.C.
START TIME	12:52	13:16		
END TIME	12:55	13:19	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tip of Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





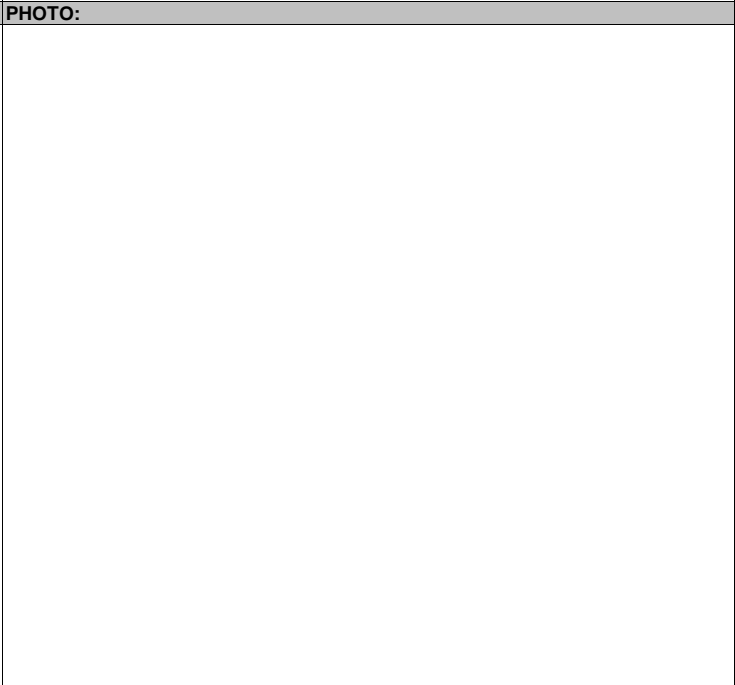
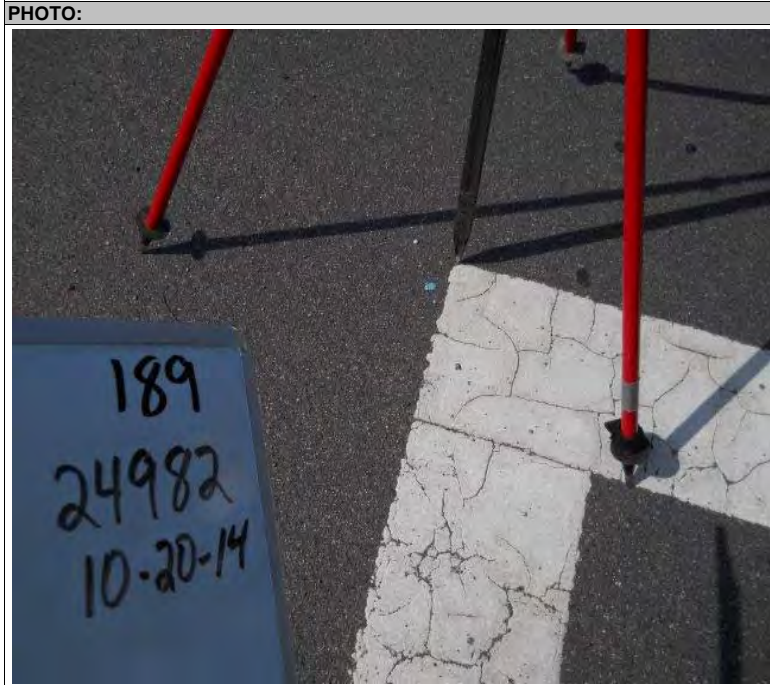
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 189QC
Proj. No.: 24982

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JOB REFERENCE
USGS San Diego

POINT ID: **190QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Oceanside**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2020414.36**
Easting (usf): **6215231.68**
Elevation (usf): **32.36**

RECEIVER S/N: **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	DATE: 10/18/14	10/18/14
2	DAY OF YEAR: 291	291

	Obs A	ObsB		U.T.C.
START TIME	11:13	11:42		
END TIME	11:21	11:46	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 190QC
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: **191QC**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Pala**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **DC# RS2DC48730**

Northing (usf)	2051050.70	Elevation (usf)	1683.03
Easting (usf)	6325163.70		

	ObsA	Obs B
SESSIONS	10/18/14	10/18/14
CRTN	291	291

	Obs A	ObsB		U.T.C.
START TIME	10:20	10:43		
END TIME	10:23	10:46	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT		MEASURED		FIXED HGT.
---------	--	----------	--	------------

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters	MEASURED	X	FIXED HGT
---------	---------------------	----------	----------	-----------

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Center Manhole

AERIAL TARGET		X	PHOTO I.D.
PUB. BENCH MARK			NEW CONTROL
PUB. CONTROL			BASE STATION





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 191QC
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **192QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Bonsall**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2065882.68**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6284380.60**

Elevation (usf): **302.68**

SESSIONS	DATE:	ObsA	Obs B
		10/17/14	10/17/14
2	DAY OF YEAR	290	290

START TIME	Obs A	ObsB	U.T.C.
	11:07	11:31	
END TIME	11:10	11:35	X LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:



PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 192QC
Proj. No.: 24982

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PHOTO:



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PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **193QC**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Pala**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **2051050.70**

RECEIVER S/N **DC# RS2DC48730**

Easting (usf) **6325163.70**

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
CRTN	DAY OF YEAR 292	292

	Obs A	ObsB		U.T.C.
START TIME	14:51	15:14		
END TIME	14:54	15:17	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 193QC
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
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JOB REFERENCE
USGS San Diego

POINT ID: **194QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Morro Hill**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2054299.87**
Easting (usf): **6236870.02**
Elevation (usf): **356.84**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR: 290	290

	Obs A	ObsB		U.T.C.
START TIME	17:11	17:35		
END TIME	17:14	17:38	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 194QC
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
1

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **195QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Margarita Peak**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2083009.89**
Easting (usf): **6186932.90**
Elevation (usf): **377.56**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR: 290	290

	Obs A	ObsB		U.T.C.
START TIME	09:52	10:41		
END TIME	09:55	10:44	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Side Walk

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 195QC
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
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JOB REFERENCE
USGS San Diego

POINT ID: **197QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **Riverside** QUAD: **Temecula**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **2120009.02** Elevation (usf) **999.60**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6289508.18**

SESSIONS	DATE:	ObsA	Obs B
		10/16/14	10/16/14
2	DAY OF YEAR	289	289

START TIME	Obs A	ObsB	U.T.C.
	15:32	16:07	
END TIME	15:36	16:10	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of Sidewalk

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





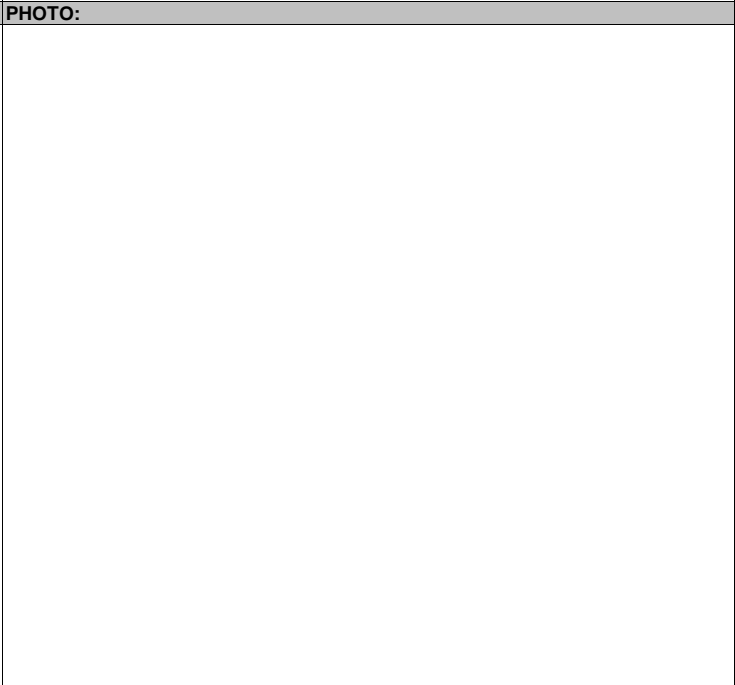
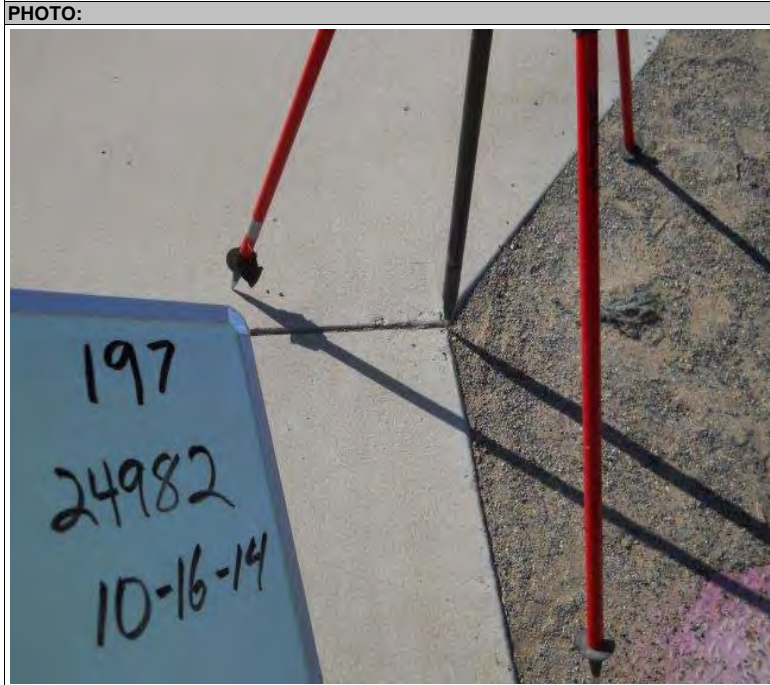
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 197QC
Proj. No.: 24982

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Lexington, KY 40503
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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **198QC**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **Orange** QUAD: **Canada Gobernadora**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2133313.84**
 Easting (usf): **6157039.09**
 Elevation (usf): **305.95**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/16/14	10/16/14
2	DAY OF YEAR	290	290

START TIME	Obs A	ObsB	U.T.C.
	16:28	16:52	
END TIME	16:31	16:55	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





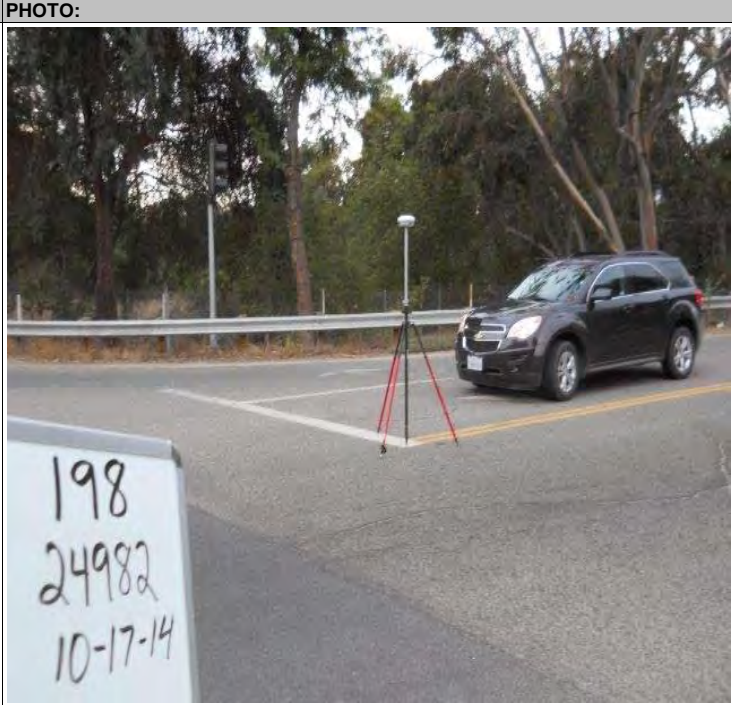
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: 198QC
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **218QC**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Borrego Sink**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **2019854.24**

Easting (usf) **6538086.97**

Elevation (usf)
523.17

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/27/14	10/27/14
CRTN	DAY OF YEAR 300	300

	Obs A	ObsB		U.T.C.
START TIME	13:11	13:34		
END TIME	13:14	13:37	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 218QC
Proj. No.: 24982

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PHOTO:



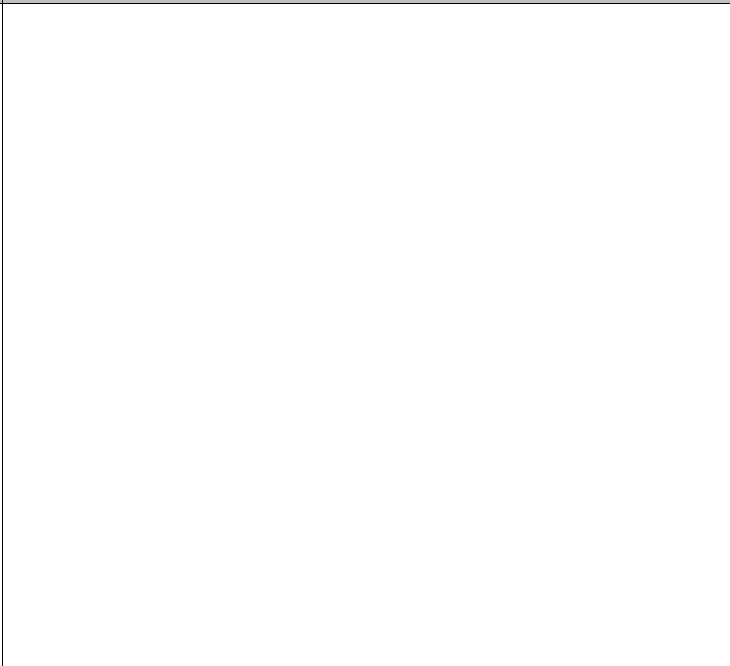
PHOTO:



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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **219QC**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Warner Springs**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	2079192.55	Elevation (usf)	3167.15
Easting (usf)	6409924.48		

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	10/26/14	10/26/14
CRTN	299	299

	Obs A	ObsB		U.T.C.
START TIME	13:18	13:44		
END TIME	13:21	13:47	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 219QC
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



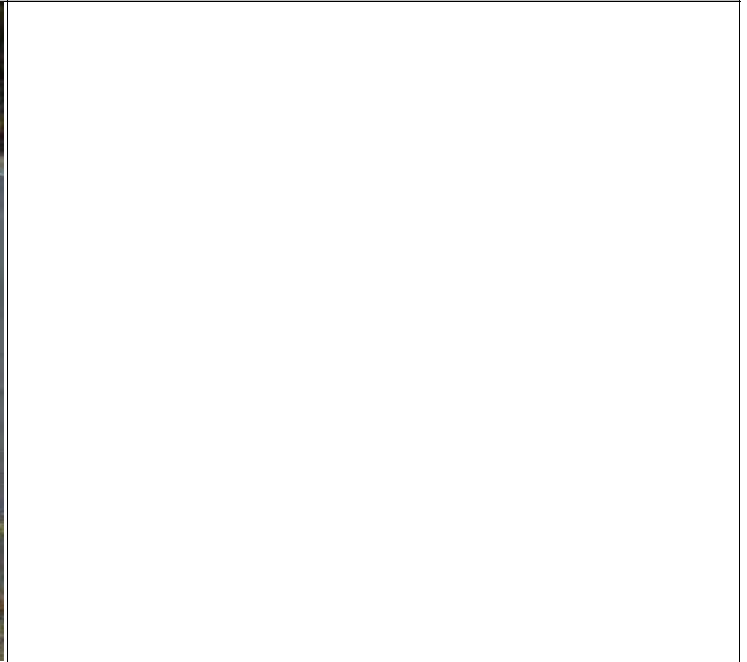
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **220QC**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Warners Ranch**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **DC# RS2DC48730**

Northing (usf)	2016610.41	Elevation (usf)	2777.83
Easting (usf)	6420826.09		

	ObsA	Obs B
SESSIONS	DATE: 10/26/14	10/26/14
CRTN	DAY OF YEAR 299	299

	Obs A	ObsB		U.T.C.
START TIME	11:22	11:59		
END TIME	11:25	12:02	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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2

JOB REFERENCE
USGS San Diego

POINT ID: 220QC
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **221QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Ramona**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1959530.35**
Easting (usf): **6372096.12**
Elevation (usf): **1429.45**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/26/14	10/26/14
CRTN	DAY OF YEAR: 299	299

	Obs A	ObsB		U.T.C.
START TIME	07:43	08:06		
END TIME	07:46	08:09	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: 221QC
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **222QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Cuyamaca Peak**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1940073.66**

RECEIVER S/N: **DC# RS2DC48730**

Easting (usf): **6457905.54**

Elevation (usf): **4626.41**

	ObsA	Obs B
SESSIONS	DATE: 10/26/14	10/26/14
CRTN	DAY OF YEAR: 299	299

	Obs A	ObsB		U.T.C.
START TIME	10:08	10:31		
END TIME	10:11	10:34	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 222QC
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **223QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Mount Laguna**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1855365.18**

RECEIVER S/N: **5153480435**

Easting (usf): **6489616.95**

SESSIONS	DATE:	ObsA	Obs B
		10/26/14	10/26/14
2	DAY OF YEAR	299	299

START TIME	ObsA	ObsB	U.T.C.
	12:52	13:29	
END TIME	13:23	14:00	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of Arrow

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





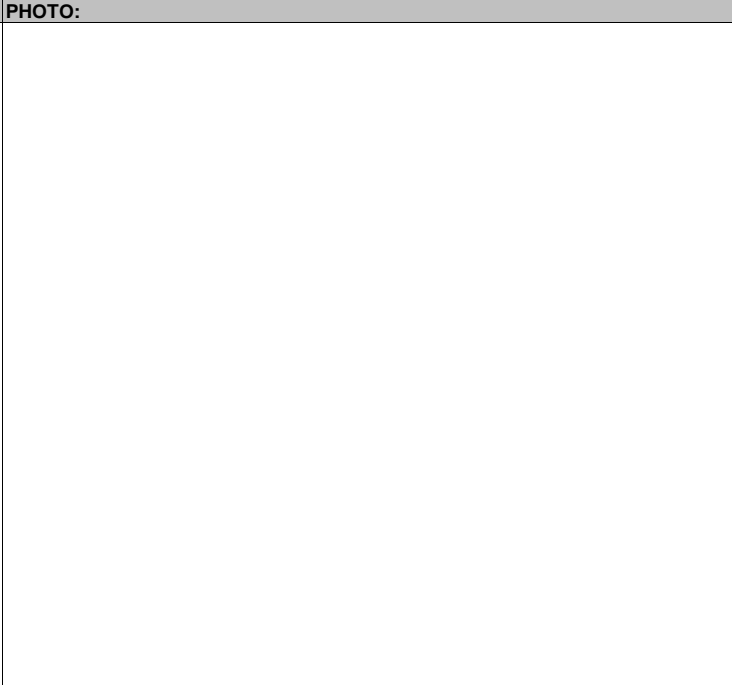
523 Wellington Way, Suite 375
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 223QC
Proj. No.: 24982





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FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **224QC**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Tecate**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1800467.30**
Easting (usf): **6423859.66**
Elevation (usf): **940.55**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/25/14	10/25/14
2	DAY OF YEAR	298	298

START TIME	ObsA	ObsB	U.T.C.
	17:00	17:24	
END TIME	17:04	17:27	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Srop Bar/Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: 224QC
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: **BE_1**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Margarita Peak**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS2DC48730**

Northing (usf): **2083107.59**
Easting (usf): **6186831.01**
Elevation (usf): **375.08**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR: 290	290

	Obs A	ObsB		U.T.C.
START TIME	10:50	11:21		
END TIME	10:53	11:24	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





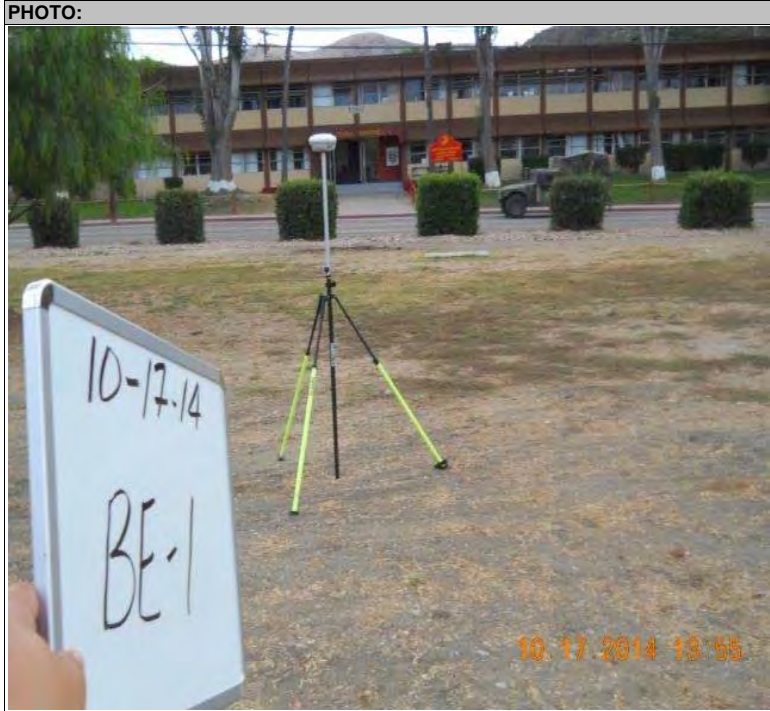
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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2**

**JOB REFERENCE
USGS San Diego**

**POINT ID: BE_1
Proj. No.: 24982**

523 Wellington Way, Suite 375
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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BE_3**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Morro Hill**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2054205.80**
 Easting (usf): **6237022.27**
 Elevation (usf): **360.84**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR: 290	290

	Obs A	ObsB		U.T.C.
START TIME	18:11	18:34		
END TIME	18:14	18:37	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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2**

**JOB REFERENCE
USGS San Diego**

**POINT ID: BE_3
Proj. No.: 24982**

523 Wellington Way, Suite 375
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859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:

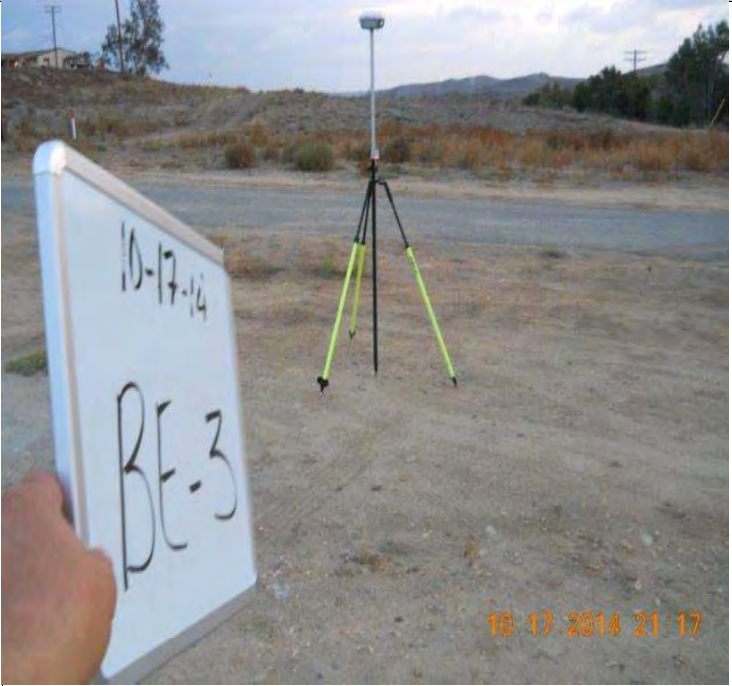
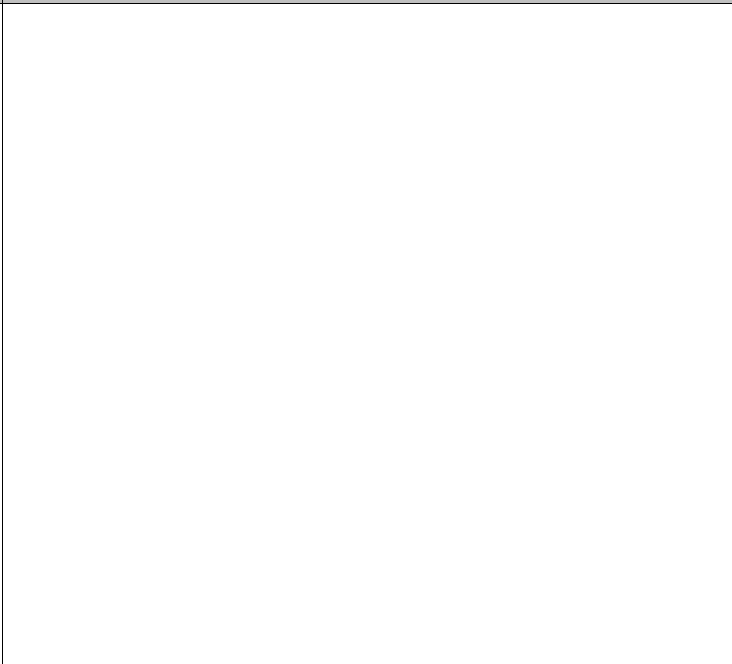


PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
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JOB REFERENCE
USGS San Diego

POINT ID: **BE_4**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Morro Hill**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2036697.37**
Easting (usf): **6251650.15**
Elevation (usf): **145.31**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/18/14	10/18/14
CRTN	DAY OF YEAR: 291	291

	Obs A	ObsB		U.T.C.
START TIME	14:41	15:06		
END TIME	14:46	15:09	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:			FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
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**JOB REFERENCE
USGS San Diego**

**POINT ID: BE_4
Proj. No.: 24982**

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE_5**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Luis Rey**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2020041.41**
Easting (usf): **6217594.50**
Elevation (usf): **123.88**

RECEIVER S/N: **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	DATE: 10/18/14	10/18/14
2	DAY OF YEAR: 291	291

	Obs A	ObsB		U.T.C.
START TIME	14:43	15:09		
END TIME	14:49	15:12	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





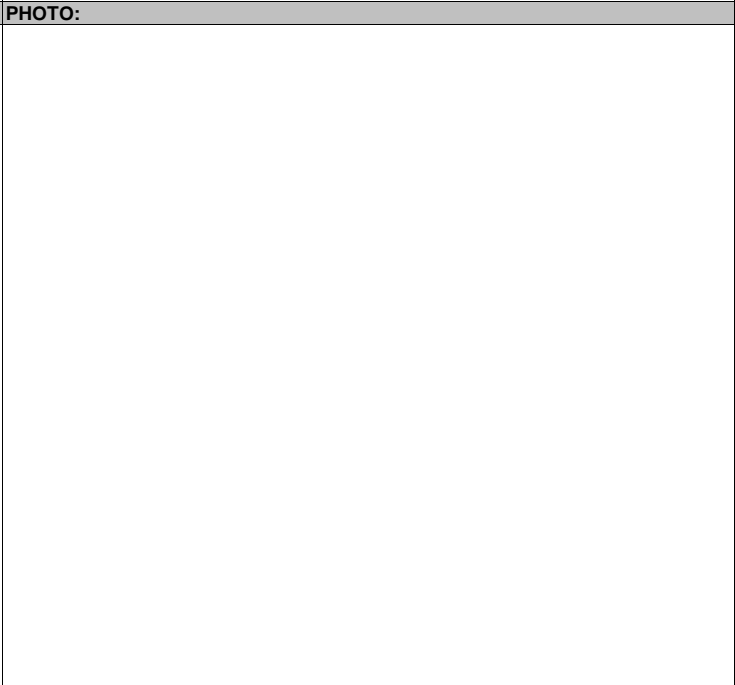
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BE_5
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BE_6**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Bonsall**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2065721.04**
Easting (usf): **6284579.19**
Elevation (usf): **301.23**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/17/14	10/17/14
2	DAY OF YEAR	290	290

START TIME	Obs A	ObsB	U.T.C.
	10:30	10:53	
END TIME	10:33	11:00	X LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: BE_6
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BE_7**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Pala**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2051274.52**
Easting (usf): **6321625.48**
Elevation (usf): **1624.46**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
CRTN	DAY OF YEAR: 292	292

	Obs A	ObsB		U.T.C.
START TIME	16:45	17:08		
END TIME	16:49	17:11	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: BE_7
Proj. No.: 24982

523 Wellington Way, Suite 375
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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BE_8**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Rodriguez Mountain**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2022901.73** Elevation (usf): **2004.47**

RECEIVER S/N: **5153480435**

Easting (usf): **6353399.42**

SESSIONS	DATE:	ObsA	Obs B
		10/19/14	10/19/14
2	DAY OF YEAR	292	292

START TIME	Obs A	ObsB	U.T.C.
	13:59	14:34	
END TIME	14:28	15:05	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	FIXED HGT
		X	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





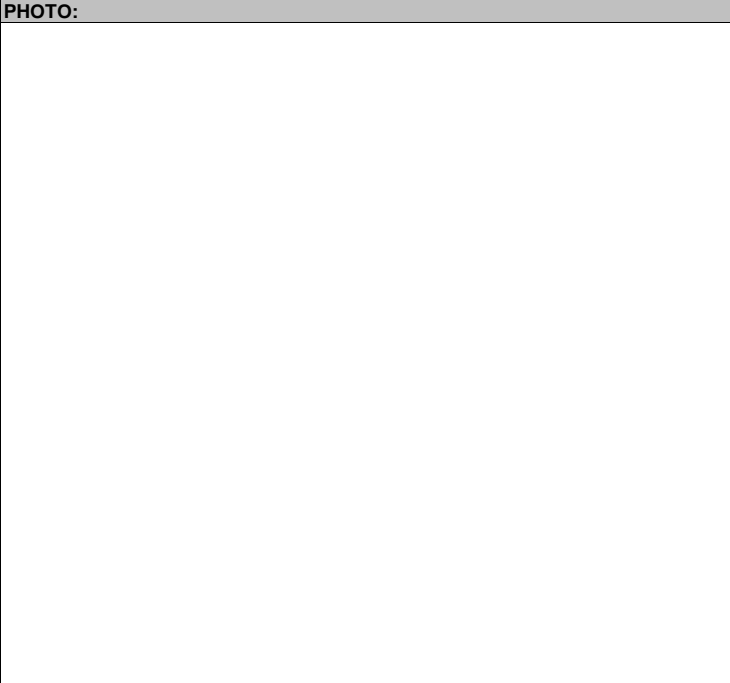
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BE_8
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE_9**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Valley Center**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1999193.21**
Easting (usf): **6321334.36**
Elevation (usf): **715.82**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
CRTN	DAY OF YEAR: 292	292

	Obs A	ObsB		U.T.C.
START TIME	11:24	11:47		
END TIME	11:27	11:50	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





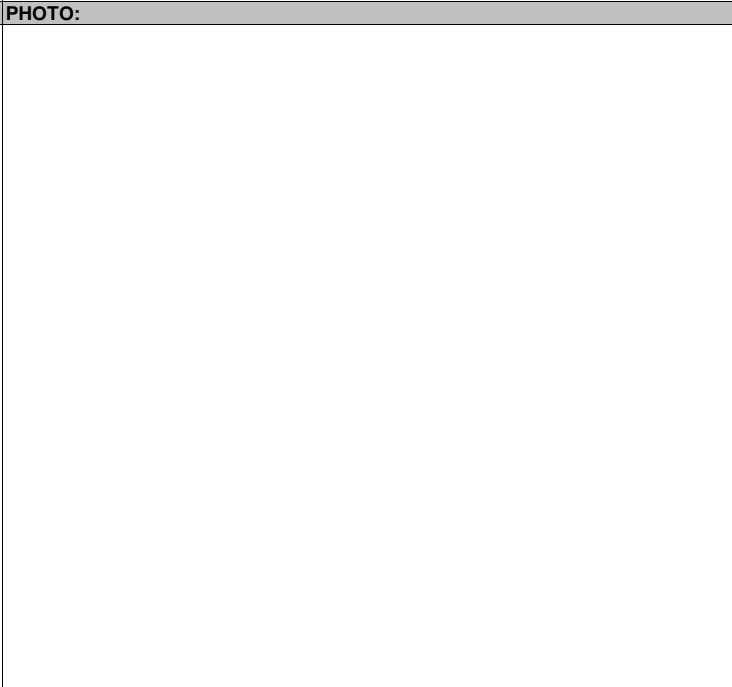
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BE_9
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BE_10**
Proj. No.: **24982**

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

STATE: **CA** COUNTY: **San Diego** QUAD: **San Marcos**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1995948.12**
Easting (usf): **6277885.40**
Elevation (usf): **564.24**

RECEIVER S/N: **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	DATE: 10/20/14	10/20/14
2	DAY OF YEAR: 293	293

	Obs A	ObsB		U.T.C.
START TIME	15:10	15:33		
END TIME	15:13	14:36	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BE 10
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





523 Wellington Way, Suite 375
 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BE_11**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Rancho Santa Fe**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1970116.68**
 Easting (usf): **6256598.09**
 Elevation (usf): **122.88**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/20/14	10/20/14
CRTN	DAY OF YEAR: 293	293

	Obs A	ObsB		U.T.C.
START TIME	14:14	14:37		
END TIME	14:17	14:40	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: BE 11
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE_12**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Escondido**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1961619.83**
Easting (usf): **6308215.53**
Elevation (usf): **358.33**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/21/14	10/21/14
CRTN	DAY OF YEAR: 294	294

	Obs A	ObsB		U.T.C.
START TIME	14:22	14:45		
END TIME	14:25	14:48	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





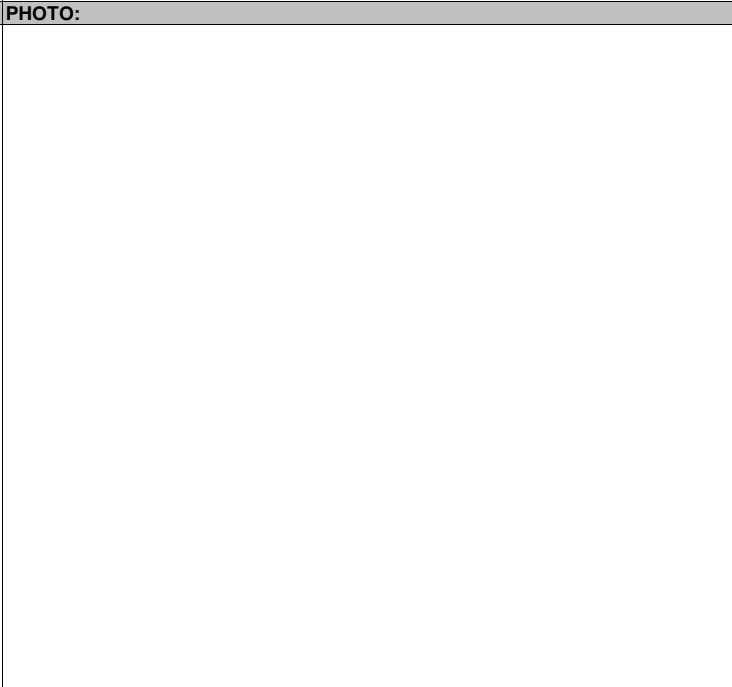
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BE 12**
Proj. No.: **24982**

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE_13**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Pasqual**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1977362.55**
Easting (usf): **6349058.56**
Elevation (usf): **448.90**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/21/14	10/21/14
2	DAY OF YEAR	294	294

START TIME	Obs A	ObsB	U.T.C.
	10:18	10:46	
END TIME	10:21	10:49	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8'Nail/Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

**PAGE:
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**JOB REFERENCE
USGS San Diego**

**POINT ID: BE 13
Proj. No.: 24982**

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE_14**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Vicente Reservoir**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1936649.06**
Easting (usf): **6339911.92**
Elevation (usf): **1619.10**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/22/14	10/22/14
2	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	10:35	10:58	
END TIME	10:38	11:02	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BE 14
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE_15**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Del Mar**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1927842.18**
Easting (usf): **6271970.82**
Elevation (usf): **212.58**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/21/14	10/21/14
CRTN	DAY OF YEAR: 294	294

	Obs A	ObsB		U.T.C.
START TIME	09:41	10:04		
END TIME	09:44	10:07	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE 15**
Proj. No.: **24982**

PHOTO:

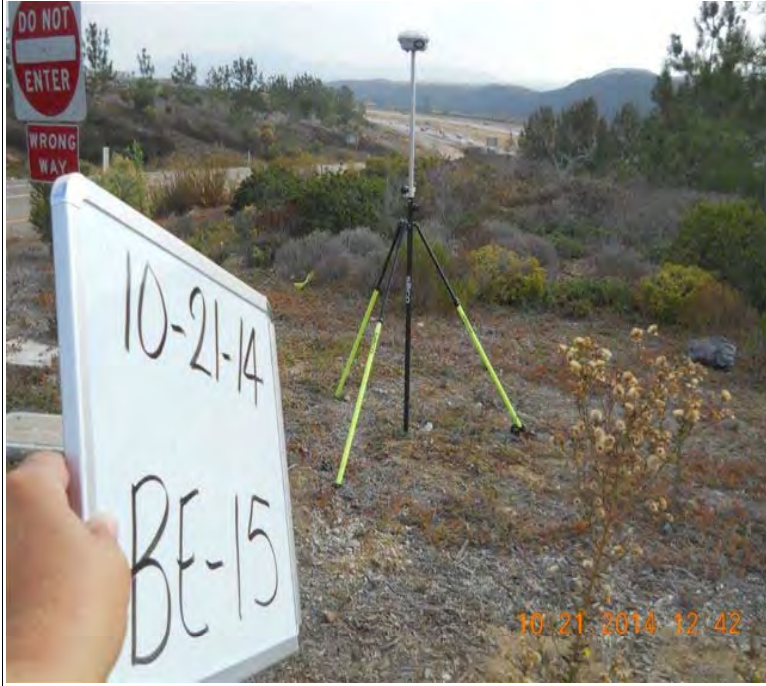


PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE_16**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **La Jolla**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1886944.45**

Easting (usf) **6256101.36**

Elevation (usf)
791.02

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/22/14	10/22/14
CRTN	DAY OF YEAR 295	295

	Obs A	ObsB		U.T.C.
START TIME	14:15	14:38		
END TIME	14:18	14:41	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

BARE Earth

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





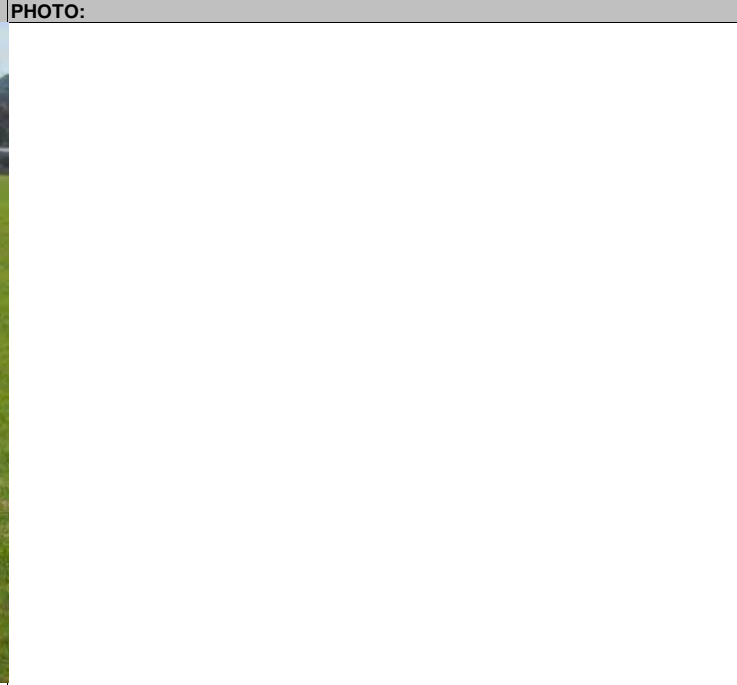
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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**JOB REFERENCE
USGS San Diego**

**POINT ID: BE 16
Proj. No.: 24982**

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE_17**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Mesa**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1863832.73**
Easting (usf): **6297356.65**
Elevation (usf): **99.16**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/24/14	10/24/14
2	DAY OF YEAR	297	297

START TIME	ObsA	ObsB	U.T.C.
	09:27	09:50	
END TIME	09:30	09:53	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
---------	----------	------------

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: BE 17
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE_18**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Vicente Reservoir**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1902011.23**

Easting (usf) **6332485.60**

Elevation (usf)
463.00

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/22/14	10/22/14
2	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	16:16	16:39	
END TIME	16:19	16:42	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: **BE 18**
Proj. No.: **24982**

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE_19**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Jamul Mountains**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1843333.26**

Easting (usf) **6364770.67**

Elevation (usf)
772.26

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/23/14	10/23/14
2	DAY OF YEAR	296	296

START TIME	ObsA	ObsB	U.T.C.
	13:03	13:27	
END TIME	13:07	13:32	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
2

JOB REFERENCE
USGS San Diego

POINT ID: BE 19
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BE_20**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1790517.04** Elevation (usf): **205.26**

RECEIVER S/N: **DC# RS2DC48730**

Easting (usf): **6314311.70**

	ObsA	Obs B
SESSIONS	DATE: 10/24/14	10/24/14
CRTN	DAY OF YEAR: 297	297

	Obs A	ObsB		U.T.C.
START TIME	07:54	08:17		
END TIME	07:57	08:20	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Bare Earth

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: **BE 20**
Proj. No.: **24982**

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



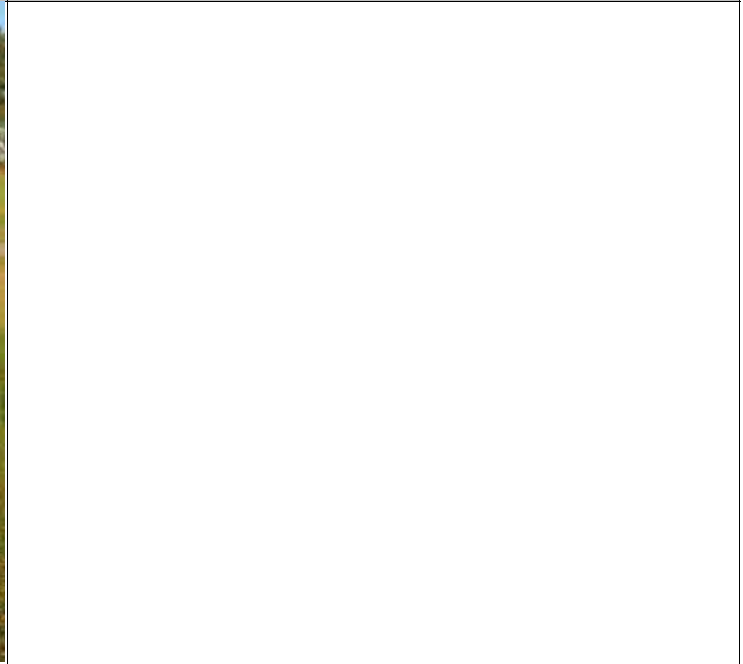
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
1

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BT_1**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Clemente**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2106639.44**
Easting (usf): **6175659.94**
Elevation (usf): **274.18**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/16/14	10/16/14
VRS	DAY OF YEAR: 289	289

	Obs A	ObsB		U.T.C.
START TIME	17:18	17:41		
END TIME	17:21	17:44	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush Tree

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BT_1
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BT_2**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Margarita Peak**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2082618.69**
Easting (usf): **6189012.18**
Elevation (usf): **394.55**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR: 290	290

	Obs A	ObsB		U.T.C.
START TIME	14:10	14:42		
END TIME	14:13	14:45	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush Tree

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





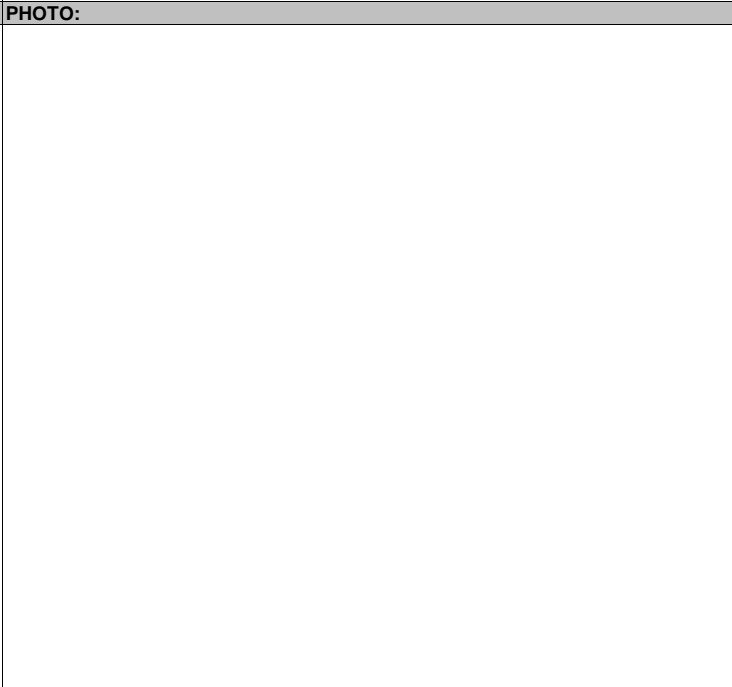
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BT_2**
Proj. No.: **24982**

523 Wellington Way, Suite 375
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BT_3**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Morro Hill**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS2DC48730**

Northing (usf): **2052505.52**
Easting (usf): **6236084.11**
Elevation (usf): **333.89**

	ObsA	Obs B
SESSIONS	DATE: 10/18/14	10/18/14
CRTN	DAY OF YEAR: 291	291

	Obs A	ObsB		U.T.C.
START TIME	07:45	08:08		
END TIME	07:48	08:11	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Brush Tree

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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**JOB REFERENCE
USGS San Diego**

**POINT ID: BT_3
Proj. No.: 24982**

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: **BT_4**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Oceanside**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2022193.48**
Easting (usf): **6215465.55**
Elevation (usf): **58.65**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/18/14	10/18/14
2	DAY OF YEAR	291	291

START TIME	Obs A	ObsB	U.T.C.
	13:06	13:30	
END TIME	13:09	13:33	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BT_4
Proj. No.: 24982

523 Wellington Way, Suite 375
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BT_5**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Bonsall**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2037414.56**
Easting (usf): **6256507.05**
Elevation (usf): **139.56**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/18/14	10/18/14
CRTN	DAY OF YEAR: 291	291

	Obs A	ObsB		U.T.C.
START TIME	11:44	12:08		
END TIME	11:48	12:11	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush Tree

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





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**GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: **BT_5**
Proj. No.: **24982**

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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JOB REFERENCE
USGS San Diego

POINT ID: **BT_6**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Bonsall**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf)	2067476.91	Elevation (usf)	265.56
Easting (usf)	6286185.73		

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/17/14	10/17/14
2	DAY OF YEAR	290	290

START TIME	Obs A	ObsB	U.T.C.
	09:52	10:21	
END TIME	10:00	10:24	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT		MEASURED	FIXED HGT.
---------	--	----------	------------

ANTENNA

RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	1.800 Meters	MEASURED	X	FIXED HGT
---------	---------------------	----------	----------	-----------

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Brush

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





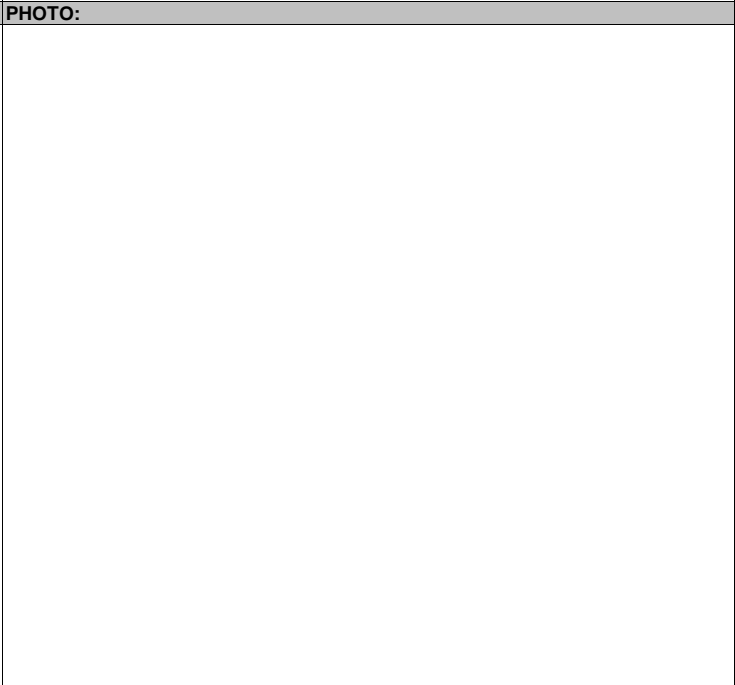
**GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: **BT_6**
Proj. No.: **24982**

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BT_7**
Proj. No.: **24982**

STATE **CA** COUNTY **San Diego** QUAD: **Pala**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**
RECEIVER S/N **DC# RS2DC48730**

Northing (usf) **2050975.17** Elevation (usf) **1677.20**
Easting (usf) **6325065.07**

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
CRTN	DAY OF YEAR 292	292

	Obs A	ObsB		U.T.C.
START TIME	15:53	16:16		
END TIME	15:56	16:19	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush Tree

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





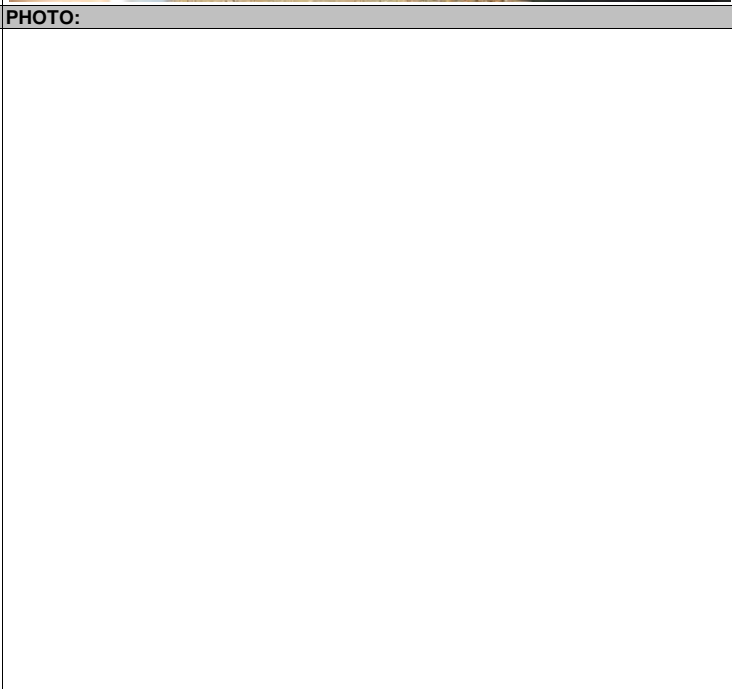
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BT_7
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BT_8**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Rodriguez Mountain**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2023024.22**
Easting (usf): **6352550.80**
Elevation (usf): **2052.08**

RECEIVER S/N: **5153480435**

SESSIONS	DATE:	ObsA	Obs B
		10/19/14	10/19/14
2	DAY OF YEAR	292	292

START TIME	Obs A	ObsB	U.T.C.
	15:10	15:46	
END TIME	15:40	16:16	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





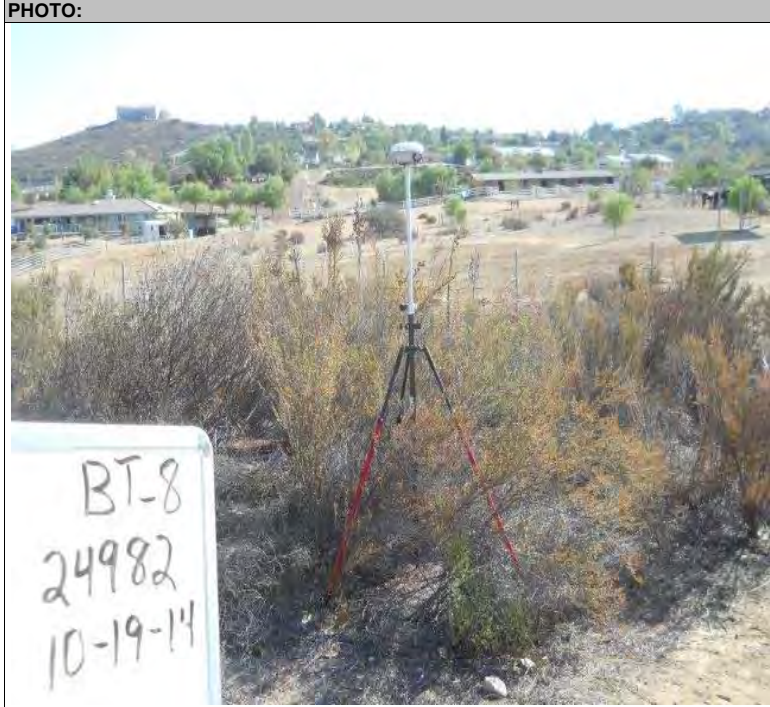
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BT_8
Proj. No.: 24982

523 Wellington Way, Suite 375
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BT_9**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Valley Center**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1999071.79**
Easting (usf): **6321832.58**
Elevation (usf): **722.82**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
CRTN	DAY OF YEAR: 292	292

	Obs A	ObsB		U.T.C.
START TIME	10:15	10:38		
END TIME	10:18	10:41	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush Tree

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BT_9
Proj. No.: 24982

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PHOTO:



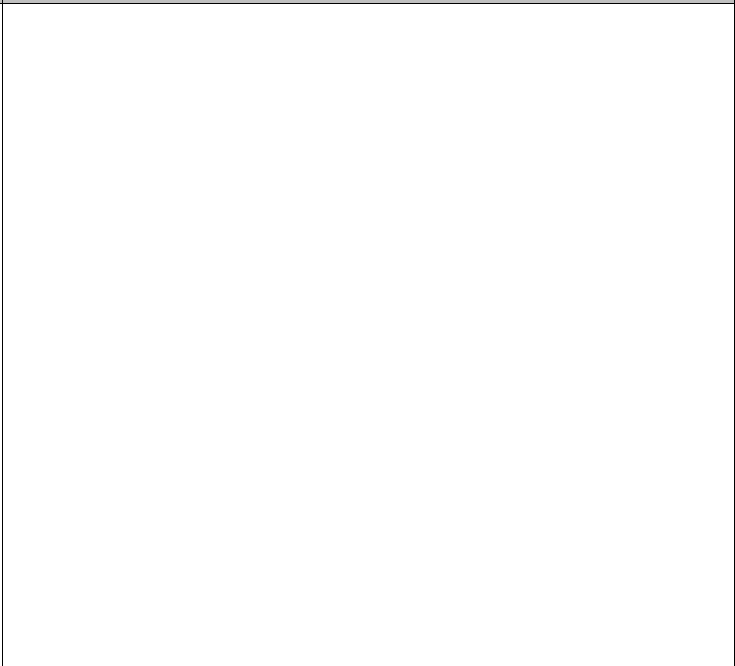
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PHOTO:



PHOTO:





**GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: **BT_10**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Marcos**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1995977.58**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6277851.20**

SESSIONS	DATE:	ObsA	Obs B
		10/20/14	10/20/14
2	DAY OF YEAR	293	293

START TIME	Obs A	ObsB	U.T.C.
	14:12	14:36	
END TIME	14:15	14:39	X LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





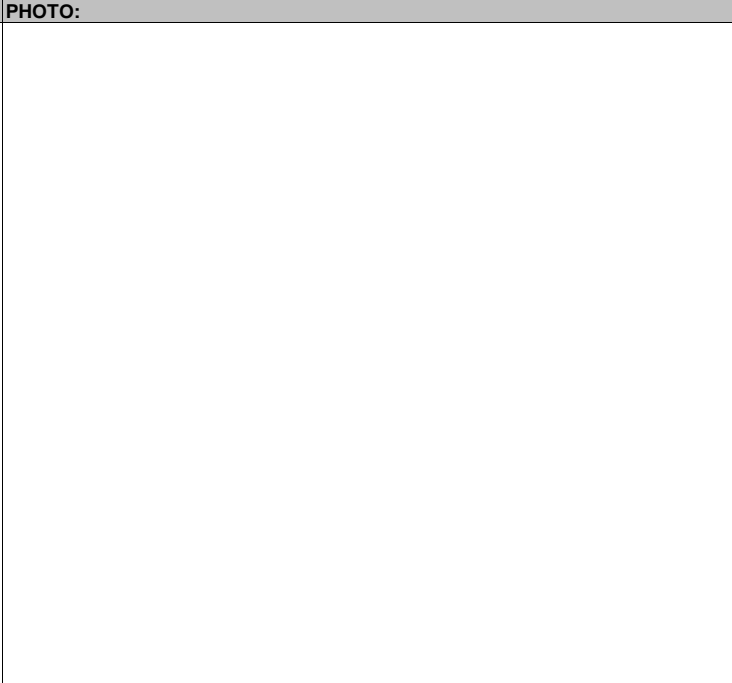
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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**JOB REFERENCE
USGS San Diego**

**POINT ID: BT_10
Proj. No.: 24982**





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**GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: **BT_11**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Rancho Santa Fe**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **DC# RS2DC48730**

Northing (usf)	1969700.00	Elevation (usf)	120.31
Easting (usf)	6256447.40		

	ObsA	Obs B
SESSIONS	10/20/14	10/20/14
CRTN	293	293

	Obs A	ObsB		U.T.C.
START TIME	15:56	16:19		
END TIME	15:59	16:22	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5407454087	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Brush Tree

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





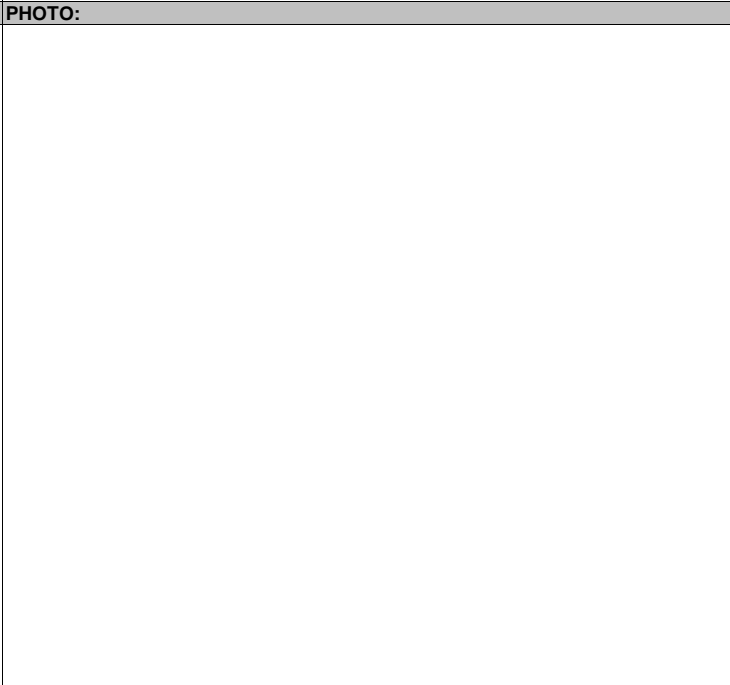
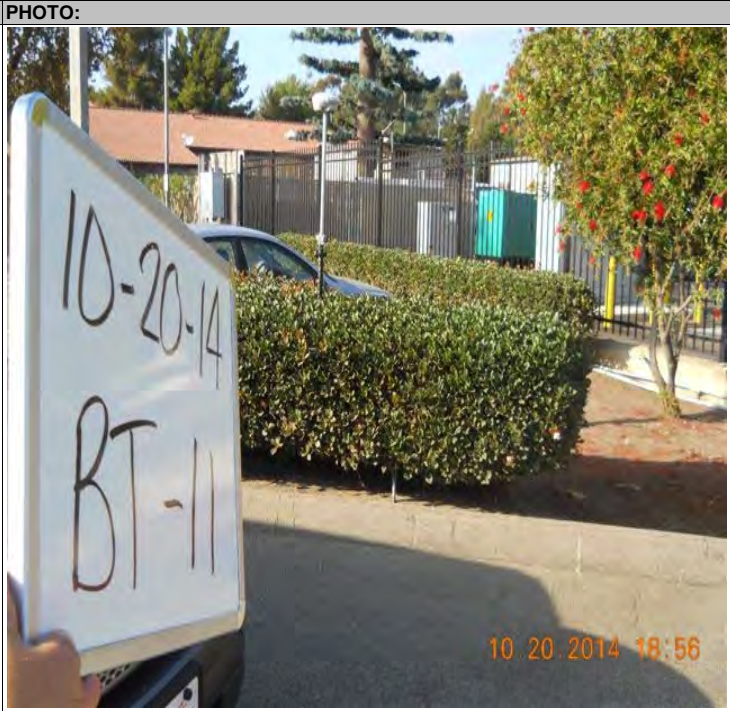
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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**JOB REFERENCE
USGS San Diego**

**POINT ID: BT_11
Proj. No.: 24982**

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BT_12**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Escondido**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS2DC48730**

Northing (usf): **1963602.39**
Easting (usf): **6308362.88**
Elevation (usf): **404.24**

	ObsA	Obs B
SESSIONS	DATE: 10/21/14	10/21/14
CRTN	DAY OF YEAR: 294	294

	Obs A	ObsB		U.T.C.
START TIME	15:43	16:06		
END TIME	15:46	16:10	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush Tree

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





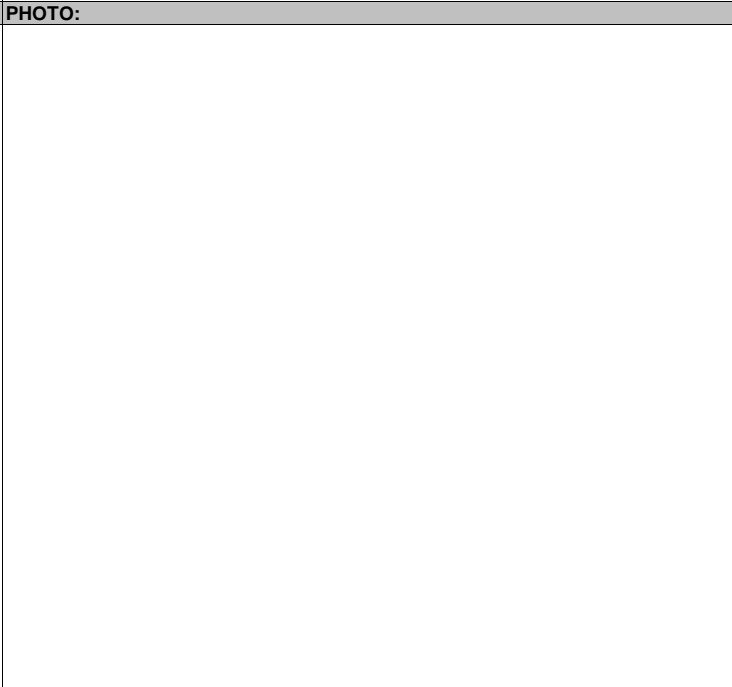
GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: BT_12
Proj. No.: 24982

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FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BT_13**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Pasqual**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1976912.70**
Easting (usf): **6348566.28**
Elevation (usf): **461.24**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/21/14	10/21/14
2	DAY OF YEAR	294	294

START TIME	Obs A	ObsB	U.T.C.
	11:00	11:52	
END TIME	11:03	11:55	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: BT_13
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
1

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BT_14**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Vicente Reservoir**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1936670.66**

Easting (usf) **6340219.11**

Elevation (usf)
1625.27

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/22/14	10/22/14
2	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	10:05	10:28	
END TIME	10:08	10:31	X LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)	
MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Brush

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





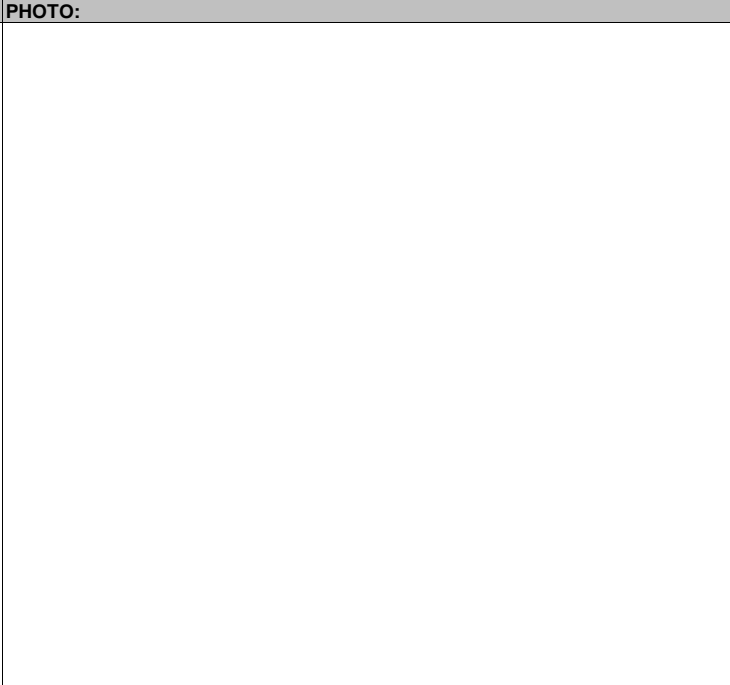
GPS CONTROL SURVEY
FIELD DATA SHEET

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2

JOB REFERENCE
USGS San Diego

POINT ID: BT_14
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





523 Wellington Way, Suite 375
 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
1

JOB REFERENCE
USGS San Diego

POINT ID: **BT_15**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Del Mar**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1927737.91**
 Easting (usf): **6271876.94**
 Elevation (usf): **210.55**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/21/14	10/21/14
CRTN	DAY OF YEAR: 294	294

	Obs A	ObsB		U.T.C.
START TIME	10:50	11:13		
END TIME	10:53	11:16	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush Tree

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BT_15**
Proj. No.: **24982**

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BT_16**
Proj. No.: **24982**

14:48

STATE **CA** COUNTY **San Diego** QUAD: **San Vicente Reservoir**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1902491.80** Elevation (usf) **469.44**

RECEIVER S/N **DC# RS0TC15523**

Easting (usf) **6332352.96**

SESSIONS	DATE:	ObsA	Obs B
		10/22/14	10/22/14
2	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	15:40	16:09	
END TIME	15:46	16:12	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: TW_16
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BT_17**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Jolla**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1886863.39**
Easting (usf): **6255470.65**
Elevation (usf): **754.80**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/22/14	10/22/14
CRTN	DAY OF YEAR: 295	295

	Obs A	ObsB		U.T.C.
START TIME	14:48	15:11		
END TIME	14:51	15:14	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush Tree

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BT 17
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BT_18**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Mesa**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1867008.85**
Easting (usf): **6305176.40**
Elevation (usf): **222.63**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/25/14	10/25/14
2	DAY OF YEAR	298	298

START TIME	ObsA	ObsB	U.T.C.
	07:38	08:02	
END TIME	07:41	08:05	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





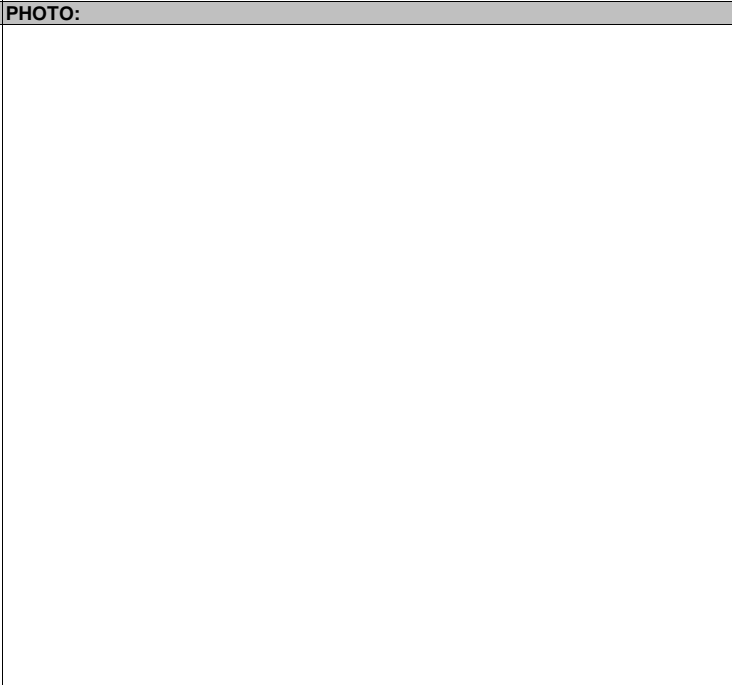
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BT_18
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **BT_19**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Jamul Mountains**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf)	1842688.85	Elevation (usf)	838.20
Easting (usf)	6364830.32		

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/23/14	10/23/14
2	DAY OF YEAR	296	296

START TIME	Obs A	ObsB	U.T.C.
	12:31	12:55	
END TIME	12:34	12:58	X LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: BT_19
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:

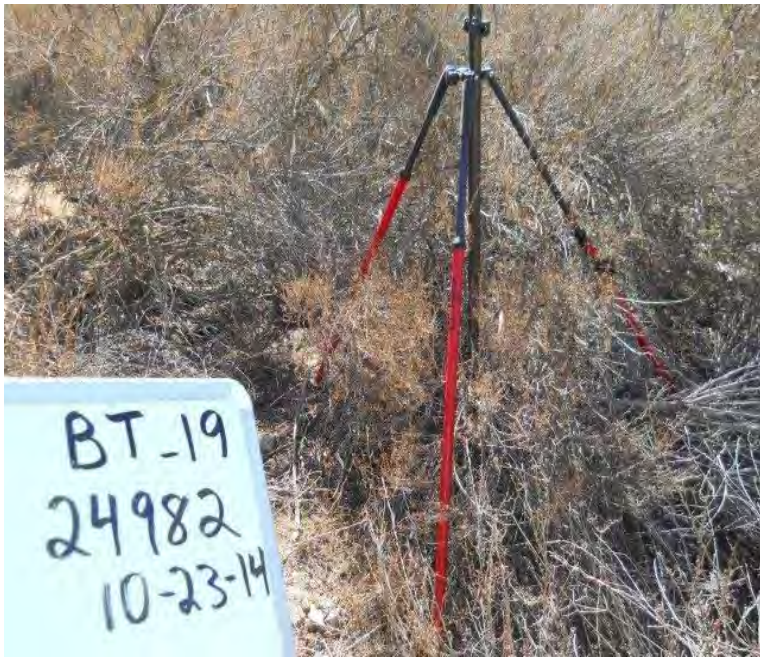


PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **BT_20**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Jamul Mountains**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1810299.39**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6348429.14**

SESSIONS	DATE:	ObsA	Obs B
		10/25/14	10/25/14
2	DAY OF YEAR	298	298

START TIME	ObsA	ObsB	U.T.C.
	14:52	15:16	
END TIME	14:55	15:19	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Brush

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





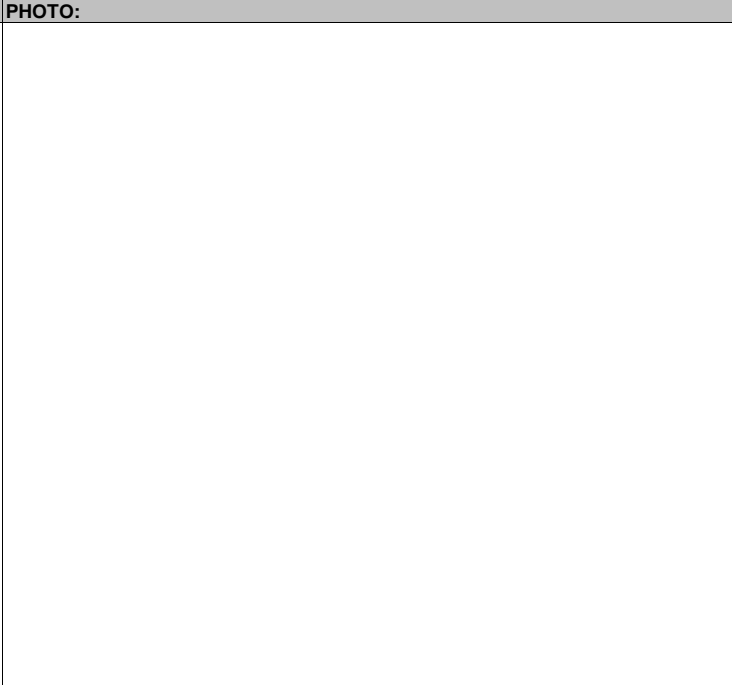
GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: BT_20
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW_1**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Clemente**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2104906.93**

RECEIVER S/N: **DC# RS2DC48730**

Easting (usf): **6174392.61**

	ObsA	Obs B
SESSIONS	DATE: 10/16/14	10/16/14
VRS	DAY OF YEAR: 289	289

	Obs A	ObsB		U.T.C.
START TIME	16:40	17:00		
END TIME	16:43	17:03	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





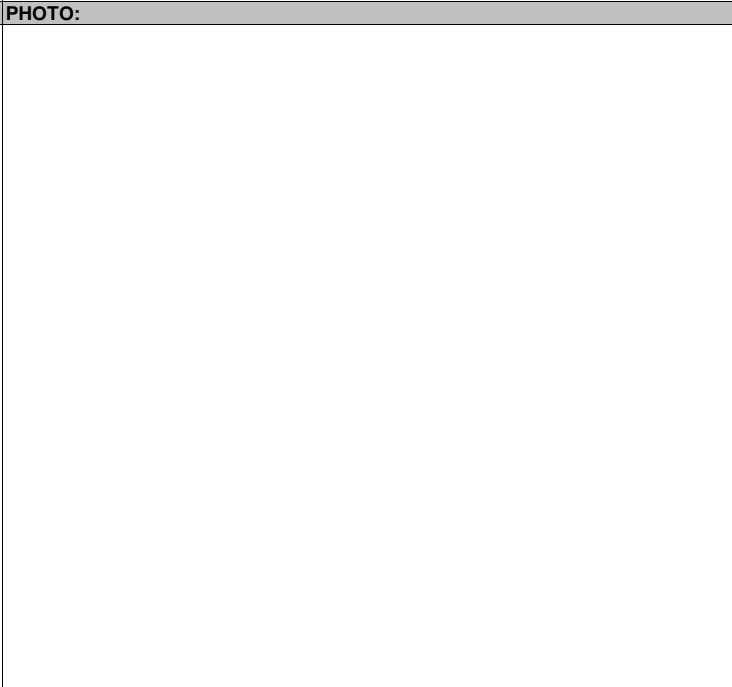
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: TW_1
Proj. No.: 24982

523 Wellington Way, Suite 375
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW_2**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Margarita Peak**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2083035.14**
Easting (usf): **6187609.60**
Elevation (usf): **378.46**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR: 290	290

	Obs A	ObsB		U.T.C.
START TIME	11:35	11:58		
END TIME	11:38	12:01	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





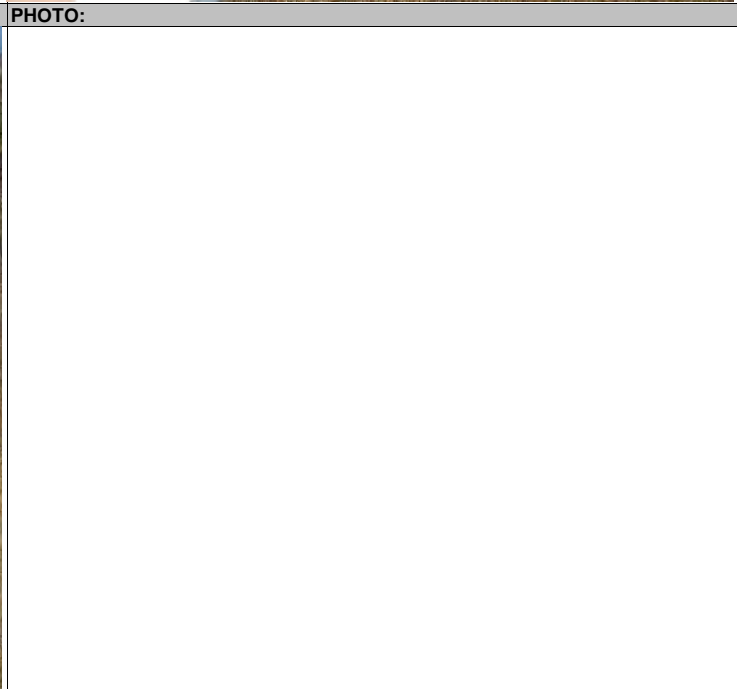
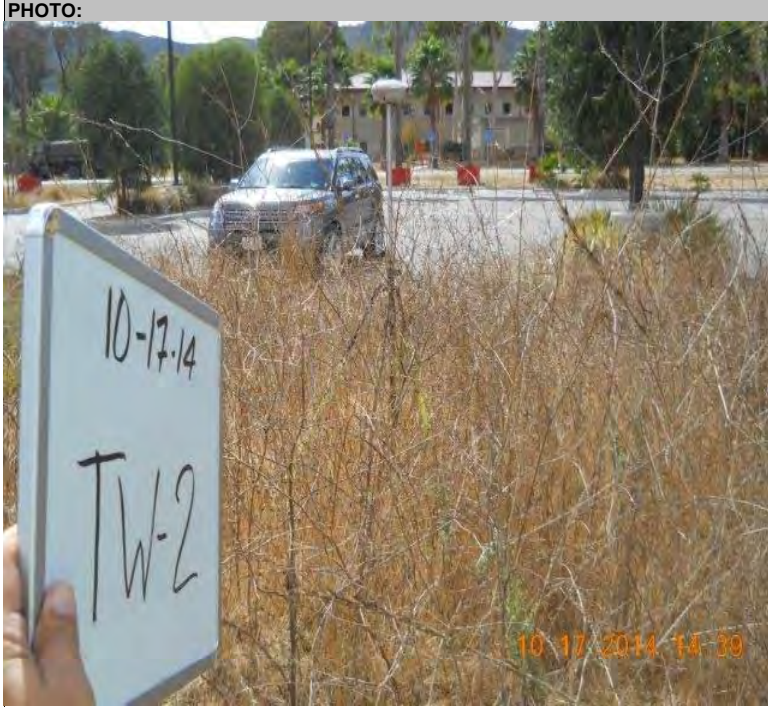
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: TW 2
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW_3**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Morro Hill**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2054127.01**
Easting (usf): **6236990.84**
Elevation (usf): **359.60**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR: 290	290

	Obs A	ObsB		U.T.C.
START TIME	17:43	18:06		
END TIME	17:46	18:09	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: TW_3
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
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JOB REFERENCE
USGS San Diego

POINT ID: **TW_4**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Oceanside**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **2023114.62** Elevation (usf) **23.32**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6216794.55**

SESSIONS	DATE:	ObsA	Obs B
		10/18/14	10/18/14
2	DAY OF YEAR	291	291

START TIME	Obs A	ObsB	U.T.C.
	13:52	14:16	
END TIME	13:55	14:19	X LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)	
MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: TW_4
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW_5**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Bonsall**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS2DC48730**

Northing (usf): **2037418.90**
Easting (usf): **6256952.83**
Elevation (usf): **143.88**

	ObsA	Obs B
SESSIONS	DATE: 10/18/14	10/18/14
CRTN	DAY OF YEAR: 291	291

	Obs A	ObsB		U.T.C.
START TIME	13:54	14:25		
END TIME	13:57	14:28	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: TW_5
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:

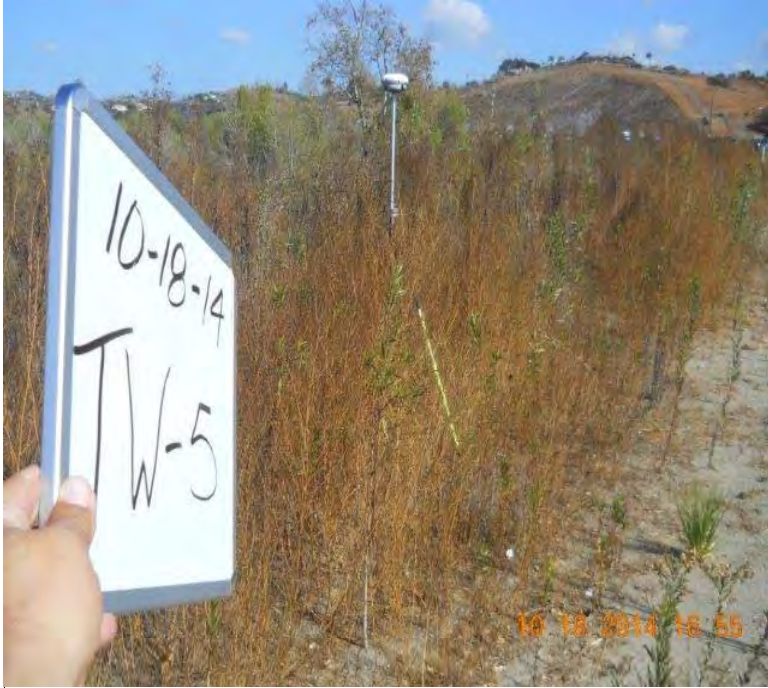


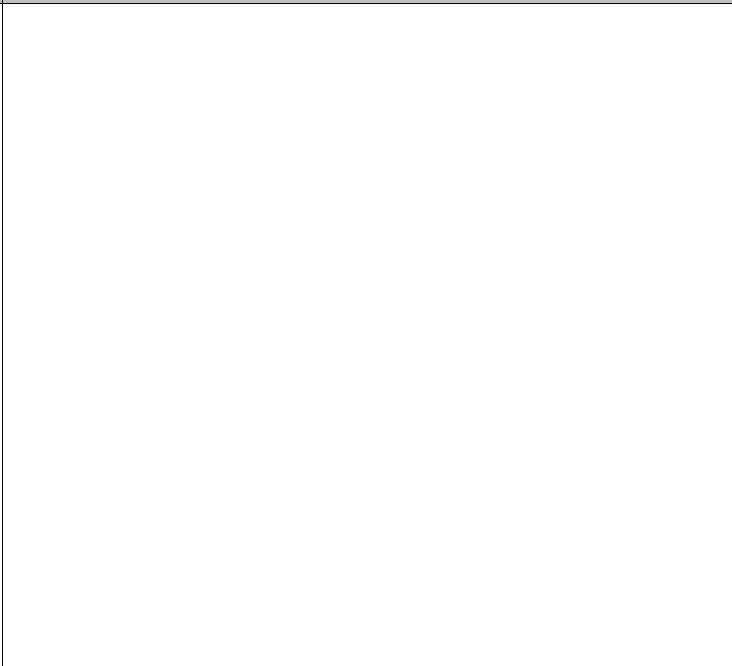
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
1

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW-6**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Bonsall**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **2067484.84** Elevation (usf) **264.61**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6286084.71**

SESSIONS	DATE:	ObsA	Obs B
		10/17/14	10/17/14
2	DAY OF YEAR	290	290

START TIME	Obs A	ObsB	U.T.C.
	09:19	09:43	
END TIME	09:22	09:46	X LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)	
MTRS/FT	1.800 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





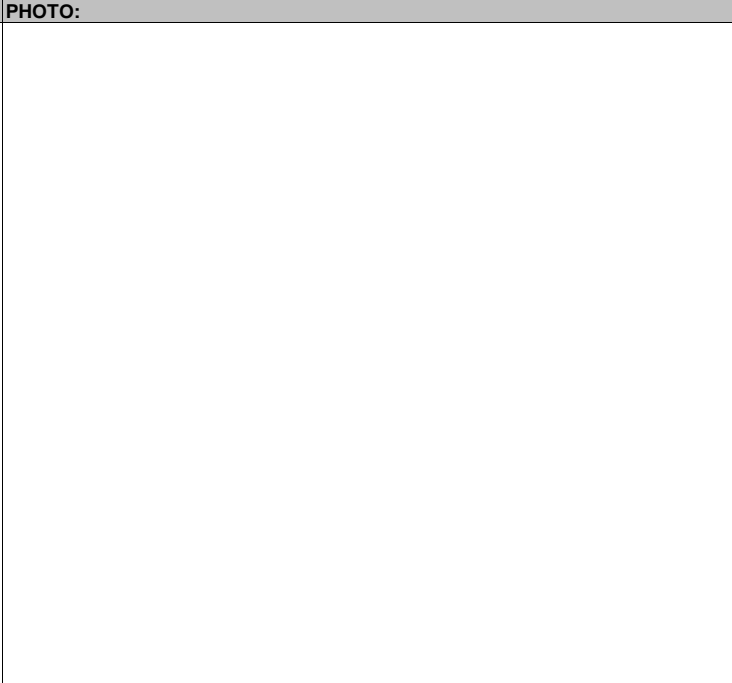
GPS CONTROL SURVEY
FIELD DATA SHEET

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2

JOB REFERENCE
USGS San Diego

POINT ID: TW_6
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **TW_7**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Pala**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **2051233.10** Elevation (usf) **1621.68**

RECEIVER S/N: **DC# RS2DC48730**

Easting (usf) **6321622.35**

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
CRTN	DAY OF YEAR: 292	292

	Obs A	ObsB		U.T.C.
START TIME	17:14	17:41		
END TIME	17:21	17:44	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





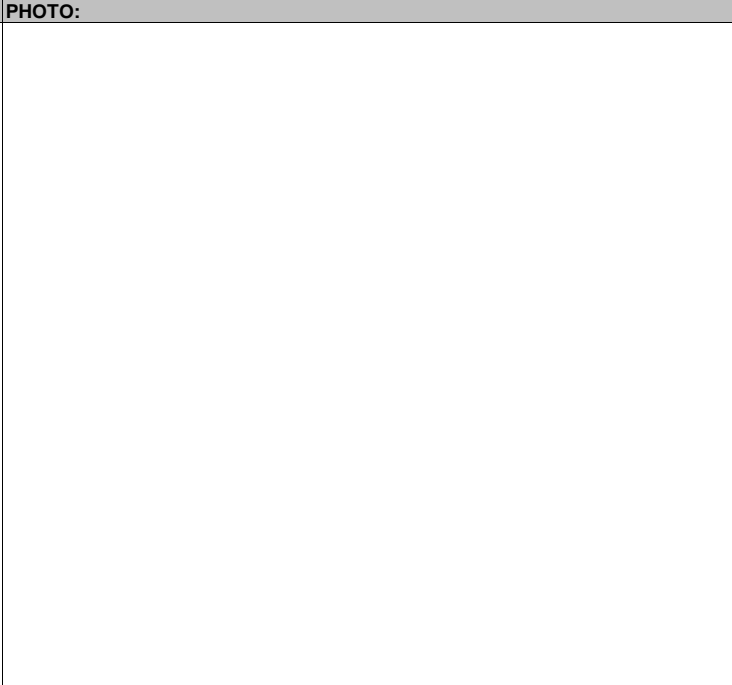
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: TW_7
Proj. No.: 24982

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Lexington, KY 40503
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FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW_8**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Rodriguez Mountain**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2023447.67** Elevation (usf): **1984.09**

RECEIVER S/N: **5153480435**

Easting (usf): **6353139.72**

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
2	DAY OF YEAR: 292	292

	Obs A	ObsB		U.T.C.
START TIME	12:44	13:22		
END TIME	13:15	13:52	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: TW 8
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW_9**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Valley Center**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1999074.59	Elevation (usf)	738.69
Easting (usf)	6322485.32		

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	10/19/14	10/19/14
CRTN	292	292

	Obs A	ObsB		U.T.C.
START TIME	12:16	12:39		
END TIME	12:19	12:42	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





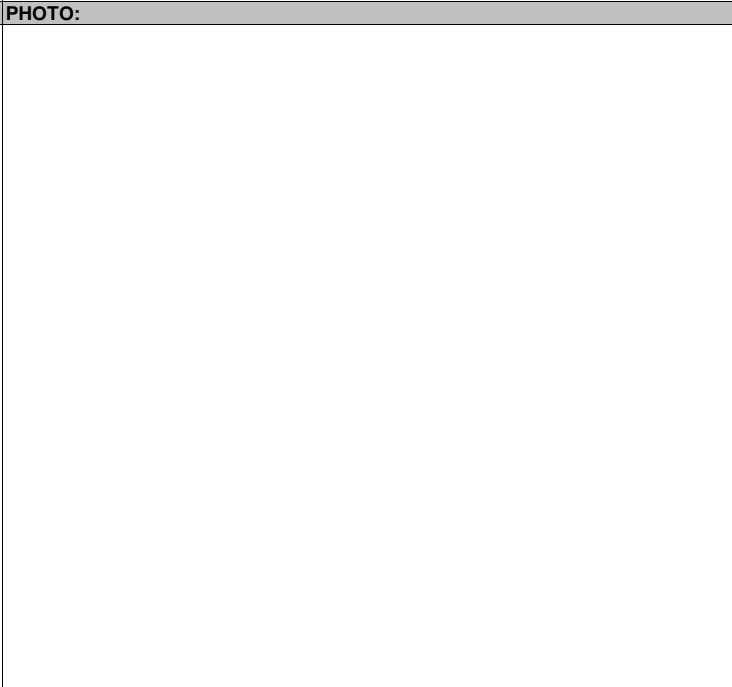
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: TW 9
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
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JOB REFERENCE
USGS San Diego

POINT ID: **TW_10**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Marcos**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1995955.48** Elevation (usf): **564.11**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6277849.43**

SESSIONS	DATE:	ObsA	Obs B
		10/20/14	10/20/14
2	DAY OF YEAR	293	293

START TIME	Obs A	ObsB	U.T.C.
	14:40	15:04	
END TIME	14:44	15:07	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: TW_10
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW_11**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Rancho Santa Fe**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf)	1967400.86	Elevation (usf)	178.36
Easting (usf)	6258228.95		

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	10/20/14	10/20/14
CRTN	293	293

	Obs A	ObsB		U.T.C.
START TIME	15:10	15:38		
END TIME	15:13	15:41	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5407454087	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Tall Weeds

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: TW_11
Proj. No.: 24982

523 Wellington Way, Suite 375
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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **TW_12**
Proj. No.: **24982**

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

STATE: **CA** COUNTY: **San Diego** QUAD: **Escondido**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1962140.03**
Easting (usf): **6307993.47**
Elevation (usf): **358.90**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/21/14	10/21/14
CRTN	DAY OF YEAR: 294	294

	Obs A	ObsB		U.T.C.
START TIME	15:03	15:26		
END TIME	15:06	15:29	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Tall Weeds

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





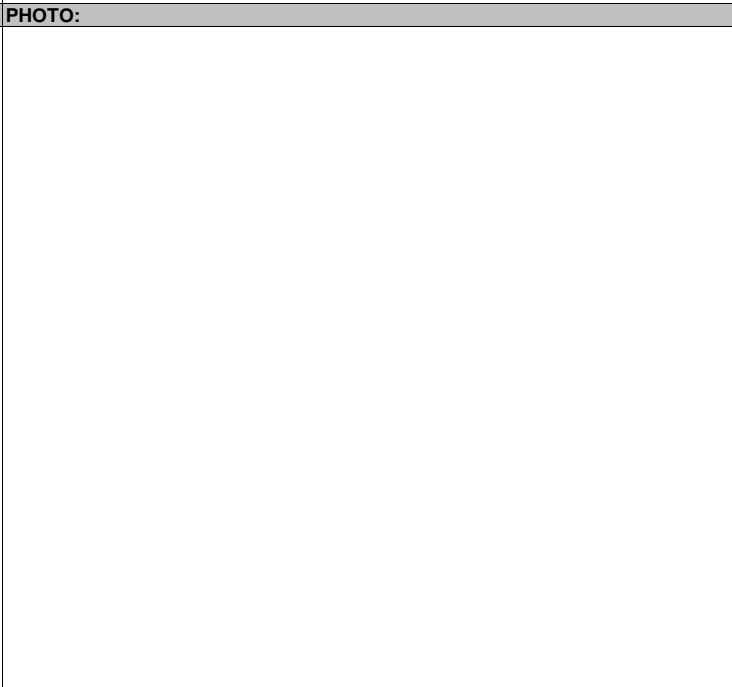
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: TW_12
Proj. No.: 24982

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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW_13**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Pasqual**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1976973.59**
Easting (usf): **6348601.49**
Elevation (usf): **455.58**

RECEIVER S/N: **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/21/14	10/21/14
2	DAY OF YEAR	294	294

START TIME	Obs A	ObsB	U.T.C.
	08:43	09:06	
END TIME	08:46	09:09	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: TW_13
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **TW_14**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Vicente Reservoir**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1936119.81**

RECEIVER S/N **DC# RS0TC15523**

Easting (usf) **6339868.47**

SESSIONS	DATE:	ObsA	Obs B
		2	10/22/14
	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	11:06	11:29	
END TIME	11:09	11:33	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





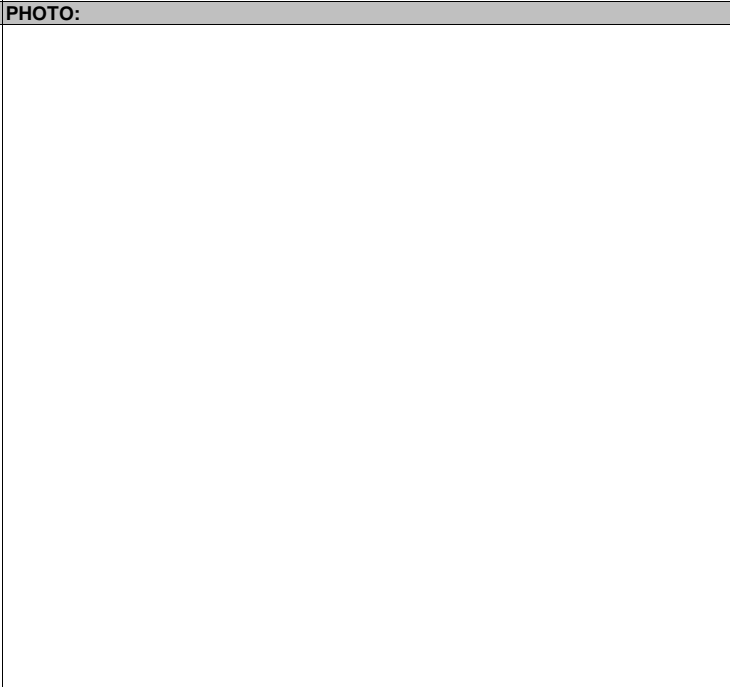
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: TW_14
Proj. No.: 24982

523 Wellington Way, Suite 375
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859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **TW_15**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Del Mar**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1926784.95	Elevation (usf)	135.70
Easting (usf)	6271354.17		

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	10/21/14	10/21/14
CRTN	294	294

	Obs A	ObsB		U.T.C.
START TIME	11:23	11:46		
END TIME	11:26	11:49	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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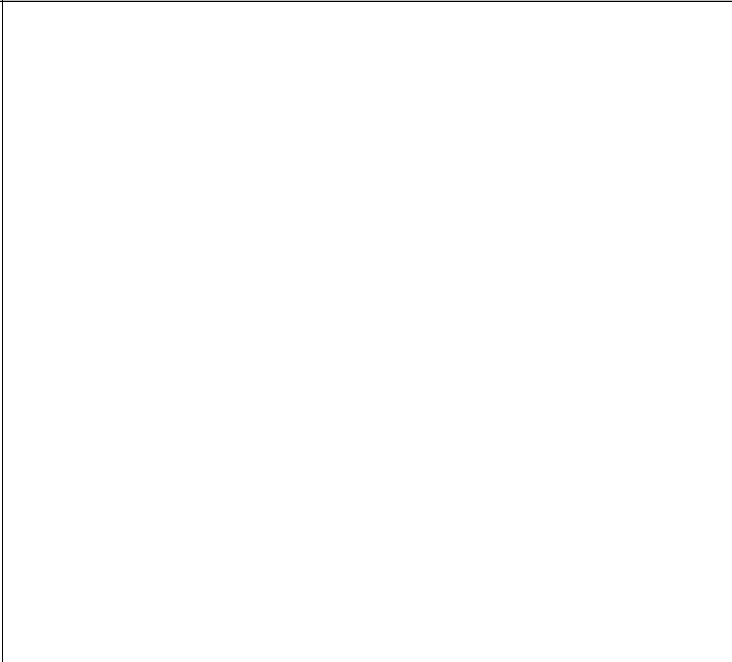
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USGS San Diego

POINT ID: TW_15
Proj. No.: 24982

PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW_16**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **La Mesa**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1891062.35	Elevation (usf)	445.49
Easting (usf)	6294849.46		

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/22/14	10/22/14
CRTN	DAY OF YEAR 295	295

	Obs A	ObsB		U.T.C.
START TIME	17:21	17:44		
END TIME	17:24	17:47	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





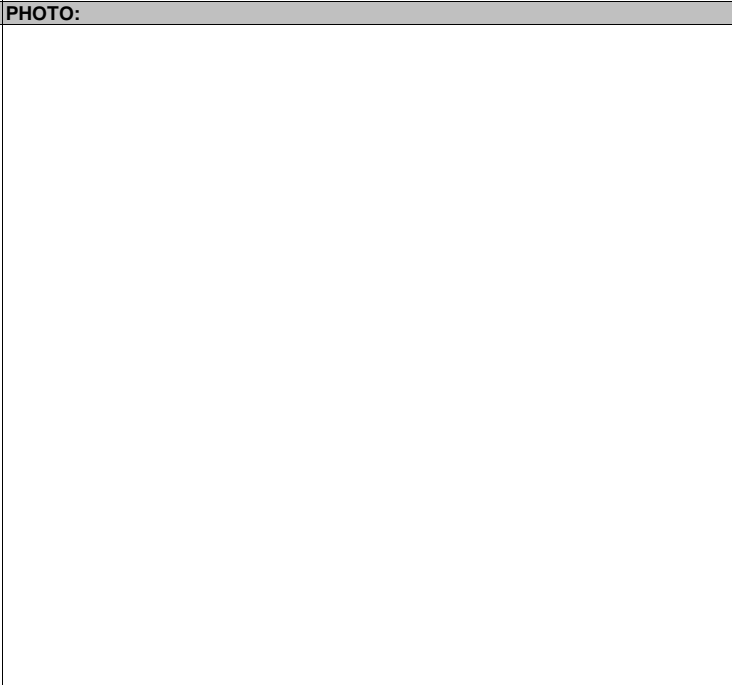
**GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: TW_16
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW_17**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Mesa**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **DC# RS0TC15523**

Northing (usf): **1867899.57**
Easting (usf): **6317423.71**
Elevation (usf): **548.00**

SESSIONS	DATE:	ObsA	Obs B
		10/25/14	10/25/14
2	DAY OF YEAR	298	298

START TIME	ObsA	ObsB	U.T.C.
	08:23	08:48	
END TIME	08:27	08:51	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
---------	----------	------------

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters	MEASURED	X	FIXED HGT
---------	---------------------	----------	----------	-----------

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





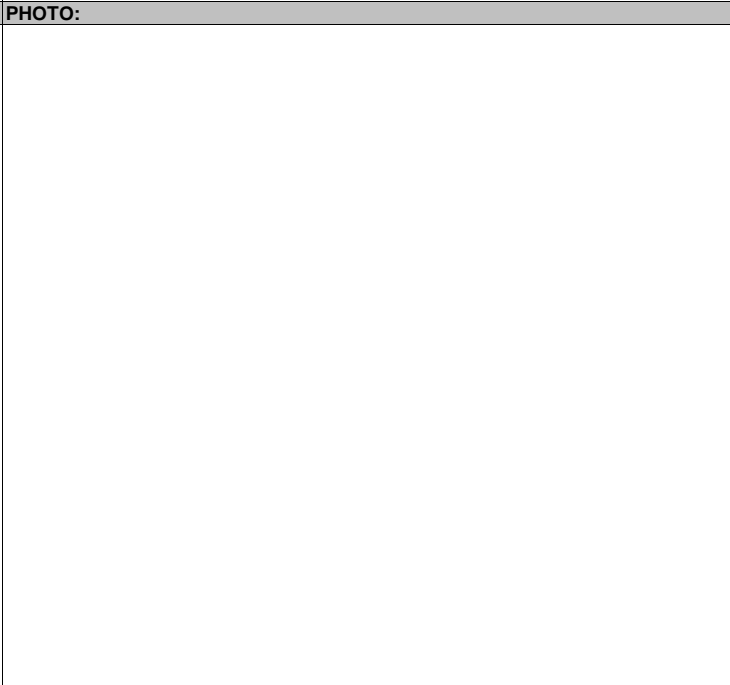
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: TW_17
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **TW_18**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Vicente Reservoir**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1902456.93**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6332346.99**

SESSIONS	DATE:	ObsA	Obs B
		2	10/22/14
	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	14:56	15:19	
END TIME	14:59	15:23	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





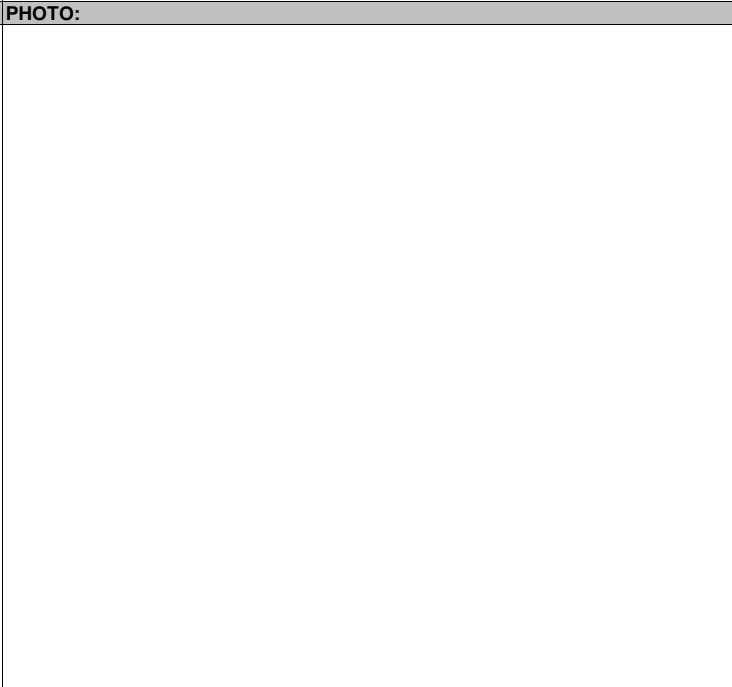
GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
2

JOB REFERENCE
USGS San Diego

POINT ID: TW_18
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
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JOB REFERENCE
USGS San Diego

POINT ID: **TW_19**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Dulzura**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1837311.51**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6371398.35**

SESSIONS	DATE:	ObsA	Obs B
		2	10/23/14
	DAY OF YEAR	296	296

START TIME	Obs A	ObsB	U.T.C.
	13:51	14:17	
END TIME	13:54	14:21	X LOCAL

ANTENNA HEIGHT (SLANT)	
MTRS/FT	
<input type="checkbox"/> MEASURED	<input type="checkbox"/> FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)	
MTRS/FT	2.000 Meters
<input type="checkbox"/> MEASURED	<input checked="" type="checkbox"/> X <input type="checkbox"/> FIXED HGT

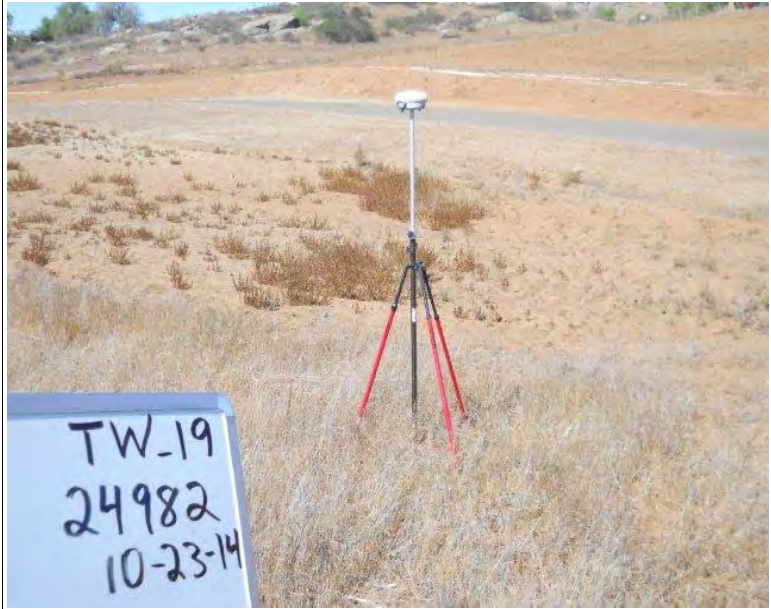
TOP OF MONUMENT IS:		FLUSH
METERS/FEET		<input type="checkbox"/> ABOVE GROUND
METERS/FEET		<input type="checkbox"/> BELOW GROUND

Tall Weeds

<input type="checkbox"/> AERIAL TARGET	<input checked="" type="checkbox"/> X	<input type="checkbox"/> PHOTO I.D.
<input type="checkbox"/> PUB. BENCH MARK		<input type="checkbox"/> NEW CONTROL
<input type="checkbox"/> PUB. CONTROL		<input type="checkbox"/> BASE STATION

PHOTO:

PHOTO:





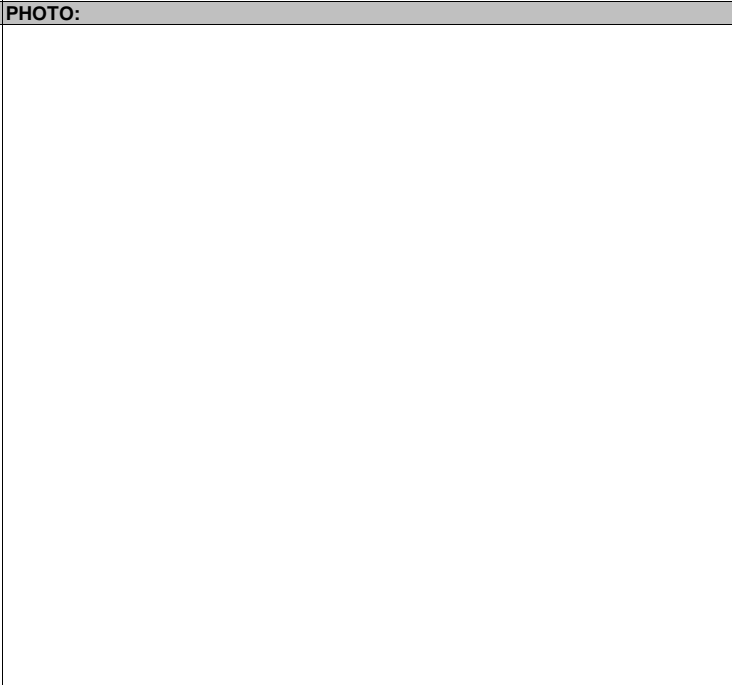
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: TW_19
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





523 Wellington Way, Suite 375
 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **TW_20**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Otay Mesa**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1805489.92**
 Easting (usf): **6334640.73**
 Elevation (usf): **469.27**

RECEIVER S/N: **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	DATE: 10/25/14	10/25/14
2	DAY OF YEAR: 298	298

	ObsA	ObsB		U.T.C.
START TIME	13:40	14:31		
END TIME	13:43	14:34	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tall Weeds

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





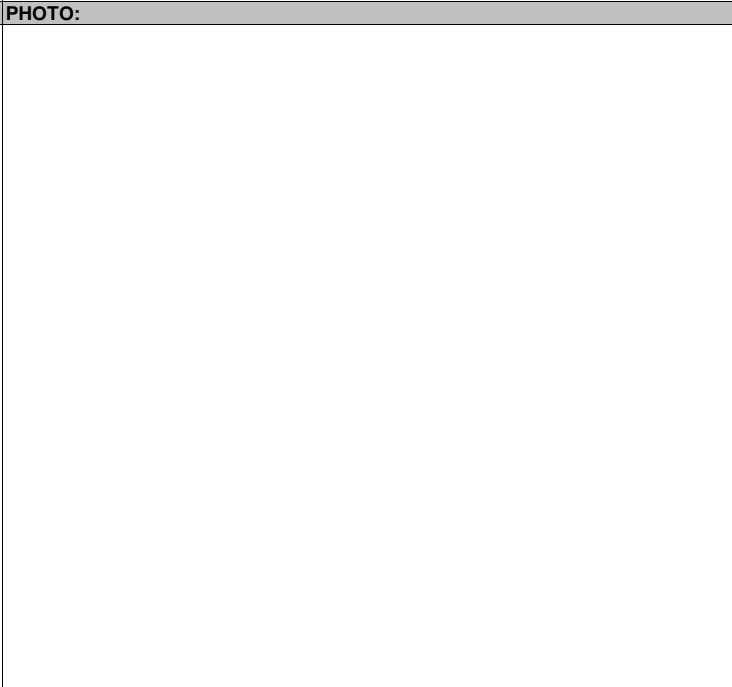
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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2

JOB REFERENCE
USGS San Diego

POINT ID: TW_20
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **UA_1**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Margarita Peak**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **DC# RS2DC48730**

Northing (usf)	2083130.52	Elevation (usf)	367.74
Easting (usf)	6186388.78		

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR 290	290

	Obs A	ObsB		U.T.C.
START TIME	13:12	14:00		
END TIME	13:15	14:03	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: UA_1
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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1

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JOB REFERENCE
USGS San Diego

POINT ID: **UA_2**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Margarita Peak**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **2082974.64**

Easting (usf) **6187590.82**

Elevation (usf)
379.37

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/17/14	10/17/14
CRTN	DAY OF YEAR 290	290

	Obs A	ObsB		U.T.C.
START TIME	12:16	12:46		
END TIME	12:19	12:49	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
2

523 Wellington Way, Suite 375
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JOB REFERENCE
USGS San Diego

POINT ID: UA_2
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **UA_3**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Morro Hill**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2054483.39**
Easting (usf): **6236675.27**
Elevation (usf): **362.35**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/18/14	10/18/14
CRTN	DAY OF YEAR: 291	291

	Obs A	ObsB		U.T.C.
START TIME	08:20	08:46		
END TIME	08:23	08:49	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Sripes

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: UA 3
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



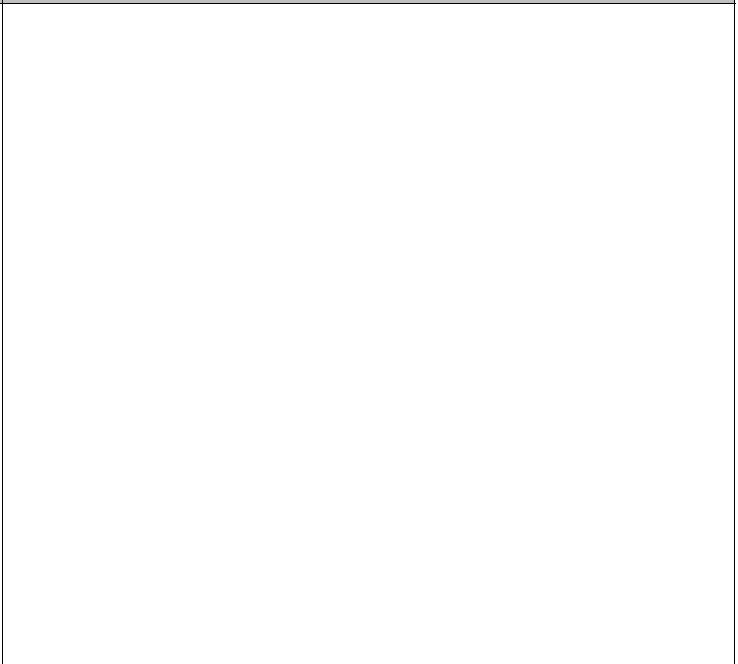
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **UA_4**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Oceanside**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	2020341.61	Elevation (usf)	34.72
Easting (usf)	6215222.78		

RECEIVER S/N **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	2	2
DATE:	10/18/14	10/18/14
DAY OF YEAR	291	291

	Obs A	ObsB		U.T.C.
START TIME	12:04	12:32		
END TIME	12:07	12:36	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





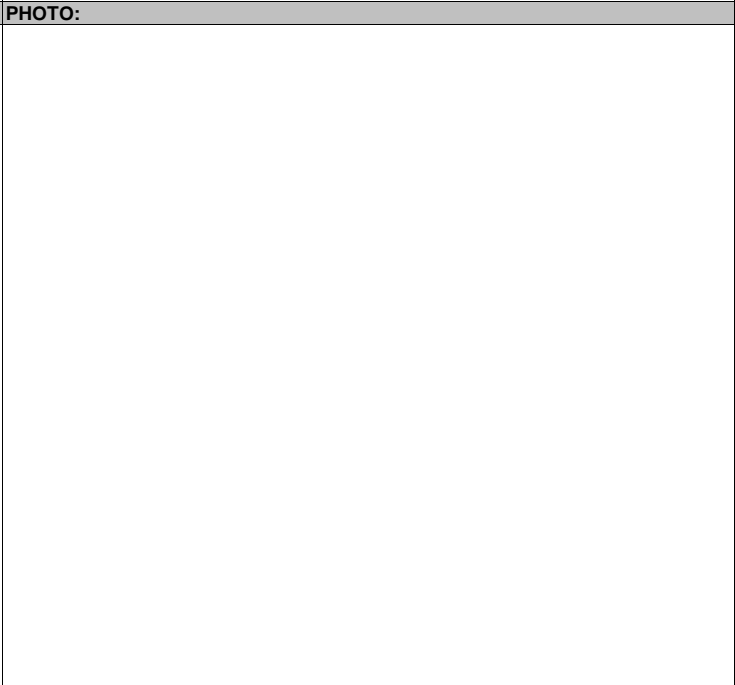
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: UA 4
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **UA_5**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Morro Hill**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	2037120.17	Elevation (usf)	191.80
Easting (usf)	6255676.64		

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/18/14	10/18/14
CRTN	DAY OF YEAR 291	291

	Obs A	ObsB		U.T.C.
START TIME	10:53	11:16		
END TIME	10:56	11:19	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Center Manhole

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





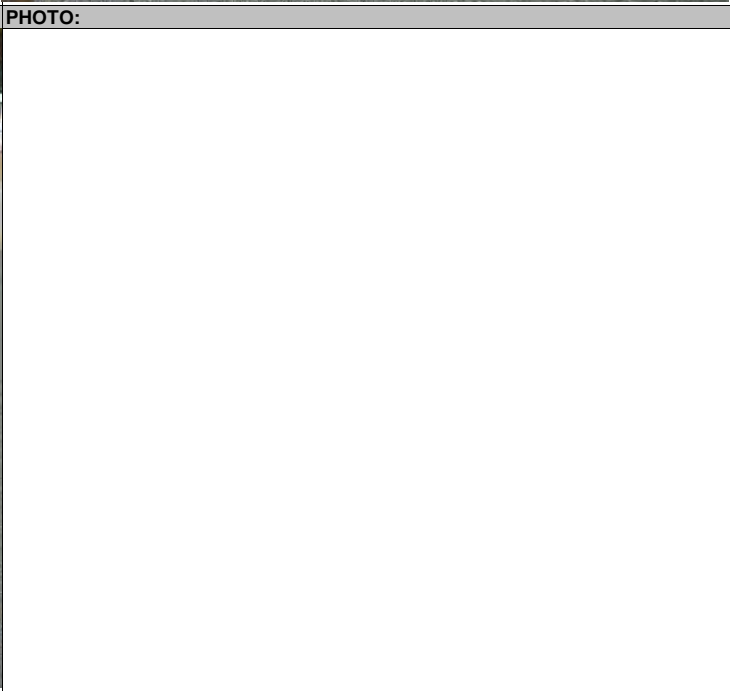
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: UA 5
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **UA_6**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Bonsall**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **2067771.60** Elevation (usf) **275.00**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6286016.04**

SESSIONS	DATE:	ObsA	Obs B
		10/17/14	10/17/14
2	DAY OF YEAR	290	290

START TIME	Obs A	ObsB	U.T.C.
	08:49	09:13	
END TIME	08:53	09:16	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	1.800 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Pavement

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





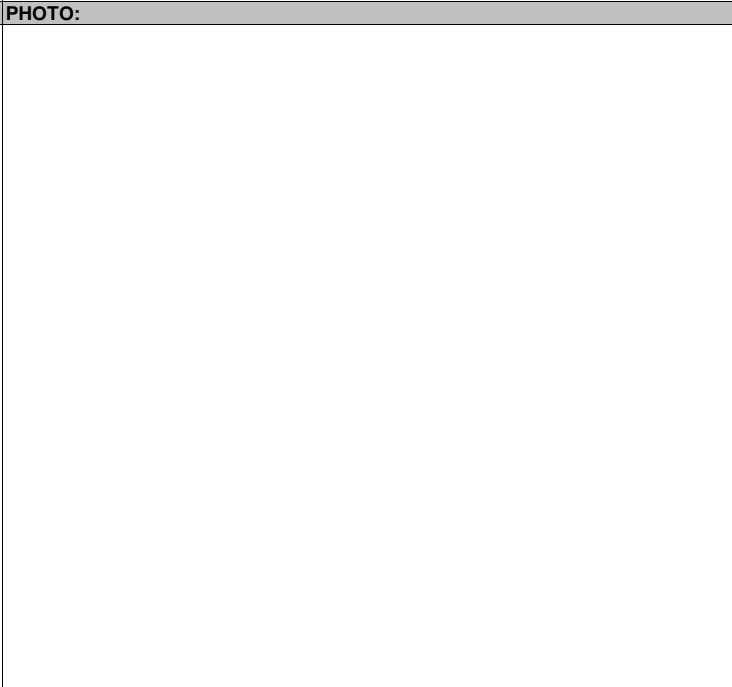
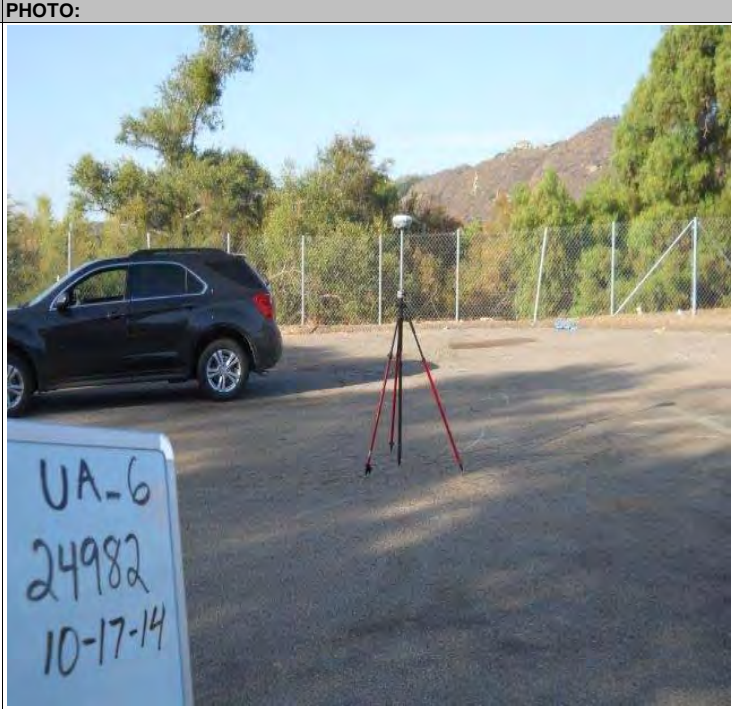
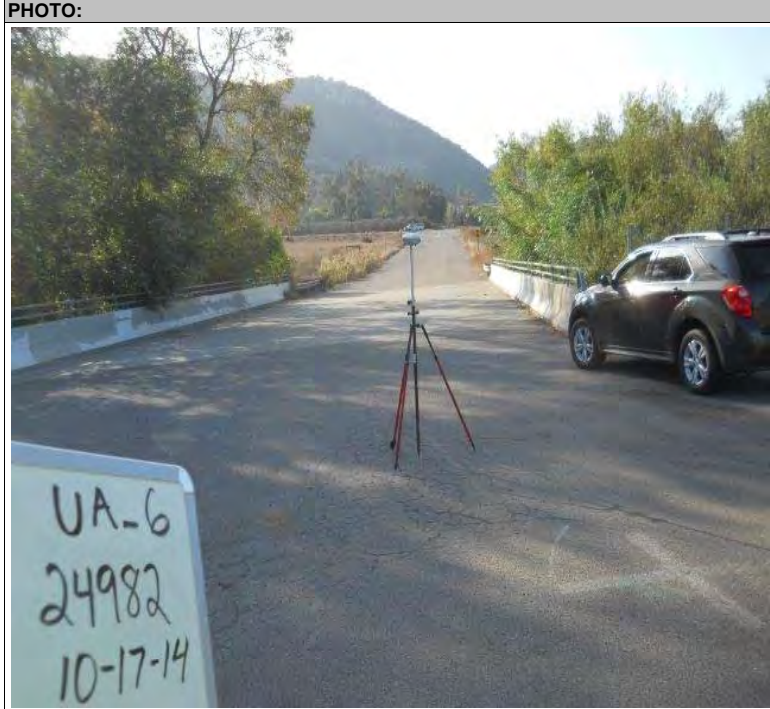
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: UA_6
Proj. No.: 24982

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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **UA_7**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Pala**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **2051054.07**

RECEIVER S/N: **DC# RS2DC48730**

Easting (usf): **6325146.80**

Elevation (usf): **1683.19**

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
CRTN	DAY OF YEAR: 292	292

	Obs A	ObsB		U.T.C.
START TIME	15:21	15:44		
END TIME	15:24	15:47	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of "P" in STOP

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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**JOB REFERENCE
USGS San Diego**

**POINT ID: UA 7
Proj. No.: 24982**

PHOTO:



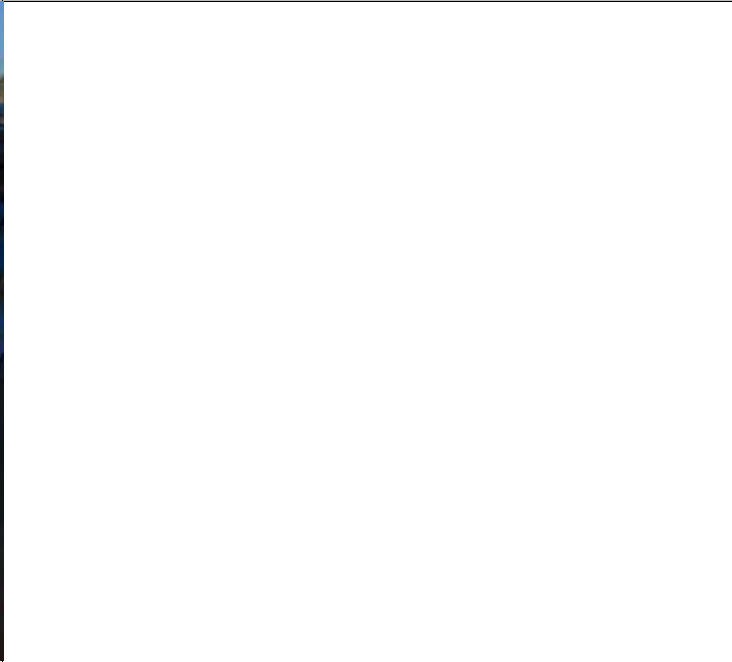
PHOTO:



PHOTO:



PHOTO:





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 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: **UA_8**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Rodriguez Mountain**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **5153480435**

Northing (usf)	2023107.77	Elevation (usf)	2050.86
Easting (usf)	6352399.34		

	ObsA	Obs B
SESSIONS	DATE: 10/19/14	10/19/14
2	DAY OF YEAR 292	292

	Obs A	ObsB		U.T.C.
START TIME	11:32	12:09		
END TIME	12:03	12:39	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of Concrete Pad

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: UA 8
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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PHOTO:



PHOTO:



PHOTO:



PHOTO:





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 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
1

JOB REFERENCE
USGS San Diego

POINT ID: **UA_9**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Valley Center**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

RECEIVER S/N **DC# RS2DC48730**

Northing (usf)	1999037.99	Elevation (usf)	715.63
Easting (usf)	6321609.10		

	ObsA	Obs B
SESSIONS	10/19/14	10/19/14
CRTN	292	292

	Obs A	ObsB		U.T.C.
START TIME	10:46	11:13		
END TIME	10:49	11:16	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT		MEASURED		FIXED HGT.
---------	--	----------	--	------------

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Paint Stripe

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: UA_9
Proj. No.: 24982

PHOTO:



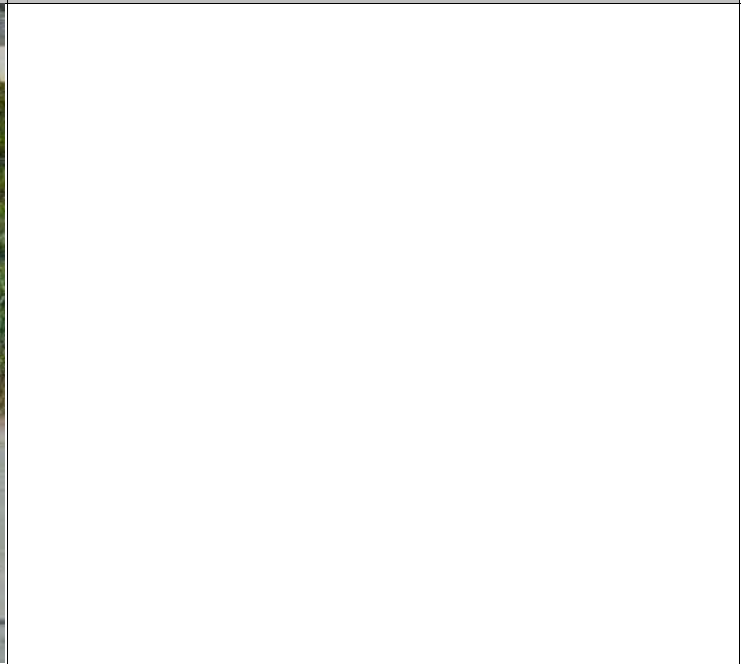
PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
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JOB REFERENCE
USGS San Diego

POINT ID: **UA_10**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Marcos**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1995822.46	Elevation (usf)	563.52
Easting (usf)	6279362.44		

RECEIVER S/N **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	10/20/14	10/20/14
2	293	293

	Obs A	ObsB		U.T.C.
START TIME	13:33	13:57		
END TIME	13:36	14:00	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





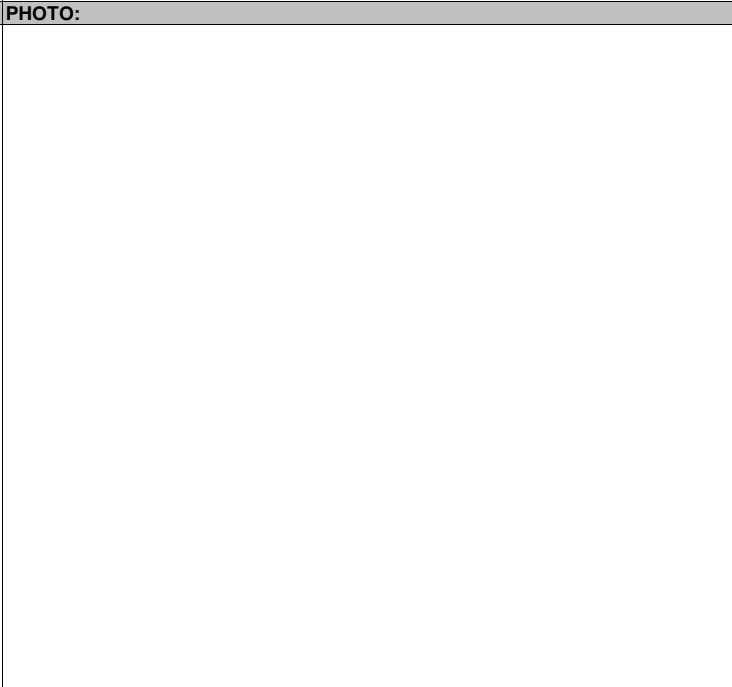
GPS CONTROL SURVEY
FIELD DATA SHEET

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2

JOB REFERENCE
USGS San Diego

POINT ID: UA 10
Proj. No.: 24982

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Lexington, KY 40503
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
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JOB REFERENCE
USGS San Diego

POINT ID: **UA_11**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Rancho Santa Fe**

OPERATOR **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1968582.74	Elevation (usf)	128.10
Easting (usf)	6257049.73		

RECEIVER S/N **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	10/20/14	10/20/14
CRTN	293	293

	Obs A	ObsB		U.T.C.
START TIME	13:40	14:04		
END TIME	13:43	14:07	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5407454087	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

End of Arrow Point

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:



10.20.2014 16:44

10.20.2014 16:44



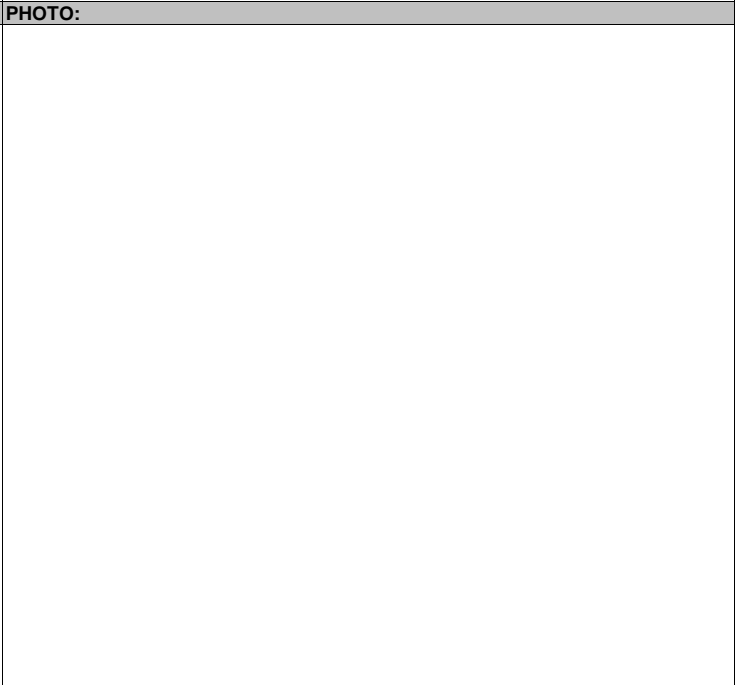
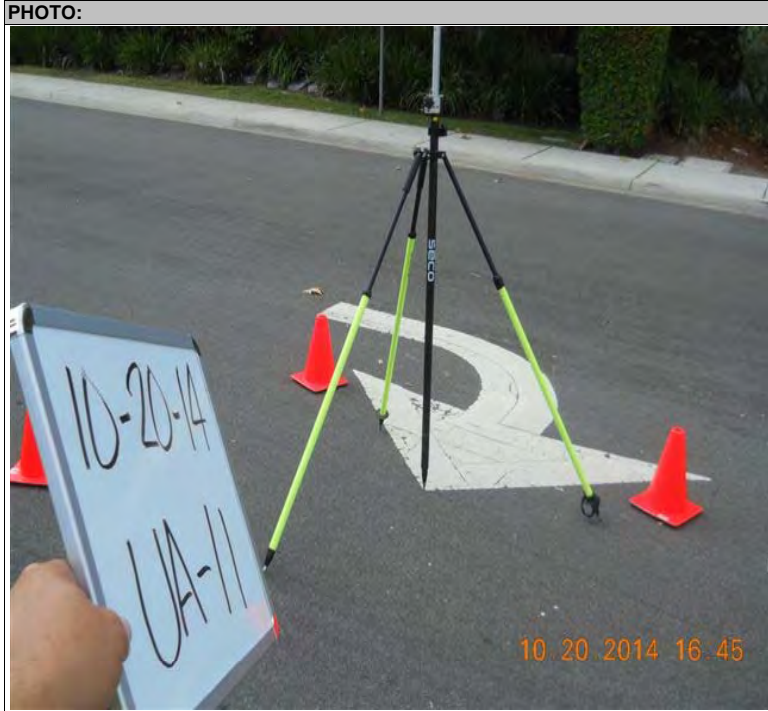
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **UA_11**
Proj. No.: **24982**

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **UA_12**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Escondido**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1964874.86**
Easting (usf): **6309341.12**
Elevation (usf): **334.49**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/21/14	10/21/14
CRTN	DAY OF YEAR: 294	294

	Obs A	ObsB		U.T.C.
START TIME	13:31	13:54		
END TIME	13:34	13:57	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:



PHOTO:





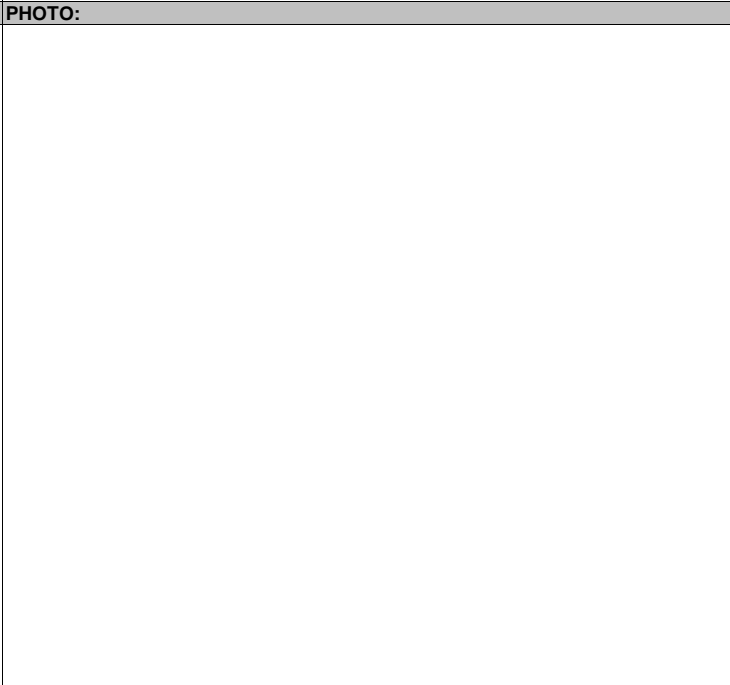
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: UA 12
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
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JOB REFERENCE
USGS San Diego

POINT ID: **UA_13**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Pasqual**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1977290.62	Elevation (usf)	451.24
Easting (usf)	6348920.53		

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/21/14	10/21/14
2	DAY OF YEAR	294	294

START TIME	Obs A	ObsB	U.T.C.
	09:46	10:10	
END TIME	09:49	10:13	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Mag Nail/Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: UA 13
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **UA_14**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **San Vicente Reservoir**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf)	1936545.66	Elevation (usf)	1614.66
Easting (usf)	6339921.50		

RECEIVER S/N **DC# RS0TC15523**

	ObsA	Obs B
SESSIONS	10/22/14	10/22/14
2	DATE:	DAY OF YEAR
	295	295

	Obs A	ObsB		U.T.C.
START TIME	09:33	09:58		
END TIME	09:37	10:01	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:



PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: UA 14
Proj. No.: 24982

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PHOTO:



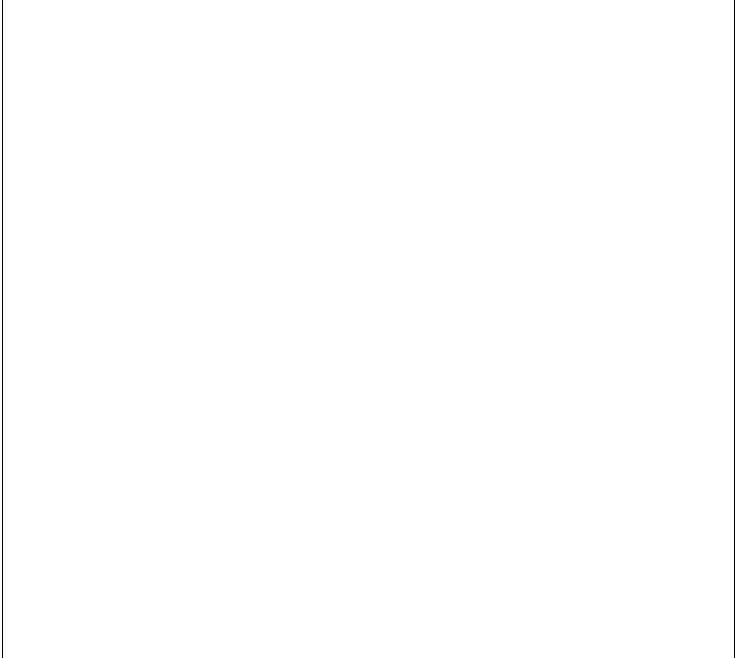
PHOTO:



PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **UA_15**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Del Mar**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1927847.50**
 Easting (usf): **6271850.35**
 Elevation (usf): **213.23**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/21/14	10/21/14
CRTN	DAY OF YEAR: 294	294

	Obs A	ObsB		U.T.C.
START TIME	10:18	10:42		
END TIME	10:22	10:45	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Stop Bar

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: UA 15
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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PHOTO:



PHOTO:



PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **UA_16**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **La Jolla**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1881553.12**
 Easting (usf): **6258085.36**
 Elevation (usf): **486.01**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/22/14	10/22/14
CRTN	DAY OF YEAR: 295	295

	Obs A	ObsB		U.T.C.
START TIME	13:23	13:47		
END TIME	13:26	13:50	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner Concrete

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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**JOB REFERENCE
USGS San Diego**

**POINT ID: UA 16
Proj. No.: 24982**

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **UA_17**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **San Vicente Reservoir**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1902214.65** Elevation (usf): **467.07**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf): **6332415.74**

SESSIONS	DATE:	ObsA	Obs B
		10/22/14	10/22/14
2	DAY OF YEAR	295	295

START TIME	Obs A	ObsB	U.T.C.
	14:25	14:48	
END TIME	14:28	14:51	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Tip of Arrow

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





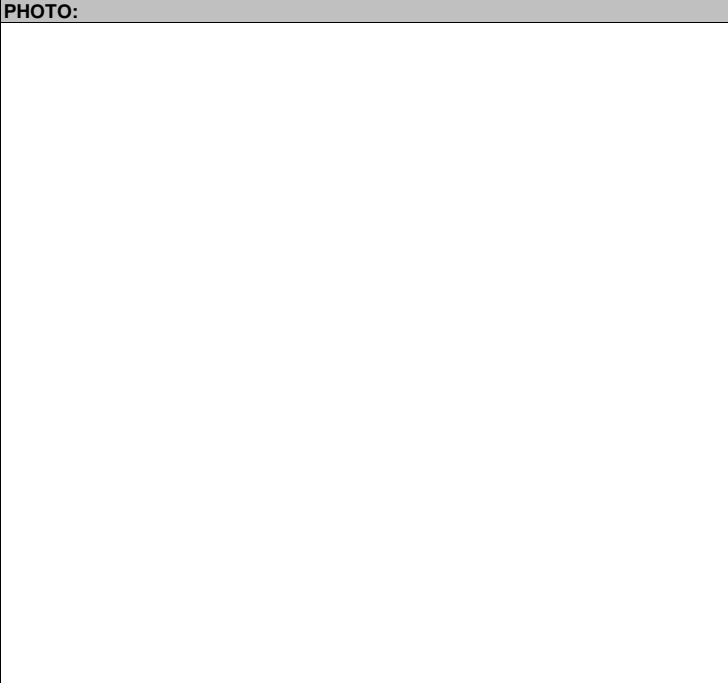
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: UA 17
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **UA_18**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **La Mesa**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing (usf) **1863766.74**

Easting (usf) **6299855.60**

Elevation (usf)
88.10

RECEIVER S/N **DC# RS0TC15523**

SESSIONS	DATE:	ObsA	Obs B
		10/24/14	10/24/14
2	DAY OF YEAR	297	297

START TIME	ObsA	ObsB	U.T.C.
	08:10	08:33	
END TIME	08:13	08:36	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Paint Stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: UA 18
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
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JOB REFERENCE
USGS San Diego

POINT ID: **UA_19**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Jamul Mountains**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf) **1842677.62** Elevation (usf) **868.69**

RECEIVER S/N: **DC# RS0TC15523**

Easting (usf) **6365207.20**

SESSIONS	DATE:	ObsA	Obs B
		10/23/14	10/23/14
2	DAY OF YEAR	296	296

START TIME	ObsA	ObsB	U.T.C.
	11:54	12:19	
END TIME	11:59	12:22	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of Driveway

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





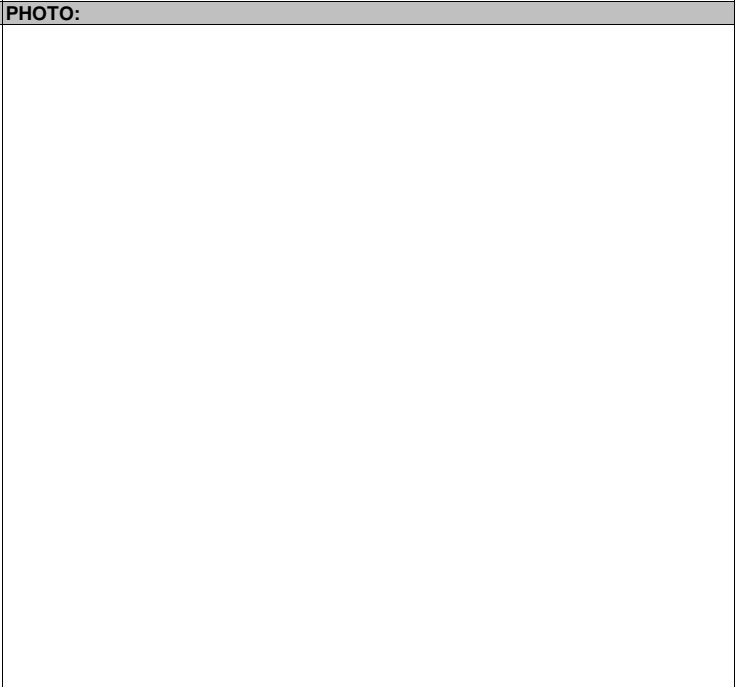
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: UA 19
Proj. No.: 24982

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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **UA_20**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **K.Roberts**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing (usf): **1789412.50**
 Easting (usf): **6313871.44**
 Elevation (usf): **180.07**

RECEIVER S/N: **DC# RS2DC48730**

	ObsA	Obs B
SESSIONS	DATE: 10/23/14	10/23/14
CRTN	DAY OF YEAR: 296	296

	Obs A	ObsB		U.T.C.
START TIME	18:20	18:43		
END TIME	18:23	18:48	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5407454087		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

Paint Stripe

AERIAL TARGET		PHOTO I.D.
PUB. BENCH MARK	X	NEW CONTROL
PUB. CONTROL		BASE STATION





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: UA_20
Proj. No.: 24982

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859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
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523 Wellington Way, Suite 375
Lexington, KY 40503
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JOB REFERENCE
USGS San Diego

POINT ID: **A1**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing	1790131.04 (usf)	Elevation	20.39 (usf)
Easting	6292445.22 (usf)		

RECEIVER S/N: **RS2DC48130**

SESSIONS	DATE:	ObsA	Obs B
		01/22/15	01/22/15
2	DAY OF YEAR	22	22

START TIME	ObsA	ObsB	U.T.C.
	13:20	13:44	
END TIME	13:24	13:50	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	X FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





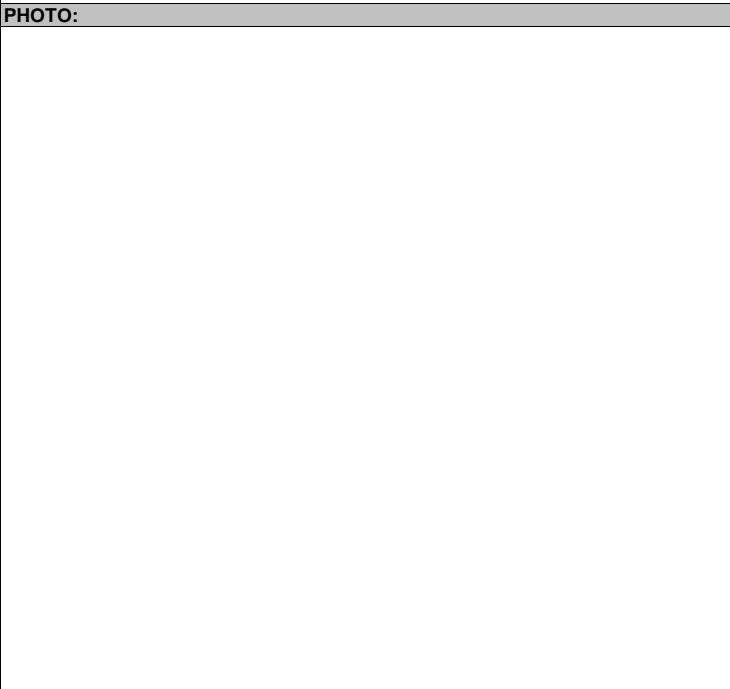
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: A1
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
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 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: **A2**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Imperial Beach**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing **1786593.17 (usf)**

Elevation

RECEIVER S/N **RS2DC48130**

Easting **6301585.23 (usf)**

48.26 (usf)

SESSIONS	DATE:	ObsA	Obs B
		01/22/15	01/22/15
2	DAY OF YEAR	22	22

START TIME	ObsA	ObsB	U.T.C.
	11:27	11:51	
END TIME	11:30	11:54	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





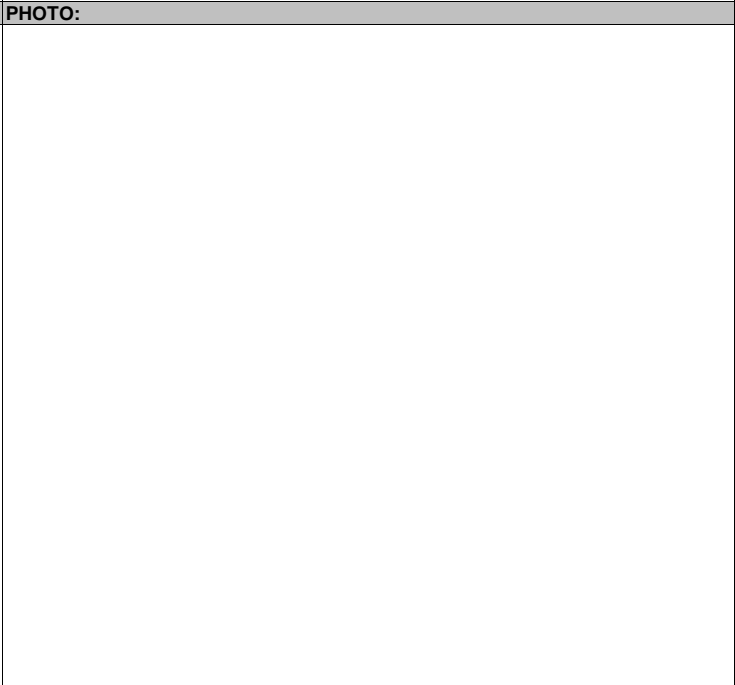
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: A2
Proj. No.: 24982

523 Wellington Way, Suite 375
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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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1

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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **A3**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **RS2DC48130**

Northing: **1783927.80 (usf)**
Easting: **6301969.86 (usf)**
Elevation: **21.40 (usf)**

SESSIONS	DATE:	ObsA	Obs B
		01/22/15	01/22/15
2	DAY OF YEAR	22	22

START TIME	ObsA	ObsB	U.T.C.
	10:52	11:16	
END TIME	10:55	11:19	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	MEASURED	FIXED HGT.
---------	----------	------------

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters	MEASURED	X	FIXED HGT
---------	---------------------	----------	----------	-----------

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
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JOB REFERENCE
USGS San Diego

POINT ID: A3
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
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JOB REFERENCE
 USGS San Diego

POINT ID: A4
 Proj. No.: 24982

STATE: CA COUNTY: San Diego QUAD: Imperial Beach

OPERATOR: D.Griggs

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: Trimble R8
 RECEIVER S/N: RS2DC48130

Northing: 1778595.26 (usf)
 Easting: 6297736.35 (usf)
 Elevation: 22.14 (usf)

SESSIONS	DATE:	ObsA	Obs B
2	01/21/15	01/21/15	01/21/15
	DAY OF YEAR	21	21

	ObsA	ObsB		U.T.C.
START TIME	09:25	09:48		
END TIME	09:28	09:51	X	LOCAL

ANTENNA HEIGHT (SLANT)
 MTRS/FT: _____
 MEASURED: _____ FIXED HGT.: _____

ANTENNA
 RADIUS (M): _____
 Antenna Serial #: 5153480435
 Antenna Type: TRMR8 Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)
 MTRS/FT: 2.000 Meters
 MEASURED: _____ X _____ FIXED HGT: _____

TOP OF MONUMENT IS: _____ FLUSH
 METERS/FEET: _____ ABOVE GROUND
 METERS/FEET: _____ BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





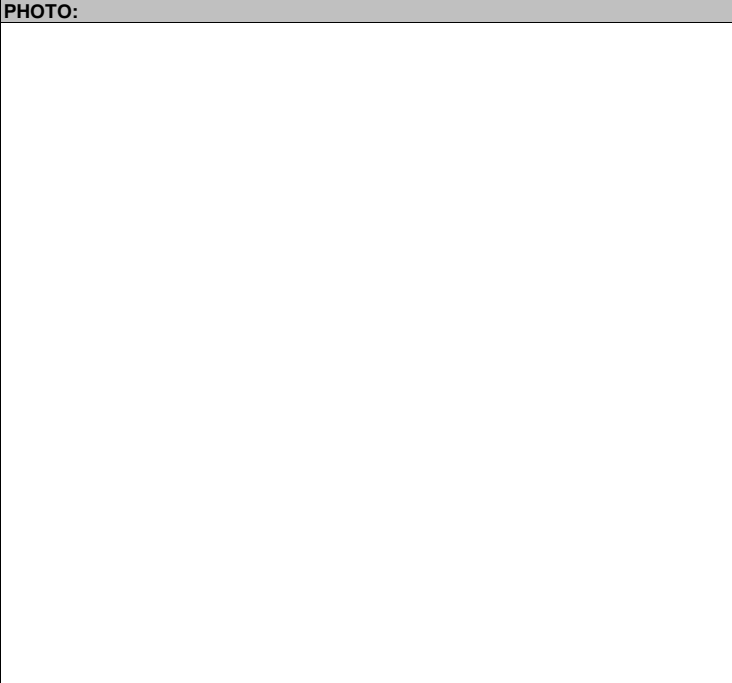
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **A4**
Proj. No.: **24982**

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **A5**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing: **1777628.85 (usf)**
Easting: **6300894.11 (usf)**
Elevation: **352.22 (usf)**

RECEIVER S/N: **RS2DC48130**

SESSIONS	DATE:	ObsA	Obs B
		01/21/15	01/21/15
2	DAY OF YEAR	21	21

START TIME	ObsA	ObsB	U.T.C.
	10:01	10:24	
END TIME	10:04	10:27	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: A5
Proj. No.: 24982

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PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **B1**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Imperial Beach**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing **1786605.42 (usf)**

Elevation

RECEIVER S/N **RS2DC48130**

Easting **6304651.70 (usf)**

27.01 (usf)

SESSIONS	DATE:	ObsA	Obs B
		01/22/15	01/22/15
2	DAY OF YEAR	22	22

	ObsA	ObsB		U.T.C.
	START TIME	10:11		
END TIME	10:14	10:38	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





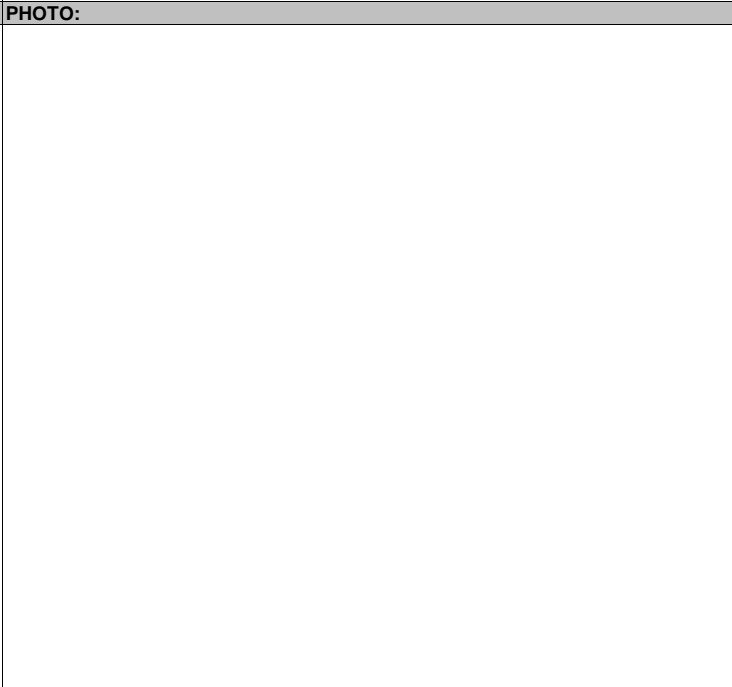
GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: B1
Proj. No.: 24982

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**GPS CONTROL SURVEY
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JOB REFERENCE
USGS San Diego

POINT ID: **B2**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing	1778481.60 (usf)	Elevation	
Easting	6303920.33 (usf)		42.55 (usf)

RECEIVER S/N: **RS2DC48130**

SESSIONS	DATE:	ObsA	Obs B
		01/21/15	01/21/15
2	DAY OF YEAR	21	21

START TIME	ObsA	ObsB	U.T.C.
	11:35	11:58	
END TIME	11:38	12:01	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





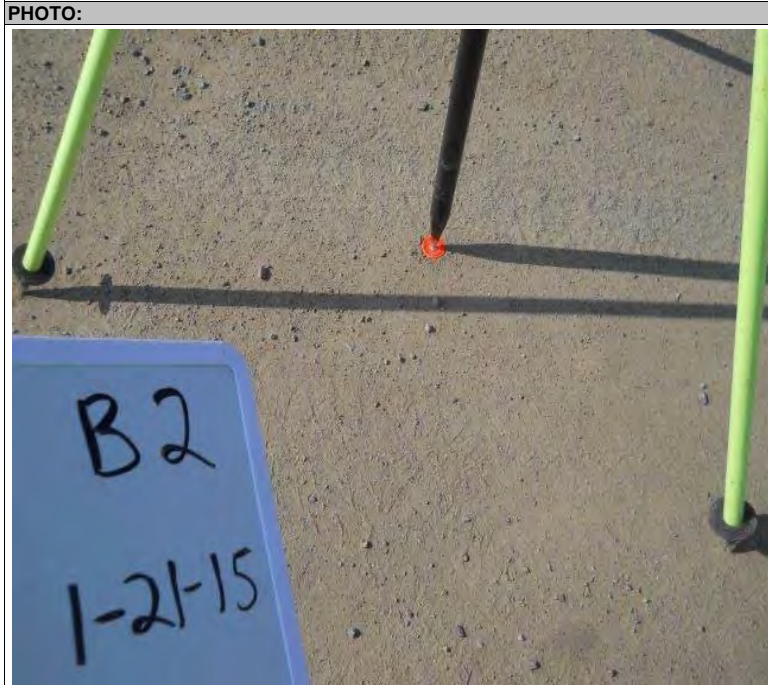
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: B2
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **B3**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Imperial Beach**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing **1778822.62 (usf)**

Elevation

RECEIVER S/N **RS2DC48130**

Easting **6310007.26 (usf)**

51.94 (usf)

SESSIONS	DATE:	ObsA	Obs B
		01/21/15	01/21/15
2	DAY OF YEAR	21	21

START TIME	ObsA	ObsB	U.T.C.
	12:32	12:56	
END TIME	12:35	12:59	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





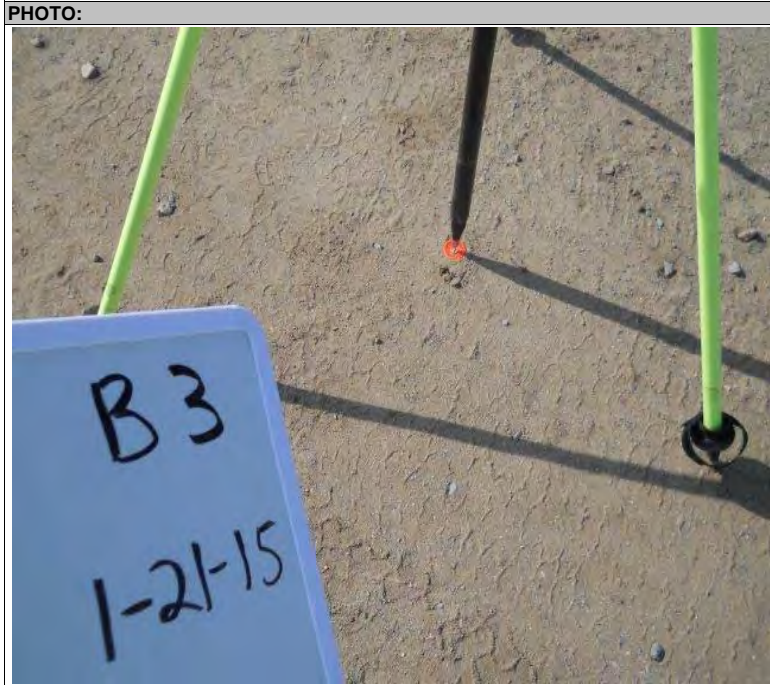
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: B3
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **B4**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **RS2DC48130**

Northing: **1779430.13 (usf)**
Easting: **6316522.29 (usf)**
Elevation: **48.43 (usf)**

SESSIONS	DATE:	ObsA	Obs B
	2	01/21/15	01/21/15
	DAY OF YEAR	21	21

START TIME	ObsA	ObsB	U.T.C.
	13:26	13:49	
END TIME	13:29	13:52	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:





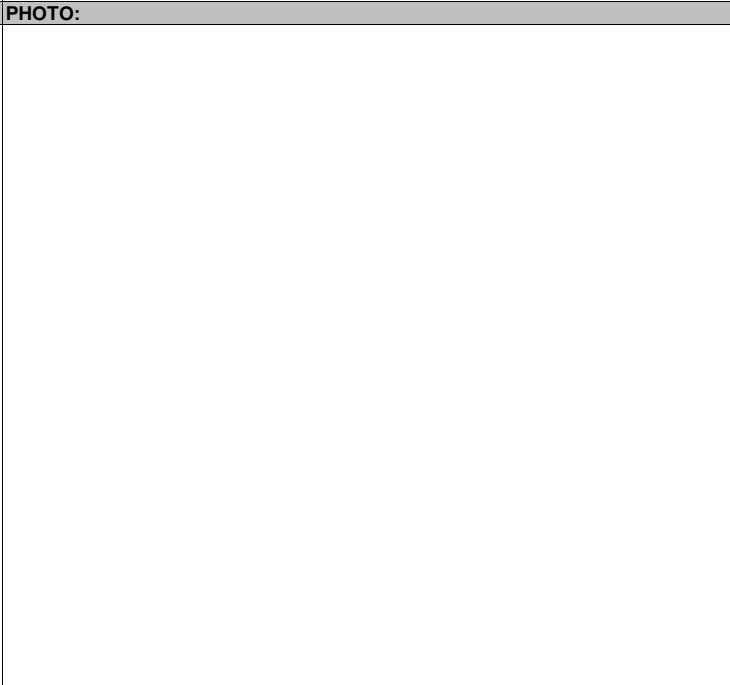
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: B4
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **B5**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Imperial Beach**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing **1783245.25 (usf)**

Elevation

RECEIVER S/N **RS2DC48130**

Easting **6309989.47 (usf)**

39.31 (usf)

SESSIONS	DATE:	ObsA	Obs B
		01/21/15	01/21/15
2	DAY OF YEAR	21	21

START TIME	ObsA	ObsB	U.T.C.
	14:11	14:43	
END TIME	14:14	14:37	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





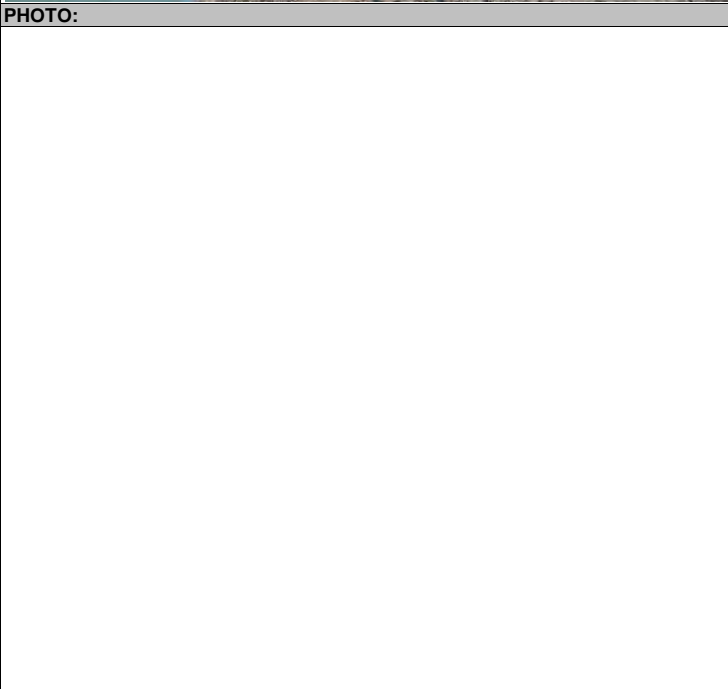
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: B5
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **C1**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **RS2DC48130**

Northing: **1794681.36 (usf)**
Easting: **6298113.59 (usf)**
Elevation: **15.36 (usf)**

SESSIONS	DATE:	ObsA	Obs B
		01/22/15	01/22/15
2	DAY OF YEAR	22	22

START TIME	ObsA	ObsB	U.T.C.
	15:11	15:34	
END TIME	15:14	15:37	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION





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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: C1
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **C2**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing	1797056.44 (usf)	Elevation	11.76 (usf)
Easting	6302749.58 (usf)		

RECEIVER S/N: **RS2DC48130**

	ObsA	Obs B
SESSIONS	01/22/15	01/22/15
DATE:		
DAY OF YEAR	22	22

	ObsA	ObsB		U.T.C.
START TIME	16:22	16:46		
END TIME	16:25	16:49	X	LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters		
MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





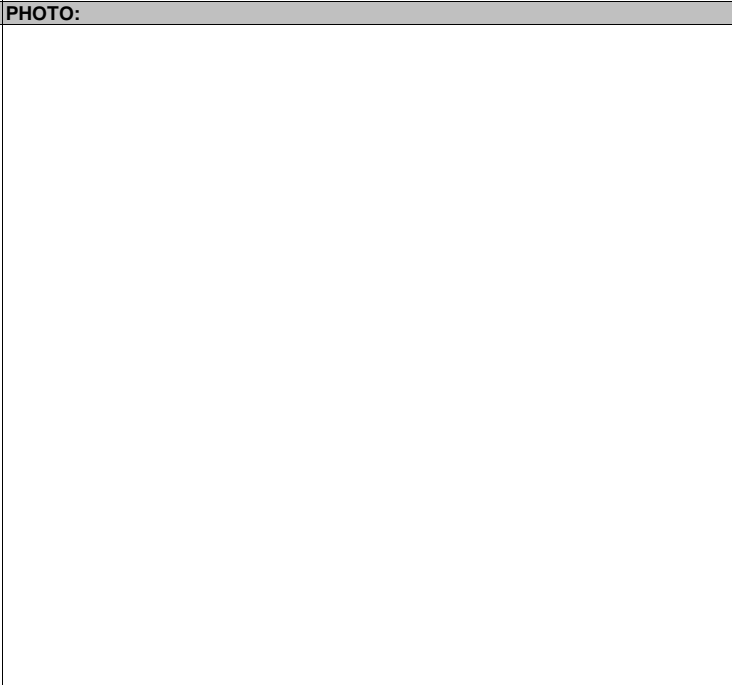
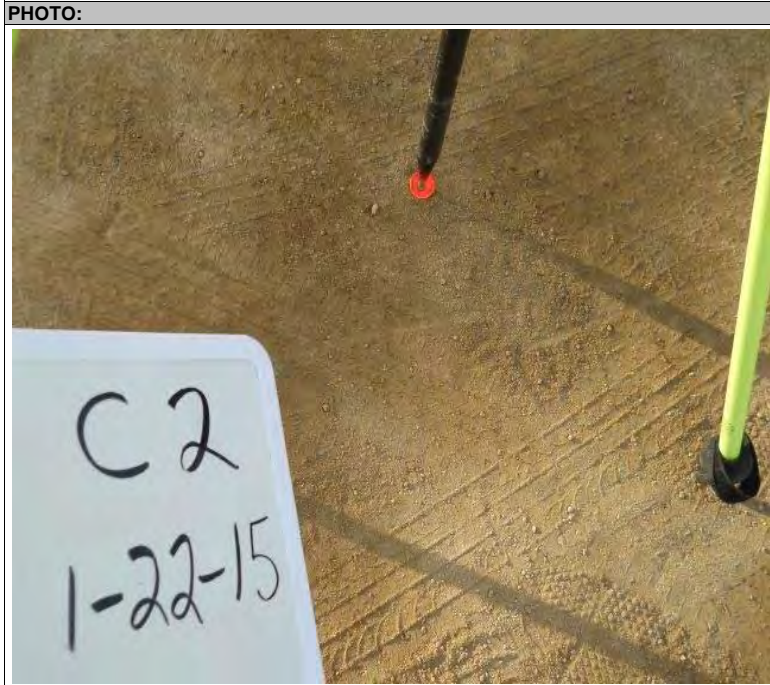
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: C2
Proj. No.: 24982

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Lexington, KY 40503
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**GPS CONTROL SURVEY
 FIELD DATA SHEET**

PAGE:
1

JOB REFERENCE
USGS San Diego

POINT ID: **C3**
 Proj. No.: **24982**

STATE **CA** COUNTY **San Diego** QUAD: **Imperial Beach**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing **1803483.80 (usf)**
 Easting **6302325.19 (usf)**
 Elevation **25.13 (usf)**

RECEIVER S/N **RS2DC48130**

	ObsA	Obs B
SESSIONS	DATE: 01/23/15	01/23/15
2	DAY OF YEAR 23	23

	ObsA	ObsB		U.T.C.
START TIME	09:35	09:58		
END TIME	09:38	10:01	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





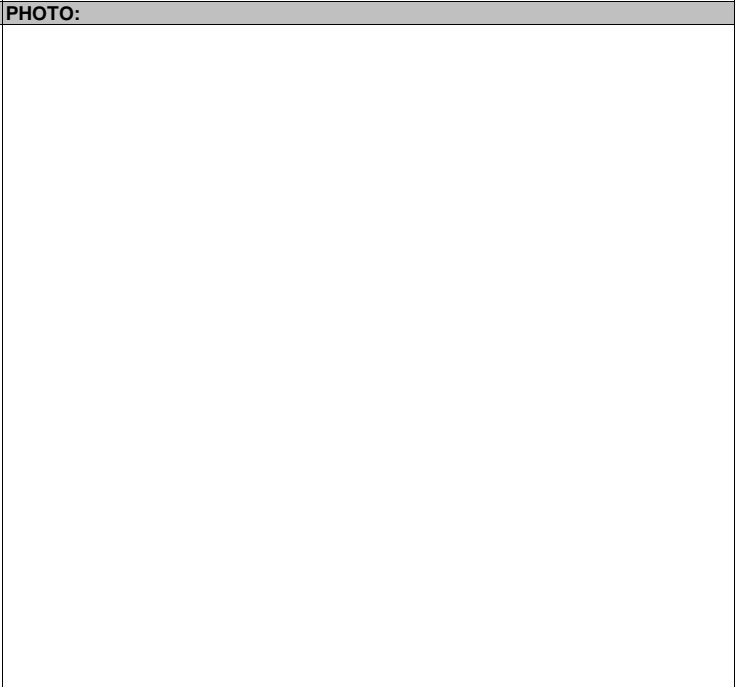
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FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: C3
Proj. No.: 24982

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**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **C4**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing: **1806340.34 (usf)**
Easting: **6299190.12 (usf)**
Elevation: **10.03 (usf)**

RECEIVER S/N: **RS2DC48130**

SESSIONS	DATE:	ObsA	Obs B
		01/23/15	01/23/15
2	DAY OF YEAR	23	23

START TIME	ObsA	ObsB	U.T.C.
	10:09	10:34	
END TIME	10:14	10:37	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





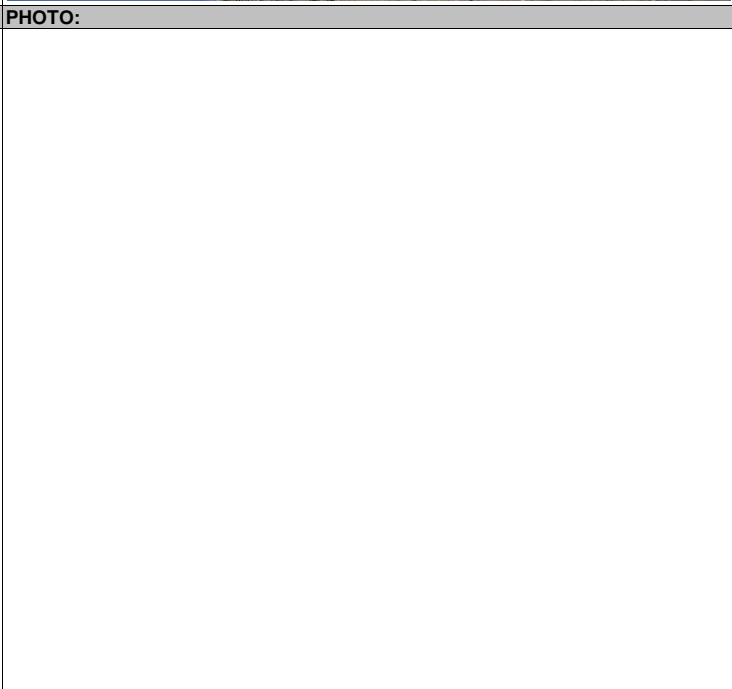
**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: C4
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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1

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **C5**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**
RECEIVER S/N: **RS2DC48130**

Northing: **1799865.91 (usf)**
Easting: **6292548.66 (usf)**
Elevation: **12.11 (usf)**

SESSIONS	DATE:	ObsA	Obs B
	2	01/22/15	01/22/15
	DAY OF YEAR	22	22

START TIME	ObsA	ObsB	U.T.C.
	14:17	14:44	
END TIME	14:24	14:47	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





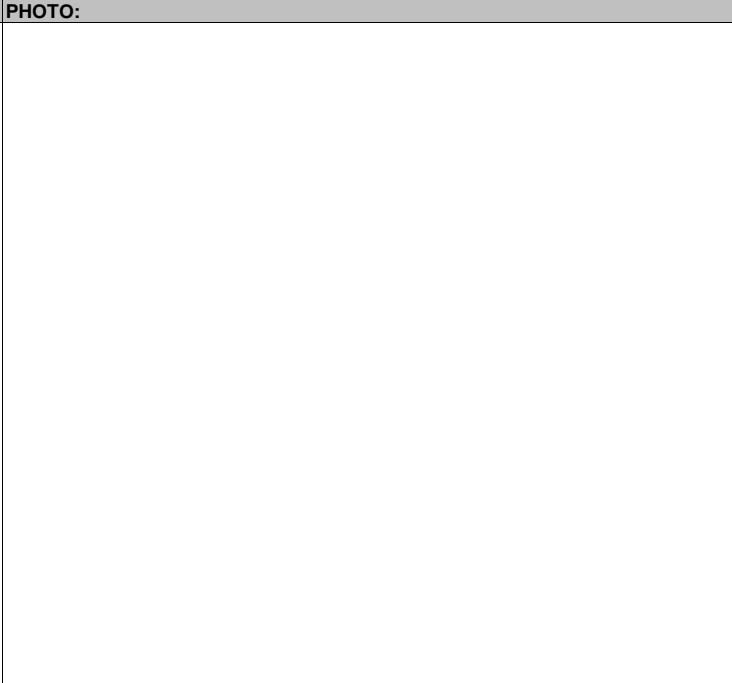
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: C5
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **D1**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing: **1807270.71 (usf)**
Easting: **6301460.52 (usf)**
Elevation: **11.71 (usf)**

RECEIVER S/N: **RS2DC48130**

SESSIONS	DATE:	ObsA	Obs B
		01/23/15	01/23/15
2	DAY OF YEAR	23	23

START TIME	ObsA	ObsB	U.T.C.
	10:49	11:12	
END TIME	10:52	11:15	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: D1
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





523 Wellington Way, Suite 375
 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **D2**
 Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **National City**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing **1809091.41 (usf)**

Elevation

RECEIVER S/N **RS2DC48130**

Easting **6299405.77 (usf)**

10.37 (usf)

SESSIONS	DATE:	ObsA	Obs B
	2	01/23/15	01/23/15
	DAY OF YEAR	23	23

START TIME	ObsA	ObsB	U.T.C.
	11:31	12:21	
END TIME	11:34	12:31	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





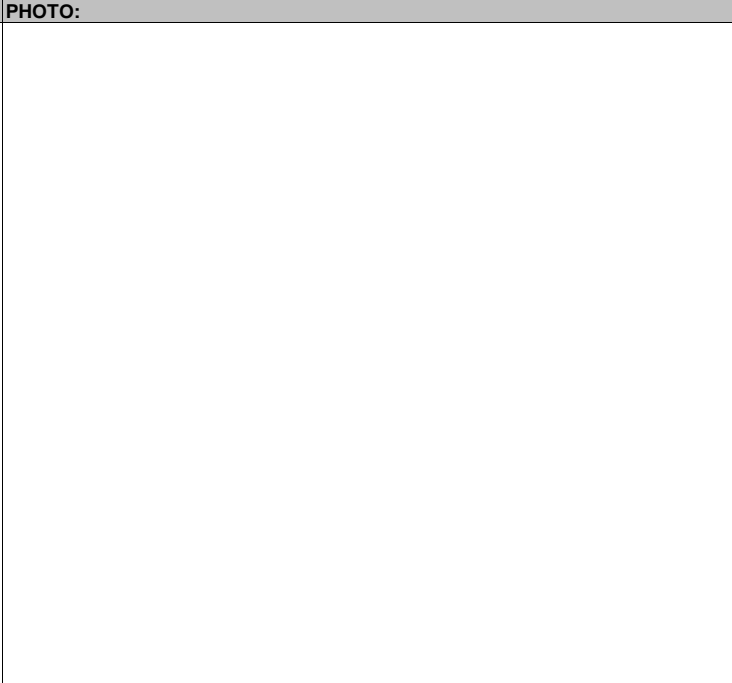
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: D2
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **D3**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **National City**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing: **1813263.31 (usf)**
Easting: **6299458.88 (usf)**
Elevation: **18.30 (usf)**

RECEIVER S/N: **RS2DC48130**

SESSIONS	DATE:	ObsA	Obs B
		01/23/15	01/23/15
2	DAY OF YEAR	23	23

START TIME	ObsA	ObsB	U.T.C.
	12:42	13:05	
END TIME	12:45	13:08	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO: PHOTO:





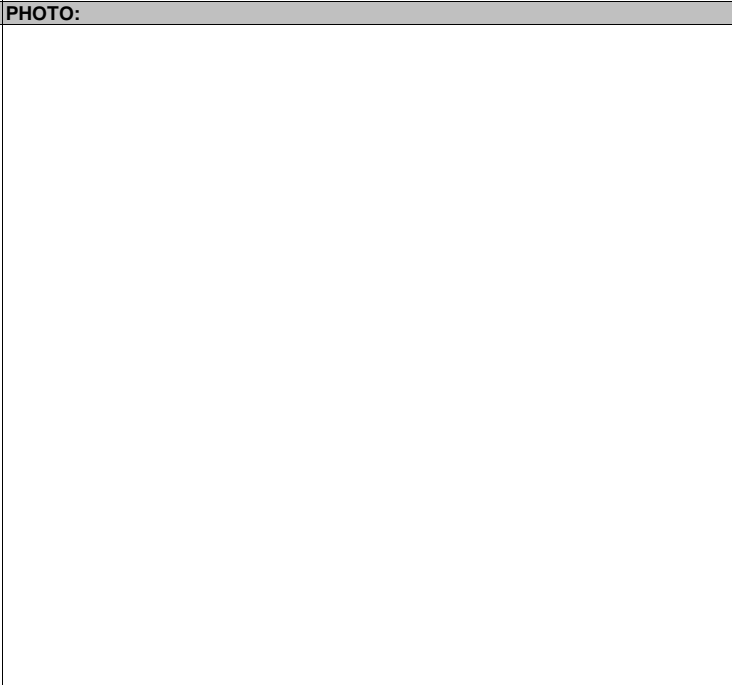
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JOB REFERENCE
USGS San Diego

POINT ID: D3
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **D4**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **National City**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing	1818398.72 (usf)	Elevation	19.14 (usf)
Easting	6297455.41 (usf)		

RECEIVER S/N: **RS2DC48130**

SESSIONS	DATE:	ObsA	Obs B
		01/21/15	01/21/15
2	DAY OF YEAR	21	21

START TIME	ObsA	ObsB	U.T.C.
	17:07	17:30	
END TIME	17:10	17:33	X LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT	
MEASURED	FIXED HGT.

ANTENNA

RADIUS (M)		
Antenna Serial #	5153480435	
Antenna Type	TRMR8	Trimble Integrated Antenna

ANTENNA HEIGHT (ARP)

MTRS/FT	2.000 Meters
MEASURED	X FIXED HGT

TOP OF MONUMENT IS:

	FLUSH
METERS/FEET	ABOVE GROUND
METERS/FEET	BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: D4
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **D5**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **National City**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing	1814222.15 (usf)	Elevation	12.19 (usf)
Easting	6296499.41 (usf)		

RECEIVER S/N **RS2DC48130**

SESSIONS	DATE:	ObsA	Obs B
		01/23/15	01/23/15
2	DAY OF YEAR	23	23

START TIME	ObsA	ObsB	U.T.C.
	13:59	14:22	
END TIME	14:02	14:25	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters	MEASURED	FIXED HGT
		X	

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: D5
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

PHOTO:



PHOTO:



PHOTO:



PHOTO:





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **Calibration1**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Imperial Beach**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing **1777094.12 (usf)**

Elevation

RECEIVER S/N **RS2DC48130**

Easting **6302695.15 (usf)**

399.27 (usf)

SESSIONS	DATE:	ObsA	Obs B
		01/21/15	01/21/15
2	DAY OF YEAR	21	21

	ObsA	ObsB		U.T.C.
	10:41	12:13		
END TIME	10:44	12:16	X	LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





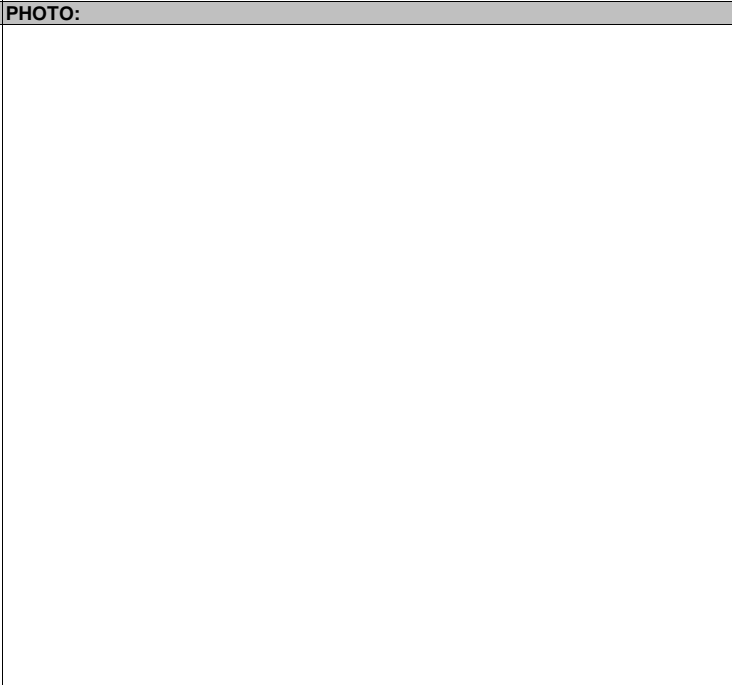
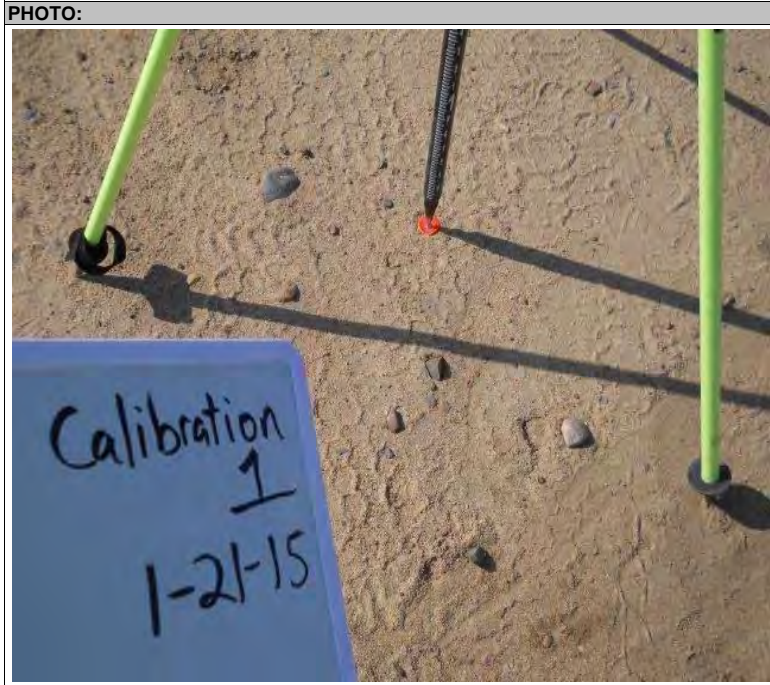
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: Calibration1
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **Calibration2**
Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing: **1788675.90 (usf)**
Easting: **6292794.20 (usf)**
Elevation: **8.93 (usf)**

RECEIVER S/N: **RS2DC48130**

SESSIONS	DATE:	ObsA	Obs B
		01/22/15	01/22/15
2	DAY OF YEAR	22	22

START TIME	ObsA	ObsB	U.T.C.
	12:16	12:43	
END TIME	12:19	12:46	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of a painted Stop Bar

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





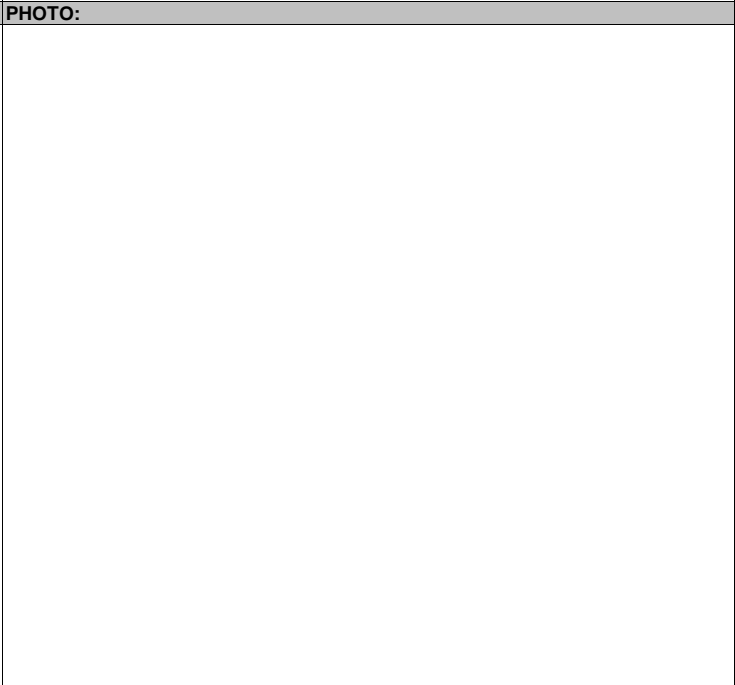
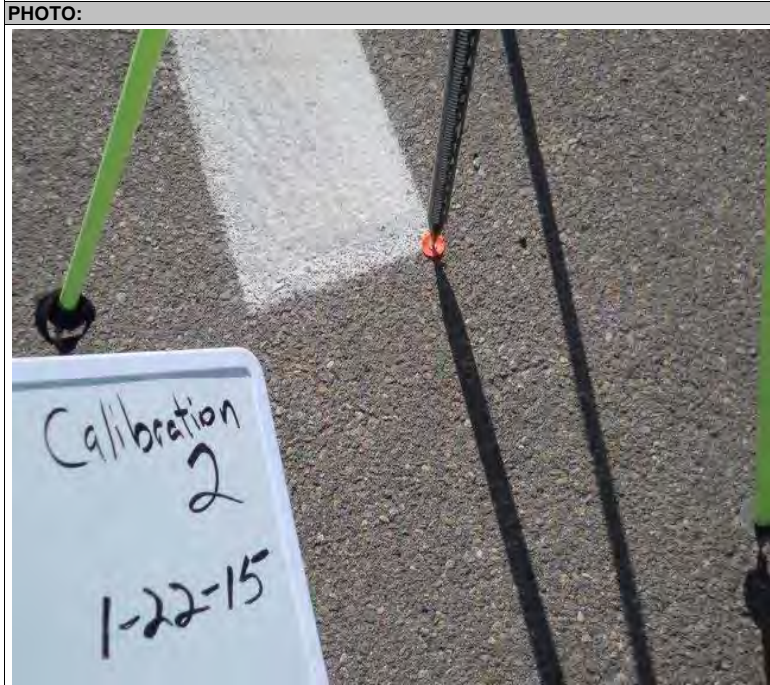
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: Calibration2
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





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 Lexington, KY 40503
 859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
 FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: **Calibration3**
 Proj. No.: **24982**

STATE: **CA** COUNTY: **San Diego** QUAD: **Imperial Beach**

OPERATOR: **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL: **Trimble R8**

Northing: **1783889.39 (usf)**
 Easting: **6305179.08 (usf)**
 Elevation: **27.58 (usf)**

RECEIVER S/N: **RS2DC48130**

SESSIONS	DATE:	ObsA	Obs B
		01/22/15	01/22/15
2	DAY OF YEAR	22	22

START TIME	ObsA	ObsB	U.T.C.
	09:13	09:37	
END TIME	09:16	09:40	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:



PHOTO:





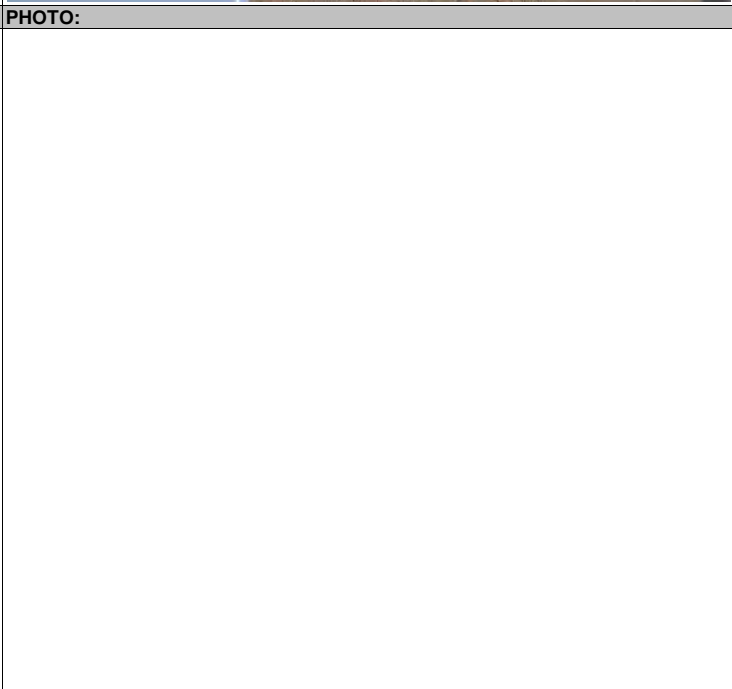
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JOB REFERENCE
USGS San Diego

POINT ID: **Calibration3**
Proj. No.: **24982**

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
FIELD DATA SHEET**

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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **Calibration4**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **National City**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing **1814447.20 (usf)**

Elevation

RECEIVER S/N **RS2DC48130**

Easting **6296944.52 (usf)**

15.64 (usf)

SESSIONS	DATE:	ObsA	Obs B
		01/23/15	01/23/15
2	DAY OF YEAR	23	23

START TIME	ObsA	ObsB	U.T.C.
	13:23	13:46	
END TIME	13:26	13:49	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

8" Nail

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





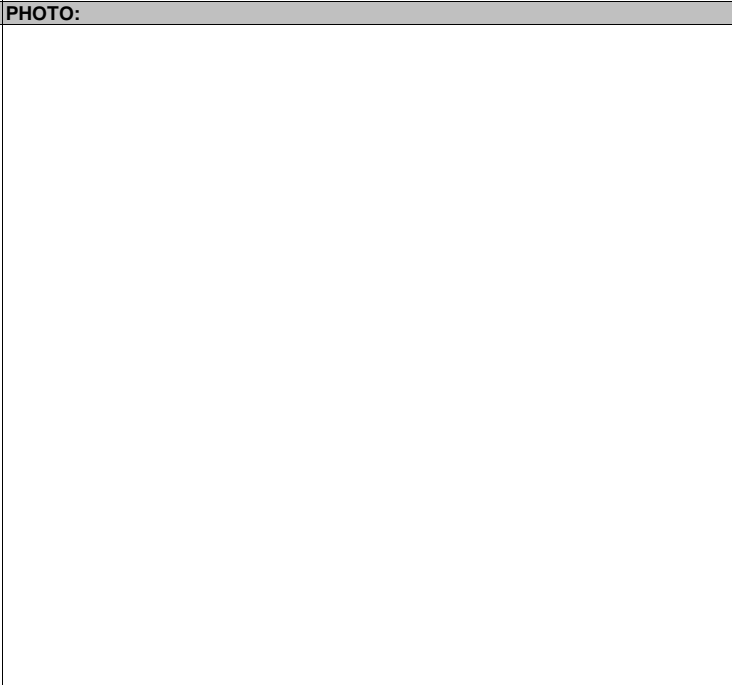
GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
USGS San Diego

POINT ID: Calibration4
Proj. No.: 24982

523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax





**GPS CONTROL SURVEY
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523 Wellington Way, Suite 375
Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

JOB REFERENCE
USGS San Diego

POINT ID: **Calibration5**
Proj. No.: **24982**

STATE **CA**

COUNTY **San Diego**

QUAD: **Imperial Beach**

OPERATOR **D.Griggs**

NAD83(2011) SPC CA Zone 6 NAVD88 AVERAGED POSITION

RECEIVER MODEL **Trimble R8**

Northing **1801644.20 (usf)**

Elevation

RECEIVER S/N **RS2DC48130**

Easting **6302382.21 (usf)**

25.21 (usf)

SESSIONS	DATE:	ObsA	Obs B
	2	01/22/15	01/22/15
	DAY OF YEAR	22	22

START TIME	ObsA	ObsB	U.T.C.
	17:05	17:28	
END TIME	17:08	17:31	X LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT		MEASURED	FIXED HGT.

ANTENNA			
RADIUS (M)			
Antenna Serial #	5153480435		
Antenna Type	TRMR8	Trimble Integrated Antenna	

ANTENNA HEIGHT (ARP)			
MTRS/FT	2.000 Meters		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

Corner of a paint stripe

AERIAL TARGET	X	PHOTO I.D.
PUB. BENCH MARK		NEW CONTROL
PUB. CONTROL		BASE STATION

PHOTO:

PHOTO:





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Lexington, KY 40503
859-277-8700 voice 859-277-8901 fax

**GPS CONTROL SURVEY
FIELD DATA SHEET**

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JOB REFERENCE
USGS San Diego

POINT ID: Calibration5
Proj. No.: 24982

PHOTO:



PHOTO:



PHOTO:



PHOTO:



V. NGS Datasheets

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

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DC0075 *****
DC0075 DESIGNATION -   JM 163
DC0075 PID          -   DC0075
DC0075 STATE/COUNTY-  CA/SAN DIEGO
DC0075 COUNTRY      -   US
DC0075 USGS QUAD    -   OTAY MESA (1975)
DC0075
DC0075                      *CURRENT SURVEY CONTROL
DC0075
DC0075* NAD 83(1986) POSITION- 32 37 00.0      (N) 116 56 02.9      (W)  HD_HELD2
DC0075* NAVD 88 ORTHO HEIGHT -   156.385 (meters)      513.07 (feet) ADJUSTED
DC0075
DC0075 GEOID HEIGHT   -           -34.16 (meters)                      GEOID12A
DC0075 DYNAMIC HEIGHT -           156.205 (meters)      512.48 (feet) COMP
DC0075 MODELED GRAVITY -           979,483.7 (mgal)                      NAVD 88
DC0075
DC0075 VERT ORDER    -   FIRST      CLASS II
DC0075
DC0075.The horizontal coordinates were established by autonomous hand held GPS
DC0075.observations and have an estimated accuracy of +/- 10 meters.
DC0075.
DC0075.The orthometric height was determined by differential leveling and
DC0075.adjusted by the NATIONAL GEODETIC SURVEY
DC0075.in June 1991.
DC0075
DC0075.The dynamic height is computed by dividing the NAVD 88
DC0075.geopotential number by the normal gravity value computed on the
DC0075.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DC0075.degrees latitude (g = 980.6199 gals.).
DC0075
DC0075.The modeled gravity was interpolated from observed gravity values.
DC0075
DC0075;
DC0075;          North      East      Units  Estimated Accuracy
DC0075;SPC CA 6   -   550,117.    1,935,788.    MT  (+/- 10 meters HH2 GPS)
DC0075
DC0075                      SUPERSEDED SURVEY CONTROL
DC0075
DC0075 NGVD 29 (??/??/??) 155.708 (m)      510.85 (f) ADJUSTED      1 2
DC0075
DC0075.Superseded values are not recommended for survey control.
DC0075
DC0075.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DC0075.See file dsdata.txt to determine how the superseded data were derived.
DC0075
DC0075_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SNS0617808793(NAD 83)
DC0075
DC0075_MARKER: DD = SURVEY DISK
DC0075_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
DC0075+WITH SETTING: INFORMATION.
DC0075_SP_SET: SHALLOW-SET METAL ROD
DC0075_STAMPING: JM 163 69
DC0075_MARK LOGO: CA-073
DC0075_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
DC0075_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DC0075+SATELLITE: SATELLITE OBSERVATIONS - May 17, 2009

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DC0075	HISTORY	- Date	Condition	Report By
DC0075	HISTORY	- 1969	MONUMENTED	CA-073
DC0075	HISTORY	- 1970	GOOD	CA-073
DC0075	HISTORY	- 1987	GOOD	NGS
DC0075	HISTORY	- 20090517	GOOD	LOCSUR

DC0075

DC0075

DC0075

STATION DESCRIPTION

DC0075'DESCRIBED BY SAN DIEGO COUNTY CALIFORNIA 1969

DC0075'AT LOWER OTAY RESERVOIR.

DC0075'AT LOWER OTAY RESERVOIR, 0.80 MI N OF LOWER OTAY WATER

DC0075'FILTRATION PLANT VIA THE PARK ROAD AND 2.4 MI S ALONG WUESTE

DC0075'RD FROM THE INTERSECTION OF OTAY LAKES RD AND WUESTE RD. 37 FT

DC0075'SW OF CENTERLINE OF WUESTE RD. 150 FT S OF AND ACROSS RD FROM

DC0075'OILED DRIVE TO LOWER OTAY RECREATION STATION. 13.4 FT SE OF

DC0075'POWER POLE 187333 AND 9.5 FT SE OF FIVE-STRANDED BARBED WIRE

DC0075'FENCE. 0.2 FOOT ABOVE GROUND. SET EIGHT FT OF 5/8 IN COPPER

DC0075'STEEL ROD DRIVEN TO REFUSAL AND CAPPED WITH THREADED SAN DIEGO

DC0075'CO STANDARD BRASS DISK STAMPED JM 163 1969. SET STEEL

DC0075'FENCEPOST MARKER ONE FOOT E OF DISK. T18S R1W 12.

DC0075

STATION RECOVERY (1970)

DC0075

DC0075'RECOVERY NOTE BY SAN DIEGO COUNTY CALIFORNIA 1970

DC0075'RECOVERED IN GOOD CONDITION.

DC0075

STATION RECOVERY (1987)

DC0075

DC0075'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1987

DC0075'RECOVERED IN GOOD CONDITION. EXCEPT THAT THE 19 OF 1969 IS CAST AND

DC0075'NOT STAMPED, ADD-- AT A POWER LINE CROSSING.

DC0075'THE MARK IS 0.15 METERS N FROM A WITNESS POST

DC0075

STATION RECOVERY (2009)

DC0075

DC0075'RECOVERY NOTE BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 2009 (LJM)

DC0075'FOUND IN GOOD CONDITION AT

DC0075'N 32 37.000 W 116 56.049

*** retrieval complete.

Elapsed Time = 00:00:02

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DC0384 *****
DC0384 DESIGNATION -  T 891
DC0384 PID          -  DC0384
DC0384 STATE/COUNTY-  CA/SAN DIEGO
DC0384 COUNTRY      -  US
DC0384 USGS QUAD    -  JAMUL MOUNTAINS (1994)
DC0384
DC0384                      *CURRENT SURVEY CONTROL
DC0384
DC0384* NAD 83(1986) POSITION- 32 38 06.87  (N) 116 54 44.25  (W)  HD_HELD1
DC0384* NAVD 88 ORTHO HEIGHT - 156.133 (meters)      512.25  (feet) ADJUSTED
DC0384
DC0384 GEOID HEIGHT   -      -33.97  (meters)                      GEOID12A
DC0384 DYNAMIC HEIGHT -      155.953 (meters)      511.66  (feet) COMP
DC0384 MODELED GRAVITY -      979,479.2  (mgal)                      NAVD 88
DC0384
DC0384 VERT ORDER    -  FIRST      CLASS II
DC0384
DC0384.The horizontal coordinates were determined by differentially corrected
DC0384.hand held GPS observations or other comparable positioning techniques
DC0384.and have an estimated accuracy of +/- 3 meters.
DC0384.
DC0384.The orthometric height was determined by differential leveling and
DC0384.adjusted by the NATIONAL GEODETIC SURVEY
DC0384.in June 1991.
DC0384
DC0384.The dynamic height is computed by dividing the NAVD 88
DC0384.geopotential number by the normal gravity value computed on the
DC0384.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DC0384.degrees latitude (g = 980.6199 gals.).
DC0384
DC0384.The modeled gravity was interpolated from observed gravity values.
DC0384
DC0384;
DC0384;          North      East      Units  Estimated Accuracy
DC0384;SPC CA 6   -   552,164.1  1,937,852.0    MT  (+/- 3 meters HH1 GPS)
DC0384
DC0384                      SUPERSEDED SURVEY CONTROL
DC0384
DC0384 NGVD 29 (??/??/??) 155.457  (m)          510.03  (f) ADJUSTED    1 2
DC0384
DC0384.Superseded values are not recommended for survey control.
DC0384
DC0384.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DC0384.See file dsdata.txt to determine how the superseded data were derived.
DC0384
DC0384_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SNS0822610854(NAD 83)
DC0384
DC0384_MARKER: DB = BENCH MARK DISK
DC0384_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
DC0384_SP_SET: CONCRETE POST
DC0384_STAMPING: T 891 1955
DC0384_MARK LOGO: CGS
DC0384_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DC0384+STABILITY: SURFACE MOTION
DC0384_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

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DC0384+SATELLITE: SATELLITE OBSERVATIONS - May 17, 2009

DC0384

DC0384	HISTORY	- Date	Condition	Report By
DC0384	HISTORY	- 1955	MONUMENTED	CGS
DC0384	HISTORY	- 1969	GOOD	CA-073
DC0384	HISTORY	- 1987	GOOD	NGS
DC0384	HISTORY	- 20090517	GOOD	LOCSUR

DC0384

DC0384

STATION DESCRIPTION

DC0384

DC0384'DESCRIBED BY COAST AND GEODETIC SURVEY 1955

DC0384'5.6 MI NE FROM LOWER OTAY FILTER PLANT.

DC0384'3.3 MILES NORTH ALONG PAVED ROAD FROM LOWER OTAY FILTER PLANT,

DC0384'THENCE 2.3 MILES EAST ALONG TELEGRAPH CANYON ROAD, AT THE Y

DC0384'JUNCTION OF A GRADED ROAD LEADING NORTH, AT THE WEST END OF A

DC0384'DEEP FILL AND THE EAST END OF A CUT, AT A FENCE CORNER, 53 1/2

DC0384'FEET NORTH OF THE CENTER LINE OF TELEGRAPH CANYON ROAD, 21 FEET

DC0384'SOUTHWEST OF THE CENTER LINE OF THE GRADED ROAD, 12 FEET

DC0384'NORTHEAST OF THE FENCE CORNER POST, 2.4 FEET SOUTHEAST OF THE

DC0384'FENCE, ABOUT 4 FEET HIGHER THAN THE ROADS, AND SET IN THE TOP

DC0384'OF A CONCRETE POST PROJECTING 0.4 FOOT ABOVE THE GROUND.

DC0384

STATION RECOVERY (1969)

DC0384

DC0384'RECOVERY NOTE BY SAN DIEGO COUNTY CALIFORNIA 1969

DC0384'RECOVERED IN GOOD CONDITION.

DC0384

STATION RECOVERY (1987)

DC0384

DC0384'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1987

DC0384'RECOVERED IN GOOD CONDITION. EXCEPT THAT TELEGRAPH CANYON ROAD IS

DC0384'NOW CALLED OTAY LAKES ROAD.

DC0384'THE MARK IS 0.5 METERS SW FROM A WITNESS POST

DC0384

STATION RECOVERY (2009)

DC0384

DC0384'RECOVERY NOTE BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 2009 (LJM)

DC0384'FOUND IN GOOD CONDITION AT

DC0384'N 32 38.115 W 116 54.737

*** retrieval complete.

Elapsed Time = 00:00:03

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DC0492 *****
DC0492 DESIGNATION - B 893
DC0492 PID - DC0492
DC0492 STATE/COUNTY- CA/SAN DIEGO
DC0492 COUNTRY - US
DC0492 USGS QUAD - ALPINE (1988)
DC0492
DC0492 *CURRENT SURVEY CONTROL
DC0492
DC0492* NAD 83(1986) POSITION- 32 47 36.4 (N) 116 49 50.2 (W) HD_HELD2
DC0492* NAVD 88 ORTHO HEIGHT - 221.44 (+/-2cm) 726.5 (feet) VERTCON
DC0492
DC0492 GEOID HEIGHT - -33.03 (meters) GEOID12A
DC0492 VERT ORDER - SECOND CLASS 0 (See Below)
DC0492
DC0492.The horizontal coordinates were established by autonomous hand held GPS
DC0492.observations and have an estimated accuracy of +/- 10 meters.
DC0492.
DC0492.The NAVD 88 height was computed by applying the VERTCON shift value to
DC0492.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
DC0492
DC0492.The vertical order pertains to the NGVD 29 superseded value.
DC0492
DC0492;
DC0492;SPC CA 6 - North East Units Estimated Accuracy
DC0492; 569,663. 1,945,614. MT (+/- 10 meters HH2 GPS)
DC0492
DC0492 SUPERSEDED SURVEY CONTROL
DC0492
DC0492 NGVD 29 (??/??/??) 220.796 (m) 724.39 (f) ADJUSTED 2 0
DC0492
DC0492.Superseded values are not recommended for survey control.
DC0492
DC0492.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DC0492.See file dsdata.txt to determine how the superseded data were derived.
DC0492
DC0492_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SNS1586028401(NAD 83)
DC0492
DC0492_MARKER: DB = BENCH MARK DISK
DC0492_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
DC0492_SP_SET: SET IN TOP OF CONCRETE MONUMENT
DC0492_STAMPING: B 893 1955
DC0492_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DC0492+STABILITY: SURFACE MOTION
DC0492_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DC0492+SATELLITE: SATELLITE OBSERVATIONS - May 10, 2009
DC0492
DC0492 HISTORY - Date Condition Report By
DC0492 HISTORY - 1955 MONUMENTED CGS
DC0492 HISTORY - 20090510 GOOD LOCSUR
DC0492
DC0492 STATION DESCRIPTION
DC0492
DC0492'DESCRIBED BY COAST AND GEODETIC SURVEY 1955
DC0492'1.7 MI NE FROM DEHESA.
DC0492'0.8 MILE NORTH ALONG COUNTY ROAD F 8 FROM DEHESA SCHOOL AT

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DATASHEETS

DC0492'DEHESA, THENCE 0.9 MILE NORTHEAST ALONG JAPATUL VALLEY ROAD, AT
DC0492'THE T JUNCTION OF A FARM ROAD LEADING WEST, AT THE CROSSING OF
DC0492'A POWER LINE, 87 FEET NORTH OF THE CENTER LINE OF THE FARM ROAD,
DC0492'28 FEET WEST OF THE CENTER LINE OF JAPATUL VALLEY ROAD, 4 FEET
DC0492'SOUTHWEST OF POWER LINE POLE 177057 WITH A GUY WIRE, 2.8 FEET
DC0492'EAST OF A FENCE, 2.2 FEET NORTH OF A WITNESS POST, ABOUT 2 FEET
DC0492'HIGHER THAN THE ROADS, AND SET IN THE TOP OF A CONCRETE POST
DC0492'PROJECTING 0.4 FEET ABOVE THE GROUND.

DC0492

DC0492 STATION RECOVERY (2009)

DC0492

DC0492'RECOVERY NOTE BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 2009 (LJM)

DC0492'FOUND IN GOOD CONDITION AT

DC0492'N 32 47.607 W 116 49.837

*** retrieval complete.

Elapsed Time = 00:00:02

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DC0495 *****
DC0495 DESIGNATION - T 892
DC0495 PID - DC0495
DC0495 STATE/COUNTY- CA/SAN DIEGO
DC0495 COUNTRY - US
DC0495 USGS QUAD - ALPINE (1988)
DC0495
DC0495 *CURRENT SURVEY CONTROL
DC0495
DC0495* NAD 83(1986) POSITION- 32 46 55.4 (N) 116 51 15.8 (W) HD_HELD2
DC0495* NAVD 88 ORTHO HEIGHT - 153.99 (+/-2cm) 505.2 (feet) VERTCON
DC0495
DC0495 GEOID HEIGHT - -33.19 (meters) GEOID12A
DC0495 VERT ORDER - SECOND CLASS 0 (See Below)
DC0495
DC0495.The horizontal coordinates were established by autonomous hand held GPS
DC0495.observations and have an estimated accuracy of +/- 10 meters.
DC0495.
DC0495.The NAVD 88 height was computed by applying the VERTCON shift value to
DC0495.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
DC0495
DC0495.The vertical order pertains to the NGVD 29 superseded value.
DC0495
DC0495; North East Units Estimated Accuracy
DC0495;SPC CA 6 - 568,413. 1,943,380. MT (+/- 10 meters HH2 GPS)
DC0495
DC0495 SUPERSEDED SURVEY CONTROL
DC0495
DC0495 NGVD 29 (??/??/??) 153.338 (m) 503.08 (f) ADJUSTED 2 0
DC0495
DC0495.Superseded values are not recommended for survey control.
DC0495
DC0495.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DC0495.See file dsdata.txt to determine how the superseded data were derived.
DC0495
DC0495_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SNS1363527135(NAD 83)
DC0495
DC0495_MARKER: DB = BENCH MARK DISK
DC0495_SETTING: 80 = SET IN A BOULDER
DC0495_SP_SET: BOULDER
DC0495_STAMPING: T 892 1955
DC0495_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DC0495+STABILITY: SURFACE MOTION
DC0495_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DC0495+SATELLITE: SATELLITE OBSERVATIONS - May 10, 2009
DC0495
DC0495 HISTORY - Date Condition Report By
DC0495 HISTORY - 1955 MONUMENTED CGS
DC0495 HISTORY - 20090510 GOOD LOCSUR
DC0495
DC0495 STATION DESCRIPTION
DC0495
DC0495'DESCRIBED BY COAST AND GEODETIC SURVEY 1955
DC0495'0.3 MI W FROM DEHESA.
DC0495'0.3 MILE WEST ALONG COUNTY ROAD F 8 FROM DEHESA SCHOOL AT DEHESA,

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DATASHEETS

DC0495'IN THE TOP OF A 4- BY 4-FOOT GRANITE BOULDER PROJECTING 1 1/2
DC0495'FEET ABOVE THE GROUND, 57.1 FEET NORTHWEST OF THE CENTER OF THE
DC0495'NORTH END OF A 24-INCH CORRUGATED METAL PIPE CULVERT, 48.3 FEET
DC0495'NORTH OF THE CENTER LINE OF THE ROAD, 42 FEET NORTHWEST OF TELEPHONE
DC0495'POLE 457169 H WITH A GUY WIRE, AND ABOUT 4 FEET HIGHER THAN THE
DC0495'ROAD.

DC0495

DC0495

STATION RECOVERY (2009)

DC0495

DC0495'RECOVERY NOTE BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 2009 (LJM)

DC0495'FOUND IN GOOD CONDITION AT

DC0495'N 32 46.923 W 116 51.263

*** retrieval complete.

Elapsed Time = 00:00:02

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DC0542 *****
DC0542 DESIGNATION -  N 308
DC0542 PID          -  DC0542
DC0542 STATE/COUNTY-  CA/SAN DIEGO
DC0542 COUNTRY      -  US
DC0542 USGS QUAD    -  CUYAMACA PEAK (1960)
DC0542
DC0542                      *CURRENT SURVEY CONTROL
DC0542
DC0542* NAD 83(1986) POSITION- 32 59 11.80  (N) 116 35 00.96  (W)  HD_HELD1
DC0542* NAVD 88 ORTHO HEIGHT - 1420.30  (+/-2cm)      4659.8  (feet) VERTCON
DC0542
DC0542 GEOID HEIGHT   -      -31.45  (meters)                      GEOID12A
DC0542 VERT ORDER    -  FIRST      CLASS II (See Below)
DC0542
DC0542.The horizontal coordinates were determined by differentially corrected
DC0542.hand held GPS observations or other comparable positioning techniques
DC0542.and have an estimated accuracy of +/- 3 meters.
DC0542.
DC0542.The NAVD 88 height was computed by applying the VERTCON shift value to
DC0542.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
DC0542
DC0542.The vertical order pertains to the NGVD 29 superseded value.
DC0542
DC0542;
DC0542;SPC CA 6      -      North      East      Units  Estimated Accuracy
DC0542;          -      590,983.7  1,968,820.2      MT  (+/- 3 meters HH1 GPS)
DC0542
DC0542                      SUPERSEDED SURVEY CONTROL
DC0542
DC0542 NGVD 29 (??/??/??) 1419.490  (m)          4657.11  (f) ADJUSTED  1 2
DC0542
DC0542.Superseded values are not recommended for survey control.
DC0542
DC0542.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DC0542.See file dsdata.txt to determine how the superseded data were derived.
DC0542
DC0542_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SNS3890449879(NAD 83)
DC0542
DC0542_MARKER: DB = BENCH MARK DISK
DC0542_SETTING: 66 = SET IN ROCK OUTCROP
DC0542_SP_SET: ROCK OUTCROP
DC0542_STAMPING: N 308 1935
DC0542_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
DC0542+STABILITY: POSITION/ELEVATION WELL
DC0542
DC0542 HISTORY      -  Date      Condition      Report By
DC0542 HISTORY      -  1935      MONUMENTED      CGS
DC0542 HISTORY      -  1970      GOOD            NGS
DC0542 HISTORY      -  1970      GOOD            CA-073
DC0542 HISTORY      -  1978      MARK NOT FOUND  NGS
DC0542 HISTORY      -  20060711 GOOD            INDIV
DC0542
DC0542                      STATION DESCRIPTION
DC0542
DC0542'DESCRIBED BY NATIONAL GEODETIC SURVEY 1970

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DC0542'9.1 MI SE FROM JULIAN.

DC0542'9.1 MILES SOUTHEAST ALONG STATE HIGHWAY 79 FROM JULIAN, SAN DIEGO
DC0542'COUNTY, 0.2 MILE SOUTHEAST OF CUYAMACA LODGE, ON THE WEST BANK OF
DC0542'CUYAMACA RESERVOIR, 70.3 FEET SOUTHWEST OF THE SOUTHWEST CORNER
DC0542'OF THE RESORT STORE, AT THE SOUTHEAST CORNER OF THE ABANDONED
DC0542'BANNER SCHOOL, 3 FEET EAST OF A PORCH ON THE EAST SIDE OF THE
DC0542'BUILDING, 3 FEET SOUTH OF THE STEPS TO THE PORCH AND ENTRANCE,
DC0542'29.4 FEET WEST OF THE CENTERLINE OF THE HIGHWAY, IN THE TOP OF A
DC0542'LARGE ROCK OUTCROP, AND ABOUT 1-1/2 FEET ABOVE THE GROUND.

DC0542'A STANDARD DISK, STAMPED N 308 1935.

DC0542

DC0542 STATION RECOVERY (1970)

DC0542

DC0542'RECOVERY NOTE BY SAN DIEGO COUNTY CALIFORNIA 1970

DC0542'RECOVERED IN GOOD CONDITION.

DC0542

DC0542 STATION RECOVERY (1978)

DC0542

DC0542'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1978

DC0542'MARK NOT FOUND.

DC0542

DC0542 STATION RECOVERY (2006)

DC0542

DC0542'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2006 (JJH)

DC0542'SUPPLEMENTAL DETAILS OF LOCAL DESCRIPTION - THE STATION IS WEST AND
DC0542'SLIGHTLY SOUTH OF THE SOUTHWEST CORNER OF THE LAKE CUYAMACA RESTAURANT
DC0542'AND STORE. THE OTHER PREVIOUSLY DESCRIBED BUILDINGS EITHER NO LONGER
DC0542'EXIST OR CANNOT BE IDENTIFIED.

DC0542'

DC0542'THE WAAS DGPS 10 MINUTE AVERAGE POSITION IS 32 59 11.80 N AND 116 35

DC0542'00.96 W AT 4658 FEET MSL.

DC0542'

*** retrieval complete.

Elapsed Time = 00:00:03

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.5

1 National Geodetic Survey, Retrieval Date = JANUARY 22, 2015

DC0757 *****

DC0757 DESIGNATION - Z 734

DC0757 PID - DC0757

DC0757 STATE/COUNTY- CA/SAN DIEGO

DC0757 COUNTRY - US

DC0757 USGS QUAD - NATIONAL CITY (1975)

DC0757

DC0757 *CURRENT SURVEY CONTROL

DC0757

DC0757* NAD 83(1986) POSITION- 32 40 29.33 (N) 117 06 53.66 (W)

HD_HELD1

DC0757* [NAVD 88](#) ORTHO HEIGHT - 3.288 (meters) 10.79 (feet)

ADJUSTED

DC0757

DC0757 GEOID HEIGHT - -35.01 (meters) GEOID12A

DC0757 DYNAMIC HEIGHT - 3.284 (meters) 10.77 (feet) COMP

DC0757 MODELED GRAVITY - 979,504.2 (mgal) NAVD 88

DC0757 OBS GRAVITY - 979,507.9 (mgal) GRAV_OBS

DC0757

DC0757 VERT ORDER - FIRST CLASS I

DC0757

DC0757.The horizontal coordinates were determined by differentially corrected

DC0757.hand held GPS observations or other comparable positioning techniques

DC0757.and have an estimated accuracy of +/- 3 meters.

DC0757.

DC0757.The orthometric height was determined by differential leveling and

DC0757.adjusted by the NATIONAL GEODETIC SURVEY

DC0757.in June 1991.

DC0757

DC0757.The dynamic height is computed by dividing the NAVD 88

DC0757.geopotential number by the normal gravity value computed on the

DC0757.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

DC0757.degrees latitude (g = 980.6199 gals.).

DC0757

DC0757.The modeled gravity was interpolated from observed gravity values.

DC0757

DC0757.The observed gravity was obtained from relative gravimeter ties

DC0757.to the IGSN71 gravity network.

DC0757

DC0757;

DC0757;SPC CA 6 - North East Units Estimated Accuracy
 556,691.8 1,918,875.9 MT (+/- 3 meters HH1

GPS)

DC0757

DC0757

SUPERSEDED SURVEY CONTROL

DC0757

DC0757 NGVD 29 (??/??/92) 2.652 (m) 8.70 (f) ADJ UNCH 1 1

DC0757 NGVD 29 (??/??/87) 2.620 (m) 8.60 (f) SUPERSEDED 1 1

DC0757

DC0757.Superseded values are not recommended for survey control.

DC0757

DC0757.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DC0757.[See file dsdata.txt](#) to determine how the superseded data were derived.

DC0757

DC0757_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMS8922615243(NAD 83)

DC0757

DC0757_MARKER: DB = BENCH MARK DISK

DC0757_SETTING: 31 = SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.

DC0757_SP_SET: BRIDGE CURB

DC0757_STAMPING: Z 734 1944

DC0757_MARK LOGO: CGS

DC0757_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY

DC0757_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DC0757+SATELLITE: SATELLITE OBSERVATIONS - July 05, 2010

DC0757

DC0757	HISTORY	- Date	Condition	Report By
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DC0757	HISTORY	- 1944	MONUMENTED	CGS
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DC0757	HISTORY	- 1955	GOOD	CGS
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DC0757	HISTORY	- 1970	GOOD	CA-073
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DC0757	HISTORY	- 1978	GOOD	NGS
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DC0757	HISTORY	- 1987	GOOD	NGS
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DC0757	HISTORY	- 19961005	MARK NOT FOUND	USPSQD
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DC0757	HISTORY	- 20080124	GOOD	INDIV
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DC0757	HISTORY	- 20100705	GOOD	GEOCAC
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DC0757

DC0757

STATION DESCRIPTION

DC0757

DC0757'DESCRIBED BY COAST AND GEODETIC SURVEY 1955

DC0757'AT NATIONAL CITY.

DC0757'AT NATIONAL CITY, 0.4 MILE SOUTHEAST ALONG PACIFIC HIGHWAY FROM

DC0757'SAN DIEGO-NATIONAL CITY CITY LIMITS, AT CONCRETE BRIDGE 57 - 90

DC0757'R OVER SEVENTH STREET CHANNEL, IN THE TOP OF THE SOUTH END OF

DC0757'THE WEST CONCRETE CURB, 14.3 FEET WEST OF THE CENTER LINE OF THE

DC0757'EAST TRAFFIC LANES, 1.4 FEET NORTH OF THE SOUTH END OF THE CURB,

DC0757'AND 1 FOOT HIGHER THAN THE HIGHWAY.

DC0757

DC0757

STATION RECOVERY (1970)

DC0757

DC0757'RECOVERY NOTE BY SAN DIEGO COUNTY CALIFORNIA 1970

DC0757'RECOVERED IN GOOD CONDITION.

DC0757

DC0757

STATION RECOVERY (1978)

DC0757

DC0757'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1978

DC0757'RECOVERED IN GOOD CONDITION.

DC0757

DC0757

STATION RECOVERY (1987)

DC0757

DC0757'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1987

DC0757'RECOVERED IN GOOD CONDITION. NEW DESCRIPTION FOLLOWS. 0.13 KM (0.10

DC0757'MI) NORTH ALONG HARBOR DRIVE FROM THE INTERSECTION OF 8TH STREET IN

DC0757'NATIONAL CITY, IN THE SOUTHWEST CORNER OF THE NORTHBOUND HARBOR DRIVE

DC0757'BRIDGE OVER THE SEVENTH STREET CHANNEL, 4.4 M (14.4 FT) WEST OF THE

DC0757'CENTERLINE OF THE LANES, IN TOP AND 0.4 M (1.3 FT) NORTH OF THE SOUTH

DC0757'END OF THE WEST CURB OF THE BRIDGE.

DC0757'THE MARK IS 0.3 M ABOVE THE DRIVE.

DC0757

DC0757

STATION RECOVERY (1996)

DC0757

DC0757'RECOVERY NOTE BY US POWER SQUADRON 1996

DC0757'MARK NOT FOUND.

DC0757

DC0757

STATION RECOVERY (2008)

DC0757

DC0757'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2008 (LJM)

DC0757'RECOVERED IN GOOD CONDITION

DC0757'

DC0757

DC0757

STATION RECOVERY (2010)

DC0757

DC0757'RECOVERY NOTE BY GEOCACHING 2010 (GAH)

DC0757'DISK IS OLD TYPE OF US CGS BENCH MARK DISK, TYPE 12 ON PAGE 14 OF NOAA

DC0757'TECH REPT NOS 88 NGS 19, HORIZONTAL CONTROL, JUNE 1980.

DC0757'DATE 1944 STILL APPEARS BUT OF IMPRINT Z 734 ONLY 34 CAN BE

DC0757'DISCERNED. Z 7 WAS SCRATCHED OUT AND REPLACED WITH ELEV. 8.670 IN

DC0757'SMALLER TEXT.

DC0757'IT APPEARS THERE WAS A BRIDGE NUMBER ON THIS BRIDGE BUT AREA WHERE ONE

DC0757'NORMALLY APPEARS HAD A BLOCK OF GREY PAINT.

DC0757'THERE SEEM TO BE DISCREPANCIES IN PREVIOUS DESCRIPTIONS. THIS IS NOT A

DC0757'CIRCA 1944 BRIDGE. IT APPEARS TO HAVE BEEN REBUILT OR UPGRADED AND

DC0757'MARK MAY HAVE BEEN RESET.

DC0757'CLARIFICATION TO PAST DESCRIPTIONS. MARK IS ON SOUTH END ON SIDEWALK

DC0757'ON EAST SIDE OF HARBOR DRIVE BRIDGE OVER 7TH STREET CANAL, EAST OF NNW

DC0757'BOUND TRAFFIC.

DC0757'MARK IS 13.5 INCHES EAST OF WEST FACE OF EAST CURB OF DRIVE.

DATASHEETS

DC0757'MARK IS 12.5 INCHES NORTH OF EXPANSION JOINT WHERE BRIDGE SIDEWALK
DC0757'ENDS.

DC0757'MARK IS 44.5 INCHES WEST OF WEST FACE OF SHORT CONCRETE WALL ON EAST
DC0757'SIDE OF BRIDGE THAT SPORTS EAST BRIDGE RAILING.

DC0757'PARK AT THE TROLLEY STATION JUST EAST OF HERE THAT IS JUST NORTH OF W
DC0757'8TH, WALK WEST ON W 8TH, TURN NORTHERLY ON HARBOR WITHOUT CROSSING.

DC0757'WHEN YOU GET TO BRIDGE YOU CAN'T HELP BUT SEE THIS ONE.

DC0757'JJH POST PROCESSED POSITION ESTIMATE N 32 40 29.3338 W 117 06 53.6621
DC0757'IS HIGHLY ACCURATE.

DC0757'SKY IS MOSTLY OPEN FOR SATELLITES BUT THERE ARE SOME HIGH VOLTAGE
DC0757'WIRES, ASSOCIATED TOWERS AND TWO LARGE BILLBOARD SIGNS NEARBY.

*** retrieval complete.

Elapsed Time = 00:00:05

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DC1330 *****
DC1330 DESIGNATION -  U 1305
DC1330 PID          -  DC1330
DC1330 STATE/COUNTY-  CA/SAN DIEGO
DC1330 COUNTRY      -  US
DC1330 USGS QUAD    -  IMPERIAL BEACH (1975)
DC1330
DC1330                      *CURRENT SURVEY CONTROL
DC1330
DC1330* NAD 83(1986) POSITION- 32 34 59.6      (N) 117 05 00.9      (W)  HD_HELD2
DC1330* NAVD 88 ORTHO HEIGHT -   14.275 (meters)      46.83 (feet) ADJUSTED
DC1330
DC1330 GEOID HEIGHT   -       -35.13 (meters)                      GEOID12A
DC1330 DYNAMIC HEIGHT -       14.258 (meters)      46.78 (feet) COMP
DC1330 MODELED GRAVITY -   979,497.2 (mgal)                      NAVD 88
DC1330
DC1330 VERT ORDER    -  FIRST      CLASS I
DC1330
DC1330.The horizontal coordinates were established by autonomous hand held GPS
DC1330.observations and have an estimated accuracy of +/- 10 meters.
DC1330.
DC1330.The orthometric height was determined by differential leveling and
DC1330.adjusted by the NATIONAL GEODETIC SURVEY
DC1330.in June 1991.
DC1330
DC1330.WARNING-Repeat measurements at this control monument indicate possible
DC1330.vertical movement.
DC1330
DC1330.The dynamic height is computed by dividing the NAVD 88
DC1330.geopotential number by the normal gravity value computed on the
DC1330.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DC1330.degrees latitude (g = 980.6199 gals.).
DC1330
DC1330.The modeled gravity was interpolated from observed gravity values.
DC1330
DC1330;
DC1330;          North      East      Units  Estimated Accuracy
DC1330;SPC CA 6   -   546,511.   1,921,733.    MT  (+/- 10 meters HH2 GPS)
DC1330
DC1330                      SUPERSEDED SURVEY CONTROL
DC1330
DC1330 NGVD 29 (??/??/92)  13.635 (m)      44.73 (f) ADJ UNCH  1 1
DC1330
DC1330.Superseded values are not recommended for survey control.
DC1330
DC1330.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DC1330.See file dsdata.txt to determine how the superseded data were derived.
DC1330
DC1330_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMS9215505087(NAD 83)
DC1330
DC1330_MARKER: DB = BENCH MARK DISK
DC1330_SETTING: 46 = COPPER-CLAD STEEL ROD W/O SLEEVE (10 FT.+)
DC1330_SP_SET: COPPER-CLAD STEEL ROD
DC1330_STAMPING: U 1305 1978
DC1330_MARK LOGO: NGS
DC1330_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

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DC1330_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DC1330+SATELLITE: SATELLITE OBSERVATIONS - October 11, 2012

DC1330

DC1330	HISTORY	- Date	Condition	Report By
DC1330	HISTORY	- 1978	MONUMENTED	NGS
DC1330	HISTORY	- 1987	GOOD	NGS
DC1330	HISTORY	- 20080927	GOOD	GEOCAC
DC1330	HISTORY	- 20121011	GOOD	INDIV

DC1330

DC1330 STATION DESCRIPTION

DC1330

DC1330'DESCRIBED BY NATIONAL GEODETIC SURVEY 1978

DC1330'2.0 MI EAST FROM IMPERIAL BEACH.

DC1330'0.25 MILE (1 BLOCK) EAST ALONG PALM AVENUE FROM THE JUNCTION OF

DC1330'HOLLISTER STREET, THENCE 0.25 MILE SOUTH ALONG A DIRT ROAD TO

DC1330'DRUCELLA STREET AND LOCATION OF MARK, 22.0 FT. SOUTH OF THE CENTER

DC1330'LINE OF DRUCELLA STREET, 71.0 FT. EAST OF EAST RAIL, 149 FT. WEST

DC1330'OF THE CENTER LINE OF HARRIS STREET, 7.0 FT. EAST OF A 12 INCH

DC1330'MAMOSA TREE, A GALVANIZED STEEL ROD DRIVEN TO SUDDEN REFUSAL AT

DC1330'8 FT.

DC1330

DC1330 STATION RECOVERY (1987)

DC1330

DC1330'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1987

DC1330'RECOVERED IN GOOD CONDITION. NEW DESCRIPTION FOLLOWS. IN PALM CITY,

DC1330'IN THE SOUTHEAST CORNER OF THE INTERSECTION OF PALM AVENUE AND

DC1330'HOLLISTER STREET, 57.9 M (190.0 FT) SOUTH OF THE CENTERLINE OF THE

DC1330'EASTBOUND LANES OF THE AVENUE, 47.5 M (155.8 FT) EAST OF THE STREET

DC1330'CENTERLINE, 17.4 M (57.1 FT) EAST OF THE EAST RAIL OF THE EASTMOST

DC1330'SET OF TROLLEY TRACKS, 6.7 M (22.0 FT) SOUTH OF THE CENTERLINE AT THE

DC1330'WEST END OF DRUCELLA STREET, 0.6 M (2.0 FT) EAST OF A CHAIN LINK

DC1330'FENCE, 0.3 M (1.0 FT) NORTH OF A CHAIN LINK FENCE.

DC1330'THE MARK IS ABOVE LEVEL WITH DRUCELLA STREET.

DC1330

DC1330 STATION RECOVERY (2008)

DC1330

DC1330'RECOVERY NOTE BY GEOCACHING 2008

DC1330'UPDATED POSITION OF MARK IS N32.58323 W117.08357 - APPEARS TO BE

DC1330'WITHIN A METER OR LESS OF ACTUAL POSITION. DISK IS IN PVC PIPE WITH

DC1330'CAP AND IS BURIED UNDER SLIGHT MOUND APPROX 2-4 INCHES. FOUND A NEW

DC1330'BLUE WOODEN STAKE MARKED U1305 JUST SOUTHWESTERLY OF PIPE. FOUND PIPE

DC1330'CAP OFF - REPLACED AND REBURIED MARK TO PREVENT POSSIBLE VANDALISM.

DC1330

DC1330 STATION RECOVERY (2012)

DC1330

DC1330'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2012 (DMC)

DC1330'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:03

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DC1437 *****
DC1437 DESIGNATION - H 1415
DC1437 PID - DC1437
DC1437 STATE/COUNTY- CA/SAN DIEGO
DC1437 COUNTRY - US
DC1437 USGS QUAD - DEL MAR (1975)
DC1437
DC1437 *CURRENT SURVEY CONTROL
DC1437
DC1437* NAD 83(1986) POSITION- 32 55 00.9 (N) 117 14 52.0 (W) HD_HELD2
DC1437* NAVD 88 ORTHO HEIGHT - 102.518 (meters) 336.34 (feet) ADJUSTED
DC1437
DC1437 GEOID HEIGHT - -34.91 (meters) GEOID12A
DC1437 DYNAMIC HEIGHT - 102.403 (meters) 335.97 (feet) COMP
DC1437 MODELED GRAVITY - 979,518.0 (mgal) NAVD 88
DC1437
DC1437 VERT ORDER - FIRST CLASS II
DC1437
DC1437.The horizontal coordinates were established by autonomous hand held GPS
DC1437.observations and have an estimated accuracy of +/- 10 meters.
DC1437.
DC1437.The orthometric height was determined by differential leveling and
DC1437.adjusted by the NATIONAL GEODETIC SURVEY
DC1437.in June 1991.
DC1437
DC1437.The dynamic height is computed by dividing the NAVD 88
DC1437.geopotential number by the normal gravity value computed on the
DC1437.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DC1437.degrees latitude (g = 980.6199 gals.).
DC1437
DC1437.The modeled gravity was interpolated from observed gravity values.
DC1437
DC1437; North East Units Estimated Accuracy
DC1437;SPC CA 6 - 583,651. 1,906,670. MT (+/- 10 meters HH2 GPS)
DC1437
DC1437 SUPERSEDED SURVEY CONTROL
DC1437
DC1437.No superseded survey control is available for this station.
DC1437
DC1437_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMS7683142103(NAD 83)
DC1437
DC1437_MARKER: DV = VERTICAL CONTROL DISK
DC1437_SETTING: 37 = SET IN A MASSIVE RETAINING WALL
DC1437_SP_SET: RETAINING WALL
DC1437_STAMPING: H 1415 1987
DC1437_MARK LOGO: NGS
DC1437_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DC1437_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DC1437+SATELLITE: SATELLITE OBSERVATIONS - March 11, 2013
DC1437
DC1437 HISTORY - Date Condition Report By
DC1437 HISTORY - 1987 MONUMENTED NGS
DC1437 HISTORY - 1990 GOOD USPSQD
DC1437 HISTORY - 20080212 GOOD INDIV
DC1437 HISTORY - 20130311 GOOD CADT

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DC1437

DC1437

STATION DESCRIPTION

DC1437

DC1437'DESCRIBED BY NATIONAL GEODETIC SURVEY 1987

DC1437'4.0 KM (2.50 MI) SOUTH FROM DEL MAR.

DC1437'0.9 KM (0.55 MI) SOUTH ALONG CAMINO DEL MAR FROM THE INTERSECTION OF

DC1437'DEL MAR HEIGHTS ROAD IN DEL MAR, THENCE 3.1 KM (1.95 MI) SOUTH ALONG

DC1437'NORTH TORREY PINES ROAD, IN TOP OF THE SOUTHWEST CORNER OF A

DC1437'RETAINING WALL ALONG THE EAST SIDE OF THE ROAD, 6.8 M (22.3 FT) EAST

DC1437'OF THE CENTERLINE OF THE NORTHBOUND LANES OF THE ROAD, 0.3 M (1.0 FT)

DC1437'SOUTHWEST OF THE SOUTH END OF A CHAIN LINK FENCE ON TOP OF THE WALL.

DC1437'THE MARK IS 0.3 M ABOVE THE ROAD.

DC1437

DC1437

STATION RECOVERY (1990)

DC1437

DC1437'RECOVERY NOTE BY US POWER SQUADRON 1990 (PG)

DC1437'RECOVERED IN GOOD CONDITION.

DC1437

DC1437

STATION RECOVERY (2008)

DC1437

DC1437'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2008 (JJH)

DC1437'FIVE MINUTE AVG CG DGPS POSITION IS 32 55 01.06 N, 117 14 51.97 W AND

DC1437'328 FT MSL. ESTIMATED ACCURACY IS +/- .05 SECONDS.

DC1437

DC1437

STATION RECOVERY (2013)

DC1437

DC1437'RECOVERY NOTE BY CALTRANS 2013 (DBO)

DC1437'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:03

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DX0475 *****
DX0475 DESIGNATION - P 62
DX0475 PID - DX0475
DX0475 STATE/COUNTY- CA/SAN DIEGO
DX0475 COUNTRY - US
DX0475 USGS QUAD - WARNER SPRINGS (1988)
DX0475
DX0475 *CURRENT SURVEY CONTROL
DX0475
DX0475 *-----*
DX0475* NAD 83(1986) POSITION- 33 16 09. (N) 116 39 18. (W) SCALED
DX0475* NAVD 88 ORTHO HEIGHT - 933.79 (+/-2cm) 3063.6 (feet) VERTCON
DX0475 *-----*
DX0475 GEOID HEIGHT - -31.70 (meters) GEOID12A
DX0475 VERT ORDER - FIRST CLASS II (See Below)
DX0475
DX0475.The horizontal coordinates were scaled from a topographic map and have
DX0475.an estimated accuracy of +/- 6 seconds.
DX0475.
DX0475.The NAVD 88 height was computed by applying the VERTCON shift value to
DX0475.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
DX0475
DX0475.The vertical order pertains to the NGVD 29 superseded value.
DX0475
DX0475;
DX0475;          North          East          Units  Estimated Accuracy
DX0475;SPC CA 6 - 622,340. 1,962,270. MT (+/- 180 meters Scaled)
DX0475
DX0475 SUPERSEDED SURVEY CONTROL
DX0475
DX0475 NGVD 29 (??/??/??) 933.025 (m) 3061.10 (f) ADJUSTED 1 2
DX0475
DX0475.Superseded values are not recommended for survey control.
DX0475
DX0475.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DX0475.See file dsdata.txt to determine how the superseded data were derived.
DX0475
DX0475_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SNS321811(NAD 83)
DX0475
DX0475_MARKER: DB = BENCH MARK DISK
DX0475_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
DX0475_SP_SET: SET IN TOP OF CONCRETE MONUMENT
DX0475_STAMPING: P 62 1927
DX0475_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DX0475+STABILITY: SURFACE MOTION
DX0475
DX0475 HISTORY - Date Condition Report By
DX0475 HISTORY - 1927 MONUMENTED CGS
DX0475 HISTORY - 1960 GOOD CGS
DX0475 HISTORY - 1960 GOOD CGS
DX0475
DX0475 STATION DESCRIPTION
DX0475
DX0475'DESCRIBED BY COAST AND GEODETIC SURVEY 1960
DX0475'1.9 MI SW FROM WARNER SPRINGS.
DX0475'1.9 MILES SOUTHWEST ALONG STATE HIGHWAY 79 FROM THE POST OFFICE
DX0475'AT WARNER SPRINGS, SAN DIEGO COUNTY, AT A 25-FOOT CUT, ON THE

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DATASHEETS

DX0475'OUTSIDE OF A CURVE IN AN OLD ABANDONED ROAD, 132 YARDS SOUTHWEST
DX0475'OF 2.5-FOOT CORRUGATED-PIPE CULVERT MI-D-6.3, 56 YARDS WEST OF
DX0475'THE CENTERLINE OF THE HIGHWAY, AND 9 YARDS NORTHWEST OF THE
DX0475'CENTERLINE OF THE OLD ABANDONED ROAD. A STANDARD DISK, STAMPED
DX0475'P 62 1927 AND SET IN THE TOP OF A CONCRETE POST.

DX0475

DX0475 STATION RECOVERY (1960)

DX0475

DX0475'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1960

DX0475'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:03

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DX1319 *****
DX1319 DESIGNATION -  TE 228
DX1319 PID          -  DX1319
DX1319 STATE/COUNTY-  CA/SAN DIEGO
DX1319 COUNTRY      -  US
DX1319 USGS QUAD    -  BONSALL (1975)
DX1319
DX1319                      *CURRENT SURVEY CONTROL
DX1319 _____
DX1319* NAD 83(1986) POSITION- 33 18 27.      (N) 117 12 29.      (W) SCALED
DX1319* NAVD 88 ORTHO HEIGHT -   60.275 (meters)      197.75 (feet) ADJUSTED
DX1319 _____
DX1319 GEOID HEIGHT   -      -33.43 (meters)                      GEOID12A
DX1319 DYNAMIC HEIGHT -      60.209 (meters)      197.54 (feet) COMP
DX1319 MODELED GRAVITY -   979,555.0 (mgal)                      NAVD 88
DX1319 OBS GRAVITY    -   979,560.6 (mgal)                      GRAV_OBS
DX1319
DX1319 VERT ORDER     -  FIRST      CLASS I
DX1319
DX1319.The horizontal coordinates were scaled from a topographic map and have
DX1319.an estimated accuracy of +/- 6 seconds.
DX1319.
DX1319.The orthometric height was determined by differential leveling and
DX1319.adjusted by the NATIONAL GEODETIC SURVEY
DX1319.in January 1993.
DX1319
DX1319.The dynamic height is computed by dividing the NAVD 88
DX1319.geopotential number by the normal gravity value computed on the
DX1319.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DX1319.degrees latitude (g = 980.6199 gals.).
DX1319
DX1319.The modeled gravity was interpolated from observed gravity values.
DX1319
DX1319.The observed gravity was obtained from relative gravimeter ties
DX1319.to the IGSN71 gravity network.
DX1319
DX1319;
DX1319;          North      East      Units  Estimated Accuracy
DX1319;SPC CA 6   -   626,930.   1,910,780.    MT  (+/- 180 meters Scaled)
DX1319
DX1319                      SUPERSEDED SURVEY CONTROL
DX1319
DX1319 NGVD 29 (??/??/??)  59.564 (m)          195.42 (f) ADJUSTED  1 1
DX1319
DX1319.Superseded values are not recommended for survey control.
DX1319
DX1319.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DX1319.See file dsdata.txt to determine how the superseded data were derived.
DX1319
DX1319_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMS806853(NAD 83)
DX1319
DX1319_MARKER: DB = BENCH MARK DISK
DX1319_SETTING: 48 = GALVANIZED STEEL ROD W/O SLEEVE (10 FT.+)
DX1319_SP_SET: GALVANIZED STEEL ROD
DX1319_STAMPING: TE 228 1968
DX1319_MARK LOGO: CA-073

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DX1319_PROJECTION: FLUSH
 DX1319_MAGNETIC: N = NO MAGNETIC MATERIAL
 DX1319_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 DX1319_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 DX1319+SATELLITE: SATELLITE OBSERVATIONS - July 12, 2013
 DX1319_ROD/PIPE-DEPTH: 1.52 meters

DX1319

DX1319	HISTORY	- Date	Condition	Report By
DX1319	HISTORY	- 1968	MONUMENTED	CA-073
DX1319	HISTORY	- 1970	GOOD	CA-073
DX1319	HISTORY	- 1978	GOOD	NGS
DX1319	HISTORY	- 19920927	GOOD	MWDSC
DX1319	HISTORY	- 20060707	GOOD	NGS
DX1319	HISTORY	- 20130712	GOOD	PSOMAS

DX1319

DX1319 STATION DESCRIPTION

DX1319

DX1319'DESCRIBED BY SAN DIEGO COUNTY CALIFORNIA 1968

DX1319'AT OCEANSIDE.

DX1319'AT OCEANSIDE 14.0 MI E OF INTERSECTION OF 3RD AND TREMONT STS

DX1319'1.7 MI E OF BONSALL ALONG PALA RD 1.3 MI E OF INTERSECTION OF

DX1319'HWY 76 AND PALA RD 0.3 MI SW OF INTERSECTION OF VIA MONSERATE

DX1319'AND STATE HWY 76 32 FT S OF CENTERLINE OF HWY 76 2 FT N OF FENCE

DX1319'13.5 FT E OF STATE SURVEY MONUMENT B-31 LOCATED IN FLAT LAND

DX1319'SECTION S OF HWY 76 SET 0.2 FOOT ABOVE GROUND LEVEL NEXT TO

DX1319'WITNESS POST AND SURVEY MONUMENT TE 12 -PIPE-. A 5 FOOT STEEL

DX1319'ROD AND STANDARD DISK STAMPED TE 228 1968.

DX1319

DX1319 STATION RECOVERY (1970)

DX1319

DX1319'RECOVERY NOTE BY SAN DIEGO COUNTY CALIFORNIA 1970

DX1319'RECOVERED IN GOOD CONDITION.

DX1319

DX1319 STATION RECOVERY (1978)

DX1319

DX1319'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1978

DX1319'RECOVERED IN GOOD CONDITION.

DX1319

DX1319 STATION RECOVERY (1992)

DX1319

DX1319'RECOVERY NOTE BY METRO WATER DISTR SO. CALIFORNIA 1992

DX1319'AT OCEANSIDE, 14.0 MILES (22.5 KM) EAST OF THE INTERSECTION OF 3RD

DX1319'AND TREMONT STREETS, 1.7 MILES (2.7 KM) EAST OF BONSALL ALONG STATE

DX1319'HIGHWAY 76 (PALA ROAD), 0.3 MILE (0.5 KM) SOUTHWEST OF THE

DX1319'INTERSECTION OF VIA MONSERATE ROAD AND STATE HIGHWAY 76, 32 FEET (9.8

DX1319'M) SOUTH OF THE CENTERLINE OF STATE HIGHWAY 76, 2 FEET (0.6 M) NORTH

DX1319'OF FENCE, 13.5 FEET (4.1 M) EAST OF STATE SURVEY MONUMENT B-31, A 3

DX1319'INCH STANDARD CA-073 BRASS DISK ON TOP OF A 5 FEET (1.5 M) LONG STEEL

DX1319'ROD, FLUSH WITH GROUND AND NEXT TO WITNESS POST.

DX1319

DX1319 STATION RECOVERY (2006)

DX1319

DX1319'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (NPG)

DX1319'RECOVERED IN GOOD CONDITION.

DX1319

DX1319 STATION RECOVERY (2013)

DX1319

DX1319'RECOVERY NOTE BY PSOMAS AND ASSOCIATES 2013 (CH)

DX1319'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:02

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DX5297 *****
DX5297 CBN          - This is a Cooperative Base Network Control Station.
DX5297 DESIGNATION - SAN DIEGO GPS 03
DX5297 PID          - DX5297
DX5297 STATE/COUNTY- CA/SAN DIEGO
DX5297 COUNTRY     - US
DX5297 USGS QUAD   - BONSALL (1975)
DX5297
DX5297                      *CURRENT SURVEY CONTROL
DX5297
DX5297* NAD 83(2011) POSITION- 33 19 54.32972(N) 117 09 31.69023(W) ADJUSTED
DX5297* NAD 83(2011) ELLIP HT- 60.841 (meters) (06/27/12) ADJUSTED
DX5297* NAD 83(2011) EPOCH  - 2010.00
DX5297* NAVD 88 ORTHO HEIGHT - 93.958 (meters) 308.26 (feet) ADJUSTED
DX5297
DX5297 NAD 83(2011) X  - -2,434,929.624 (meters) COMP
DX5297 NAD 83(2011) Y  - -4,746,251.769 (meters) COMP
DX5297 NAD 83(2011) Z  - 3,484,792.304 (meters) COMP
DX5297 LAPLACE CORR    - 6.23 (seconds) DEFLEC12A
DX5297 GEOID HEIGHT   - -33.12 (meters) GEOID12A
DX5297 DYNAMIC HEIGHT - 93.856 (meters) 307.93 (feet) COMP
DX5297 MODELED GRAVITY - 979,551.3 (mgal) NAVD 88
DX5297
DX5297 VERT ORDER     - FIRST CLASS II
DX5297
DX5297 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
DX5297 Standards:
DX5297      FGDC (95% conf, cm)      Standard deviation (cm)      CorrNE
DX5297      Horiz Ellip              SD_N   SD_E   SD_h      (unitless)
DX5297 -----
DX5297 NETWORK      0.38   1.06              0.16   0.15   0.54      -0.06775068
DX5297 -----
DX5297 Click here for local accuracies and other accuracy information.
DX5297
DX5297
DX5297.The horizontal coordinates were established by GPS observations
DX5297.and adjusted by the National Geodetic Survey in June 2012.
DX5297
DX5297.NAD 83(2011) refers to NAD 83 coordinates where the reference
DX5297.frame has been affixed to the stable North American tectonic plate. See
DX5297.NA2011 for more information.
DX5297
DX5297.The horizontal coordinates are valid at the epoch date displayed above
DX5297.which is a decimal equivalence of Year/Month/Day.
DX5297
DX5297.The orthometric height was determined by differential leveling and
DX5297.adjusted by the NATIONAL GEODETIC SURVEY
DX5297.in January 1993.
DX5297
DX5297.Photographs are available for this station.
DX5297
DX5297.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DX5297
DX5297.The Laplace correction was computed from DEFLEC12A derived deflections.
DX5297

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DATASHEETS

DX5297.The ellipsoidal height was determined by GPS observations
DX5297.and is referenced to NAD 83.

DX5297

DX5297.The dynamic height is computed by dividing the NAVD 88
DX5297.geopotential number by the normal gravity value computed on the
DX5297.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DX5297.degrees latitude (g = 980.6199 gals.).

DX5297

DX5297.The modeled gravity was interpolated from observed gravity values.

DX5297

DX5297. The following values were computed from the NAD 83(2011) position.

DX5297

DX5297;		North	East	Units	Scale Factor	Converg.
DX5297;SPC CA 6	-	629,580.364	1,915,393.681	MT	0.99995414	-0 29 57.9
DX5297;SPC CA 6	-	2,065,548.24	6,284,087.44	sFT	0.99995414	-0 29 57.9
DX5297;UTM 11	-	3,688,077.930	485,221.060	MT	0.99960269	-0 05 14.1
DX5297!	-	Elev Factor	x	Scale Factor	=	Combined Factor
DX5297!SPC CA 6	-	0.99999045	x	0.99995414	=	0.99994459
DX5297!UTM 11	-	0.99999045	x	0.99960269	=	0.99959314

DX5297

SUPERSEDED SURVEY CONTROL

DX5297

DX5297	NAD 83(2007)-	33 19 54.32781(N)	117 09 31.68764(W)	AD(2007.00)	0
DX5297	ELLIP H (02/10/07)	60.832 (m)		GP(2007.00)	
DX5297	NAD 83(1998)-	33 19 54.32104(N)	117 09 31.68127(W)	AD(2000.35)	A
DX5297	ELLIP H (04/03/01)	60.862 (m)		GP(2000.35)	1 1
DX5297	NAD 83(1998)-	33 19 54.31888(N)	117 09 31.67955(W)	AD(1998.50)	A
DX5297	ELLIP H (04/06/00)	60.853 (m)		GP(1998.50)	3 1
DX5297	NAD 83(1992)-	33 19 54.31129(N)	117 09 31.67229(W)	AD(1991.35)	B
DX5297	ELLIP H (08/04/92)	60.930 (m)		GP(1991.35)	4 1
DX5297	NAVD 88 (07/28/98)	93.96 (m)	308.3 (f)	LEVELING	3
DX5297	NAVD 88 (08/04/92)	93.9 (m)	GEOID90 model used	GPS OBS	

DX5297

DX5297.Superseded values are not recommended for survey control.

DX5297

DX5297.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DX5297.[See file dsdata.txt](#) to determine how the superseded data were derived.

DX5297

DX5297_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMS8522188077(NAD 83)

DX5297

DX5297_MARKER: DD = SURVEY DISK

DX5297_SETTING: 38 = SET IN THE ABUTMENT OR PIER OF A LARGE BRIDGE

DX5297_SP_SET: SIDEWALK OF BRIDGE OVER ABUTMENT

DX5297_STAMPING: NE 15/76 1980 SDGPS 03 1991

DX5297_MARK LOGO: CADT

DX5297_PROJECTION: FLUSH

DX5297_MAGNETIC: N = NO MAGNETIC MATERIAL

DX5297_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

DX5297_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DX5297+SATELLITE: SATELLITE OBSERVATIONS - March 05, 2010

DX5297

DX5297	HISTORY	-	Date	Condition	Report By
DX5297	HISTORY	-	1980	MONUMENTED	CADT
DX5297	HISTORY	-	1990	GOOD	CA-073
DX5297	HISTORY	-	19921006	GOOD	MWDSC
DX5297	HISTORY	-	19930713	GOOD	MWDSC
DX5297	HISTORY	-	19940223	GOOD	CADT
DX5297	HISTORY	-	19950611	GOOD	CADT
DX5297	HISTORY	-	19980513	GOOD	CADT
DX5297	HISTORY	-	20000501	GOOD	CADT
DX5297	HISTORY	-	20011208	GOOD	JCLS
DX5297	HISTORY	-	20100305	GOOD	INDIV

DX5297

STATION DESCRIPTION

DX5297

DX5297'DESCRIBED BY SAN DIEGO COUNTY CALIFORNIA 1990
DX5297'THE STATION IS LOCATED 6.0 MI (9.7 KM) SOUTHEAST OF THE TOWN OF
DX5297'FALLBROOK, 12.0 MI (19.3 KM) SOUTH OF TEMECULA, AT THE JUNCTION OF
DX5297'INTERSTATE 15 AND STATE HIGHWAY 76.
DX5297'TO REACH THE STATION FROM THE JUNCTION OF INTERSTATE 15 AND STATE
DX5297'HIGHWAY 78 IN ESCONDIDO, GO NORTH ON INTERSTATE 15 FOR 15.0 MI
DX5297'(24.1 KM) TO THE JUNCTION OF HIGHWAY 76 AT POST MILE 46.5 ON I-15,
DX5297'AND THE STATION IN THE NORTHEAST CORNER OF THE BRIDGE OVER I-15.
DX5297'THE STATION MARK IS IN THE EAST ABUTMENT OF THE BRIDGE AT THE
DX5297'NORTHEAST CORNER IN THE SIDEWALK, 2.5 FT (0.8 M) EAST OF THE
DX5297'EXPANSION JOINT AT THE BEGINING OF THE BRIDGE DECK, 2.5 FT (0.8 M)
DX5297'NORTH OF THE TOP OF THE CURB, 33.5 FT (10.2 M) WEST OF THE EAST END OF
DX5297'THE BRIDGE SIDEWALK.

DX5297

DX5297 STATION RECOVERY (1992)

DX5297

DX5297'RECOVERY NOTE BY METRO WATER DISTR SO. CALIFORNIA 1992
DX5297'PALA MESA, AT THE INTERSECTION OF INTERSTATE 15 AND STATE HWY 76, AT
DX5297'THE NORTHEAST CORNER OF THE BRIDGE OVER THE FREEWAY. FOUND A 2 INCH
DX5297'CADT DISK SET W/EPOXY IN NORTH CONCRETE ABUTMENT IN THE NORTHEAST
DX5297'CORNER OF BRIDGE, DISK IS SET IN CONCRETE SIDEWALK AREA 2.5 FEET (0.8
DX5297'M) EASTERLY OF EXPANSION JOINT FOR BRIDGE AND 2.5 FEET (0.8 M) BACK
DX5297'OF TOP FACE OF CONCRETE CURB ABUTMENT ADDITIONAL STAMPING SDGPS 03
DX5297'1991 TO THIS DISK BY SAN DIEGO COUNTY SURVEYORS.

DX5297

DX5297 STATION RECOVERY (1993)

DX5297

DX5297'RECOVERY NOTE BY METRO WATER DISTR SO. CALIFORNIA 1993
DX5297'RECOVERED IN GOOD CONDITION.

DX5297

DX5297 STATION RECOVERY (1994)

DX5297

DX5297'RECOVERY NOTE BY CALTRANS 1994 (ATD)
DX5297'RECOVERED AS DESCRIBED.

DX5297

DX5297 STATION RECOVERY (1995)

DX5297

DX5297'RECOVERY NOTE BY CALTRANS 1995 (ATD)
DX5297'THE STATION WAS LEVELED TO BY CADT AS A PART OF THE 1995 PERIPHERAL
DX5297'RUN IN SAN DIEGO COUNTY TO ESTABLISH NAVD 1988. RECOVERED AS
DX5297'DESCRIBED. OCCUPIED BY GPS RECEIVER AS PART OF SAN DIEGO VERTICAL GPS
DX5297'SURVEY.

DX5297'NOTE THAT MARK IS A CALIF DEPT OF TRANSPORTATION DISK WITH TWO
DX5297'STAMPINGS-- NE 15/76 1980 AND SDGPS 03 1991.

DX5297

DX5297 STATION RECOVERY (1998)

DX5297

DX5297'RECOVERY NOTE BY CALTRANS 1998 (ATD)
DX5297'RECOVERED AS DESCRIBED.

DX5297

DX5297 STATION RECOVERY (2000)

DX5297

DX5297'RECOVERY NOTE BY CALTRANS 2000 (MEI)
DX5297'RECOVERED AS DESCRIBED.
DX5297'THIS STATION WAS OBSERVED IN MAY, 2000 AS PART OF THE HECTOR MINE
DX5297'EARTHQUAKE FBN/CBN REOBSERVATION SURVEY.

DX5297'

DX5297

DX5297 STATION RECOVERY (2001)

DX5297

DX5297'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2001
DX5297'RECOVERED IN GOOD CONDITION.

DX5297

DX5297 STATION RECOVERY (2010)

DX5297

DX5297'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2010 (LJM)

DATASHEETS

DX5297' FOUND IN GOOD CONDITION AT N33 19.905 W117 09.529. RM1 A FEET FEET
DX5297' EAST OF STATION.

*** retrieval complete.
Elapsed Time = 00:00:02

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DX5541 *****
DX5541 DESIGNATION -   SD 6 38
DX5541 PID          -   DX5541
DX5541 STATE/COUNTY-  CA/SAN DIEGO
DX5541 COUNTRY      -   US
DX5541 USGS QUAD    -   BONSALL (1975)
DX5541
DX5541                      *CURRENT SURVEY CONTROL
DX5541
DX5541* NAD 83(1986) POSITION- 33 16 34.      (N) 117 13 34.      (W)  SCALED
DX5541* NAVD 88 ORTHO HEIGHT -   48.102 (meters)      157.81 (feet) ADJUSTED
DX5541
DX5541 GEOID HEIGHT   -   -33.61 (meters)                      GEOID12A
DX5541 DYNAMIC HEIGHT -   48.050 (meters)      157.64 (feet) COMP
DX5541 MODELED GRAVITY -   979,559.8 (mgal)                      NAVD 88
DX5541
DX5541 VERT ORDER    -   FIRST      CLASS II
DX5541
DX5541.The horizontal coordinates were scaled from a topographic map and have
DX5541.an estimated accuracy of +/- 6 seconds.
DX5541.
DX5541.The orthometric height was determined by differential leveling and
DX5541.adjusted by the NATIONAL GEODETIC SURVEY
DX5541.in January 1993.
DX5541
DX5541.The dynamic height is computed by dividing the NAVD 88
DX5541.geopotential number by the normal gravity value computed on the
DX5541.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DX5541.degrees latitude (g = 980.6199 gals.).
DX5541
DX5541.The modeled gravity was interpolated from observed gravity values.
DX5541
DX5541;
DX5541;          North      East      Units  Estimated Accuracy
DX5541;SPC CA 6   -   623,470.   1,909,070.   MT   (+/- 180 meters Scaled)
DX5541
DX5541                      SUPERSEDED SURVEY CONTROL
DX5541
DX5541.No superseded survey control is available for this station.
DX5541
DX5541_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMS789819(NAD 83)
DX5541
DX5541_MARKER: DD = SURVEY DISK
DX5541_SETTING: 34 = SET IN THE FOOTINGS OF SMALL/MEDIUM STRUCTURES
DX5541_SP_SET: WATER VALVE STRUCTURE
DX5541_STAMPING: SD6-38 1992
DX5541_MARK LOGO: MWDSC
DX5541_MAGNETIC: N = NO MAGNETIC MATERIAL
DX5541_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DX5541+STABILITY: SURFACE MOTION
DX5541_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DX5541+SATELLITE: SATELLITE OBSERVATIONS - 1992
DX5541
DX5541 HISTORY      -   Date      Condition      Report By
DX5541 HISTORY      -   1992      MONUMENTED    MWDSC
DX5541

```

DX5541

STATION DESCRIPTION

DX5541

DX5541'DESCRIBED BY METRO WATER DISTR SO. CALIFORNIA 1992

DX5541'BONSALL, 1.0 MILE (1.6 KM) SOUTHERLY ALONG OLD RIVER RD. FROM THE

DX5541'INTERSECTION WITH WEST LILAC RD., 700 FEET (213.4 M) SOUTHWEST FROM

DX5541'THE INTERSECTION OF OLD RIVER RD WITH DENTRO DE LOMAS RD. 27 FEET

DX5541'(8.2 M) NORTHWEST OF THE CENTERLINE OF OLD RIVER RD., 50 FEET (15.2

DX5541'M) SOUTHWEST OF A 30 INCH DIAMETER OAK TREE. A STANDARD MWDSC 3 INCH

DX5541'BRASS DISK SET FLUSH IN THE TOP OF THE WEST CORNER OF A WATER VALVE

DX5541'STRUCTURE.

*** retrieval complete.

Elapsed Time = 00:00:03

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DX5543 *****
DX5543 DESIGNATION -   SD 6 40
DX5543 PID          -   DX5543
DX5543 STATE/COUNTY-  CA/SAN DIEGO
DX5543 COUNTRY      -   US
DX5543 USGS QUAD    -   BONSALL (1975)
DX5543
DX5543                      *CURRENT SURVEY CONTROL
DX5543 _____
DX5543* NAD 83(1986) POSITION- 33 15 58.      (N) 117 13 58.      (W)  SCALED
DX5543* NAVD 88 ORTHO HEIGHT -   44.942 (meters)      147.45 (feet) ADJUSTED
DX5543 _____
DX5543 GEOID HEIGHT   -   -33.67 (meters)                      GEOID12A
DX5543 DYNAMIC HEIGHT -   44.894 (meters)      147.29 (feet) COMP
DX5543 MODELED GRAVITY -   979,563.0 (mgal)                      NAVD 88
DX5543
DX5543 VERT ORDER    -   FIRST      CLASS II
DX5543
DX5543.The horizontal coordinates were scaled from a topographic map and have
DX5543.an estimated accuracy of +/- 6 seconds.
DX5543.
DX5543.The orthometric height was determined by differential leveling and
DX5543.adjusted by the NATIONAL GEODETIC SURVEY
DX5543.in January 1993.
DX5543
DX5543.The dynamic height is computed by dividing the NAVD 88
DX5543.geopotential number by the normal gravity value computed on the
DX5543.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DX5543.degrees latitude (g = 980.6199 gals.).
DX5543
DX5543.The modeled gravity was interpolated from observed gravity values.
DX5543
DX5543;
DX5543;SPC CA 6      -   North      East      Units  Estimated Accuracy
DX5543;              -   622,360.   1,908,440.   MT   (+/- 180 meters Scaled)
DX5543
DX5543                      SUPERSEDED SURVEY CONTROL
DX5543
DX5543.No superseded survey control is available for this station.
DX5543
DX5543_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMS783808(NAD 83)
DX5543
DX5543_MARKER: DD = SURVEY DISK
DX5543_SETTING: 32 = SET IN A RETAINING WALL OR CONCRETE LEDGE
DX5543_SP_SET: HEADWALL
DX5543_STAMPING: SD6-40 1992
DX5543_MARK LOGO: MWDSC
DX5543_MAGNETIC: N = NO MAGNETIC MATERIAL
DX5543_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DX5543+STABILITY: SURFACE MOTION
DX5543_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR
DX5543+SATELLITE: SATELLITE OBSERVATIONS - 1992
DX5543
DX5543 HISTORY      -   Date      Condition      Report By
DX5543 HISTORY      -   1992      MONUMENTED      MWDSC
DX5543

```

DX5543

STATION DESCRIPTION

DX5543

DX5543'DESCRIBED BY METRO WATER DISTR SO. CALIFORNIA 1992

DX5543'BONSALL, 1.8 MILES (2.9 KM) SOUTHERLY ALONG OLD RIVER RD. FROM THE

DX5543'INTERSECTION WITH WEST LILAC RD. 0.1 MILE (0.2 KM) SOUTH OF THE

DX5543'INTERSECTION OF OLD RIVER RD AND GOPHER CANYON RD., AT BRIDGE NO.

DX5543'B-33-B1 AT THE NORTH END OF THE EAST BRIDGE HEADWALL, 0.9 FOOT (27.4

DX5543'CM) SOUTH OF THE NORTH END. A STANDARD MWDSC 3 INCH BRASS DISK SET

DX5543'FLUSH IN TOP OF HEADWALL.

*** retrieval complete.

Elapsed Time = 00:00:04

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

```

PROGRAM = datasheet95, VERSION = 8.6
1      National Geodetic Survey,  Retrieval Date = FEBRUARY  5, 2015
DX5551 *****
DX5551 DESIGNATION -   SD 6 51
DX5551 PID          -   DX5551
DX5551 STATE/COUNTY-  CA/SAN DIEGO
DX5551 COUNTRY      -   US
DX5551 USGS QUAD    -   SAN LUIS REY (1975)
DX5551
DX5551                      *CURRENT SURVEY CONTROL
DX5551
DX5551* NAD 83(1986) POSITION- 33 13 07.      (N) 117 20 25.      (W)  SCALED
DX5551* NAVD 88 ORTHO HEIGHT -   11.012 (meters)      36.13 (feet) ADJUSTED
DX5551
DX5551 GEOID HEIGHT   -   -34.40 (meters)                      GEOID12A
DX5551 DYNAMIC HEIGHT -   11.000 (meters)      36.09 (feet) COMP
DX5551 MODELED GRAVITY -   979,557.1 (mgal)                      NAVD 88
DX5551
DX5551 VERT ORDER    -   FIRST      CLASS II
DX5551
DX5551.The horizontal coordinates were scaled from a topographic map and have
DX5551.an estimated accuracy of +/- 6 seconds.
DX5551.
DX5551.The orthometric height was determined by differential leveling and
DX5551.adjusted by the NATIONAL GEODETIC SURVEY
DX5551.in January 1993.
DX5551
DX5551.The dynamic height is computed by dividing the NAVD 88
DX5551.geopotential number by the normal gravity value computed on the
DX5551.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DX5551.degrees latitude (g = 980.6199 gals.).
DX5551
DX5551.The modeled gravity was interpolated from observed gravity values.
DX5551
DX5551;
DX5551;          North      East      Units  Estimated Accuracy
DX5551;SPC CA 6   -   617,190.   1,898,370.   MT   (+/- 180 meters Scaled)
DX5551
DX5551                      SUPERSEDED SURVEY CONTROL
DX5551
DX5551.No superseded survey control is available for this station.
DX5551
DX5551_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMS682755(NAD 83)
DX5551
DX5551_MARKER: DD = SURVEY DISK
DX5551_SETTING: 30 = SET IN A LIGHT STRUCTURE
DX5551_SP_SET: CATCH BASIN
DX5551_STAMPING: SD6-51 1992
DX5551_MARK LOGO: MWDSC
DX5551_MAGNETIC: N = NO MAGNETIC MATERIAL
DX5551_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
DX5551_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DX5551+SATELLITE: SATELLITE OBSERVATIONS - 1992
DX5551
DX5551 HISTORY      -   Date      Condition      Report By
DX5551 HISTORY      -   1992      MONUMENTED    MWDSC
DX5551
DX5551                      STATION DESCRIPTION

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DATASHEETS

DX5551

DX5551'DESCRIBED BY METRO WATER DISTR SO. CALIFORNIA 1992

DX5551'OCEANSIDE, 3.0 MILES (4.8 KM) EAST, NEAR THE INTERSECTION OF MISSION

DX5551'AVE. AND FRONTIER DR., 300 FEET SOUTHWEST ALONG MISSION AVE FROM

DX5551'FRONTIER DR. TO CATCH BASIN ON THE SOUTHSIDE OF MISSION AVE. A

DX5551'STANDARD MWDSC 3 INCH BRASS DISK SET FLUSH IN TOP OF A 7 FOOT (2.1 M)

DX5551'WIDE CATCH BASIN AT THE NORTHWEST CORNER AND 0.7 FOOT (21.3 CM)

DX5551'SOUTHEAST OF CURB FACE.

*** retrieval complete.

Elapsed Time = 00:00:02

The NGS Data Sheet

See file [dsdata.txt](#) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.5

1 National Geodetic Survey, Retrieval Date = JANUARY 19, 2015

DC2134 *****

DC2134 DESIGNATION - SAN DIEGO GPS 24

DC2134 PID - DC2134

DC2134 STATE/COUNTY- CA/SAN DIEGO

DC2134 COUNTRY - US

DC2134 USGS QUAD - IMPERIAL BEACH (1975)

DC2134

DC2134 *CURRENT SURVEY CONTROL

DC2134

DC2134* NAD 83(2011) POSITION- 32 34 40.84018(N) 117 04 04.09381(W)

ADJUSTED

DC2134* NAD 83(2011) ELLIP HT- 11.432 (meters) (06/27/12) ADJUSTED

DC2134* NAD 83(2011) EPOCH - 2010.00

DC2134* [NAVD 88](#) ORTHO HEIGHT - 46.49 (meters) 152.5 (feet) N

HEIGHT

DC2134

DC2134 NAD 83(2011) X - -2,448,061.740 (meters) COMP

DC2134 NAD 83(2011) Y - -4,790,568.293 (meters) COMP

DC2134 NAD 83(2011) Z - 3,414,622.462 (meters) COMP

DC2134 LAPLACE CORR - 8.56 (seconds) DEFLEC12A

DC2134 GEOID HEIGHT - -35.05 (meters) GEOID12A

DC2134 DYNAMIC HEIGHT - 46.44 (meters) 152.4 (feet) COMP

DC2134 MODELED GRAVITY - 979,496.0 (mgal) NAVD 88

DC2134

DC2134 VERT ORDER - THIRD

DC2134

DC2134 FGDC Geospatial Positioning Accuracy Standards (95% confidence, cm)

DC2134 Type Horiz Ellip Dist(km)

DC2134 -----

DC2134 NETWORK 1.29 3.14

DC2134 -----

DC2134 MEDIAN LOCAL ACCURACY AND DIST (033 points) 1.49 3.68 69.79

DC2134 -----

DC2134 NOTE: Click [here](#) for information on individual local accuracy

DC2134 values and other accuracy information.

DC2134

DC2134

DC2134.The horizontal coordinates were established by GPS observations

DC2134.and adjusted by the National Geodetic Survey in June 2012.

DC2134

DC2134.NAD 83(2011) refers to NAD 83 coordinates where the reference DC2134.frame has been affixed to the stable North American tectonic plate. See DC2134.[NA2011](#) for more information.

DC2134

DC2134.The horizontal coordinates are valid at the epoch date displayed above DC2134.which is a decimal equivalence of Year/Month/Day.

DC2134

DC2134.The orthometric height was determined by differential leveling DC2134.and adjusted by the NATIONAL GEODETIC SURVEY in March 1994.

DC2134

DC2134.The height was determined by precise leveling from only one NSRS DC2134.bench mark. This was not adequate "tie leveling" to NSRS and was DC2134.allowed ONLY to validate the GPS-derived height.

DC2134

DC2134.The X, Y, and Z were computed from the position and the ellipsoidal ht.

DC2134

DC2134.The Laplace correction was computed from DEFLEC12A derived deflections.

DC2134

DC2134.The ellipsoidal height was determined by GPS observations

DC2134.and is referenced to NAD 83.

DC2134

DC2134.The dynamic height is computed by dividing the NAVD 88

DC2134.geopotential number by the normal gravity value computed on the

DC2134.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

DC2134.degrees latitude (g = 980.6199 gals.).

DC2134

DC2134.The modeled gravity was interpolated from observed gravity values.

DC2134

DC2134. The following values were computed from the NAD 83(2011) position.

DC2134

DC2134;		North	East	Units	Scale Factor	Converg.
DC2134;SPC CA 6	-	545,920.897	1,923,209.539	MT	1.00004051	-0 26 57.8
DC2134;SPC CA 6	-	1,791,075.48	6,309,729.96	sFT	1.00004051	-0 26 57.8
DC2134;UTM 11	-	3,604,508.828	493,636.068	MT	0.99960050	-0 02 11.4
DC2134!	-	Elev Factor	x	Scale Factor	=	Combined Factor
DC2134!SPC CA 6	-	0.99999821	x	1.00004051	=	1.00003872
DC2134!UTM 11	-	0.99999821	x	0.99960050	=	0.99959871

DC2134

DC2134

SUPERSEDED SURVEY CONTROL

DC2134

DC2134	NAD 83(2007)-	32 34	40.83756(N)	117 04	04.08977(W)	AD(2007.00)	0
DC2134	ELLIP H (02/10/07)		11.422 (m)			GP(2007.00)	
DC2134	NAD 83(1992)-	32 34	40.82082(N)	117 04	04.07350(W)	AD(1991.35)	B
DC2134	ELLIP H (08/04/92)		11.545 (m)			GP(1991.35)	4 1
DC2134	NAVD 88 (08/04/92)		46.5 (m)	GEOID90 model used		GPS OBS	
DC2134	NGVD 29 (??/??/??)		45.86 (m)	150.5	(f)	N HEIGHT	3

DC2134

DC2134.Superseded values are not recommended for survey control.

DC2134

DC2134.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DC2134.[See file dsdata.txt](#) to determine how the superseded data were derived.

DC2134

DC2134_U.S. NATIONAL GRID SPATIAL ADDRESS: 11SMS9363604508(NAD 83)

DC2134

DC2134_MARKER: DD = SURVEY DISK

DC2134_SETTING: 50 = ALUMINUM ALLOY ROD W/O SLEEVE (10 FT.+)

DC2134_SP_SET: ALUMINUM ALLOY ROD

DC2134_STAMPING: HPGN-CA SDGPS 24 1990

DC2134_MARK LOGO: CA-073

DC2134_PROJECTION: FLUSH

DC2134_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET

DC2134_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

DC2134_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DC2134+SATELLITE: SATELLITE OBSERVATIONS - February 23, 1994

DC2134_ROD/PIPE-DEPTH: 3 meters

DC2134

DC2134	HISTORY	- Date	Condition	Report By
DC2134	HISTORY	- 1990	MONUMENTED	CA-073
DC2134	HISTORY	- 19910405	GOOD	
DC2134	HISTORY	- 19930201	GOOD	NGS
DC2134	HISTORY	- 19940223	GOOD	CADT

DC2134

DC2134 STATION DESCRIPTION

DC2134

DC2134'DESCRIBED BY SAN DIEGO COUNTY CALIFORNIA 1990

DC2134'THE STATION IS LOCATED 4 MI (6.4 KM) SOUTH OF NATIONAL CITY, 3 MI
DC2134'(4.8 KM) EAST OF IMPERIAL BEACH, AND 2 MI (3.2 KM) NORTHWEST OF SAN
DC2134'YSIDRO.

DC2134'TO REACH THE STATION FROM THE INTERSECTION OF INTERSTATE 5 AND STATE
DC2134'ROUTE 75, KNOWN LOCALLY AS PALM AVE, DRIVE SOUTH ON INTERSTATE 5 FOR
DC2134'0.6 MI (1.0 KM) TO THE CORONADO AVE OFF RAMP. AT THE BOTTOM OF THE
DC2134'RAMP, TURN LEFT, EAST ON CORONADO AVE. PROCEED EAST ON CORONADO AVE
DC2134'0.9 MI (1.4 KM) TO THE INTERSECTION OF CORONADO AVE AND BEYER BLVD.
DC2134'CONTINUE EAST ON CORONADO AVE 0.1 MI (0.2 KM) TO THE ENTRANCE TO
DC2134'MONTGOMERY WALLER COMMUNITY PARK RECREATION BUILDING ON THE LEFT,
DC2134'NORTH, SIDE OF CORONADO AVE. TURN LEFT, NORTH, ON THE ENTRANCE ROAD
DC2134'AND DRIVE 300 FT (91.4 M) TO THE BEGINNING OF THE PARKING LOT AND THE
DC2134'STATION ON THE LEFT.

DC2134'THE STATION IS 3 FT (0.9 M) BACK OF THE FACE OF CURB, AT THE SOUTH END
DC2134'OF THE PARKING LOT FOR MONTGOMERY WALLER COMMUNITY PARK, 112.4 FT
DC2134'(34.3 M) SOUTH OF A DISK STAMPED-SDGPS 24 RM 1-SET IN THE CONCRETE
DC2134'CURB ON THE EAST EDGE OF THE PARKING LOT, AND 31.5 FT (9.6 M)
DC2134'SOUTHWEST OF A DISK STAMPED-SDGPS 24 RM 2-SET IN THE CONCRETE CURB AT
DC2134'THE SOUTHEAST CORNER OF DRAINAGE INLET NEAR THE SOUTHEAST CORNER OF
DC2134'THE PARKING LOT.

DC2134

DC2134 STATION RECOVERY (1991)

DC2134

DC2134'RECOVERED 1991

DC2134'RECOVERED IN GOOD CONDITION.

DC2134

DC2134 STATION RECOVERY (1993)

DC2134

DC2134'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1993

DC2134'THE STATION IS LOCATED 4 MI (6.4 KM) SOUTH OF NATIONAL CITY, 3 MI
DC2134'(4.8 KM) EAST OF IMPERIAL BEACH, AND 2 MI (3.2 KM) NORTHWEST OF SAN
DC2134'YSIDRO. TO REACH THE STATION FROM THE INTERSECTION OF INTERSTATE 5
DC2134'AND STATE ROUTE 75, KNOWN LOCALLY AS PALM AVE, DRIVE SOUTH ON
DC2134'INTERSTATE 5 FOR 0.6 MI (1.0 KM) TO THE CORONADO AVE OFF RAMP. AT
DC2134'THE BOTTOM OF THE RAMP, TURN LEFT, EAST ON CORONADO AVE. PROCEED
DC2134'EAST ON CORONADO AVE 0.9 MI (1.4 KM) TO THE INTERSECTION OF CORONADO
DC2134'AVE AND BEYER BLVD. CONTINUE EAST ON CORONADO AVE 0.1 MI (0.2 KM) TO
DC2134'THE ENTRANCE TO MONTGOMERY WALLER COMMUNITY PARK RECREATION BUILDING
DC2134'ON THE LEFT, NORTH, SIDE OF CORONADO AVE. TURN LEFT, NORTH, ON THE
DC2134'ENTRANCE ROAD AND DRIVE 300 FT (91.4 M) TO THE BEGINNING OF THE
DC2134'PARKING LOT AND THE STATION ON THE LEFT. THE STATION IS 3 FT (0.9 M)
DC2134'BACK OF THE FACE OF CURB, AT THE SOUTH END OF THE PARKING LOT FOR
DC2134'MONTGOMERY WALLER COMMUNITY PARK, 112.4 FT (34.3 M) SOUTH OF A DISK
DC2134'STAMPED-SDGPS 24 RM 1-SET IN THE CONCRETE CURB ON THE EAST EDGE OF
DC2134'THE PARKING LOT, AND 31.5 FT (9.6 M) SOUTHWEST OF A DISK
DC2134'STAMPED-SDGPS 24 RM 2-SET IN THE CONCRETE CURB AT THE SOUTHEAST
DC2134'CORNER OF DRAINAGE INLET NEAR THE SOUTHEAST CORNER OF THE PARKING
DC2134'LOT.

DC2134

DC2134 STATION RECOVERY (1994)

DC2134

DC2134'RECOVERY NOTE BY CALTRANS 1994 (ATD)

DC2134'RECOVERED AS DESCRIBED.

*** retrieval complete.

Elapsed Time = 00:00:03