

From: opus [opus@NGS.NOAA.GOV]
Sent: Tuesday, April 05, 2011 11:41 AM
To: Angela Boyea
Subject: OPUS solution : 15630880.DAT 000195182

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NGS OPUS SOLUTION REPORT
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STATION NAME: p162 a 3 (RedwoodsCCCN2004; Loleta, CA United States)
 MONUMENT: NO DOMES NUMBER

XYZ	-2724770.6993	-4003808.8804	4136468.6269	MON @ 1997.0000 (M)
XYZ	-0.0040	0.0082	0.0053	VEL (M/YR)
NEU	-0.0000	0.0000	0.0083	MON TO ARP (M)
NEU	0.0015	0.0004	0.0880	ARP TO L1 PHASE CENTER (M)
NEU	0.0001	0.0011	0.1172	ARP TO L2 PHASE CENTER (M)
XYZ	-0.0570	0.1168	0.0755	VEL TIMES 14.2390 YRS
XYZ	-0.0035	-0.0052	0.0054	MON TO ARP
XYZ	-0.0366	-0.0546	0.0585	ARP TO L1 PHASE CENTER
XYZ	-2724770.7964	-4003808.8235	4136468.7663	L1 PHS CEN @ 2011.2403
XYZ	-0.0000	0.0000	0.0000	+ XYZ ADJUSTMENTS
XYZ	-2724770.7964	-4003808.8235	4136468.7663	NEW L1 PHS CEN @ 2011.2403
XYZ	-2724770.7598	-4003808.7688	4136468.7078	NEW ARP @ 2011.2403
XYZ	-2724770.7562	-4003808.7636	4136468.7024	NEW MON @ 2011.2403
LLH	40 41 27.94038	235 45 46.66710	-6.3751	NEW L1 PHS CEN @ 2011.2403
LLH	40 41 27.94033	235 45 46.66708	-6.4632	NEW ARP @ 2011.2403
LLH	40 41 27.94033	235 45 46.66708	-6.4715	NEW MON @ 2011.2403

STATION NAME: p169 a 3 (FickleHillCN2004; Arcata, CA United States)
 MONUMENT: NO DOMES NUMBER

XYZ	-2702159.0996	-4010998.5993	4145341.2697	MON @ 1997.0000 (M)
XYZ	-0.0077	0.0066	0.0014	VEL (M/YR)
NEU	-0.0000	0.0000	0.0083	MON TO ARP (M)
NEU	0.0015	0.0004	0.0880	ARP TO L1 PHASE CENTER (M)
NEU	0.0001	0.0011	0.1172	ARP TO L2 PHASE CENTER (M)
XYZ	-0.1096	0.0940	0.0199	VEL TIMES 14.2390 YRS
XYZ	-0.0035	-0.0052	0.0054	MON TO ARP
XYZ	-0.0363	-0.0547	0.0587	ARP TO L1 PHASE CENTER
XYZ	-2702159.2491	-4010998.5652	4145341.3537	L1 PHS CEN @ 2011.2403
XYZ	0.0000	0.0000	0.0000	+ XYZ ADJUSTMENTS
XYZ	-2702159.2491	-4010998.5652	4145341.3537	NEW L1 PHS CEN @ 2011.2403
XYZ	-2702159.2127	-4010998.5105	4145341.2950	NEW ARP @ 2011.2403
XYZ	-2702159.2092	-4010998.5053	4145341.2896	NEW MON @ 2011.2403
LLH	40 47 28.12038	236 1 56.44924	689.4578	NEW L1 PHS CEN @ 2011.2403
LLH	40 47 28.12033	236 1 56.44922	689.3697	NEW ARP @ 2011.2403
LLH	40 47 28.12033	236 1 56.44922	689.3614	NEW MON @ 2011.2403

STATION NAME: p170 a 3 (BALDMTN____CN2004; Korbelt, CA United States)
 MONUMENT: NO DOMES NUMBER

XYZ	-2691339.3336	-4010685.5160	4152976.9457	MON @ 1997.0000 (M)
XYZ	-0.0112	0.0055	-0.0009	VEL (M/YR)
NEU	-0.0000	0.0000	0.0083	MON TO ARP (M)
NEU	0.0015	0.0004	0.0880	ARP TO L1 PHASE CENTER (M)
NEU	0.0001	0.0011	0.1172	ARP TO L2 PHASE CENTER (M)
XYZ	-0.1595	0.0783	-0.0128	VEL TIMES 14.2390 YRS
XYZ	-0.0035	-0.0052	0.0054	MON TO ARP
XYZ	-0.0362	-0.0547	0.0588	ARP TO L1 PHASE CENTER
XYZ	-2691339.5328	-4010685.4976	4152976.9970	L1 PHS CEN @ 2011.2403
XYZ	-0.0000	0.0000	-0.0000	+ XYZ ADJUSTMENTS
XYZ	-2691339.5328	-4010685.4976	4152976.9970	NEW L1 PHS CEN @ 2011.2403
XYZ	-2691339.4966	-4010685.4429	4152976.9383	NEW ARP @ 2011.2403
XYZ	-2691339.4931	-4010685.4377	4152976.9329	NEW MON @ 2011.2403
LLH	40 52 48.83633	236 8 12.18645	918.2057	NEW L1 PHS CEN @ 2011.2403
LLH	40 52 48.83629	236 8 12.18643	918.1176	NEW ARP @ 2011.2403
LLH	40 52 48.83629	236 8 12.18643	918.1093	NEW MON @ 2011.2403

REMOTE STATION INFORMATION

STATION NAME: 1563 1
 MONUMENT: NO DOMES NUMBER

XYZ	-2721145.7341	-4002102.9070	4140445.6857	MON @ 2011.2400 (M)
NEU	0.0010	-0.0004	2.0000	MON TO ARP (M)
NEU	-0.0010	0.0004	0.0772	ARP TO L1 PHASE CENTER (M)
NEU	0.0015	0.0035	0.0865	ARP TO L2 PHASE CENTER (M)

XYZ	-0.8520	-1.2523	1.3059	MON TO ARP
XYZ	-0.0329	-0.0492	0.0496	ARP TO L1 PHASE CENTER
XYZ	-2721146.6190	-4002104.2085	4140447.0413	L1 PHS CEN @ 2011.2403

BASELINE NAME: p162 1563

XYZ	0.8751	1.2806	-1.2898	+ XYZ ADJUSTMENTS
XYZ	-2721145.7439	-4002102.9279	4140445.7515	NEW L1 PHS CEN @ 2011.2403
XYZ	-2721145.7110	-4002102.8788	4140445.7018	NEW ARP @ 2011.2403
XYZ	-2721144.8590	-4002101.6264	4140444.3959	NEW MON @ 2011.2403
LLH	40 44 18.60475	235 47 13.49032	-26.7260	NEW L1 PHS CEN @ 2011.2403
LLH	40 44 18.60478	235 47 13.49030	-26.8032	NEW ARP @ 2011.2403
LLH	40 44 18.60475	235 47 13.49032	-28.8032	NEW MON @ 2011.2403

BASELINE NAME: p169 1563

XYZ	0.8972	1.3031	-1.3252	+ XYZ ADJUSTMENTS
XYZ	-2721145.7219	-4002102.9054	4140445.7161	NEW L1 PHS CEN @ 2011.2403
XYZ	-2721145.6890	-4002102.8562	4140445.6664	NEW ARP @ 2011.2403
XYZ	-2721144.8369	-4002101.6039	4140444.3605	NEW MON @ 2011.2403
LLH	40 44 18.60453	235 47 13.49056	-26.7726	NEW L1 PHS CEN @ 2011.2403
LLH	40 44 18.60456	235 47 13.49054	-26.8498	NEW ARP @ 2011.2403
LLH	40 44 18.60453	235 47 13.49056	-28.8498	NEW MON @ 2011.2403

BASELINE NAME: p170 1563

XYZ	0.9102	1.2984	-1.3213	+ XYZ ADJUSTMENTS
XYZ	-2721145.7088	-4002102.9102	4140445.7200	NEW L1 PHS CEN @ 2011.2403
XYZ	-2721145.6759	-4002102.8610	4140445.6703	NEW ARP @ 2011.2403
XYZ	-2721144.8239	-4002101.6086	4140444.3644	NEW MON @ 2011.2403
LLH	40 44 18.60470	235 47 13.49113	-26.7726	NEW L1 PHS CEN @ 2011.2403
LLH	40 44 18.60473	235 47 13.49112	-26.8498	NEW ARP @ 2011.2403
LLH	40 44 18.60470	235 47 13.49113	-28.8498	NEW MON @ 2011.2403

G-FILES

Axx2011 329 11 329

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Axx2011 329 11 329

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POST-FIT RMS BY SATELLITE VS. BASELINE

	OVERALL	03	06	09	11	14	15	16	18
p162-1563	0.010	0.008	0.010	0.016	0.013	0.009	0.012	0.013	0.007
	19	21	22	24	26	27	29	30	31
p162-1563	0.008	0.011	...	0.013	0.015	0.018	0.011	0.013	0.018
	32								
p162-1563	...								

	OVERALL	03	06	09	11	14	15	16	18
p169-1563	0.010	0.010	0.010	0.018	0.016	0.009	0.009	0.012	0.014
	19	21	22	24	26	27	29	30	31
p169-1563	0.010	0.007	0.007	0.018	0.011	0.018	0.011	0.014	0.014
	32								
p169-1563	...								

	OVERALL	03	06	09	11	14	15	16	18
p170-1563	0.011	0.009	0.010	0.019	0.017	0.010	0.011	0.012	0.013
	19	21	22	24	26	27	29	30	31
p170-1563	0.010	0.007	0.007	0.016	0.011	0.022	0.015	0.013	0.017
	32								
p170-1563	...								

OBS BY SATELLITE VS. BASELINE

	OVERALL	03	06	09	11	14	15	16	18
p162-1563	3827	446	499	220	107	345	275	208	504
	19	21	22	24	26	27	29	30	31
p162-1563	330	407	...	65	50	83	133	121	34
	32								
p162-1563	...								
	OVERALL	03	06	09	11	14	15	16	18
p169-1563	3808	445	497	219	76	352	272	207	33
	19	21	22	24	26	27	29	30	31
p169-1563	330	400	504	65	50	76	132	116	34
	32								
p169-1563	...								
	OVERALL	03	06	09	11	14	15	16	18
p170-1563	3730	445	497	212	52	344	272	209	33
	19	21	22	24	26	27	29	30	31
p170-1563	330	410	504	35	50	40	133	130	34
	32								
p170-1563	...								

Covariance Matrix for the xyz OPUS Position (meters^2).

0.0000025311	0.0000000730	-0.0000000728
0.0000000730	0.0000019311	-0.0000001654
-0.0000000728	-0.0000001654	0.0000019400

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000022735	0.0000002237	-0.0000002111
0.0000002237	0.0000018695	-0.0000000953
-0.0000002111	-0.0000000953	0.0000022592

Horizontal network accuracy = 0.00353 meters.
Vertical network accuracy = 0.00295 meters.

Derivation of NAD 83 vector components

Position of reference station ARP in NAD_83(CORS96)(EPOCH:2002.0000).

	Xa(m)	Ya(m)	Za(m)	
P162	-2724770.05621	-4003810.07201	4136468.57338	2002.00
P169	-2702158.47909	-4010999.79700	4145341.19940	2002.00
P170	-2691338.72737	-4010686.72085	4152976.86291	2002.00

Position of reference station monument in NAD_83(CORS96)(EPOCH:2002.0000).

	Xr(m)	Yr(m)	Zr(m)	
P162	-2724770.05271	-4003810.06681	4136468.56798	2002.00
P169	-2702158.47559	-4010999.79180	4145341.19400	2002.00
P170	-2691338.72387	-4010686.71565	4152976.85751	2002.00

Velocity of reference station monument in NAD_83(CORS96)(EPOCH:2002.0000).

	Vx (m/yr)	Vy (m/yr)	Vz (m/yr)
P162	0.01340	0.00890	0.01630
P169	0.00600	0.00810	0.01160
P170	0.00620	0.00620	0.01000

Vectors from unknown station monument to reference station monument

in NAD_83(CORS96)(EPOCH:2002.0000).

	Xr-X= DX(m)	Yr-Y= DY(m)	Zr-Z= DZ(m)	
P162	-3625.91971	-1707.14181	-3975.67602	2002.00
P169	18985.65741	-8896.86680	4896.95000	2002.00
P170	29805.40913	-8583.79065	12532.61351	2002.00

STATE PLANE COORDINATES - U.S. Survey Foot

SPC (0401 CA 1)

Northing (Y) [feet]	2160051.784
Easting (X) [feet]	5948552.192
Convergence [degrees]	-1.44698294
Point Scale	0.99989605
Combined Factor	0.99990051

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 1.476 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

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.